

PART FIVE

HEALTH IN RELATION TO FOOD, LAND, AND SOCIAL PROBLEMS

Part Five of this book focuses on ways in which health is influenced by human relationships. This has been a theme throughout this book. But here we look more closely at the problems that result from greed, unfair distribution of land and resources, and a social structure that favors the few at the expense of the many. We explore ways in which health workers can learn about these problems and help people to gain the awareness, self-confidence, and skills necessary to work together to change their situation.

In **Chapter 25** we examine the causes of malnutrition. We point out that hunger is usually caused, not by an overall shortage of farmland or food, but by unfair distribution. We explore ways to find out if children and other persons are well nourished or too thin. Then we consider ways that health workers can help people analyze their food problems and better meet their needs. Finally, we look at an alternative way to teach about 'food groups', focusing on the main foods in the local diet.

In **Chapter 26** we explore ways to help people look at the different causes of their problems, especially the human or social causes (cultural, economic, and political). We examine methods of helping people gain self-confidence and greater social awareness. We discuss both the possibilities and the pitfalls of applying popular 'conscientization' methods to health education. And we give examples of how these methods have helped villagers to improve health and overcome forms of exploitation at the community level.

Chapter 27 is about using popular theater as a means of raising people's awareness. We place this chapter at the end of the book (rather than with the chapter on role plays) because of the strong social content of the skits, plays, and puppet shows it gives as examples. These theater presentations, which deal with local problems affecting health, were put on in Mexico by village mothers, school children, and student health workers. They demonstrate two different possibilities for community involvement. First, the preparations and performances brought about greater awareness through the participation of both the actors and the audience. Second, the skits presented ways that poor families can join together to overcome the causes of their suffering and poor health. Most of the stories are based on true events.

These people's theater presentations show how people in some communities have struggled to find answers to their biggest problems. We believe they will provide both ideas and hope to others.



THE KEY TO HEALTH LIES IN THE PEOPLE THEMSELVES.

"Primary health care is generally only lacking when other rights are also being denied. Usually it is only lacking where the greed of some goes unchecked and unrecognized (or unacknowledged) as being the cause. Once primary health is accepted as a human right, then the primary health worker becomes, first and foremost, a political figure, involved in the life of the community in its integrity. With a sensitivity to the villagers and the community as a whole, he will be better able to diagnose and prescribe. Basically, though, he will bring about the health that is the birthright of the community by facing the more comprehensive political problems of oppression and injustice, ignorance, apathy, and misguided good will."

—Zafrullah Chowdhury, of Gonoshasthaya Kendra,
a community-based health program in Bangladesh



Food First

Good health depends on many things, but above all on getting enough to eat. A person who does not eat enough of the foods his body needs becomes thin and weak. He has trouble resisting infections and other illnesses. Also, disability and death from many diseases—especially diarrhea, measles, and tuberculosis—are more frequent in persons who are malnourished. Poor nutrition, with its related illnesses, is responsible for more deaths than any other problem, and is an especially great danger to young children.

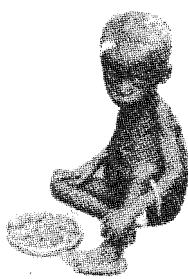
Food must be a first concern for health work in a community where people are hungry or many children are malnourished.



LOOKING AT THE PROBLEM OF POOR NUTRITION

Before health workers begin specific nutrition activities, it is important for them to look at their people's food problems as a whole. Planners and experts have tried many approaches to combatting hunger and malnutrition. But in spite of billions spent on agricultural extension, the Green Revolution, irrigation systems, development projects, food supplements, and nutrition centers, **there are more malnourished children today than ever before in human history.**

One reason why so many approaches fail is that they are usually designed by persons who have never suffered from hunger or malnutrition themselves. Planners and scientists often are blind to important social factors that are painfully clear to the poor. As a result, new methods and technologies intended to reduce malnutrition repeatedly end up benefiting the well fed at the expense of the hungry. Health workers who unquestioningly follow the plans of outside experts can easily make similar mistakes.



It is important, therefore, that health workers and their instructors not simply accept the standard approaches to working with nutritional problems. They need to critically examine the suggestions of outsiders and to use only what fits the needs of the people in their own area.

Any nutrition plan a health worker uses should be designed or adapted with the help of the people it is intended to serve.

The following discussion is based largely on our experience in Latin America, where unfair distribution (of land, resources, and power) is a main cause of malnutrition. Of course, the situation is different in each country and each village. Let your students decide how much or how little of this discussion applies to their own communities.

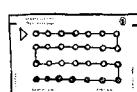
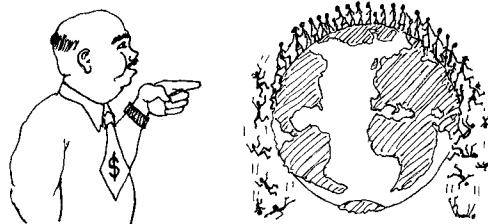
Poor nutrition and poverty

In most parts of the world, poor nutrition is closely linked with poverty. This is so obvious that it might not seem necessary to say. Yet a surprising number of programs do not look directly at poverty and its causes when they teach about health and nutrition. If health workers are to help people get at the root of their problems, however, the causes of hunger and poverty need to be carefully explored.

The rich man's explanation of hunger:

**too many people,
too little land and resources.**

The common explanation for the increasing amount of hunger in the world is that the population is growing too fast: there are too many people and not enough land, food, and resources to go around. Therefore, efforts to overcome hunger have focused on 1) population control, 2) increasing the productivity of existing farmland by using irrigation, high-yield crops, fertilizers, and other Green Revolution methods, 3) opening up new farmland by using dams and irrigation systems, and 4) massive foreign aid and food supplements in times of famine.



1. Population control efforts have not had much success because people with little economic security often cannot afford to have small families (see p. 23-2).
2. The Green Revolution actually made the problem of malnutrition worse in many areas. High-yield **hybrids** (artificially bred varieties of grain) require expensive fertilizers, insecticides, and irrigation. Persons who ended up growing these hybrids were mostly the more fortunate farmers who could afford the extra expenses, or who qualified for loans. Their increased production with hybrids gave them an even greater advantage over the poorest farmers. Also, it temporarily pushed down grain prices. This forced the poorest farmers to sell their land to those growing the hybrids. The result: more landless, underpaid farmworkers and more hungry families. More food may have been produced through the Green Revolution, but it was not available to those who needed it most. World hunger increased.





3. In a similar way, new dams that were designed to open more farmland through irrigation have actually flooded many poor farmers off their land. Meanwhile, the newly irrigated lands typically end up in the hands of wealthier farmers.

4. Unfortunately, foreign aid and food supplements in times of famine have tended to increase the poverty and dependency of poor countries and poor families. Foreign food aid has often pushed down local grain prices, causing the ruin of struggling small farmers. In any case, much of the food sent as aid ends up in the hands of the rich, not the hungry.

The poor people's explanation of hunger:

unfair distribution of land and resources, too much in the hands of too few.

Studies by various groups, including the U.N. Food and Agriculture Organization, the *New Internationalist*, the Institute for Food and Development Policy, and the Human Needs/Global Development Program have shown that:

- There is plenty of food in the world today to feed all people adequately.
- There is enough farmland to feed 2 to 3 times the present world population. However, much of the land held by big property owners is unused or poorly used.
- For the world's 3 major grain crops (rice, wheat, and maize), the most productive systems are those organized on the basis of small-owner operations. The most productive landlord system yields less than half as much per hectare as most small-owner systems.
- In all the major famines of the 1970's, there was enough food stored within the affected countries to feed all the people adequately. But the price of food rose too high for people to afford. Many of those with extra food hoarded it instead of sharing it with the starving.
- There is no scarcity of total resources, but rather a tremendous misuse of them. In the course of 2 weeks, the world's governments spend \$4,000,000,000 on weapons of war—enough to feed everyone on earth for an entire year!
- Increased agricultural assistance has never brought lasting increases in food production in any country with a big-landowner/tenant-farmer system.



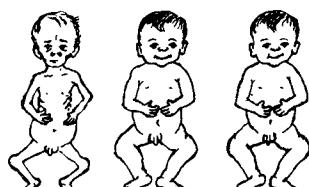
George Silk

The problem of hunger is not caused by shortages, but by unfair distribution. Or as Mahatma Gandhi put it, "There is enough for every man's need, but not for every man's greed."

**World hunger is not a technical, but rather a social problem.
It exists not so much because of shortage of land, food, or wealth, but because these are very unequally distributed.**

Where distribution is most unfair and the rights of the working people most limited, the problem of hunger is greatest:

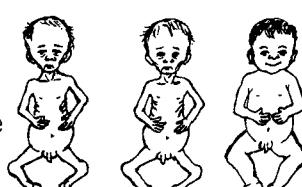
IN THE WHOLE WORLD:



1 OUT OF 3

One out of three children in the world is undernourished. But in some countries, more than two out of three children are undernourished. These are usually the countries where the differences between rich and poor are most striking. These are the places where a small, powerful group has control

IN COUNTRIES WITH WORST SOCIAL INJUSTICE:



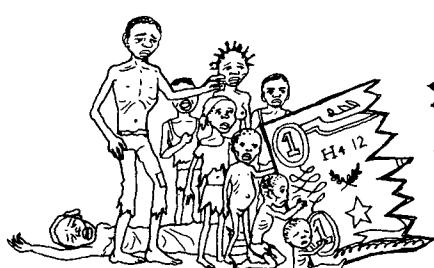
2 OUT OF 3

over most of the land and resources. Wages are low. Production of 'cash crops' for export is high. Often foreign companies and governments have considerable control over the economy. And the people's right to organize or take part in planning and decision making is severely limited.

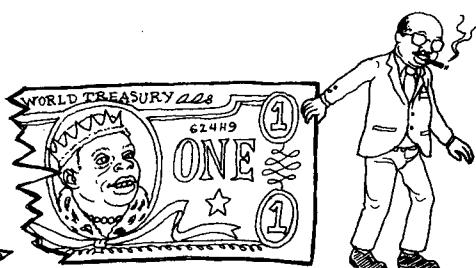


The number of hungry children in a country or community may be one of the most accurate measures of social justice and human rights.

Poverty, the root cause of poor nutrition and hunger, results from an unequal distribution of wealth, land, and decision-making power. In the world today . . .



50% of the people try to survive on 10% of the wealth and resources,



while the richest 10% control over 50% of the wealth and resources.

This unequal division exists between rich and poor countries. It also exists between the rich and poor within many countries, even within villages. In areas where unfair distribution affects health, nutrition programs that do not help the poor deal with this problem are only treating, and not really trying to prevent, hunger and related illnesses.

WHAT ARE REALISTIC ANSWERS TO HUNGER?

Meaningful answers must come from those who do the work to produce the food. Leaders of the poor point out that **in places where unfair distribution is a cause of malnutrition, lasting solutions can only come through fairer distribution—** of land, resources, and decision making. In many countries this will require major social change, with the formation of new governments that fairly represent the working people.

Clearly, however, small community-based programs and village health workers are not in a position to combat national problems singlehandedly. In countries where the rights of the poor are severely restricted, they even may have to be careful of how and with whom they discuss these questions. (See 'A call for courage and caution', page **Back-1**.)

But whether or not the problem of unfair distribution is openly discussed and combatted, community-based programs need to keep it in mind. People can be helped to look at their food problems and carry out nutrition activities in ways that develop their self-confidence, determination, and cooperative spirit. This will help prepare them to work for far-reaching changes when the time is right.

We cannot wait for the big changes that may put an end to hunger. In whatever ways they can, large and small, health workers need to make sure the children in their communities get enough to eat. **The children who are hungry need food now.**

*We are guilty of many errors and many faults,
but our worst crime is abandoning the children,
neglecting the fountain of life.*

Many of the things we need can wait.

The child cannot.

*Right now is the time his bones are being formed,
his blood is being made,
and his senses are being developed.*

To him we cannot answer 'Tomorrow'.

His name is 'Today'.

—Gabriela Mistral, of Chile



His name is 'Today'.

Far-reaching change—which is the only final answer to hunger—will take time and well-organized preparation. But sometimes, within their local areas, health programs or health workers can help people achieve greater fairness or more control of land, food, marketing, or specific resources. This can mean more food for the poor—through greater self-reliance. These possibilities will be discussed later in this chapter, and in the rest of Part Five.

SOLVING NUTRITION PROBLEMS IN THE COMMUNITY

In helping health workers learn about food needs in their communities and what to do about them, it makes sense to use a problem-solving approach. Health workers will be better prepared to put their learning into practice if they **learn by actually working with people and their needs**. This means moving the focus of learning out of the classroom and into the community.

To follow is a list of steps that health workers may find useful in approaching the nutritional and food problems in their communities. Although it may help to discuss the steps first, they can best be learned through practice. (Chapter 6 gives additional ideas for ways to make 'field work' in nearby communities a basic part of the training program.)



Suggested steps for approaching food problems in a community:

1. **Know (or get to know) the people well.** Try to understand their attitudes, beliefs, traditions, and fears, especially those that relate to food. (See Chapter 7.)
2. Try to **find out how much malnutrition there is in your community and who is most affected.** Often children suffer most from malnutrition, then pregnant women and nursing mothers, and then old people. Be sure to check the nutrition of sick persons. This is often a big problem because of traditional fears and beliefs about what people should or should not eat and drink when sick (or after childbirth—see **Where There Is No Doctor**, page 123).
3. **Consider which food and nutrition problems are most important**—in terms of how the people feel about them (felt needs) and in terms of how much they affect people's health and well-being (real needs).
4. **Look for the causes** (often a combination or chain of causes) of malnutrition and other food-related problems. These causes may include people's habits and attitudes, land ownership, farming practices, water shortages, storage and spoilage, food prices, marketing, and wages. Try to separate causes that originate within the community from those that come from outside.
5. **Carefully consider the obstacles** that you might meet in trying to solve specific problems. (Many nutrition projects have failed because of obstacles that were not considered ahead of time.)
6. Together with the community, **decide which problems to attack first.** Try to be sure that . . .
 - the people recognize the importance of the problems they choose and are interested in working together to solve them, and
 - the first problems chosen are fairly easy to combat, and that action taken is likely to give quick, obviously beneficial results.

TAKING A SURVEY TO FIND OUT ABOUT NUTRITION NEEDS IN YOUR COMMUNITY

Some food and nutrition problems tend to go unnoticed, even by those who live in the village or neighborhood where they exist. A good way to find out about these problems is to take a simple nutrition survey. As we discussed in Chapter 6, surveys *of* people often reduce their sense of dignity and control over their lives. However, surveys *by* the people in a community at times can help increase their understanding and control of the factors affecting their health. The health worker can serve as the survey coordinator or *facilitator* (someone who makes it easier).

A simple community survey to check for nutritional problems can perform at least 4 functions:

1. It can help people determine **how many** persons in their area are poorly nourished. If more than 1 out of every 7 children (15%) is underweight or too thin, then the community probably has a serious food problem.
2. It can help show **which children and which families** have the greatest need and deserve special care and concern.
3. The health worker can use the survey to help **interest, inform, and involve** various groups in the community—mothers, fathers, school children, and community leaders.
4. The survey can provide a **basis for comparison** at a later date. People will be able to see if the action they have taken to improve nutrition in their village has been successful.

Different groups from the community can be involved in different aspects of a survey. For example:

- School children might check to see whether their younger sisters and brothers are well nourished or too thin.
- Midwives could help in reviewing the nutrition of pregnant women.
- Mothers could find out how many babies are breast fed or bottle fed, and how this affects the babies' health.
- Fathers might do a study on how the drinking habits of men affect the nutrition of different families.



By helping to conduct their own survey, the villagers become more aware of the problems and the need for action to combat them.

However, **if surveys are to be conducted by untrained people, they should be simple, quick and interesting.** On the following pages we explore a variety of survey methods.

Finding out about the nutrition of children in a community

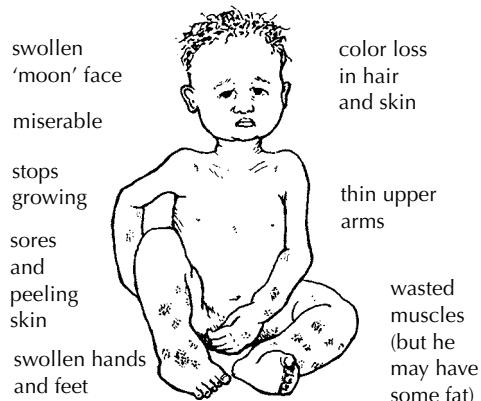
We can usually recognize children who are severely malnourished without taking measurements. Here are two examples from *Where There Is No Doctor*, pages 112 and 113:

**DRY MALNUTRITION
OR MARASMUS**



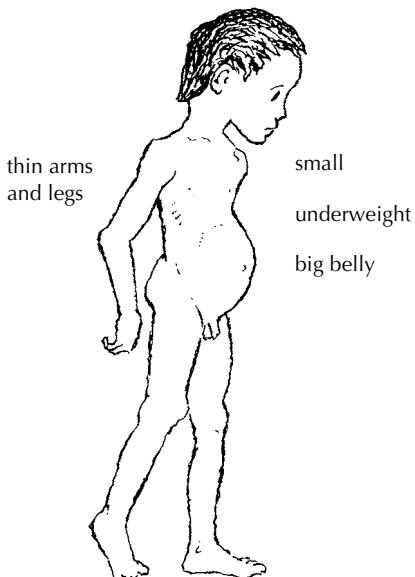
THIS CHILD IS JUST SKIN AND BONES.

**WET MALNUTRITION
OR KWASHIORKOR**



THIS CHILD IS SKIN, BONES, AND WATER.

But for every child who is seriously malnourished like the two above, there are usually many others who are less severely malnourished, like this:



This more common form of malnutrition is not always obvious. The child simply does not grow or gain weight as fast as a well-nourished child. Although he may appear rather small and thin, he usually does not look sick. However, because he is poorly nourished, he may lack the strength (*resistance*) to fight infections. So he tends to get sick more frequently than a well-nourished child.

Children with this form of malnutrition suffer from more diarrhea and more colds. Their colds usually last longer and are more likely to turn into pneumonia. Measles, tuberculosis, and many other infectious diseases are far more dangerous for these malnourished children. More of them die.

It is important to find children like this and make sure they get the special care and food they need before they become seriously ill. Because it is not always obvious which children are growing well and which are not, some form of measurement is often helpful.

Measuring to find which children are too thin or not growing well

Parents often do not take their underweight children to the health post until they are seriously ill. By then it may be too late. Even if health workers ask mothers to bring all children under five each month, the sickest or weakest are sometimes left at home. It is therefore important that health workers visit all homes and try to identify those children who are too thin or need special care.

What are appropriate ways to measure thinness of children under five?

We will discuss three useful methods: 1) weight-for-age, 2) weight-for-height, and 3) arm thickness. The method you choose will depend on local resources, needs, and who does the measuring.

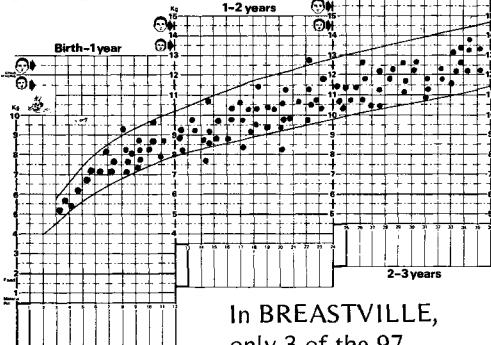
1. Weight-for-age: THE CHILD HEALTH CHART

The use of the Child Health Chart for individual children is explained in **Where There Is No Doctor**, (pages 297-304); and in much greater detail in David Morley's book, **See How They Grow**. Methods for teaching health workers and mothers to use the charts this way are on pages 22-15 to 22-19 of this book.

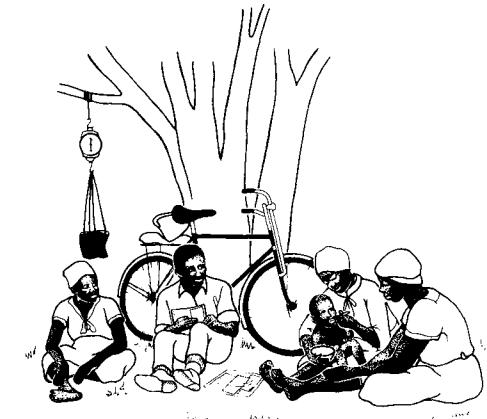
For the purpose of a nutrition survey, however, a single weighing of all children under five can be recorded on one chart.

Below are examples of survey charts for two different villages. Each dot on the charts represents the age and weight of a different child.

BREASTVILLE

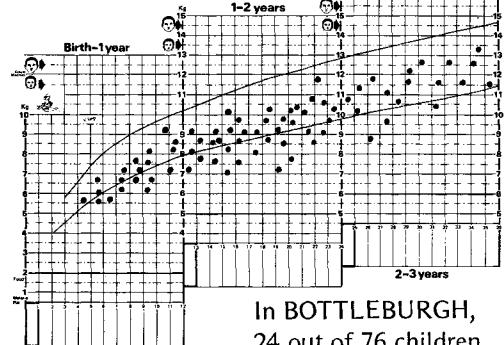


In BREASTVILLE, only 3 of the 97 children under 3 fall below the Road to Health (below the two curved lines). Malnutrition in young children is not a big problem in this village.



In Zimbabwe, 'health scouts' cycle from village to village weighing children, recording weights, and encouraging mothers to attend under-fives clinics.

BOTTLEBURGH

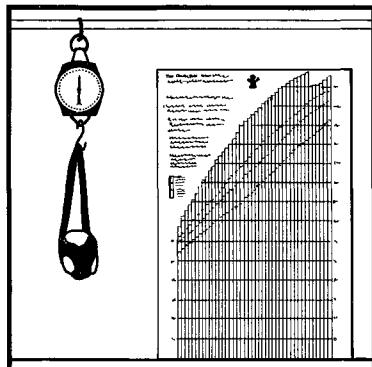


In BOTTLEBURGH, 24 out of 76 children are below the Road to Health. This village has a serious problem with the nutrition of young children. (What do you think might explain the big difference between the two villages?)

2. Weight-for-height: THE THINNESS CHART

For survey purposes, comparing a child's height to her weight is perhaps the most accurate way to check whether she is too thin. But until recently, this required complicated charts and was not practical.

Fortunately, a new Thinness Chart has been developed. It is colorful, simple to use, and easy to understand. This is the way it is used:



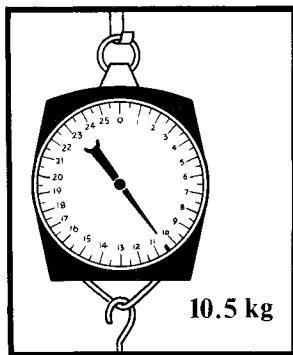
Hang the chart on a wall near the scales.

Be sure the bottom edge of it touches the ground.

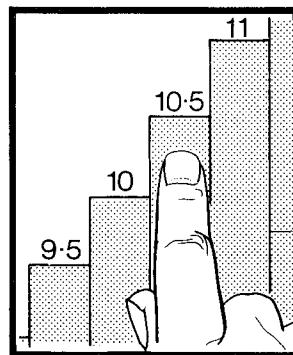
1. Weigh the child.



2. Note the weight.



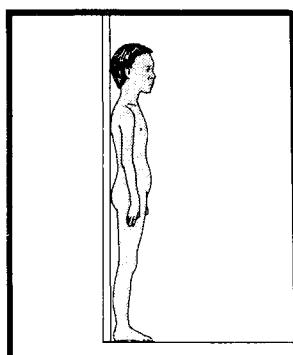
3. Find the weight on the chart with your finger.



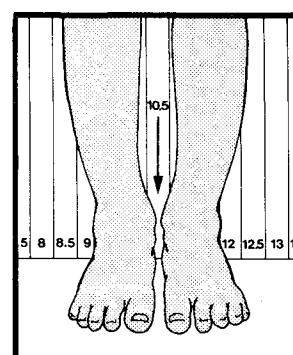
4. Have the mother help the child to stand directly under your finger.



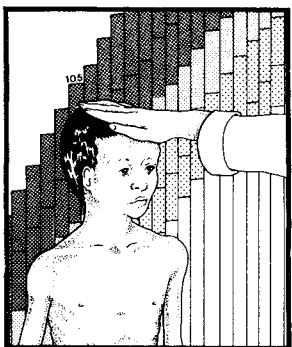
5. Check to see that the child's shoulders and feet are against the chart.



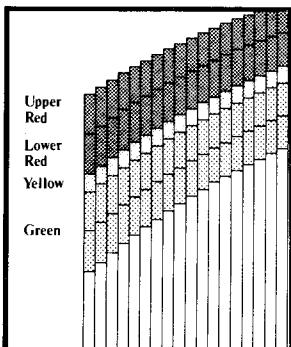
6. Make sure that the child's feet are against her weight as shown at the bottom of the chart.



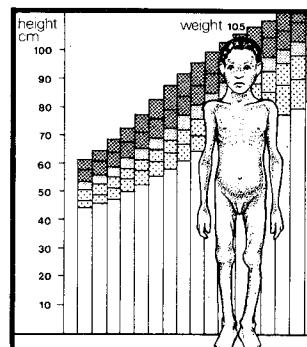
7. Now put your hand flat on the child's head. **Which color does your finger touch?**



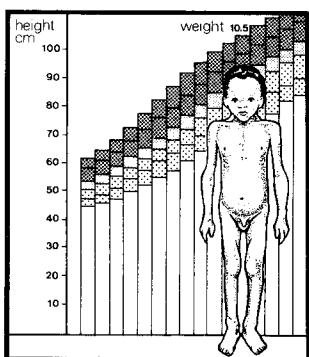
8. Is the child in the upper red, lower red, yellow, or green?



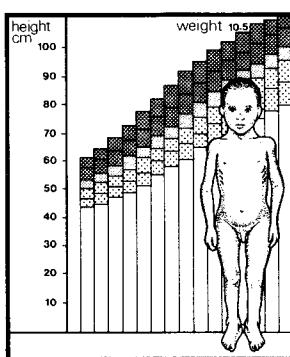
9. If the child is in the **upper red**, he is dangerously thin and needs **more food urgently**.



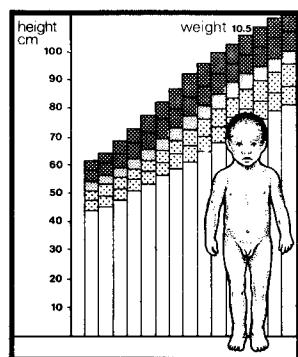
10. If the child is in the **lower red**, he is very thin and needs **more food at once**.



11. If the child is in the **yellow**, he is thin and **may need more food**. Check him regularly.

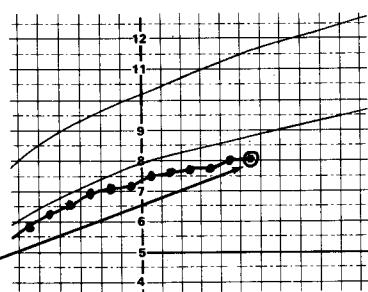


12. If the child is in the **green**, he is well nourished. **Three cheers!**



(Notice that the younger, smaller, well-nourished child on the right weighs as much as the older, very thin child on the left.)

The Thinness Chart is especially useful when children are measured only once—as in a survey. But it can also be used together with the Road to Health chart. It lets you know whether a child who measures below the Road to Health is too thin, or is simply smaller than average. If a child is too thin according to the Thinness Chart, this can be noted on the Road to Health chart. Simply put a RED CIRCLE around the dot on the chart, like this:



PRECAUTION: At first the Thinness Chart may confuse persons who have used the Road to Health chart. This is because on the Road to Health chart, the thin child appears **below** the level of the well-fed child. But on the Thinness Chart, the thin child appears **higher** on the chart than a well-fed child of the same weight. This difference needs to be carefully explained.

Also keep in mind that children in some parts of the world have relatively thin bones and bodies, even when well nourished. You may have to adapt the Thinness Chart (raise or lower it slightly) according to the size of well-nourished children in your area. These charts are new and still being tried out. If you try them, please let us know how well they work and how useful you find them.

Where to get Thinness Charts: These can be ordered from TALC, or from Save the Children (see p. **Back 3**). An easy-to-use weight-for-height record card (also in color) comes with the Chart.

3. Measuring UPPER ARM THICKNESS

The thickness of a child's upper arms or legs is usually a good indicator of how well nourished he is.



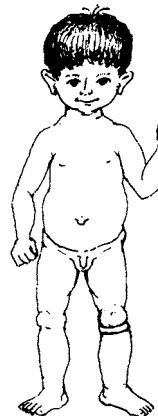
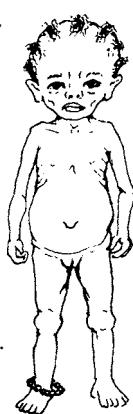
A well-nourished child usually has fairly thick arms and legs.
← A poorly nourished child has much thinner arms and legs. →



Measuring arm or leg thickness has recently been recognized as one of the easiest and best methods for checking to see whether children are well nourished. In parts of Africa and Asia, such measurements have been village traditions for many years.



In Ghana, Africa, families put a chain of beads just below the baby's knee. If it gets too tight, they are pleased.
← If it slips down, they become worried. →

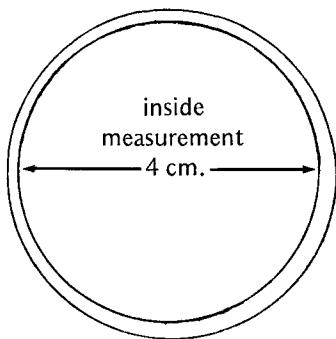


In Kerala, India, mothers put a metal ring below the baby's knee. If the ring slips down, they say that "the devil is sucking out the baby's juices." (This could refer to either malnutrition or dehydration.)

THE BRACELET:

From age 1 to 5, the thickness of a child's upper arm does not normally change much. But a well-nourished child has a thicker arm than a poorly nourished child. By measuring the distance around children's arms, we can tell if they are well fed or too thin.

One way to measure the thickness of a child's arm is with a bracelet like this:



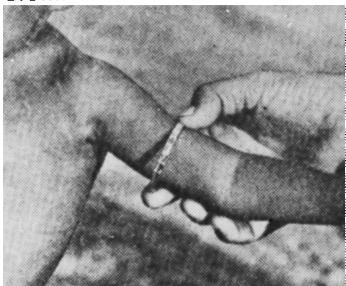
If the bracelet will not slide past the elbow, the child is well nourished.



If the bracelet slides easily onto the upper arm, the child is poorly nourished.



Brown



The photo at left shows how the upper arm is measured with a bracelet. This child's arm is too thin. She is malnourished.

Bracelets like this are commonly used in some countries as wrist ornaments for women. Be sure to check that the inside measurement is right.

The bracelet can also be made of twisted grass, rattan, or wire.

This method is simple to use and easy to understand. It may be especially useful for village thinness surveys because health workers can involve persons with little or no formal education. Any child, mother, father, or midwife who wants to can take part in and understand the survey.

Persons who cannot read can record their findings on a simple card with drawings, like this.

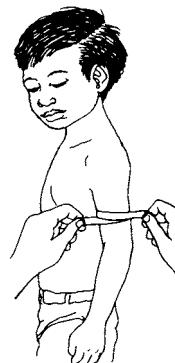
CAUTION: Unfortunately, some health workers have reported difficulties in getting the bracelets over the elbows of even very thin children. We suspect that this method may work better where most people are thin boned (India, the Philippines, etc.) and less well where they have thicker bones (parts of Africa and Latin America, etc.). If you try this method, please let us know how it works in your area.

measure
from here ↓

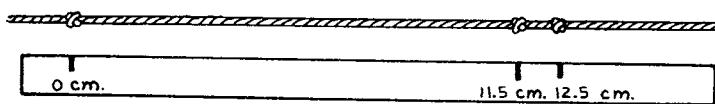
THE STRIP:

This easy method is ideal for community thinness surveys conducted by parents or school children. Even the measuring instrument, or strip, can be made by young children. While this method is a little more complex than the bracelet, it is more accurate and is useful anywhere.



Making the strips:

- Cut thin strips of heavy paper, firm cloth, old X-ray film, or other material that will not stretch—about 25 cm. or 10 inches long.
- Measure and mark lines as shown in the drawings on this page. The strip on the left is full size and can be used as a model.
- Color the strip as indicated—or in a way that will make sense to people in your area. (See the **Note** on page 25-16.)



Strips can be made of string or grass.

Put knots at the correct distances.



Measuring the children:

- Measure the upper arms of children between 1 and 5 years old.
- If a child measures in the **green** (over 12.5 cm.), he is **well nourished**.
- If in the **yellow** (11.5 to 12.5 cm.), the child is **thin**.
- If in the **red** (below 11.5 cm.), the child is **too thin**.

11.5 cm.
12.5 cm.

YELLOW



Measuring a child who is growing well.

Measuring a child
who is too thin.

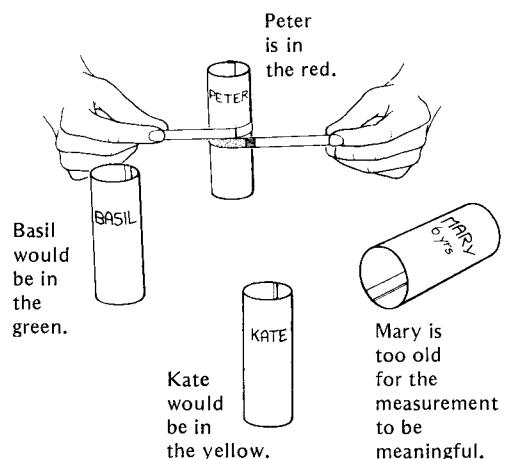
RED (too thin)

0 cm

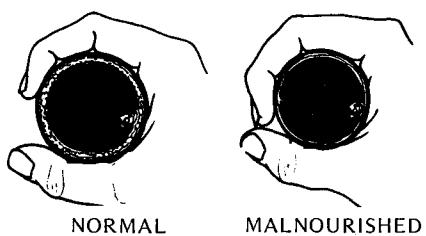
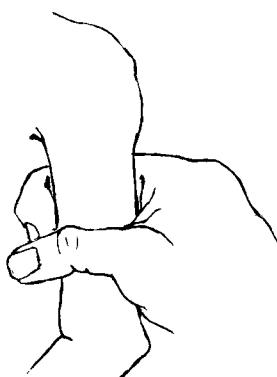
GREEN (growing well)

Practice measuring:

Before measuring children's arms, the health workers, parents, or children can practice on pieces of wood cut from the branch of a tree, or on rolled cardboard or newsprint. Use pieces that vary in thickness from 11 to 15 cm. Write a child's name on each one. Then play games, pretending that the pieces of wood or cardboard are different children's arms. See who can discover which children are healthy and which are too thin. Practice giving advice on nutrition. Make sure everyone measures correctly.



With practice, health workers can learn to measure for thinness using only their fingers. This can become a standard part of their physical examination of young children.



Note: These drawings are just an example and not true for everyone, since the sizes of our hands vary.



Here school children learn to judge the thinness of a child's arm by practicing on a stick of variable thickness. (Ajoya, Mexico)

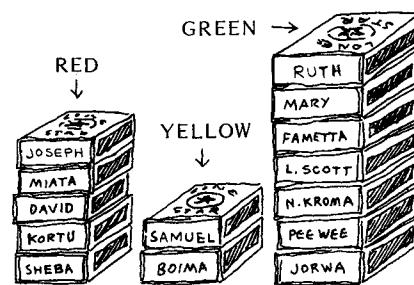
A learning game:

Put different-sized rolls of wood or newsprint in a bag. Have the students tell by feel which are too thin.



Recording the results of the thinness survey:

When working with school children or persons who are not familiar with graphs, you can keep records of your thinness survey by using matchboxes, bottle caps, or other objects. Let each box or object represent an individual child. Color it red, yellow, or green, according to how the child measures. By stacking the boxes, children can easily see how big a problem thinness is in their community. They can repeat the survey from time to time and compare the matchbox stacks to see if fewer children are too thin than the last time. (Also see page 25-13 for another way to keep thinness records.)



What to do for children who are too thin?

Children who are too thin need more and better food. But poor nutrition can be a complex problem, the solutions to which vary from one community or family to the next. In some areas, children of poor families eat mostly foods like cassava, maize, or plantain (cooking banana). These contain so much water and fiber that children's bellies get full before they have eaten enough calories (energy food) to meet their needs. These children need to eat more often. Therefore, the simplest message that school children who have made a thinness survey can take home to their parents is this:

If a child measures . . .

Green . . . give the child at least **3 meals a day**.



Yellow . . . give the child at least **4 meals a day**.



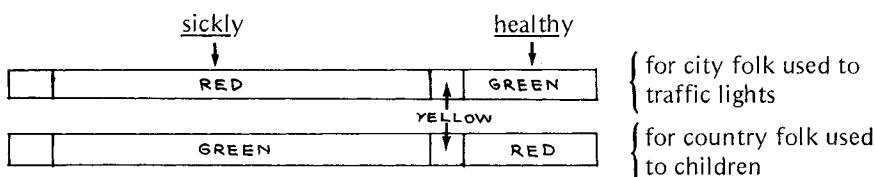
Red . . . give the child at least **5 meals a day**.



Note on adapting the 'strip' method to the local people's point of view:

Armbands for measuring children's thinness are often colored green, yellow, and red. Green generally means healthy, yellow in between, and red means danger—malnourished.

This color system makes sense to city persons used to the 'stop' and 'go' colors of traffic lights. But in the mountain villages of India, it confused people. To them, a child who is redder has good blood and is healthy, a yellow child is sickly, and a greenish child is very sick! So the local health workers reversed the colors on the armbands. Then no one was confused.



A GAME TO HELP CHILDREN LOOK AT THE CAUSES OF THINNESS

To help a group of school children explore the question, "*Why do some children not get enough to eat?*" you can have them play a game called "*Another One!*" (Compare with "*But why . . . ?*" on page 26-4.)

In this game, the health worker or teacher tells a story or shows a picture, and asks a question like, "*Why is this child too thin?*" The children think first of one answer, and then "another one," and "another one." Perhaps each child can think of a different possible answer.



This way, the children begin to think about the many related causes of hunger and poor nutrition.

Similar games can be played with health workers-in-training. Health workers can play them with groups of children, mothers, fathers, and others in the community.

Finding out about the nutrition of persons other than children

In conducting a nutrition survey, the main focus should usually be on the children. But other persons may also have nutrition problems—especially women, old people, and sick people.

Checking for anemia:

Anemia is one of the most common problems for pregnant women and breastfeeding mothers. It may also be a problem for both children and adults in areas where there is hookworm or malaria. So health workers may want to consider checking for anemia as part of their nutrition survey.

Few health workers have the equipment needed for testing the level of **hemoglobin** (red coloring) in the blood. But they can often tell whether a person has anemia by checking for paleness of the lips, gums, tongue, inner surface of the eyelids, fingernails, or palms.

Health workers who are inexperienced in judging paleness can use a set of life-size color photographs showing the lips and tongues of two people—one normal, the other anemic. These photographs can be held up next to a person being checked for anemia.

The cards we show here have been produced (in color) by the Voluntary Health Association of India (VHAI).

APPROPRIATE

NORMAL



This woman does not have anemia. She has red and healthy lips and tongue. After one month of treatment the anemic person should look like this. She should feel stronger. Continue treatment for another month. If she still looks pale after the first month of treatment, refer the patient to a health center. Iron tablets cost a few cents each, but are free from Government health centers.

ANEMIA



This woman's lips and tongue are very pale. She has severe anemia. This is dangerous. She needs treatment with 2 iron tablets taken with food every day. If the patient has pale lips and tongue, but not as pale as in this picture, give 1 iron tablet every day with food. Children over 2 years old who have anemia need 1 iron tablet daily with food.

An even better way may be to ask a healthy person to stand beside the person being checked for anemia, so that their tongues, lips, and palms can be compared.

Try to choose someone whose normal skin color is as dark or light as that of the person being tested.



MORE APPROPRIATE

This method uses an important local resource: people.

CAUTION: Some persons object that comparing paleness is not a reliable test for anemia, especially where natural skin color differs greatly from person to person. We realize that sometimes even experienced persons can be fooled. But in trials we have made, we have found that most health workers can spot serious anemias by this method. These trials were done in Mexico, where there is considerable variation in skin color. We would appreciate hearing from you about your experiences with this method.

Here is another way to check for anemia:

Have the person stretch her hand, like this:



If the lines in the hand are red and clear, the person is not severely anemic.

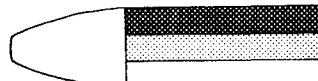
If the lines disappear or are very pale, the person is severely anemic.



Still another way:

Color bands represent:

From Bombay, India and WHO comes the so-called 'anemiometer'—a strip of paper with 3 bands in different shades of red. The strip is held up to a person's inner eyelid, and the color matched. Tests show that the degree of anemia can be determined in 4 out of 5 cases.



mild anemia
moderate anemia
severe anemia

Food problems in old people and sick people:

These two groups often suffer from special nutrition problems:

- Old people may not be strong enough to work in order to grow or buy the food they need. Or they may lack teeth, energy, interest, or—sometimes—love. Help health workers to be sensitive to their special needs.
- Sick people sometimes feel too ill to eat. Yet it is important that they eat well as soon as they can. Also, they may be given little or no food because of cultural beliefs about what sick persons should or should not eat. This ***dangerous custom of starving the sick*** is discussed on page 25-38.

Keeping your eyes and ears open

Some helpful information about people's eating habits and their beliefs about foods can perhaps be gathered through a community survey. But one of the best ways you can learn about these things is to keep your eyes and ears open—while you work, while you relax, and, of course, at meal time!

Health workers need to learn to observe people carefully.

LOOKING AT DIFFERENT FOOD PROBLEMS AND THEIR CAUSES

After you have observed your community and perhaps taken a simple survey to help determine how severe the local food problems are, the next step is to find out the causes of the problems. In trying to analyze community food problems and their causes, one of the key questions to ask is:

Do families often have difficulty getting ENOUGH FOOD?

(Do families sometimes go HUNGRY?)



- If the answer is **NO**, then the main nutrition problems probably result from people's eating habits. These can be considered *cultural problems* because they are related to people's customs, beliefs, and attitudes. However, depending on what foods are available, economic and political problems may also be a factor.
- If the answer is **YES**, then the people's main problems probably have to do with the growing, producing, storing, or buying of food. These are mostly *economic, technical, and political problems* (the problems of poverty). However, people's eating habits may also be a factor.

To help in finding the causes of children's food problems, Judith and Richard Brown (nutrition workers in Zaire, Africa) have developed a checklist of basic questions. These are grouped according to 3 problem areas: PRODUCING FOOD, BUYING FOOD, and FEEDING CHILDREN. Nearly all the 'yes' answers on the checklist are *danger signs* that indicate food problems in the community. With the Browns' permission, we reproduce the list here.*

WHAT ARE THE CAUSES OF FOOD PROBLEMS IN YOUR COMMUNITY?

A CHECKLIST OF QUESTIONS

A. DO FAMILIES OFTEN LACK FOOD? (DO SOME PEOPLE GO HUNGRY?)

If YES, goto B-1.

If NO, goto D-1.

YES	NO

B. PRODUCING FOOD

B-1 Can the families produce some of their own food?

If YES, goto B-2.

If NO, goto C-1.

B-2 Are the family fields too small?

B-3 Are there too few adults who do farm work?

B-4 Could the families improve their farming methods cheaply and easily?

B-5 Could the families choose better crops?

B-6 Do the families raise things to sell, instead of food to eat?

B-7 Do the families fail to keep enough seed for the next year's planting?

*From *Finding the Causes of Child Malnutrition*, by Judith and Richard Brown, available from TALC (p. Back-3) or from PATH (Presbyterian Answer to Hunger), 611 Medlock Road, Decatur, GA 30033 U.S.A. www.presbyteriananswertohunger.org

	YES	NO
B-8 Do insects, animals, or diseases attack the plants in the field?		
B-9 Do the plants lack water (rain, irrigation)?		
B-10 Do the families lack good places to store food?		
B-11 Could the families raise small animals for food?		
B-12 Do serious diseases attack the animals?		
B-13 Could the families gather more wild foods, or could they hunt or fish?		
B-14 Do the families sell their food instead of feeding it to the children?		
C. BUYING FOOD		
C-1 Do the families buy some of their food?		
If YES, go to C-2.		
If NO, go to D-1.		
C-2 Do shops and markets often lack important foods?		
C-3 Do the families lack money to buy the foods for sale?		
C-4 Does food cost too much because transporters and shopkeepers raise the prices?		
C-5 Do the workers lack regular jobs?		
C-6 Do men working far away fail to send money to their families?		
C-7 Do the families have trouble selling their handicrafts or their extra animals and crops?		
C-8 Do the families buy the wrong foods (such as soft drinks, alcohol, powdered baby formulas, and expensive meats)?		
D. FEEDING THE CHILDREN		
D-1 Do the mothers choose not to breast feed their babies, or do they stop breast feeding too soon?		
D-2 Are the mothers malnourished so they do not have enough breast milk for their babies?		
D-3 Do the mothers stop breast feeding their children suddenly or too harshly?		
D-4 Do the mothers get pregnant again too soon?		
D-5 Do the families feed babies tinned milk or instant formulas?		
D-6 Do the babies start getting solid foods at the wrong age?		
D-7 Do the mothers leave their babies with people who do not feed them well?		
D-8 Are the children poorly fed because their families are separated (by jobs, illness, divorce, death)?		
D-9 Do the little children eat only 1 or 2 times a day?		
D-10 Do the families fill the children's stomachs with bulky foods (like cassava) that have few proteins or calories?		
D-11 Are the adult foods hard for little children to eat and digest?		
D-12 Do the adults and older children eat most of the food before the little children get any?		
D-13 Do traditions keep mothers and young children from eating important foods?		

Adapting the checklist for use in your area

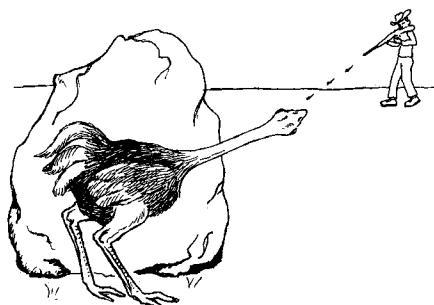
The Browns' checklist is designed to help health workers look mainly at the food problems of children. To look at the food problems of other persons in the community, such as pregnant women, mothers, or sick persons, additional questions will need to be asked. Also, for many parts of the world the checklist will need to be revised to include other important causes of hunger. There may be **other useful questions for your particular area or situation** that you or your health workers would want to include in your own checklist.

Notice that in the Browns' checklist some of the more sensitive political and economic questions have not been directly asked—questions such as:

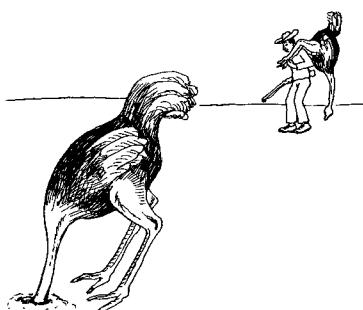
- Is most of the good farmland owned by only a few people?
- Are wages so low that people have trouble feeding their families?
- Do landholders and merchants bribe local authorities in order to illegally maintain large land holdings, high food prices, or exploitative interest rates on loans of grain or money?
- Do village shopkeepers stock alcoholic or fizzy drinks, vitamin tonics, or expensive canned foods, rather than badly needed low-cost foods?

In some places, care must be taken about asking questions such as these. The solutions to them are never quick or easy. Yet in many communities, these issues have more to do with malnutrition than all of the other questions put together. Although the social causes of poor nutrition must be approached with caution and careful timing, we cannot afford to close our eyes to them.

WHEN FACED WITH SENSITIVE POLITICAL
OR SOCIAL ISSUES AFFECTING HEALTH,



DON'T STICK YOUR NECK OUT
UNNECESSARILY,



BUT DON'T HIDE YOUR HEAD
IN THE SAND EITHER.

In the long run, one way can prove as dangerous as the other.

Making survey and discussion questions specific—not general

The Browns point out the need to be very specific when asking people questions. Do not ask big, general questions that may be difficult to answer. **Ask people questions about themselves.** The Browns give the following examples:

LESS APPROPRIATE QUESTIONS	MORE APPROPRIATE QUESTIONS
Do the people in your village raise small animals?	How many chickens does your family have this year? How many goats? How many rabbits?
What foods are usually given to little children?	What foods do you give your child? What did your child eat today?
At what age do children stop getting their mother's milk?	At what age did your child stop getting your milk? (If the mother doesn't know, ask more questions: Did the child have teeth then? Could the child walk?)
What does your family usually eat?	What did you eat since this hour yesterday? What did your husband eat? What did your little children eat? What did your older children eat?



Making questions specific helps people give answers that are closer to their day-to-day reality.

CHOOSING WHICH PROBLEMS TO ATTACK AND HOW (A COMMUNITY NUTRITION PLAN)

A checklist like the Browns' may help identify many food problems. But 'yes' and 'no' answers alone are not enough. Before deciding which problems to attack first and how, discuss in detail with members of the community all the problems answered 'yes'. Try to write a few words about each problem, telling exactly what is wrong as people see it. The Browns give this example:

EXAMPLE: Here is the list written by a nurse in a place called Tonaville.

A. DO THE FAMILIES LACK FOOD?

YES, families lack rice from August to December every year. They have to buy or borrow rice from shops, and it is very expensive during these months.

B. PROBLEMS OF PRODUCING FOOD

B-6 Do the families raise things to sell, instead of food to eat?

YES, many families grow a lot of tea to sell, but only a little rice to eat.

B-10 Do the families lack good places to store food?

YES, they store rice in small houses built on poles, but rats get in and eat the rice. 

D. PROBLEMS OF FEEDING CHILDREN

D-12 Do the adults and older children eat most of the food before the little children get any?

YES, the father of the family always eats first. Then all the children get their food in one bowl. The big children fight for the food, and they don't leave enough for the little children.

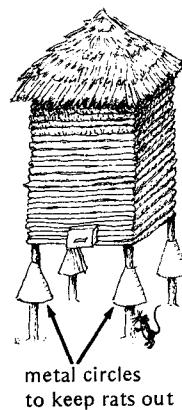
The Tonaville nurse wanted to choose a nutrition plan to attack the most important problems. Should he attack the problems of producing food or the problems of feeding the children? What sort of plan should he choose?

The nurse knew it wouldn't help to just tell parents to give their children enough food. In Tonaville, nobody had enough food. Everyone was hungry. The biggest problem was producing enough food. That was the problem the nurse had to attack. If he didn't help the families produce more food, he would be wasting his time.

The nurse began attacking the biggest problem—growing tea instead of rice. The nurse wrote an interesting story about 2 families. "One family grew rice in their fields, so they had enough to eat. The other family grew tea. Then they used the money to buy rice, but the rice cost so much they couldn't buy enough." This story helped the people of Tonaville see their mistakes. They began to plant more rice instead of tea.

The nurse also attacked the problem of rats. The people knew rats were eating a lot of their food, and they wanted a new way to stop the rats. The nurse showed them how to put metal circles on the posts under the rice houses to keep the rats from climbing up to the rice. Many of the Tonaville families began to use the metal circles.

BETTER
FOOD STORAGE



CONSIDERING OBSTACLES TO SOLVING NUTRITION PROBLEMS

Some obstacles, or difficulties that may prevent success, are similar in health work everywhere. Others differ from area to area. They will be recognized through observation and experience—or through trial and error.

In deciding which nutrition problems to attack, health workers need to carefully consider possible obstacles. During training, encourage them to discuss the special obstacles that may exist in their own communities. To get people thinking, it may help to tell them a story about obstacles encountered by health workers in other places. For example, here is Bushra Jabre's story of her experience with a rural nutrition program in the South Pacific:*

"However good the intentions of introducing changes in nutrition, the difficulties preventing success are likely to persist. Yet we know from commercial marketing methods that food habits can change. **Coca-Cola** and sweetened condensed milk spread like fire. The changes that occur have nothing to do with nutrition but more to do with prestige. A vague promise of better health is a poor inducement to change food habits. Before we venture into 'selling' new habits, we have to take into consideration several factors. First of all the economic factors: can the people afford the change—and is the new alternative available in adequate quantities?

"It was also found in the New Hebrides that there are several things besides ignorance which prevent a mother from preparing supplementary food for her baby: she spends all day in the garden; she goes to evening Mass; she has no utensils to prepare the food.

"We cannot limit our efforts to educating young mothers. Experience shows that the grandmother has the say in what the baby eats. At well-baby clinics, cooking demonstrations, and mothers' classes, the child is brought by a different family member each time. What about the fathers? Who decides what to buy? Who controls the money? In the Pacific, men do cook, and yet schools exclude boys from home economics courses. Women do the gardening, and yet schools exclude them from agricultural and gardening courses."

Bushra Jabre also points to some of the obstacles preventing acceptance of locally trained nutrition workers:

"Young women are usually trained, but in Melanesia, the women do not have status. And in Polynesia, young people are not accepted as advice givers."

How do your health workers-in-training think these obstacles compare with the ones they may have to deal with in their own communities?

*From "Potentials and Pitfalls of Nutrition Education," by Bushra, in *Teaching Nutrition in Developing Countries*, Freedom From Hunger, Davis, CA USA.

COMMERCIAL MARKETING METHODS HAVE SHOWN THAT FOOD HABITS CAN CHANGE.

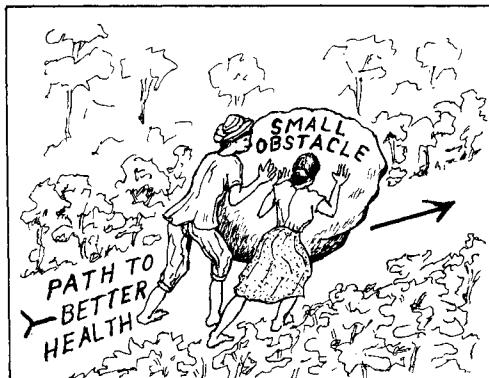


COCA-COLA AND SWEETENED CONDENSED MILK SPREAD LIKE WILDFIRE!

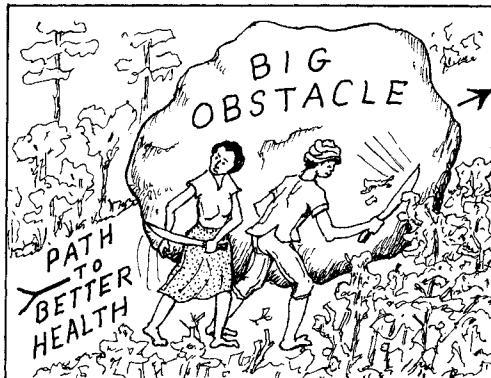
DEALING WITH OBSTACLES

Health workers need to help people develop a community nutrition plan that takes into account their various strengths and resources. But they must also allow for any obstacles that exist or may arise, and consider how to deal with them.

Obstacles can be handled in different ways:



Smaller obstacles we can sometimes remove, or overcome.



But larger obstacles we may need to work around—at least at first.

Here is an example of how a group of village health workers in Mexico were able to work around a large obstacle to good nutrition in their community.

In the health workers' village, land ownership is a big problem. A few people control most of the good farmland, not legally, but because they bribe the government engineers from the Land Reform Program.

The wealthy landholders lend maize (corn) to the poor farmers at planting time. Then at harvest time, the farmers must pay back three times as much maize as they were loaned. As a result, the families of the poor farmers sometimes do not have enough to eat. (See story, page **Front-4**, and village theater example, p. **27-27**.) Some have had to sell everything to pay their debt, and have been forced to move to the slums of the cities.

The basic problem is that poor farmers do not have a chance to keep and eat the food they grow. The cause of their problem lies in unjust—and illegal—possession of the best farmland by a few wealthy landholders.

The just solution will someday be redistribution of the land. But the obstacles to achieving this are, for the present, too big for the poor farmers to overcome. Instead, the local health workers have helped organize the poor farmers to start a cooperative corn bank, which lends maize to families at very low interest rates.

To permit such low interest rates, the maize had to be well protected from insects and rats. So the health workers built low-cost sheet metal bins to store the maize.

Now that people can borrow maize at low interest rates, they are able to keep and eat most of the food they grow.

Nobody pretends that the problem is completely solved. A few families still illegally possess most of the land. However, the success the people have had in overcoming at least a part of the problem has given them courage and hope to keep moving forward together—until the day comes when the bigger problems can be solved.



Making maize storage bins.

ATTACKING THE RIGHT PROBLEM

Each village or community has its own food problems that must be studied and analyzed carefully to design a nutrition plan that is likely to work.

Here are more examples from the Browns' book, *Finding the Causes of Child Malnutrition*. These stories can be read and discussed during health worker training. They will help people recognize **the importance of getting a clear understanding of food problems before trying to solve them**. But it will be better if you or the health workers can give similar examples based on your own experiences.

EXAMPLE 1: In Bulape Village, the families grew a lot of maize, groundnuts, and cassava in their fields. A farming teacher visited Bulape and told the people about several ways to improve their farming. "You should put your cassava plants in rows," he said. "You should plant soybeans instead of cowpeas, because soybeans grow faster. You should raise rabbits and pigeons, too."



These were all good ideas. They probably would have helped the families grow more food. But Bulape families already had enough food, so producing food was not their real problem. The farming teacher's plan was not good for Bulape.

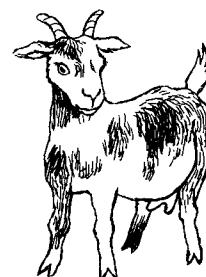
The real problems were that mothers became pregnant too soon, stopped breast feeding their babies, and then fed them only cassava porridge. The health team at Bulape started several nutrition centers. In the centers, the families practiced mixing maize and groundnuts in a porridge for the babies. Mothers also learned ways to keep from getting pregnant too soon, so they could give each child breast milk until he was 2 or 3 years old.



EXAMPLE 2: In Eta City, the health team chose the wrong nutrition plan. They started nutrition classes to show the mothers how to pound dried fish and how to add it to the babies' porridge. But the plan was no good, because the mothers didn't have enough money to buy dried fish in the market. These mothers really needed to sell their handmade baskets. They also needed to join together to buy fish more cheaply. In Eta City, **the problems were in buying food.** A good nutrition plan had to attack those problems.



EXAMPLE 3: In Lo Thana, mothers believed that young children should not eat goat meat. The school teacher believed that goat meat was a good food, so she tried to teach the mothers to feed goat meat to the children. But after a year, the same number of children were still malnourished. Then the teacher learned that no one in Lo Thana ate meat very often. Animals were killed for meat only on special occasions. Usually people ate wheat or beans. **The real problem was that the family fields did not produce enough wheat and beans.** Lo Thana really needed help with farming, not lessons on feeding children goat meat.

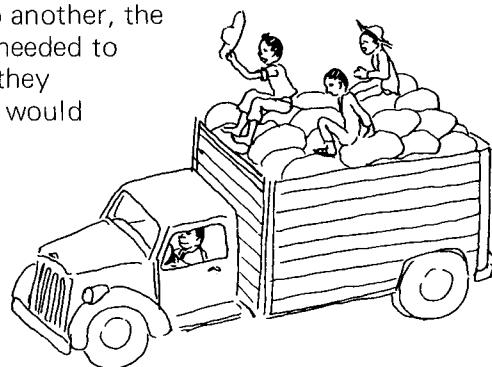


These 3 stories tell about problems that could be solved *inside the community*. However, in some areas the causes of the biggest food problem come from *outside the community*. Here are examples from the Browns:

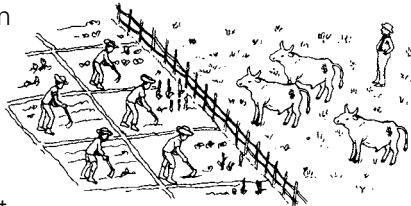
EXAMPLE 4: On the edge of a large city was a poor neighborhood called Tintown. There was no space for gardens, so people bought all their food in markets and stores. But **food prices were so high that the families were never able to buy enough. The main cause of the high prices was middlemen.** The middlemen were people between the farmers in the country who raised the food and the families in Tintown who ate it.

Here is how maize meal got to the families of Tintown. Out in the country, women grew maize in their fields. When the maize was dry, they put it into sacks. A young man bought the sacks of maize and took them to a shed in the village. The owner of the shed bought the sacks and kept them in his shed. A truck came, and the truck driver picked up the sacks and took them to the mill. The mill owner ground the maize into meal and put it back into sacks. Another truck driver took the sacks to the big market. A young man bought a sack of maize meal and took it on a bus to Tintown. There he opened the sack and sold the meal to 6 market women. The market women took the maize to the Tintown market and sold it to the mothers.

All these people between the farm women and the Tintown mothers were middlemen. Every time the maize passed from one person to another, the price went up. The Tintown people needed to avoid some of these middlemen. So they found a man with a small truck who would bring sacks of maize from the farms directly to Tintown. The families could buy sacks of maize at a lower cost, and the women themselves pounded it into maize meal. The problem for Tintown families was really outside Tintown. By working together, they found a way to attack the problem.



EXAMPLE 5: In Silva Valley, the big problem is outside the community. Most of the Silva Valley land belongs to 3 rich families who live far away. The rich landholders have big farms that raise cattle and sheep to sell in the cities. The land-holders do not allow anyone else to grow food on their land, not even the land that is not being used. The families in Silva Valley have only their own small gardens in which to grow food, and they cannot grow enough. **The real problem is that a few people own most of the land, while the rest of the people do not have enough land to grow food.**



The people of Silva Valley must attack this big problem, for it is causing malnutrition in their children. But they cannot attack it alone. They must get help from important people. So they joined together to write a letter to the government to ask for help. The government is now trying to force the landholders to let the poorer families use some of their land. But the landholders are rich and powerful. They have not yet agreed to give up their land.

This last story, with its discouraging ending, is typical for much of the world. So is the government's failure to take effective action. As millions of landless villagers can testify, government 'land reform' often consists of promises only. Each year more of the land ends up in the hands of a few rich families.

In many countries, it is a deception to teach poor people that the government defends their land interests. Too often, government sides with the rich and powerful. After all, many government officials are rich landholders themselves.

Community-based programs in many parts of Asia and Latin America have learned to expect little help from "important people" over questions of land and justice. Nevertheless, a few programs have found ways to bring about small land reforms in a peaceful way, with or without government help.

In Guatemala, for example, the Chimaltenango Development Program has set up a 'land fund'. This fund lends money to organized groups of landless peasants so they can buy unused farmland. The program teaches the peasant farmers ways to improve soil and crops, so that in a few years they can pay back their loans. The same money is then loaned to other groups to buy more land.



In a similar way, the health team in Ajoya, Mexico has set up a 'fence fund'. Poor farmers can borrow money from the fund in order to fence their plots of farmland. Before this fund existed, poor farmers had to borrow from the rich to fence their land. The interest rates were so high that they could never pay back the loans. This allowed the rich landholders to claim grazing rights on the harvested fields, year after year. But now the poor farmers are able to sell grazing rights to the rich. This means they have more money for food.*

***Note:** The 2 funds we have just described were started with 'seed money' from international non-government organizations. These are examples of how foreign aid, when directed to self-help programs organized by the poor, can actually do more good than harm. (Foreign aid that is channeled through oppressive governments often ends up strengthening the rich and weakening the poor. See *Aid as Obstacle*, by Lappe, Collins, and Kinley, Food First (Institute for Food and Development Policy), 398 60th Street, Oakland, CA 94618, U.S.A. www.foodfirst.org)

NUTRITION TRAINING THROUGH COMMUNITY EXPERIENCE

The examples we have given show that food problems, their causes, and ways of solving them differ from area to area, and even from village to village.

For this reason, nutrition courses designed at the national or international level may do as much harm as good in individual villages. **Instead of learning from standardized plans, health workers need a flexible learning situation that helps them to observe, analyze, and adapt.**

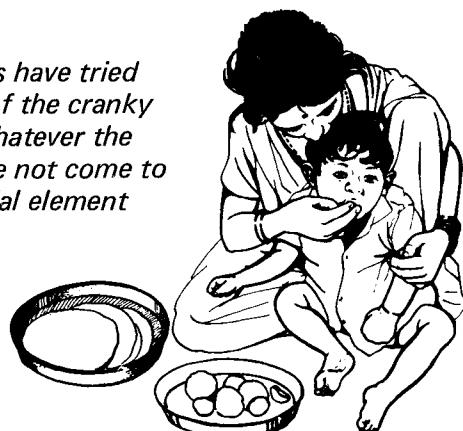
More and more programs are making community practice the focus of nutrition training. A 10-day nutrition course in Indonesia bases training on 8 small-group 'field activities' in neighboring villages. Three of the activities involve observation of ongoing community programs, and 5 are practical working sessions with members of a selected village.

These 5 are:

1. General evening meetings in the village to get acquainted, discuss aims, and plan activities.
2. An evening session of nutrition training for a small group of villagers who will become nutrition volunteers (*kaders*) in the selected village.
3. Shopping in the market, then cooking and serving a noon meal to selected children.
4. Conducting a nutrition survey of all children under age 5, filling out weight charts, and visiting homes of malnourished children.
5. Final evening meeting to discuss results of activities and discuss future steps.*

Perhaps the most important part of this experience-based approach is that it brings learning down to earth. Real problems in real villages often are very different from the way they seem when studied in class. As the Indonesian program instructors point out:

"Until nutrition workers have tried to deal with the problem of the cranky child who refuses to eat whatever the mother prepares, they have not come to grips with the most essential element of applied nutrition."



*From "Training Course for Village Nutrition Program," J.E. Rohde, D. Ishmail, and others in **Tropical Pediatrics and Environmental Child Health**, vol. 25, number 4, August, 1979.

POSSIBLE AREAS TO COVER IN A NUTRITION COURSE— BASED ON SHORT-TERM AND LONG-TERM PROBLEM SOLVING:

Emergency problems

- starving children
- poorest families lack food
- parents do not give sick children enough liquid or food (starving the sick)
- natural disasters

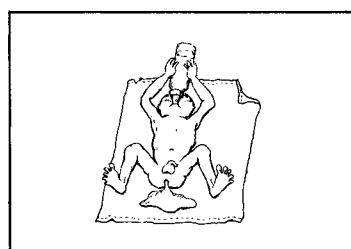


Emergency measures

- food supplements
- centers for feeding malnourished children
- oral rehydration
- full, normal feeding for children with diarrhea or other illness

Major problems

- underweight children
- loss of healthy customs (such as breast feeding)
- certain unhealthy or mistaken customs (new and old)
- lack of knowledge about healthy foods

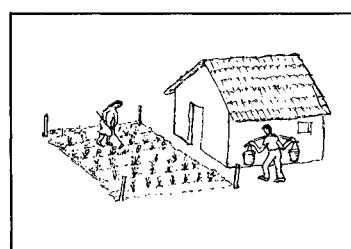


Solutions to major problems

- under-fives clinics
- baby weighing
- nutrition classes for mothers
- CHILD-to-child activities
- child spacing
- better eating habits
- looking for what is best in both old and new ways

Ongoing needs

- more and better foods
- greater self-reliance
- fairer distribution of land and resources

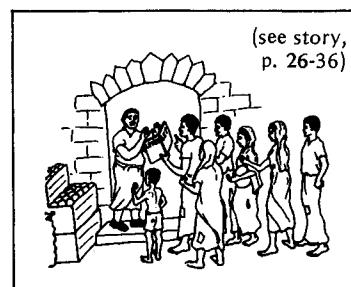


Partial solutions

- family gardens
- improved farming methods
- improved storage
- food crops, not cash crops
- mothers and children as nutrition workers
- more jobs (cottage industry, etc.)
- rotating loan program allowing poor families to buy their own land

Underlying needs

- equal opportunity for everyone
- more control by people over their lives and their health
- honest leaders
- social justice



Toward long-term solutions

- raising awareness
- community organization
- change toward people-supportive government
- redistribution of land
- relevant education
- fairer wages
- restriction on advertising and profiteering by big business
- fairer representation and bargaining power for the poor

TRAINING FOR SHORT-TERM AND LONG-TERM PROBLEM SOLVING

Training in nutrition should provide health workers with skills, methods, and ideas for helping people solve their ***immediate food problems***. But it also needs to prepare them for working with people toward ***lasting solutions*** to the underlying problems that contribute to poor nutrition.

On page 25-31 we show some of the problem-solving activities that might be covered in a training course on nutrition. They are grouped into 4 categories, ranging from short-term emergencies to long-term needs.

Clearly, health workers should respond at once to any immediate, life-threatening problems in their communities (such as starvation of children). But as people work together and gain a deeper awareness of their underlying needs, the health worker can help them look for more far-reaching answers.

The health or nutrition worker's biggest challenge will be to see how fast he can **move the main focus of community action from short-term to long-term needs**. He can help people look to the future and plan ahead.

WARNING ABOUT FOOD SUPPLEMENTS:

When people are starving, seeing that they get food must be the first priority. However, free food provided from the outside has often created more problems than it has solved:

- Food supplements have sometimes driven poor farmers to economic ruin by forcing down prices of local crops.
- Provision of free powdered milk to mothers has caused increased bottle feeding, costing the health and lives of many babies.
- Instead of helping people become more self-reliant, food supplements often increase their dependency on outside help. Studies in several countries show that after long periods of receiving food supplements, poor nutrition is as big a problem as ever—or bigger.

Unfortunately, some relief organizations still focus on giving free food rather than on helping people correct the causes of their food problems. Some organizations even donate foods such as candies or chocolate-flavored 'protein bars' to health programs training village health workers! **Discuss with health workers the dangers of accepting such gifts.**



Free food supplements should carry the same warnings as dangerous, habit-forming medicines. Their use should be limited to short-term emergencies only.

Self-help instead of handouts:

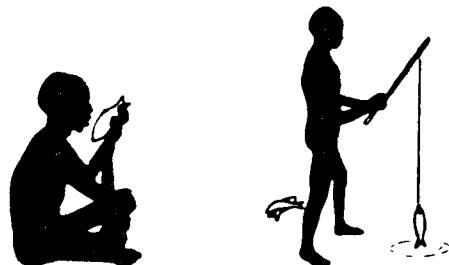
Fortunately, more and more volunteer and relief organizations are changing their focus of assistance from food supplements to self-help activities at the village level.

Rather than provide powdered milk and other outside foods, many health programs now try to **use only locally available foods** at nutrition centers.

For example, in the Indonesian training program described on page 25-30, students go to the local market to buy low-cost foods for their child-feeding program. Thus, mothers learn about preparing nutritious low-cost meals from local foods, rather than growing dependent on outside gifts.

In Mexico, the Project Piaxtla health team also has moved increasingly toward community self-reliance to solve food problems. Several years ago, a limited quantity of donated powdered milk was made available as an emergency food supplement for severely malnourished children. But now no donated milk is used or needed. Far fewer severely malnourished children are seen in the area today. When a malnourished child is brought to the health center, **if the family is not able to provide adequate food, different families in the village will cooperate in supplying food and even in helping to prepare it for the child.**

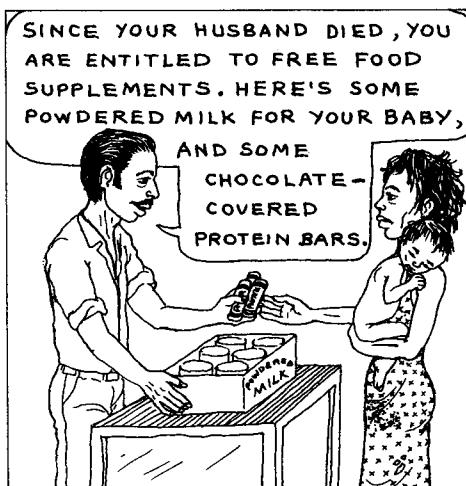
In some areas, when a malnourished child cannot breast feed from his own mother, other women in the village help by contributing breast milk.



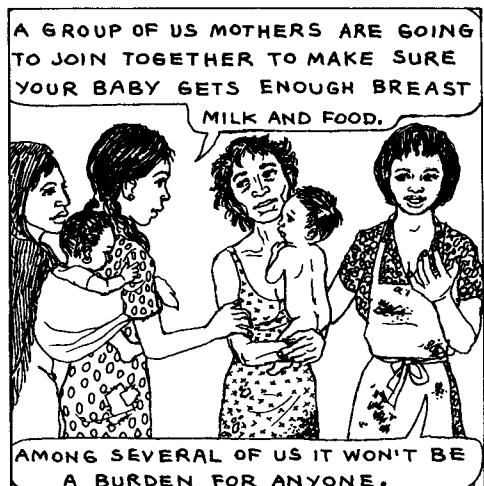
GIVE A MAN A FISH...
AND YOU FEED HIM
FOR A DAY.

TEACH A MAN TO FISH...
AND HE'LL FEED HIMSELF
FOR LIFE.

LESS APPROPRIATE



MORE APPROPRIATE



WORKING WITH PEOPLE'S FOOD HABITS

Some nutritional problems exist because families are too poor to buy or grow the food they need. But other problems come from people's food habits. People everywhere have strong beliefs, and strong likes and dislikes, when it comes to food.

When considering food habits, it is very important to remember that **often the traditional foods of an area are (or were) healthier than many of the newer foods brought in from outside.** Breast milk is healthier than bottle feeding. Fresh or dried fruit is healthier than fizzy drinks. Millet, a traditional food of Africa, is healthier than cassava, introduced from Latin America. In Chapter 7 we give many other examples.

We health workers and nutritionists often fall into the trap of looking mainly at people's harmful habits and customs. We pay too little attention to their habits and customs that are healthy. This is unfortunate. People respond more eagerly when we emphasize their beneficial customs, and build on those.

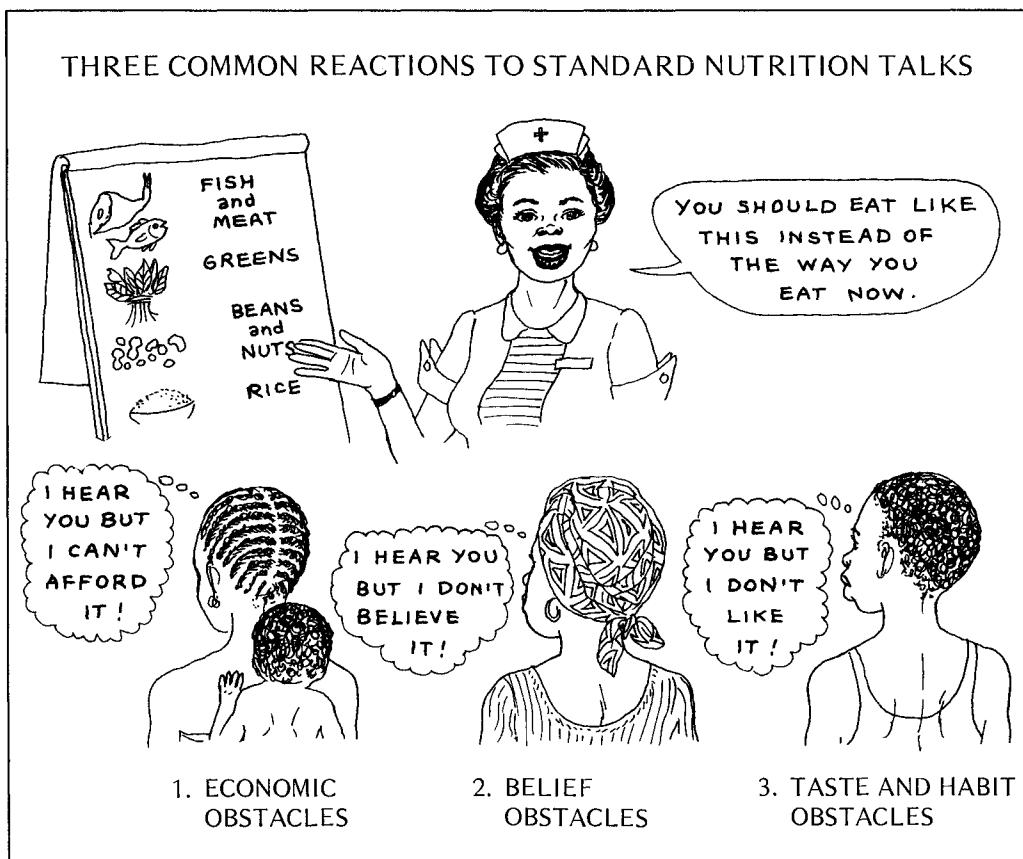
Community-based nutrition education should not focus on changing people's bad habits. Rather, it should try to recognize and strengthen those food habits and traditions that are healthy.

A common mistake: We often talk about changing other people's attitudes and habits, but do not think of changing our own.



IDEAS AND METHODS FOR TEACHING NUTRITION

Many training programs still teach health workers to give standard nutrition talks to mothers, children, and anyone else who will sit through them. The lesson plans and teaching materials have often been designed by outsiders—even foreigners. A dialogue approach, flip charts, or flannel-board foods may be used. But information and advice still travel mostly one way: from an unseen expert through the health worker to the listeners. The results from such pre-packaged nutrition talks are often disappointing:



If people are to learn to meet their food needs better, the educational approach needs to be active and should deal with real problems in a real way. It needs to be a **process in which the health workers and the people learn and explore new possibilities together.**

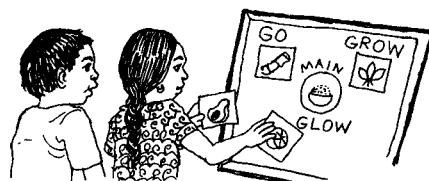
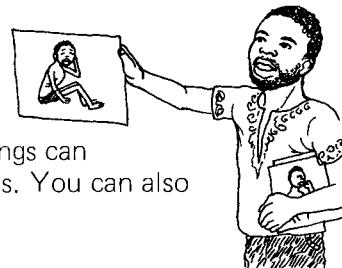
On the next 2 pages is a list of some of the methods and ideas that have been used to help health workers learn about food problems. Most can also be used by health workers to teach persons in the community. Examples for a few methods are given in this chapter, but many are included in other chapters. We refer you to the pages where they can be found.

SUMMARY OF WAYS TO TEACH AND LEARN ABOUT NUTRITION— FOR HEALTH WORKERS, MOTHERS, SCHOOL CHILDREN, AND OTHERS

1. Stories that help people to think about their problems and look for solutions. These are best in small groups, with the group taking part or discussing the stories afterwards. Flashcards or drawings can help to illustrate the stories and encourage discussions. You can also use open-ended stories that everyone helps to tell.

Examples of stories related to nutrition:

- The story of Abdul and Seri, on p. 24-24
- Indian villagers get back their fruit trees, p. 26-36
- Janaki and Saraswati—a story from India, p. 13-1



2. Games with nutritional messages. These are best if they involve problem solving and are based on decisions, rather than luck.

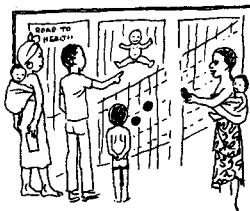
Examples:

- Card game on building balanced meals according to food groups, p. 25-42
- "Snakes and Ladders," p. 11-27



3. Demonstrations on food preparation. These can be done in the nutrition center. But it is often better to do them in the homes of families with poorly nourished children. Let mothers prepare the food themselves and help teach others. Use foods that are available in the local market or grown in family gardens.

4. Under-fives programs (well-baby clinics) with monthly weighing of children to help spot problems early. Chapter 22 contains many teaching ideas you can use, including a flannel-board weight chart to be made by mothers.



5. Role playing, sociodrama, mothers' theater, etc. Theater is excellent for getting people to think about ideas that require changes in the accepted way of doing things. Everyone can take part, or a group of villagers (or health workers) can perform. Follow up the performance with a discussion.



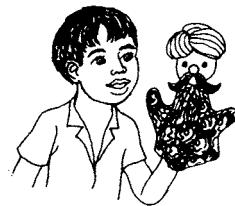
Examples:

- "Sensible Treatment of the Common Cold," p. 27-3
- "Useless Medicines that Sometimes Kill," p. 27-14
- "The Women Unite to Overcome Drunkenness," p. 27-19
- "The Small Farmers Unite to Overcome Exploitation," p. 27-27
- "The Importance of Breast Feeding," p. 27-31

6. Puppet shows are especially fun and useful for children's groups. It is best if the children make puppets and conduct the show themselves.

Examples:

- Oral rehydration: Story of Pepito, p. 24-28
- How to take care of your Teeth, p. 27-37



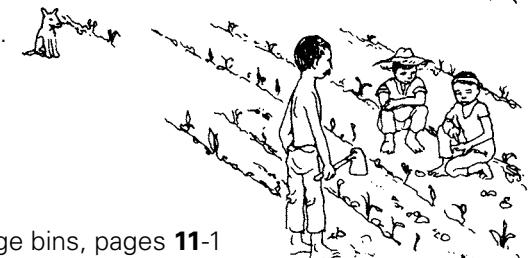
7. Small-group discussions and learning

sessions with mothers, fathers, young people, etc. It is best if the talk about different foods is brought to life by having everyone bring real foods, rather than using flannel ones. (That way you will be sure to teach about foods that are available locally.) Use a dialogue approach and appropriate teaching aids (see Chapter 11).



8. Garden and agricultural projects.

Actual practice is the best way to learn about these.



Examples:

- Family or school gardens
- Better grain storage: making storage bins, pages 11-1 and 25-27
- Other possibilities for improved food production (see Hesperian's *A Community Guide to Environmental Health*)

9. Slides, videos, DVDs. It is a good idea to use methods health workers can later use for teaching in their villages. This means solar or battery-operated projectors with portable computers, unless health workers will have access to projectors and electricity in their communities. Many groups distribute resources on nutrition and other topics. (See **Back-3**; also **WTND**, p. 429.)

10. CHILD-to-child activities help children to understand and meet the health needs of their younger sisters and brothers. Try to have children teach other children.



Examples related to nutrition:

- Learning about diarrhea: children discover through their own survey the importance of breast feeding, oral rehydration, and giving food to children with diarrhea, p. 24-17
- Measuring to find which children are too thin: children make arm bands and measure younger children, p. 25-14

11. Community practice and experience.

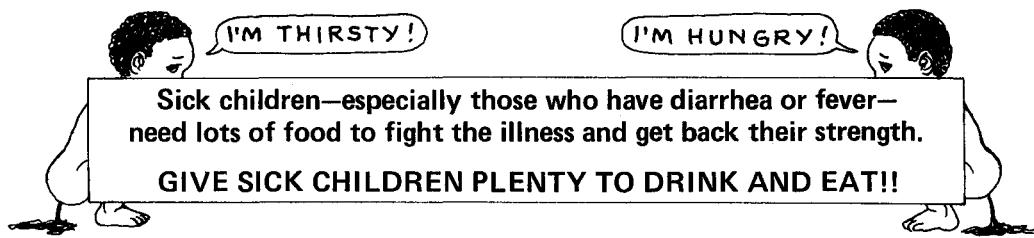
As much as possible, health workers should have a chance during their training to practice all these different activities and teaching methods with people in a real village or community.



A TEACHING IDEA TO COMBAT THE DANGEROUS CUSTOM OF STARVING THE SICK

In many areas, people believe they should give little or no food or drink to sick persons. This custom contributes to many deaths—especially in children. When a sick child does not get enough food, he becomes so weak that his illness may kill him. Or he may die from malnutrition itself. The danger is greatest for children who were already poorly nourished before they became ill.

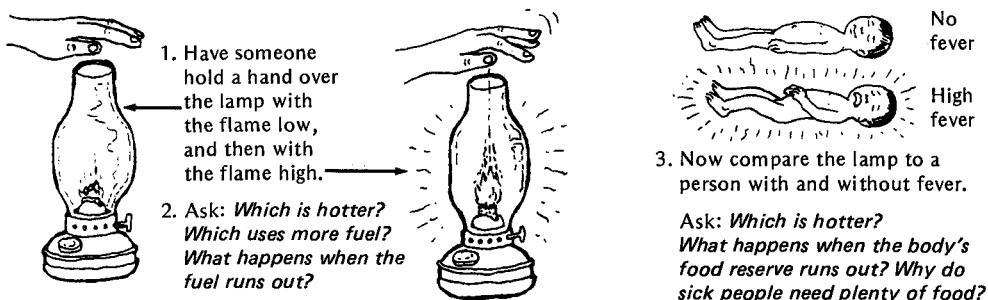
Children with diarrhea, if they do not die first of dehydration, often die a few days later—of hunger! The starving of children with diarrhea is a practice that even doctors used to recommend. (Some still do!) But studies show that children with diarrhea who are given a full, normal diet as soon as they can eat, get well faster and die less often than children who are given little or no food.



This is one of the most important lessons a health worker can teach people. But how? One way is to **compare fever with fire**.

High fever, like a hot fire, uses up a lot of fuel (energy foods). In one 3-hour attack of malaria, a person burns up as much energy as a farm worker needs for 8 hours of hard work! The sick person needs to eat enough energy foods (sugars, fats, and starchy foods) to replace what gets burned up by the fever. If not, the fever will begin to burn up the sick person's body, causing him to lose weight rapidly and grow very weak.

To help people understand this, you can use an oil lamp.



To fight infection and repair damage done by the illness, a sick person needs a balance of good foods (see Chapter 11 of *Where There Is No Doctor*). If the person is too weak to chew, give him soups, broths, and mashed or liquid foods. If he is too weak to eat much, give sweetened drinks and juices. Be sure he gets enough energy foods to replace what the fever burns up.

A few illnesses, of course, require special diets (see **WTND**, p. 124 to 130). But as a general rule, health workers should **place emphasis on the foods sick persons need**, not the foods they should avoid.

A NEW WAY OF LOOKING AT FOOD GROUPS*

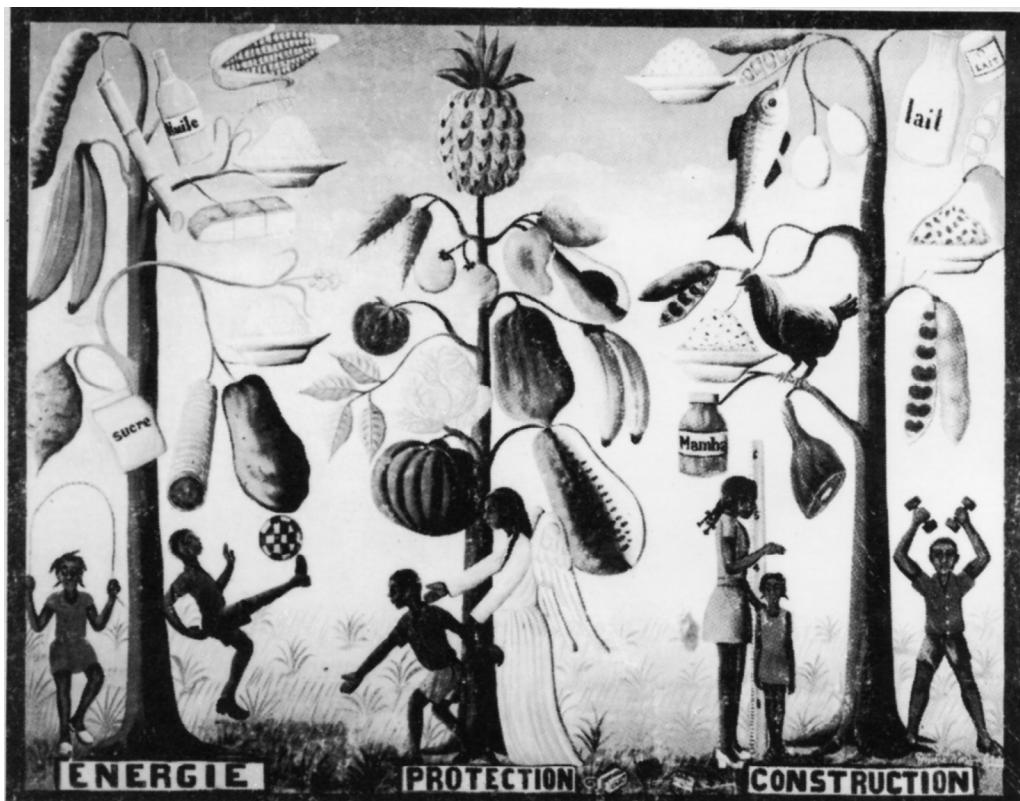
The typical food groups

To teach about nutritional needs, instructors often organize common foods into several groups. These food groups range in number from 3 or 4 to as many as 12, depending on whom you choose to listen to and where they come from.

The Food and Agriculture Organization (FAO) suggests 3 groups:

- **Body-building foods** (rich in proteins)
- **Protective foods** (rich in vitamins and minerals)
- **Energy foods** (starches and sugars, or carbohydrates; and fats)

In *Where There Is No Doctor* we use similar groups, but have divided energy foods into two groups: carbohydrates and fats.



An imaginative poster for teaching typical food groups. (By Adeline Andre, from cover of *Teaching Nutrition in Developing Countries*.)

*Many of the ideas here are adapted from "Food Classification System for Developing Countries," by Abrahamsson and Velarde, in *Teaching Nutrition in Developing Countries*, Freedom From Hunger, Davis, CA, U.S.A.

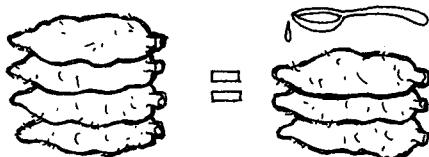
The new food groups

The food groups as commonly taught reflect the food habits and training of people in wealthy countries. Too much emphasis is put on the *kinds* of foods that should be eaten. And not enough emphasis is placed on ***making sure children get enough to eat.*** We now know that in most places where malnutrition is common, **the main problem is not lack of protein, but lack of enough energy foods.**

In most parts of the world, one main low-cost energy food is eaten with almost every meal. Depending on the area, this may be rice, maize, millet, wheat, cassava, potato, breadfruit, or banana. In the typical food groups, this main food is simply listed with other energy foods. But, in addition to energy, **the main food usually provides half or more of the body's needed protein and vitamins.** It is the central or 'super' food in the local diet.

However, the MAIN FOOD alone is not enough to keep a person healthy, especially a growing child. HELPER FOODS are also needed. These include:

- Additional ***body-building foods.*** When eaten together with the main food, these help complete the body's protein needs. Examples are beans when eaten with maize ***tortillas*** in Latin America, and lentils or ***dahl*** when eaten with wheat ***chapatis*** in India.
- Additional ***protective foods.*** These help complete the body's need for vitamins and minerals. Examples are oranges, tomatoes, and dark green leafy vegetables.
- Additional ***concentrated energy foods.*** These include fats, oils, sugars, and foods that contain them. These are especially needed when the main food—for example, cassava or plantain—contains so much water and fiber (bulk) that it fills a child's belly before he gets enough energy supply (calories).



A spoonful of cooking oil added to a child's food means he only has to eat about $\frac{3}{4}$ as much of the local main food in order to meet his energy needs. The added oil helps make sure he gets enough calories by the time his belly is full.

A new way of looking at food groups emphasizes the importance of getting enough of the MAIN FOOD that people eat locally. The main food is placed in the center, with the 3 groups of HELPER FOODS around it.

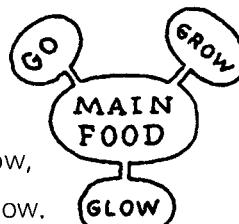
The HELPER FOODS—which are the old groups of energy foods, body-building foods, and protective foods—can be called GO FOODS, GROW FOODS, and GLOW FOODS. These short names are fun and easier to remember. Remind students that:

The MAIN FOOD supplies most of the body's needs.
But with it we also need . . .

GO FOODS that help the body run, work, and play,

GROW FOODS that help the body's muscles and nerves grow,

GLOW FOODS that help the hair, eyes, and skin shine or glow.



A MORE APPROPRIATE WAY OF LOOKING AT FOOD GROUPS

GROW FOODS

(proteins or body-building helpers)



Examples:

Legumes (beans, peas, groundnuts,* and soybeans*)

Nuts* (almonds, walnuts, cashews, and hazelnuts)

Oil seeds* (sesame, sunflower, etc.)

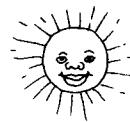
Animal products (milk, meat, chicken, eggs, fish, and insects)

Importance: Combined with main foods, these foods increase the quantity and improve the quality of the protein in the meal.

* also valuable as energy helpers because of their high fat content

GLOW FOODS

(vitamins and minerals or protective helpers)



Examples:

Vegetables (dark green leafy vegetables, tomatoes, carrots, turnips, kale, leeks, and peppers)

Fruits (mangoes, oranges, and papayas)

(also eggs, chicken, meat, milk products, fish, and fish liver oil)

Importance: These foods provide vitamins A and C and other vitamins. Dark green leafy vegetables are also excellent sources of iron and the B vitamins—as well as some protein.

MAIN FOODS



Examples:

Cereals and grains (wheat, maize, rice, millet, and sorghum)

Starchy roots (cassava, potatoes, taro, etc.)

Starchy fruits (banana, plantain, breadfruit, etc.)

Importance: All main foods are cheap sources of energy. The cereals are also cheap sources of protein, iron, and the B vitamins.

WE PUT THE
MAIN FOOD
IN THE CENTER
BECAUSE IT
SUPPLIES
MOST OF
THE BODY'S
FOOD
NEEDS.

GO FOODS

(energy helpers)



Examples:

Fats (vegetable oils, butter, **ghee**, lard)

Foods rich in fats (coconut, olives, fatty meat)

Nuts* (groundnuts, almonds, walnuts, cashews)

Oil Seeds (pumpkin, melon, sesame, sunflower)

Sugars (sugar, honey, molasses, sugar cane, jaggery)

***Note:** Nuts and oil seeds are also valuable as body-building helpers

Note:

We are not sure if the terms **grow foods**, **glow foods**, and **go foods** are better than **body-building helpers**, **protective helpers**, and **energy helpers**. Use whatever terms people in your area understand and remember best.



TEACHING IDEAS USING THE NEW FOOD GROUPS

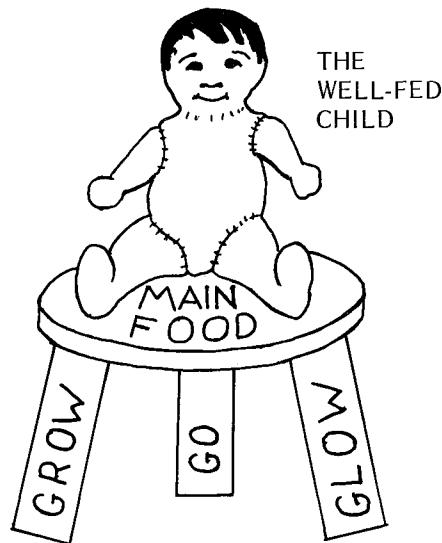
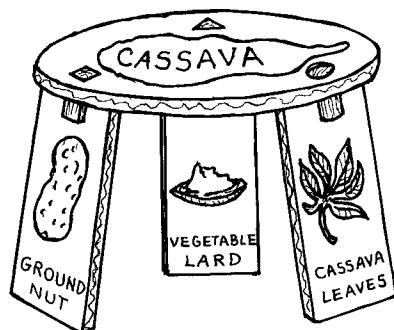
One of the best ways to learn about the new food groups is to have persons actually prepare meals using foods they have grown themselves or bought in the local market. Even for classroom learning, real foods can be brought by students and arranged in different combinations to form balanced meals.

However, some local foods may not be available at all times of the year, so flannel-board foods or other pretend foods may be useful. Take care to **choose foods that are local, low-cost, and acceptable to the people.**

In whatever learning games you use, remember to keep the main food central. Here is an example of a teaching aid that does this:

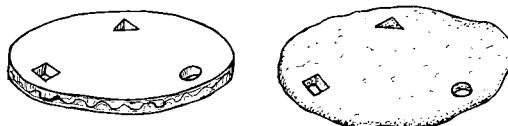
The 3-legged stool for healthy eating

The seat of the stool is the MAIN FOOD and the 3 legs are formed by GROW FOODS, GO FOODS, and GLOW FOODS.



Have students make the doll and the stool themselves.

The round 'seat' can be made of cardboard, wood, or bark. Or if you live where the main food is *tortilla* or *chapati* (flat cakes of maize or wheat), use one of these, stale or toasted until stiff.



Make holes for the legs to fit into. You may want to use different-shaped holes for matching with the different food groups.

Using cardboard, fiberboard, wood, or pieces of tin cans, have students prepare cards with drawings of local foods on them. Include common GO FOODS, GROW FOODS, and GLOW FOODS. Use local names.

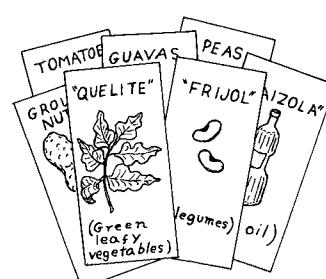
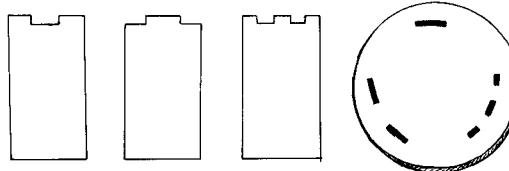
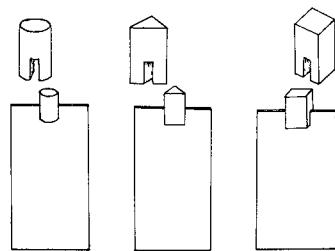


Figure out some way for the cards to fit into the stool seat as legs.

You could use different-shaped bits of wood with slots to grip the cards.

Or cut tabs on the tops of the cards to match slots in the seat.



The different-shaped tabs or pieces of wood can be used in matching games or puzzles to help students learn to use all 3 kinds of helper foods in addition to the main food.

By practicing putting the stool together using different choices of 'legs', the students come to understand that **the main food forms the base** that holds the child up. They also learn that **all 3 groups of helper foods are needed** to keep a balance and to prevent the child from 'falling' (falling ill).

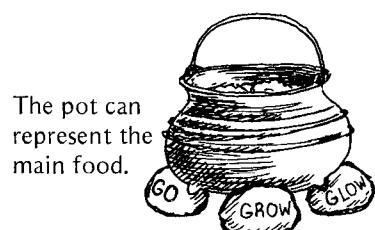
Students can use this teaching aid to practice forming balanced meals based on the main food. Give each student a few food cards, and let them take turns building meals for babies, children, and adults with the foods that are available at different times of year.

This way students learn that certain helper foods can be used in either one or both of 2 different positions. For example, groundnuts serve both as GROW FOODS (because they have protein) and as GO FOODS (because they are rich in oil). (To show this, make 2 cards for a food like groundnuts. And make 2 different tabs or wood pieces, to fit into both positions in the stool.)

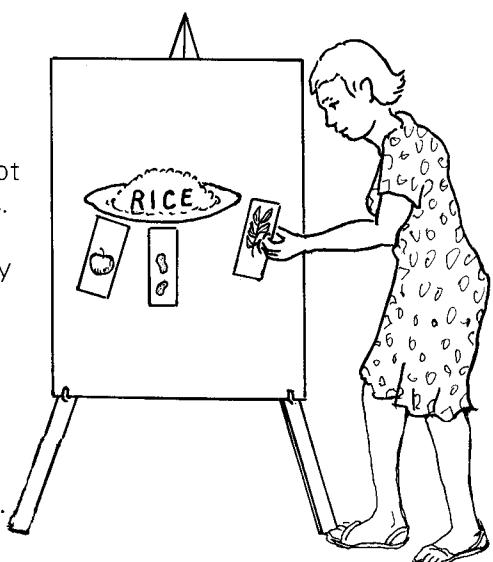
You can adapt the 3-legged stool idea for use on a flannel-board.

If people in your area do not use stools, maybe the group can think of a way to adapt this teaching aid to build on local traditions.

In Haiti, for example, people traditionally use 3 rocks to hold up the cooking pot.



The three rocks can represent the helper foods.



THE MOST IMPORTANT FOOD LESSON: EATING ENOUGH!

Too often nutrition education emphasizes diet *quality* and pays too little attention to *quantity*. Needs vary from place to place, but in general **far more emphasis needs to be given to how much a child eats, and how often.**

Some field workers suggest that, in places where regular child-weighing programs are being carried out, one main nutrition message should be emphasized:



But before you accept any outsider's advice (including ours),
be sure to question if it is true for your situation.

Adapt your message to people's beliefs and customs.