

Chapter 11

In this chapter:

Main Foods and Helper Foods.....	166
Important vitamins and minerals.....	167
Eating Better for Less Money.....	170
Harmful Ideas About Eating.....	171
Poor Nutrition Can Cause Disease.....	172
Anemia.....	172
Beriberi.....	173
Problems from eating too much food or the wrong kind of food.....	174
Ways to Work toward Better Nutrition.....	176
Trying a new idea.....	178

Eating for Good Health



A woman needs good food to do her daily work, to prevent illness, and to have safe and healthy births. And yet, around the world, more women suffer from poor nutrition than any other health problem. This can cause exhaustion, weakness, disability, and general poor health.

There are many reasons for hunger and not eating well. One main reason is poverty. In many parts of the world, a few people own most of the wealth and the land. They may grow crops like coffee or tobacco instead of food, because they can make more money that way. Or poor people may farm small plots of borrowed land, while the owners take a big share of the harvest.

This poverty is hardest on women. This is because in many families women are fed less than men, no matter how little there is to eat. So the problems of hunger and poor nutrition will never be completely solved until land and other resources are shared fairly, and women are treated equally with men.

Still, there are many things people can do now to eat better at low cost. By eating as well as they can, they will gain strength. And when people are not feeling hungry every day, they are more able to think about their families' and communities' needs and to work for change.

► *Many illnesses can be prevented if people have enough good food to eat.*

Main Foods and Helper Foods

► *Good nutrition means eating enough food and the right kind of food for the body to grow, be healthy, and fight off disease.*

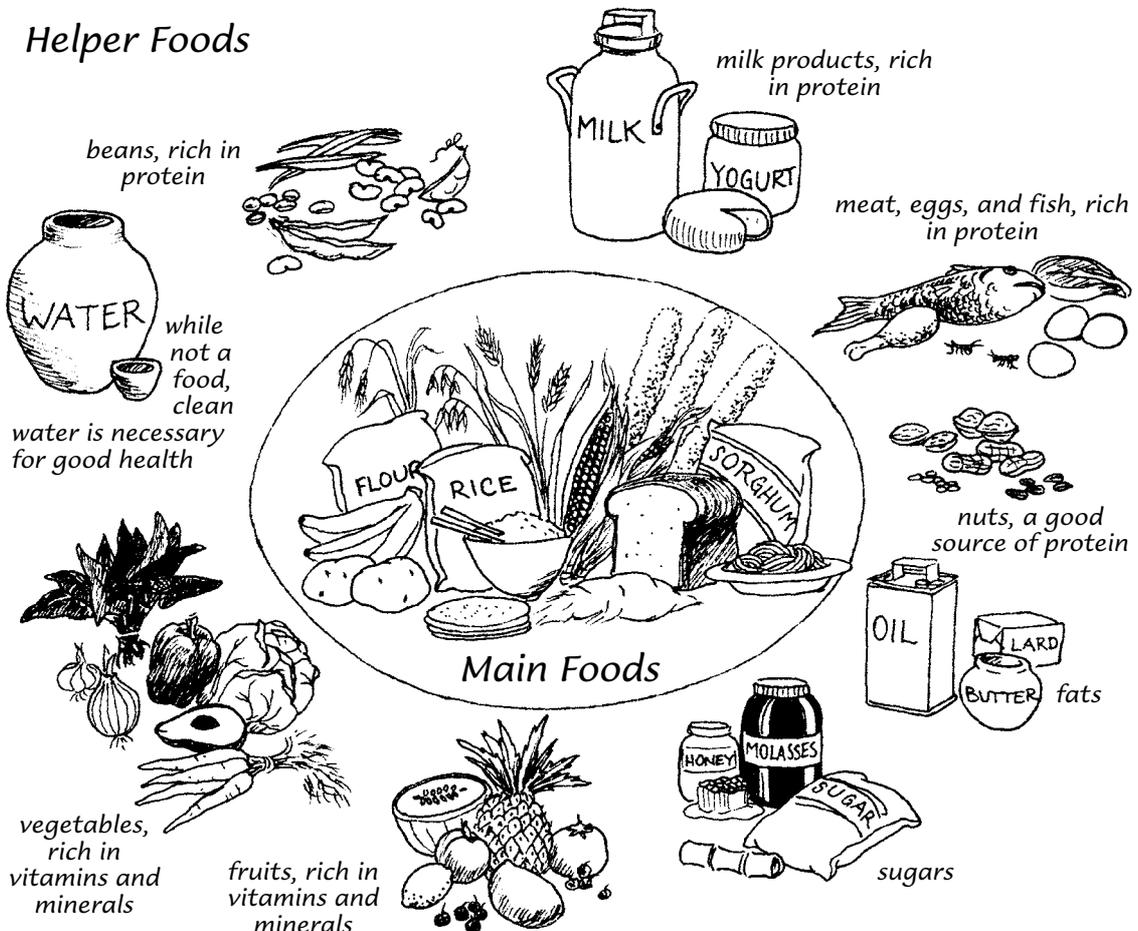
In much of the world, most people eat one main low-cost food with almost every meal. Depending on the region, this may be rice, maize, millet, wheat, cassava, potato, breadfruit, or plantain. This main food usually provides most of the body's daily food needs.

By itself, however, the main food is not enough to keep a person healthy. Other 'helper' foods are needed to provide protein (which helps build the body), vitamins and minerals (which help protect and repair the body), and fats and sugar (which give energy).

The healthiest diets have a variety of foods, including some foods with protein, and fruits and vegetables rich in vitamins and minerals. You need only a small amount of fat and sugar. But if you have problems getting enough food, it is better to eat foods with sugar and fat than to eat too little food.

A woman does not need to eat all the foods listed here to be healthy. She can eat the main foods she is accustomed to, and add as many helper foods as are available in her area.

Helper Foods



IMPORTANT VITAMINS AND MINERALS

There are 5 important vitamins and minerals that women need, especially women who are pregnant or breastfeeding. The 5 are: iron, folic acid (folate), calcium, iodine, and vitamin A.

Iron

Iron is needed to make blood healthy and to help prevent weak blood (*anemia*). A woman needs to get a lot of iron throughout her life, especially during the years she has monthly bleeding and during pregnancy.

These foods have a lot of iron:

- meat (especially liver, heart, and kidney)
- blood
- chicken
- eggs
- fish
- beans
- grasshoppers, crickets, termites
- peas

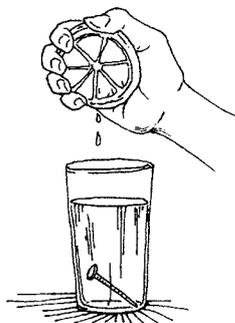


These foods also have some iron:

- cabbage with dark-colored leaves
- potatoes
- cauliflower
- lentils
- brussels sprouts
- turnips
- sunflower, sesame, pumpkin seeds
- strawberries
- dark green leafy vegetables
- pineapples
- yams
- seaweed
- broccoli
- dried fruit (especially dates, apricots, and raisins)
- black-strap molasses

It is possible to get even more iron if you:

- Cook food in iron pots. If you add tomatoes, lime juice, or lemon juice (which are high in vitamin C) to the food while it is cooking, more iron from the pots will go into the food.
- Add a clean piece of iron—like an iron nail or a horseshoe—to the cooking pot. These should be made of pure iron, not a mixture of iron and other metals.
- Put a clean piece of pure iron, like an iron nail, in a little lemon juice for a few hours. Then make lemonade with the juice and drink it.



► It is best to eat iron foods along with citrus fruits or tomatoes. These contain vitamin C, which helps your body use more of the iron in the food.

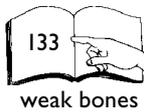
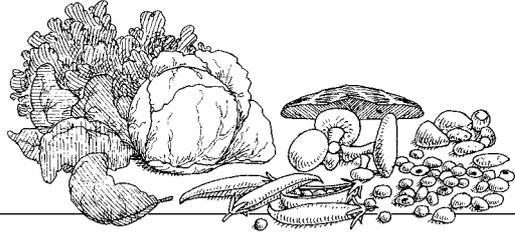
► Avoid cooking food for a long time. This destroys folic acid and other vitamins.

Folic acid (folate)

The body needs folic acid to make healthy red blood cells. Lack of folic acid can lead to anemia in women and severe problems in newborn babies. So getting enough folic acid is especially important during pregnancy.

Good sources of folic acid are:

- dark green leafy vegetables
- mushrooms
- liver
- meats
- fish
- nuts
- peas and beans
- eggs



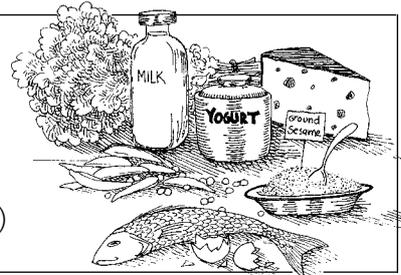
Calcium

Everyone needs calcium to make their bones and teeth strong. In addition, girls and women need extra calcium:

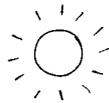
- During childhood. Calcium helps a girl's hips grow wide enough to give birth safely when she is fully grown.
- During pregnancy. A pregnant woman needs enough calcium to help the baby's bones grow, and to keep her own bones and teeth strong.
- During breastfeeding. Calcium is necessary for making breast milk.
- During mid-life and old age. Calcium is needed to prevent weak bones (*osteoporosis*).

These foods are rich in calcium:

- milk, curd, yogurt
- cheese
- ground sesame
- bone meal
- green leafy vegetables
- almonds
- beans, especially soy
- shellfish
- lime (carbon ash)



Sunshine will help you use calcium better. Try to be in the sun at least 15 minutes every day. Remember that it is not enough to just be outdoors. The sun's rays must touch the skin.



To increase the amount of calcium you get from food:

- Soak bones or egg shells in vinegar or lemon juice for a few hours, and then use the liquid in soup or other food.
- Add a little lemon juice, vinegar, or tomato when cooking bones for soup.
- Grind up egg shells into a powder and mix with food.
- Soak maize (corn) in lime (carbon ash).

Iodine

Iodine in the diet helps prevent a swelling on the throat called *goiter* and other problems. If a woman does not get enough iodine during pregnancy, her child may be mentally slow. Goiter and mental slowness are most common in areas where there is little natural iodine in the soil, water, or food.



The easiest way to get enough iodine is to use iodized salt instead of regular salt. Or you can eat some of these foods (either fresh or dried):

- shellfish (like shrimp)
- fish
- seaweed
- eggs
- onions

If iodized salt or these foods are hard to get, or if there is goiter or mental slowness in your area, check with the local ministry of health to see if they can give iodized oil by mouth or by injection. If not, you can make an iodine solution at home with polyvidone iodine (an antiseptic that is often available at a local pharmacy). To make an iodine solution to drink:

The easiest way to get enough iodine is to use iodized salt instead of regular salt.

1. Pour 4 glasses of clean drinking water into a jug or jar.
2. Add one drop of polyvidone iodine.

Everyone over 7 years old should drink one glass of this iodine solution every week of her or his life. This is especially important for pregnant women and children.

Store iodine at room temperature and in dark containers to protect it from light.

Vitamin A

Vitamin A prevents night blindness and helps fight off some infections. Many pregnant women have problems with night blindness, which probably means that their diet lacked vitamin A before they got pregnant. The problem shows up when pregnancy places extra demands on the body.

Lack of vitamin A also causes blindness in children. By eating foods rich in vitamin A during pregnancy, a woman can increase the amount of vitamin A her baby will get in breast milk.

Dark yellow and green leafy vegetables, and some orange fruits, are rich in vitamin A.



Eating Better for Less Money

If you have some space, growing your own vegetables will provide you with healthy food at very little cost.



When money is limited, it is important to use it wisely. Here are some suggestions for getting more vitamins, minerals, and proteins at low cost:

1. **Protein foods.** Beans, peas, lentils, and other similar foods (called legumes) are a good, cheap source of protein. If allowed to sprout before cooking and eating, they have more vitamins. Eggs are one of the cheapest sources of animal protein (see page 168 for ways to use the shells, too). Liver, heart, kidney, blood, and fish are often cheaper than other meats and are just as nutritious.
2. **Grains.** Rice, wheat, and other grains are more nutritious if their outer skins are not removed during milling.
3. **Fruits and vegetables.** The sooner you eat fruits and vegetables after harvesting, the more nutrition they have. Store them in a cool, dark place to preserve vitamins. Cook vegetables in as small an amount of water as possible, because vitamins from the vegetables go into the water during cooking. Then use the water in soups or drink it.

The tough outside leaves or tops from vegetables like carrots or cauliflower contain many vitamins and can be used to make healthy soups. For instance, cassava (manioc) leaves contain 7 times as much protein and more vitamins than the root.

Many wild fruits and berries are rich in vitamin C and natural sugars, and can provide extra vitamins and energy.

4. **Milk and milk products.** These should be kept in a cool, dark place. They are rich in body-building proteins and in calcium.

5. **Avoid spending money on packaged foods or vitamins.**

If parents took the money they often use for sweets or sodas (fizzy drinks) and spent it on nutritious foods, their children would be healthier for the same amount of money.

Since most people can get the vitamins they need from food, it is better to spend money on nutritious foods than on pills or *injections*. If you must take vitamins, take pills. They work as well as injections, are safer, and cost less.

In many parts of the world, certain traditions and beliefs about women and food are more harmful than helpful. For example:

It is not true that girls need less food than boys. Some people believe that boys need more food. But these people are wrong! Women work just as hard as men in most communities, if not harder, and need to be as healthy. Girls who are healthy and well-fed during childhood grow up into healthy women, and have fewer problems at school and at work.

It is not true that women should avoid foods during pregnancy and breastfeeding. In some communities, people believe that a woman should avoid certain foods—like beans, eggs, chicken, milk products, meat, fish, fruits, or vegetables—at different times in her life. These times may include her monthly bleeding, pregnancy, immediately after childbirth, while breastfeeding, or during *menopause*. But a woman needs all these foods, especially during pregnancy and while breastfeeding. Avoiding them can cause weakness, illness, and even death.

It is not true that a woman should feed her family first. A woman is sometimes taught to feed her family before herself. She eats only what is left and often does not get as much food as the rest of the family. This is never healthy. And when a woman is pregnant, or has just had a baby, it can be very dangerous.

If a family does not help a woman eat well, we encourage her to do what she must to get enough food. She may need to eat while cooking, or hide food and eat it when her husband is out of the house.

It is not true that a sick person needs less food than a healthy person. Good food not only prevents disease but also helps a sick person fight disease and become well again. As a general rule, the same foods that are good for people when they are healthy are good for them when they are sick.

Harmful Ideas About Eating



Poor Nutrition Can Cause Disease

Because girls and women often get less food—and less nutritious food—than they need, they are more likely to get sick. Here are some common illnesses caused by poor nutrition.

ANEMIA

A person with anemia has weak blood. This happens when red blood cells are lost or destroyed faster than the body can replace them. Because women lose blood during their monthly bleeding, anemia is often found in women who are between *puberty* and *menopause*. About half of the world's pregnant women are anemic, because they need to make extra blood for the growing baby.

Anemia is a serious illness. It makes a woman more likely to get other kinds of diseases, and affects her ability to work and learn. Anemic women are more likely to bleed heavily or even die during childbirth.

Signs:

- pale inner eyelids, nails and inside of lip
- weakness and feeling very tired
- *dizziness*, especially when getting up from a sitting or lying position
- fainting (loss of consciousness)
- shortness of breath
- fast heartbeat



Causes of anemia:

The most common cause of anemia is not eating enough food rich in iron, since iron is needed to make red blood cells. Other causes are:

- *malaria*, which destroys red blood cells
- any kind of blood loss, such as:
 - heavy monthly bleeding (an *intra-uterine device*, or IUD, can make bleeding heavier)
 - childbirth
 - bloody diarrhea (dysentery) from *parasites* and worms
 - bleeding stomach *ulcers*
 - a wound that bleeds a lot

► For more information about malaria, parasites, and worms, see **Where There Is No Doctor** or another general medical book.

Treatment and prevention:

- If malaria, parasites, or worms are causing your anemia, treat these diseases first.
- Eat foods rich in iron (see page 167), along with foods rich in vitamins A and C, which help the body absorb iron. Citrus fruits and tomatoes are rich in vitamin C. Dark yellow and dark green leafy vegetables are rich in vitamin A. If a woman cannot eat enough foods rich in iron, she may need to take iron pills (see page 73).
- Avoid drinking black tea or coffee, or eating bran (the outer layer of grains) with meals. These can prevent the body from absorbing iron from food.
- Drink clean water to prevent infection from parasites.
- Use a *latrine* for passing stool, so that worm eggs will not spread to food and water sources. If hookworms are common in your area, try to wear shoes.
- Space births at least 2 years apart. This will give your body a chance to store some iron between pregnancies.



clean water



cleanliness

BERIBERI

Beriberi is a disease caused by lack of thiamine (one of the B vitamins), which helps the body turn food into energy. Like anemia, beriberi is most often seen in women from puberty to menopause, and in their children.

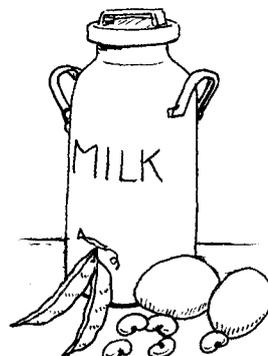
Beriberi occurs most often when the main food is a grain whose outer skin has been removed (for example, polished rice) or a starchy root, like cassava.

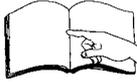
Signs:

- not wanting to eat
- severe weakness, especially in the legs
- the body becomes very swollen or the heart stops working

Treatment and prevention:

Eat foods rich in thiamine, like meat, poultry, fish, liver, whole grain cereals, legumes (peas, beans, clover), milk, and eggs. If this is difficult, a person may need thiamine pills.





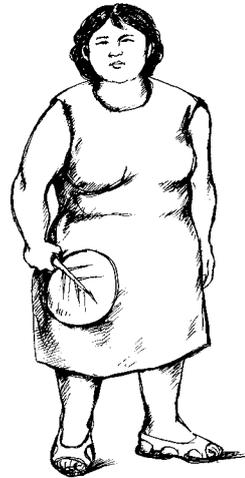
high blood pressure, 130
cancer, 376
arthritis, 133

PROBLEMS FROM EATING TOO MUCH FOOD OR THE WRONG KINDS OF FOOD

Women who do not have healthy foods to eat, especially if they are very overweight and their diets have too much fat or sugar, are more likely to have high *blood pressure*, heart disease, a *stroke*, *gallstones*, diabetes, and some *cancers*. Being very overweight can also cause *arthritis* in the legs and feet.

Make sure you get enough exercise, and eat more fruits and vegetables. Here are some suggestions for cutting down the amount of unhealthy foods in the diet:

- Cook with broth or water instead of using butter, ghee, lard, or oil.
- Remove fat from meat before cooking. Do not eat the skin of chicken or turkey.
- Avoid processed snack foods that are high in fat, sugar and salt, such as chips, crackers, and sweet drinks like Coca-Cola.



Diabetes

Diabetes is a problem in which the body does not use sugars in food properly. It can lead to blindness, loss of limbs, coma, or even death. Type 1 diabetes usually starts in childhood. People with Type 1 diabetes need to take a medicine called insulin their whole lives. Type 2 diabetes usually starts when a person is over 40 years old. It is most common in people who are very overweight.

Early signs:

- always thirsty
- weight loss
- urinates often and a lot
- always tired
- always hungry

Later, more serious signs:

- itchy skin
- periods of blurry eyesight
- some loss of feeling in the hands or feet
- frequent *vaginal* infections
- sores on the feet that do not heal
- loss of consciousness (in extreme cases)

All these signs may be caused by other diseases. To find out whether you have diabetes, see a health worker, or do not eat for 8 hours and then go to a laboratory to get a test for fasting blood glucose (sugar). If your sugar level is over 125 on two separate tests, you have diabetes.

► A woman can also develop diabetes during pregnancy. This is called *gestational diabetes*. If you are pregnant and are always thirsty or are losing weight, see a health worker to test your blood for sugar.

Treatment:

If you have Type 2 diabetes, you should see a health worker to check the sugar in your blood and see if you need medicines. You may be able to control your diabetes by eating carefully:

- Eat smaller meals more often. This helps keep the same amount of sugar in the blood.
- Avoid eating sweet foods.
- If you are overweight, try to lose weight.
- Eat less of starchy foods (such as rice and white or processed flours) because they turn into sugar in the body.
- Eat more fiber and leafy vegetables.

If possible, you should also see a health worker regularly to make sure your illness is not getting worse.

To prevent infection and injury to the skin, clean your teeth after eating, keep your skin clean, and always wear shoes to prevent foot injuries. Check your feet and hands once a day to see if you have any sores. If you have a sore and there are any signs of infection (redness, swelling, or heat), see a health worker.



Check your feet once a day to see if you have any sores or signs of infection.

Whenever possible, rest with your feet up. This is especially important if your feet get darker in color and become numb. These signs mean that the blood flow to and from your feet is poor.

► There may be plants in your area that are helpful for diabetes. Check with a health worker.

Other health problems that can be caused or made worse by poor nutrition:

- high blood pressure (see page 130)
- constipation (see page 70)
- weak bones (see page 133)
- stomach ulcers, acid indigestion, and heartburn

For more information on stomach ulcers, indigestion, and *heartburn*, see **Where There Is No Doctor** or another general medical book.

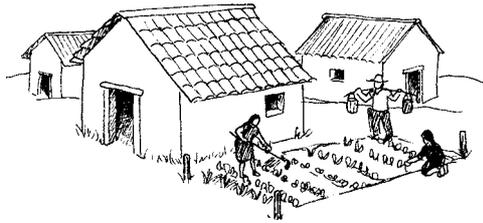
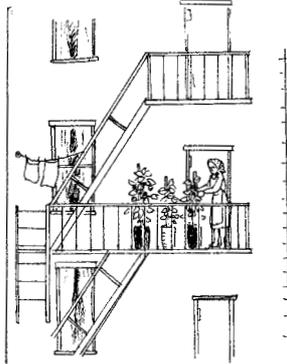
Ways to Work toward Better Nutrition

There are many different ways to approach the problem of poor nutrition, because many different things help cause the problem. You and your community must consider the possible actions you might take and decide which are most likely to work.

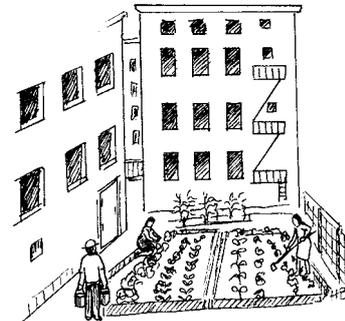
Here are a few examples of ways to improve nutrition. These suggestions can help you grow more food or different kinds of food, or store it better so the food does not spoil. Some of these examples bring quick results. Others work over a longer time.

Some ways people can improve their nutrition

Family gardens



Community gardens



Rotation of crops

Every other planting season, plant a crop that returns strength to the soil—like beans, peas, lentils, alfalfa, peanuts, or some other plant with seeds in pods (legumes or pulses).

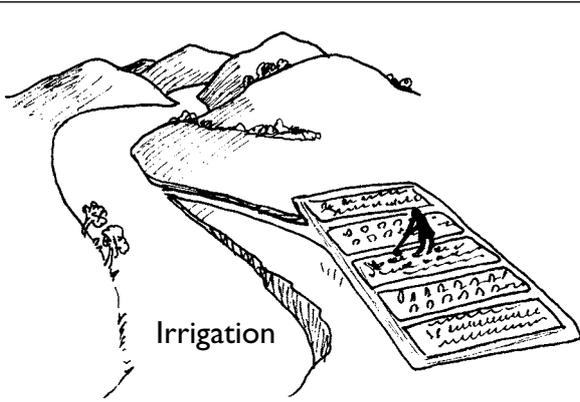


This year **maize**



Next year **beans**

Try to grow a variety of foods. That way, even if one crop fails there will still be something to eat.



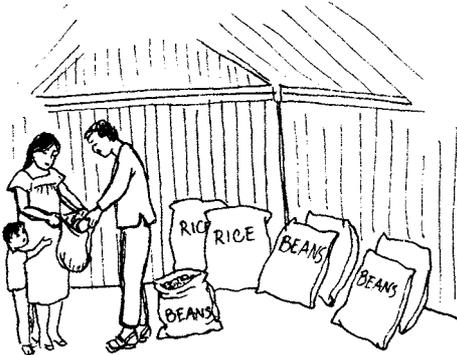
Contour ditches

prevent the soil from washing away.

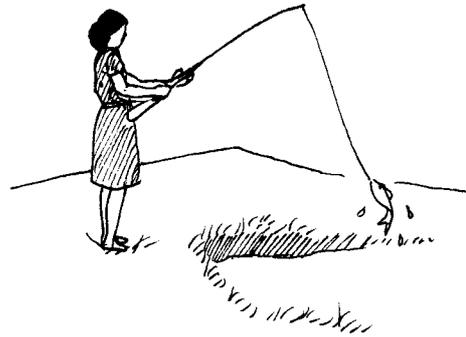


Food Cooperatives

The community can buy large amounts of food at lower prices.



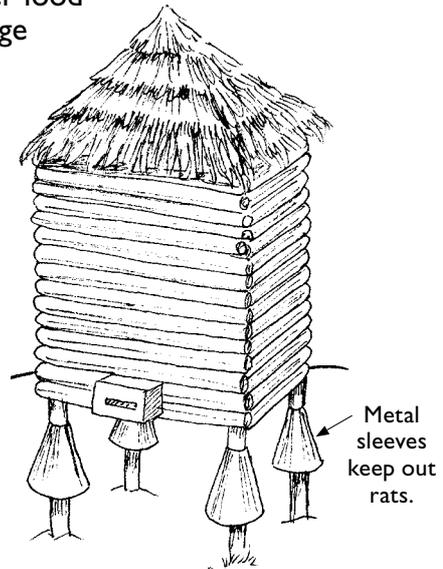
Fish breeding



Better food storage



Natural fertilizers



TRYING A NEW IDEA

Not all the suggestions in this chapter are likely to work in your area. Perhaps some will work if they are changed for your particular community and the resources at hand. Often you can only know whether something will work or not by trying it—that is, by experiment.

When you try out a new idea, **always start small**. If you start small and the experiment fails, or something has to be done differently, you will not lose much. If it works, people will see that it works and can begin to use it in a bigger way.

Here is an example of experimenting with a new idea:

You learn that a certain kind of bean, such as soya, is an excellent body-building food. But will it grow in your area? And if it grows, will people eat it?

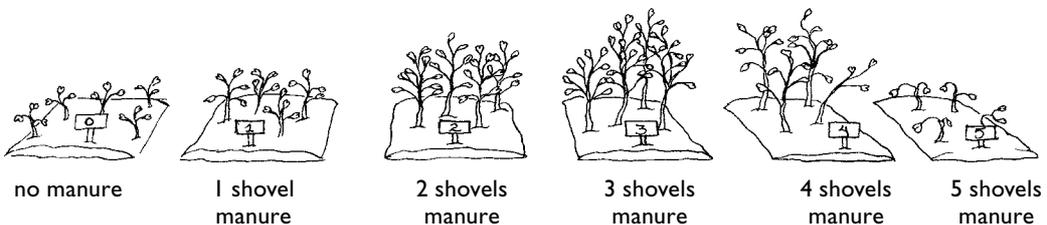
Start by planting a small patch—or 2 or 3 small patches under different kinds of conditions (for example, with different kinds of soil or using different amounts of water). If the beans do well, try cooking them in various ways, and see if people will eat them. If so, try planting more beans using the conditions in which they grew best.



You can also try out even more conditions (for example, adding fertilizer or using different kinds of seed) in more small patches to see if you can get an even better crop. To best understand what helps and what does not, try to change only one condition at a time and keep the rest the same.

► Do not be discouraged if an experiment does not work. Perhaps you can try again with certain changes. You can learn as much from your failures as from your successes.

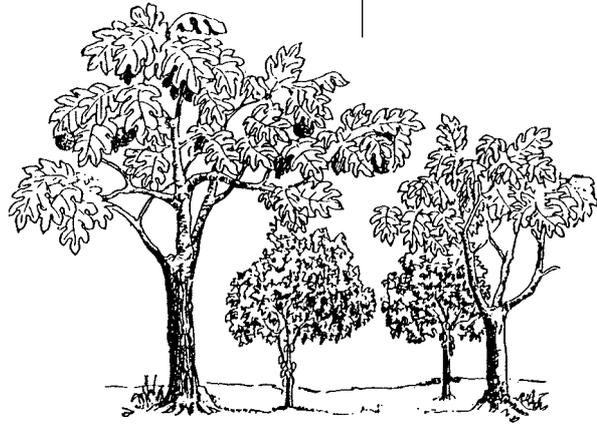
Here is an example of adding animal fertilizer (manure) to see if it helps beans grow. This person planted several small bean patches side-by-side, under the same conditions of water and sunlight, and using the same seed. Before planting, each patch of soil was mixed with a different amount of manure, something like this:



This experiment shows that a certain amount of manure helps, but that too much can harm the plants. This is only an example. Your experiments may give different results. Try for yourself!

Other ideas to experiment with

- To increase the amount of food a piece of land will produce, try planting different kinds of crops together. For example, plants that grow along the ground can be mixed with plants that grow tall. Fruit trees can be planted above both. Or plants that take a shorter time to grow can be mixed with those that take a longer time. Then the first crop can be harvested before the second crop gets too large.
- If you must plant cash crops (non-food crops that you sell), try planting food crops together with the cash crops. For example, plant nut or fruit trees to shade coffee. Or plant cassava with cotton.
- Try to find nutritious plants that grow well in local conditions, so that you will need less water and fertilizer for good results.



See Hesperian's book *A Community Guide to Environmental Health* for more information on:

- storing food safely.
- sustainable farming in both rural and urban communities.
- managing pests and plant diseases.
- fish farming.
- raising animals.
- improving local food security.

By planting breadfruit and cacao together, this family can earn some money and grow more food for themselves—with the same amount of land.

Share with your neighbors

Some communities have a tradition of sharing food with those who need it. For example, when families go to religious services, they bring a handful of grain to share. Small amounts of grain from many families add up to a lot of stored grain. Then, if a few families' crops fail, the stored grain is given to those struggling families. Some groups have set up formal "rice banks" where families leave rice during the harvest season to loan to people in need during the dry season.

