



Food, water and family health

A manual for
community educators



United Nations
Development Programme



World Health
Organization

203.2-94FO-12525

1994

INTERNATIONAL NUTRITION CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (INCS)



Food, water and family health

A manual for
community educators

ISBN 12525
203.2 94F0



Contents

Preface iii

How to use this manual v

Unit 1: Healthy water and better sanitation



- The problems we have with water 3
- Ways to keep our water supply safe 6
- Golden rules for safe water 9
- Improving our environment ourselves 11
- The water committee 14
- Ways to make drinking water safer 17
- Latrines 24

Unit 2: Coping with some of our special health problems



- Diarrhoea 29
- Guinea worm 37
- Schistosomiasis 38
- Mosquitos 40
- AIDS 44

Unit 3: Healthy food



- Bright eyes and clear skin 51
- Good food 54
- Protecting our food 60
- Breast-feeding 62
- Giving other foods: weaning begins 65
- Growing healthy food 69
- Growing a future 73
- Fish 75

Unit 4: Healthy mothers, healthy children



- Staying healthy while pregnant 79
- Warning signs in pregnancy 82
- Birth-spacing 85
- Immunization 88

Thank you for the visit 95

Bibliography 97

Sources of information 99

Preface

Information for community educators is often in short supply. By educators we mean teachers, health workers, and community organizers involved in promoting healthy practices. Family members sharing knowledge with relatives, neighbours and friends are the most valuable educators.

Food, water and environment are personal and immediate matters. Nutritious food maintains health, promotes growth in children, and prevents blindness. Safe drinking water nurtures and restores; unsafe water, even when it looks clean, is harmful. Puddles and rubbish lying around encourage mosquitos and rats. Clean surroundings, gardens, and properly located latrines can make the neighborhood beautiful and more healthy.

Food, Water and Family Health is rich in information and experiences. The manual employs simple dialogue, messages, and illustrations. The arrangement of text and choice of language should make the manual accessible to people with a broad range of backgrounds and levels of literacy.

The whole concept has benefitted from numerous outstanding works such as UNICEF's successful *Facts for Life*. Look to the "Bibliography" and "Sources of Information" section for more information. Our aim has been to provide specific yet non-technical frames of references for a wide range of subjects of immediate interest to people and communities.

This manual is based on an earlier test edition prepared by Steve Minkin and literacy adviser, Nellie Mathur, and illustrated by Brian O'Neil, with help and advice from many colleagues in various agencies and institutions. It has been substantially revised and expanded by WHO following field testing in seven countries by the WHO/UNDP Health Learning Materials programme. The principal author for WHO has been Lucy Clarke, and the illustrator Ettice de Loache. Many WHO colleagues contributed to this revised version. Some illustrations have also been drawn from the new edition of WHO's *Community Health Worker*.

While the authors and illustrators have made every attempt to express the universality of the concepts and messages contained in this manual, it is clearly impossible to do justice to the wide variety of sociocultural conditions prevailing in countries and regions. We invite you, therefore, to use and adapt the manual to fit local conditions. Page v, "How to use this Manual" gives suggestions on how to derive maximum benefit from it.

We wish you every success in the use of this manual.

Frank Hartvelt
Deputy Director,
UNDP Division of
Global and Interregional
Programmes,
New York

Mac Dowling
Coordinator,
Health Learning Materials
Programme,
World Health Organization,
Geneva



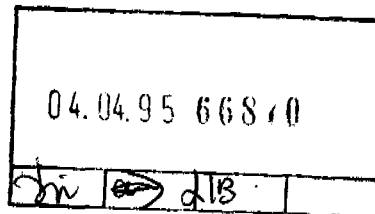
Téléphone Central/Exchange: 791.21.11

Direct: 791 3546

In reply please refer to:

REH W2 372 27

Prière de rappeler la référence:



23 March 1995

Dear Colleague,

We have pleasure in sending you 2 copies of *Food, Water and Family Health*, a UNDP/WHO manual in whose preparation the Rural Environmental Health Unit has been closely involved.

It is now accepted by all who work in the promotion of health that our first role is to help communities to help themselves. This can mean providing information, but most importantly it means mobilizing the potential for change which already exists within the community. *Food, Water and Family Health* is designed as a source book for all who promote health and development at community level. It provides core information, but also ideas for starting discussion and stimulating change within communities. You will find guidance on ways to use *Food, Water and Family Health* on page v of the manual.

We would be grateful if you would share these copies with your colleagues and any project or programmes who might benefit from its use. Very limited numbers of additional copies can be obtained from REH, WHO Geneva. Please feel free to make any photocopies you require.

We hope that the manual, and the posters it contains, will prove useful to you.

Yours faithfully,

Dennis B. Warner
Chief, Rural Environmental Health

... ENCLS. As stated.

How to use this Manual

Food, Water and Family Health has many possible uses.

People involved in the creation of local educational materials can use it as reference. Ideas for writing songs, poems, plays, comic books and newspaper articles may be found in the manual. So are captions and messages for posters.

School teachers can use the manual to involve students in promoting healthy behaviour. Community workers and leaders can use it to promote discussions or group activities.

Those who can read could help others by reading the manual to them. People learning to read can improve their skills by using it. Literacy classes can use the materials for learners. Groups of new readers can study the material to hold on to their skills.

Radio programmes could be developed based on these materials. National or community contests for the best locally produced posters, songs or dramas based on themes in the manual can involve many people and generate new ideas.

It could be translated or re-written to include stories using local characters and issues of concern.

The accompanying posters can be used to illustrate talks to the community, and to inspire artists to produce more posters adapted to the local situation.



Unit

1

Healthy water
and better
sanitation

~~~~~





# The problems we have with water

**W**e have many problems with water. At times we have too much, but often we do not have enough. Let's go for a walk together around our community and look at the problems we have with water. Maybe together we can find some solutions.

Getting water takes up a lot of time and energy. Usually water has to be carried a long way by women and young girls. Most of our water comes from small ponds, from streams and from the river. We also have open wells.

Our drinking water is not clean. It may look good, but if you "watch water" you will know it is not clean. "Watching water" means learning about where water comes from, how it is handled and where it goes.

In some places you will find open drains, and puddles filled with dirty water and faeces. We all want to be able to defecate in privacy. We must also remember that faeces in and near the community make life unhealthy, unsafe, and uncomfortable.



A few families have flimsy latrines, close to their homes. These latrines often collapse. They always smell because of the mounds of faeces lying on the ground.

Flies buzz around faeces passed by children who are too young to go into the bush, or who are afraid of flimsy latrines. Most adults believe that children's faeces outside our homes are harmless, and it is hard to always clean up after them. But even the faeces of very young children can be dangerous and must be disposed of carefully.

Much of the mess in and around the community is washed into our water. At different times of the day we can see people urinating and defecating in or near our ponds, streams, and wells.

Our ancestors warned against defecating or urinating near water. We have forgotten their wisdom.

Our community is crowded now and so even more faeces get into the water. We can see broken water pumps, standpipes and

abandoned latrines which were built years ago.

We collect water, drink and bathe alongside our animals. But do we really have any other choice?

During our walk we may see people who are sick from diseases caused by unclean water. Diarrhoea is very common and especially dangerous for young children. Often we have to rush them to the health centre. Many are saved. Some die.

Other diseases caused by unclean water and bad sanitation include cholera, typhoid, dysentery and bilharzia. Mosquitos which breed in puddles, borrow pits, open drains, slow moving streams, and ponds cause malaria, dengue fever, and other diseases.

But it isn't just dirty water that causes problems. Malaria mosquitos especially like less polluted water. Another problem are worms that enter the body from water, food and faeces on the ground.



## Suggestions

Take water-watching walks together in small groups of neighbours, students, members of community groups, water committees, or cooperatives.

Make a map of your community showing all sources of water, houses, and other places important to you.

On the map locate places where there is too much or too little water. Mark clean and unclean areas in different colours.

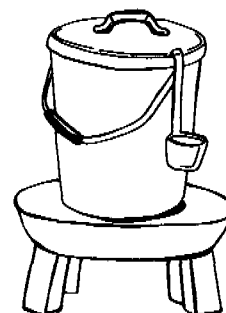
You can use the map in planning for safe water and sanitation in your community.

## Discussion

What would you like to change about how your family gets drinking water?

What does clean water look like?  
What does it taste like?

Do you or members of your family often have to drink unclean water? What can you do to make it clean?



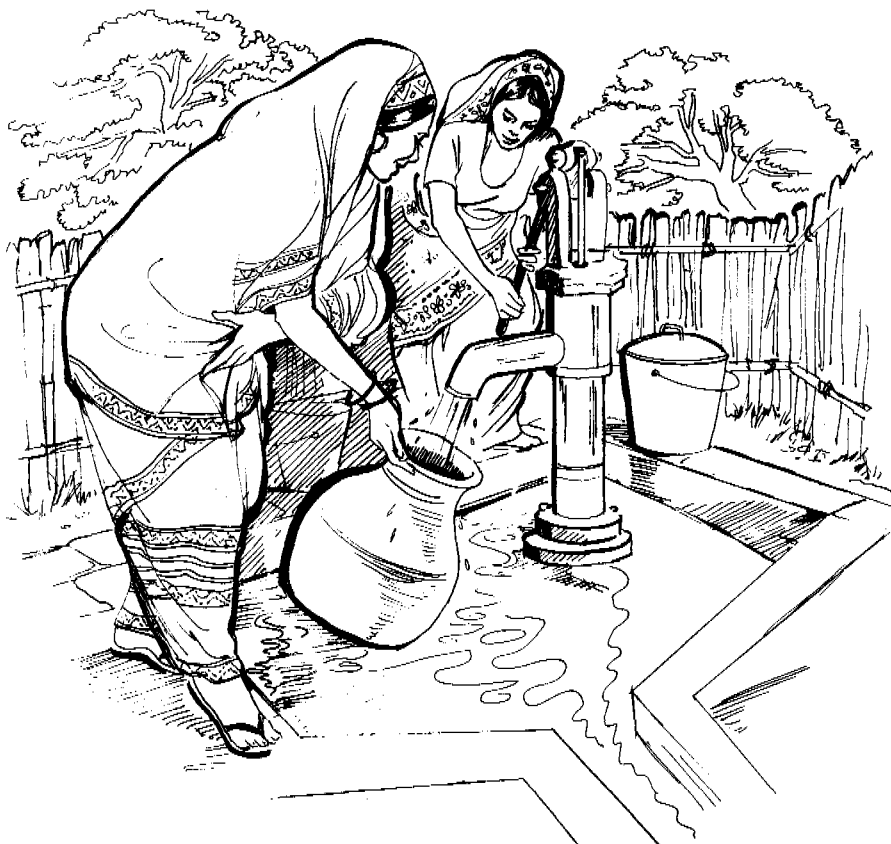
## Ways to keep our water supply safe

**W**e often complain about living in an unlucky community. Diarrhoea is common. We feel weak. Flies and mosquitos bother us. Hearing our complaints my neighbour said, "Our luck will change when we protect our water and, as clever women, use it wisely."

Someone laughed saying, "Clean water! What does clean water have to do with children having diarrhoea? I know people with tubewells whose children still get sick."

Another woman agreed. "I visited my sister last month. Her children are strong and healthy. They haven't been sick with diarrhoea for years. The people in her village do seem better off. They have wells close to their homes, and clean water."

My neighbour answered, "No matter where you get your water, it is necessary to keep it clean." She goes to classes and has learnt to read.





She read to us from a book about making water safe:

*"All living things need water; ourselves, our children, the animals we raise, and the plants we grow. Good use of water keeps our families healthy, provides nourishing food, saves us money and earns cash.*

*Faeces and urine get into rivers, streams, ponds and swamps. Dirty water is dangerous. Each year many people in our country die from diseases spread by water.*

*To stay healthy it is necessary to drink water from safe and protected sources. Even though the water is flowing and looks clear it can contain very small harmful germs too tiny to see without a microscope. These germs cause diarrhoea, jaundice, dysentery, cholera and other diseases."*

This is what some of the germs look like under a microscope," she said pointing to a picture with a lot of little circles and dots.

"It is harder to imagine what germs look like than to understand what we can do to get rid of them."

My neighbour finished reading with the words,

*"Wise women and their families look after water in the ground, at the well or standpipe, on the way to the house, and in the home."*

*"Both children and water have accidents if we don't protect them," she told us. "We rush around keeping our little ones from serious mischief. Water too needs care or germs will make it unsafe to drink."*

*"So that's why my sister always stores her water in clean covered containers!" said one young woman.*



## Suggestions

Design a puzzle or game maze showing the complicated path to safe water.

Your game should show that the path to safe water requires organization, material, knowledge and change in attitudes.

Act out the different ways men, women and children use and treat water in your community.

## Discussion

How are knowledge, attitudes and materials important in creating a healthy environment?

How can your group or class help improve the health of your community?

What role does the government or voluntary agency have to play?

Who should pay for clean water and sanitation?





## Golden rules for safe water

We looked at pictures in a book about safe water. We saw women in fine clothes pulling the handles of new tubewells. Water was gushing out.

"A nice dream but that wouldn't work here," someone said. "The tubewells here have been broken for years."

"Isn't there any way we could protect our water?" my neighbour asked. "Perhaps we need to make some rules for protecting our water."

After some discussion we agreed on **five golden rules for safe water**.

## Golden rules for safe water

1. No one should defecate or urinate near or in a source of drinking or bathing water.
2. Keep animals away from water collection areas.
3. Water for drinking must always be boiled or chlorinated, and covered against flies and dust. Germs causing diarrhoea will be killed or inactivated when water begins boiling rapidly, or when it is chlorinated. If the water is very cloudy it should be filtered before chlorination.
4. Keep drinking water in a clean container. Be sure hands do not touch the water inside. Cover the container to keep water free from insects and dust. Clean the container and change the water regularly.
5. Always wash hands with water and soap or ash before preparing food, eating or feeding little children, and after defecating or handling the waste of children or people who are sick.

Someone said, "We need an Extra Special Rule." So we added another.

*The Extra Special Rule is:*

Show love and care for your family and neighbours by building latrines, by using them, and by keeping them clean.

"Rules 1 and 2 are more difficult to keep," a friend said, "because they need everyone to cooperate."

"How can we get everyone to join in to make our water safer?" we wondered.

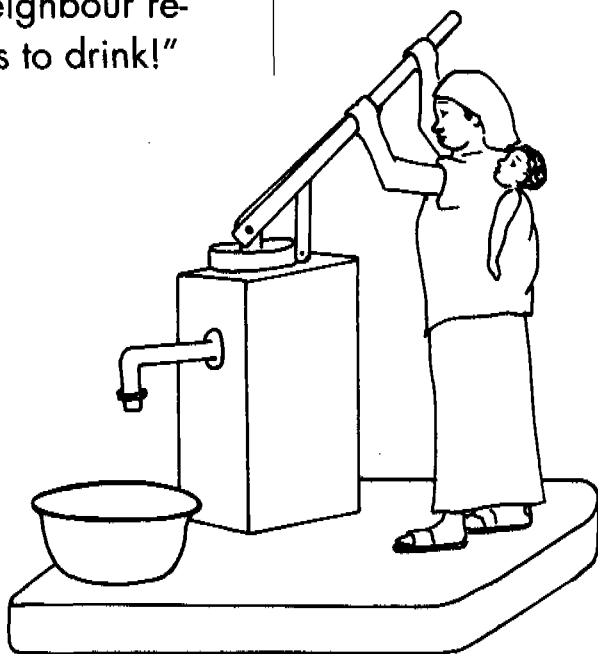
"We can," my neighbour replied, "Everyone has to drink!"

## Suggestions

Have local artists and students design posters to explain Golden Rule messages.

Make up a play or story about one or more rules.

Write a popular song about clean water and sanitation in your community.





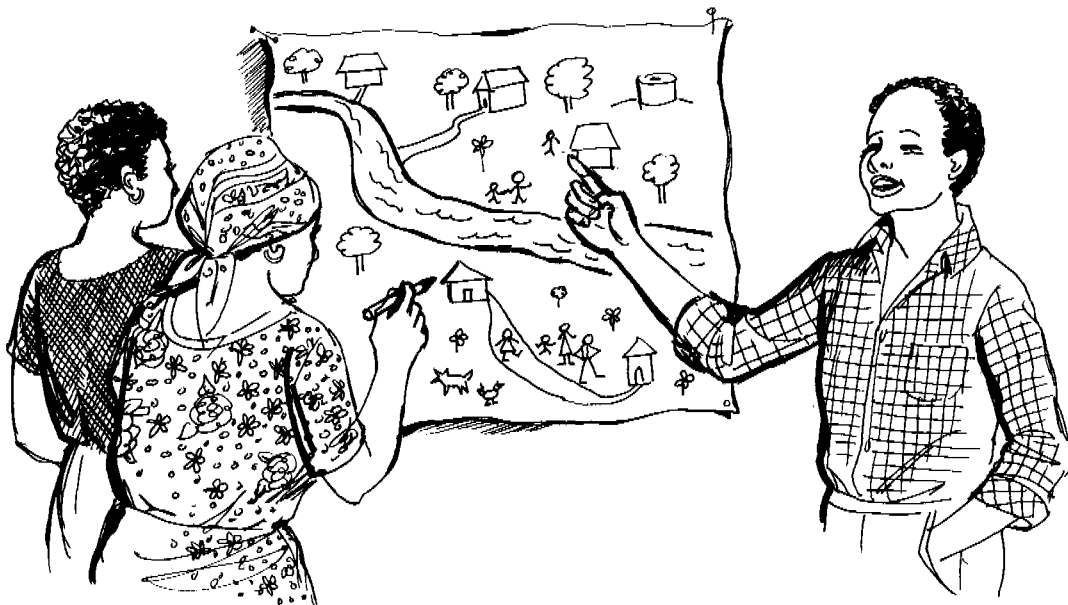
## Improving our environment ourselves

**We** now have real support in the community for clean water. Many groups are involved. Students and teachers, women's clubs, cooperatives, health workers, religious leaders, a development organization (sometimes called an "NGO"), and even artists and entertainers support the Golden Rules.

In the beginning it was difficult for people to see how much we all depend on one another for better health.

Some, who could afford clean water and latrines for themselves, showed little interest. Others said they were too poor to get involved.

Now we have a large map showing our water and problems. We have drawings of tubewell sites. People often study the pictures on the map and discuss them.



## The water user's group

Our new water user's group is eligible for tubewell supplies and help in building latrines. The group set up a bank account and then collected money to pay for local contractors and materials.

We had meetings about sites for new wells, and we talked about how many families should use each well. We learned about several different schemes for paying for wells and latrines, and we hired well attendants.

We organized a meeting. The health worker brought a film and we helped to attract a large crowd. The film showed how the members of a family became ill when they drank dirty water:

A young man became ill because someone defecated upstream from where he drank water. He became ill but did not use soap or clean ash to wash his hands.

He took water from an open jar with a cup and his hands entered his family's drinking water.

Soon his children and wife became ill from drinking that water. They defecated in nearby bushes.

Flies carried the faeces to uncovered food at a nearby home.

Later other members of the family became ill and passed their illness on to their neighbours.

Later we saw how the community really changed. People organized to build tubewells or standpipes near their homes.

They learned how to repair them and make good use of the water. The water running off the wells didn't collect in puddles, instead it flowed into nearby gardens.

Local women, not too different from ourselves, were shown fixing the tubewell. One of the women explained that in the past, broken wells were a big problem. Now tubewells are designed so that local women as well as men can repair and maintain them.



People also dug latrines and bought slabs for them. They built the latrines away from water sources at a safe distance from their homes. They cleaned the latrines and always washed their hands with water and soap or ash after using them.

Some people built “VIP latrines”—latrines with ventpipes to remove bad odours and trap flies.

Others who couldn’t build ventilated latrines used wooden covers to keep flies out of the latrine holes.

After seeing the film, a group of actors and singers created their own plays and songs about safe drinking water and disposal of faeces.

## Suggestions

Could your community organize a meeting like this?

If you don’t have a film, could local artists write and perform a play?

Take a message and use it to make up a song in folk or popular styles.

Ask local artists and students to design posters to explain any of the Golden Rules.

## Discussion

Think of ways people can work together to help pay the cost of latrines and tubewells.

What is the cost of not using latrines or clean water from wells or standpipes?

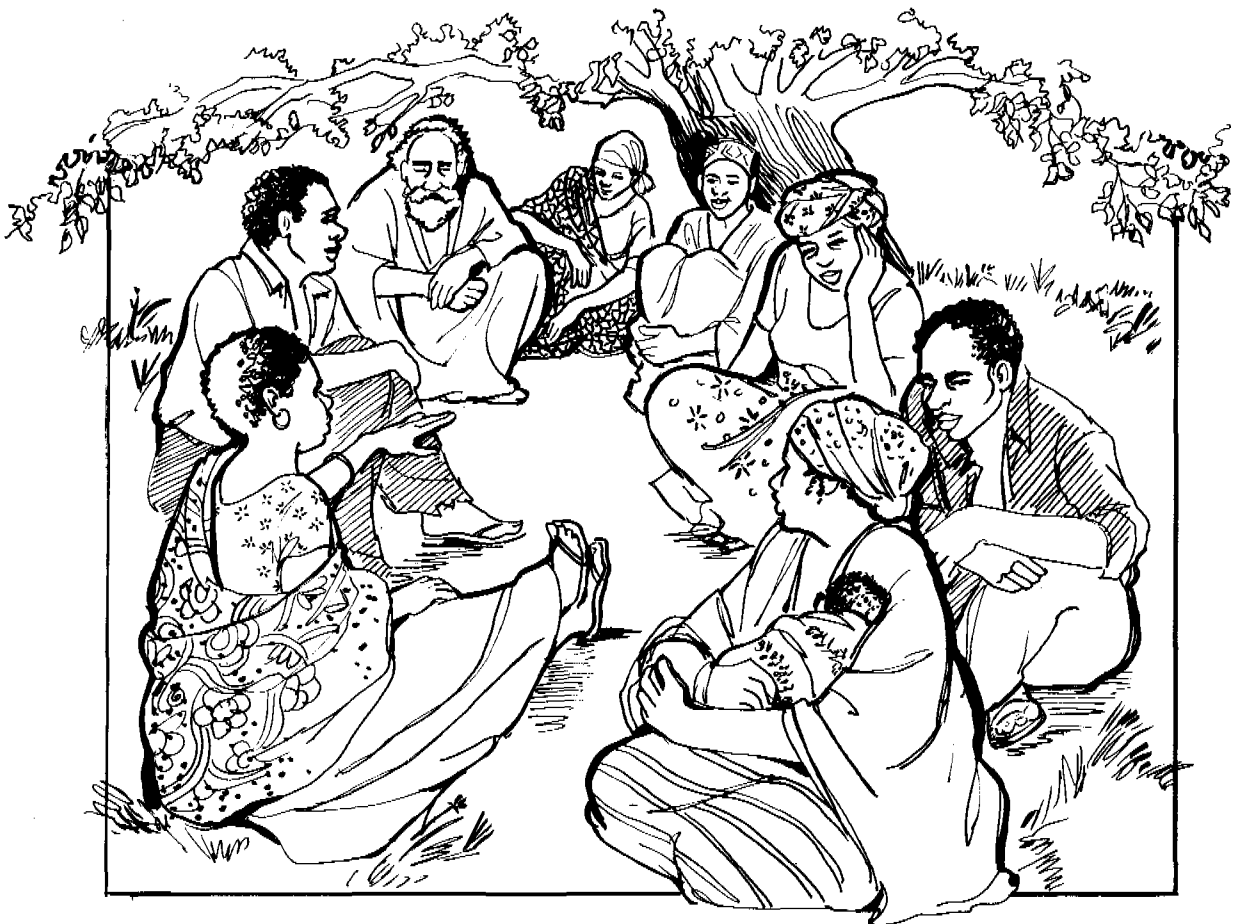
Who is or should be on your local water committee?

Discuss your reasons for choosing these people.

## The water committee

**We** set up a water committee to decide where to dig new wells. The committee discussed the kinds of wells we needed for home use, and for growing crops and raising animals. A training programme on water and sanitation had been arranged in a nearby community. Several members of our water committee attended the training.

We knew it would cost money to build wells, but we really wanted to put an end to diarrhoea and other diseases. We collected money and opened a bank account. We used this money to pay people to work as well attendants, and for the spare parts for the well which we would need to buy in the future.





The committee chose two women and one man to be trained as well attendants. The three well attendants now maintain and replace all parts of the pump.

*The well attendants check the wells every day. They must:*

1. Remove mud and rubbish from around the well
2. Check to see that water easily drains away from the pump into drain pits or gardens
3. Check the fences around the well to keep animals away
4. Keep children from playing around wells
5. Check to see that the pumps are working
6. Replace worn-out parts

They can also play a special role in educating the community in ways of making and keeping water safe. They can motivate people to keep the community water supply safe and make their environment a nicer place to live.

We use well water for cooking and growing food. We also decided to collect well water and use the run-off from wells to provide water for community and school gardens.

Our wells are surrounded by concrete aprons. The aprons prevent dirty water from seeping back through the ground into the supply of clean water. Our concrete drains are kept clear of dirt and rubbish so that water can flow easily into the gardens. It is important that water easily drains because puddles near the well become breeding grounds for mosquitos. Standing water and mud around wells are slippery, dirty, and dangerous.



## Checklist for getting and maintaining tubewells

1. Set up a water committee
2. Collect money and deposit it in a bank account
3. Hire a good contractor and provide labour for digging wells
4. Install pumps
5. Build a concrete platform with a drain
6. Make a fence around the well
7. Hire and train local men and women to work as well attendants



# Ways to make drinking water safer

"If your water is not clean, boiling and chlorination are the best way to make it safe," the health worker told us.

## Boiling



"But the Golden Rule about boiling water isn't clear to some of us. How long do we have to boil water to make it safe?" we asked.

The health worker answered, "In the past we were told to boil water for a long time. Now we know that the germs which cause diarrhoea and other diseases are killed or inactivated by boiling the water strongly for one minute."

"Then boiling water really isn't so much trouble," said one mother.

"No, boiling water is not much trouble," said the health worker. "But remember that when you have made your water safe, you must *keep* it safe."

"After boiling, store water in clean, covered containers, away from dirt and germs. Don't forget that dirty hands make boiled water dirty again. Use a dipper to take water from the container," she reminded us.

Most of us now store boiled water in clean, covered containers. Children quickly picked up a catchy tune which some students wrote about keeping hands out of drinking water.

You can pour water from a jug  
or dip in with a ladle.  
You can store water  
in a jerry can,  
or inside a gourd.



Dirty hands ruin our water.  
Keep your drink clean  
with a lid.  
Do what you ought to  
or you'll feel very, very sick.

## Chlorination

"My sister says that in her village they make their water safe by adding a special chemical," said a woman whose children had recently been sick after drinking dirty water.

She had been listening carefully to the discussion about ways of making water safe.

"Yes, this is called chlorination. It can be a good way of getting safe water for drinking and washing," the health worker explained.

"Chlorination is the mixing of a chemical called chlorine with water, in order to disinfect the water.

"Sometimes government authorities chlorinate the water for a whole town or district.

"But it is also possible for people whose water is not safe to chlorinate the water they need.

"Products for chlorinating water are available in nearly every area.

"Sometimes the product is sold or distributed as a powder; sometimes it comes in the form of tablets or drops.

"Whatever kind of product you use, be careful to read the instructions about how to use it."

The health worker then said that if we were unsure about how to chlorinate water, we could ask for advice from the person in our community who is responsible for water supply and sanitation.





## Other ways to make drinking water safer

“What if we cannot find enough fuel to burn to boil our water and we do not have the chemicals we need to chlorinate the water?” asked one woman.

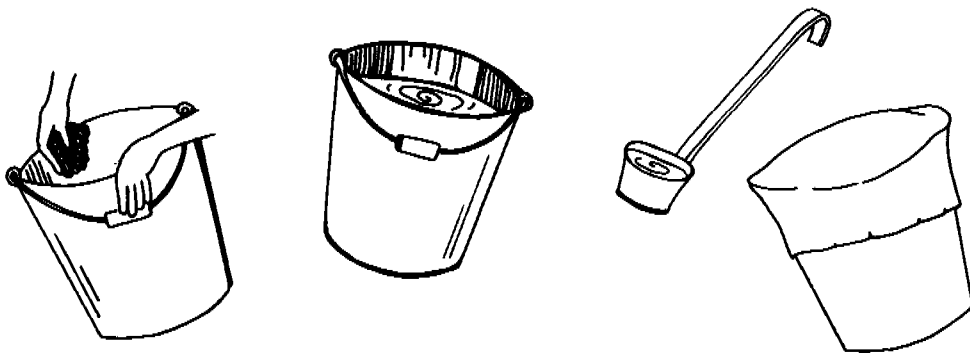
“Water can also be made safer to drink by using a good filtration system, built by the community, such as slow sand filtration,” replied the health worker.

“If our community cannot build this kind of filtration system and boiling or chlorination are not possible, there are some ways of making water safer. These include the “two pots” method and using sunlight. (See pages 22 and 23.)

“It is better to use these other methods than no method at all, but they are not nearly as good as boiling or chlorination.

“We should boil or chlorinate water if it is at all possible, and remember that other methods do not make water completely safe. Also remember that even water which has been made clean can get dirty again.

So always get water from the cleanest possible source, keep it in a clean covered container, and keep hands out of the water.”



## Making water safer by filtration

"I have heard that one way of making sure that our families have a supply of safer water is to build a water filter," said an enthusiastic young man.

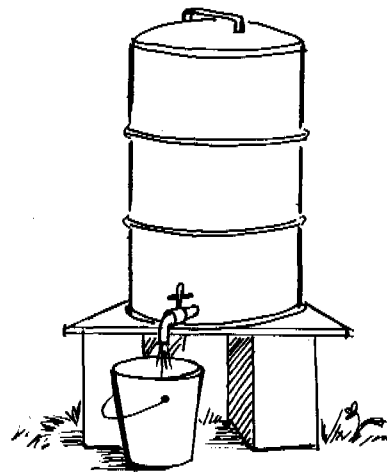
"I read a book about water filters," said one of our community elders.

"It is true that a well-built water filter can make water much cleaner," said the elder, "but we must remember that if there is cholera in our area only boiling and chlorination are really effective ways of obtaining safe water."

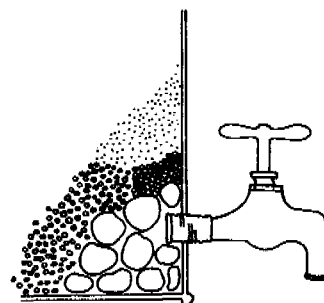
He then explained how to build a water filter.

- Get a barrel or any other container that is at least 1 metre deep. Remove the top of the container (if it has one). Scrub and clean it inside and outside. Fix a tap to the bottom of the container, if possible by welding. Place the container on bricks or stones

so that you can fit a pail or jug underneath the tap to catch the water.

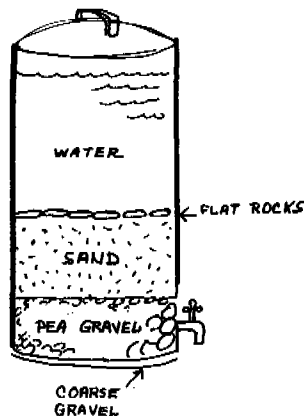


- Next get some round stones, about 2–4 cm in diameter, and place them in the container around the opening where the tap has been put. Place the stones in such a way that the opening to the tap is not blocked off completely.





Now get some gravel or stones about the size and shape of peas (about 0.5–1 cm in diameter). Put a layer of these, 15–20 cm deep, in the bottom of the container so that the stones around the tap inlet are covered.



- Add a layer of fine sand 50 cm deep. You can put flat rocks on top of the sand to stop it from being stirred up in the water.

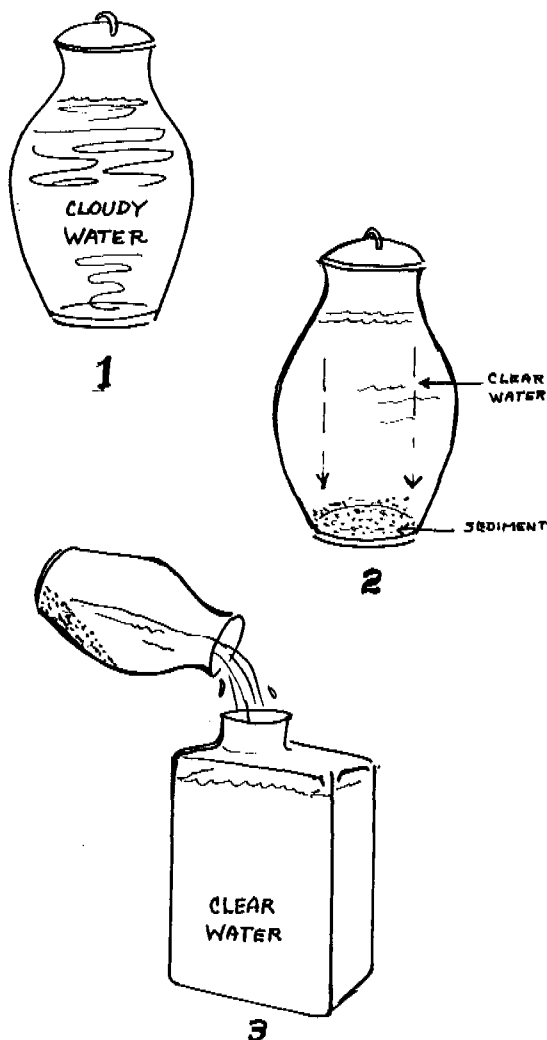
Keep the filter covered and full of water (up to 2–3 cm from the top). When after 2–4 weeks the water starts to flow slowly the filter needs cleaning. Clean the filter by scraping off the top layer of sand. After four or five cleanings you will need to add more sand. To do this you will need to drain out the water until the water level is 10 cm below the level of the sand.

The old man reminded us that wherever guinea worm (also called dracunculiasis) is a problem the water must first be filtered through a simple linen cloth, or through a special nylon gauze distributed for this purpose. (See the Guinea Worm unit on page 37.)

## Making water safer using two pots

You can make water safer by letting it stand for two days inside a pot.

The two-pot method can provide cleaner water for drinking and cooking, but remember that boiling or chlorination are much better ways to make water safer.



### What you need:

Two pots

### Method:

- **First day**  
Begin by filling a large pot with water. Cover the opening and let it stand for 3 days.
- **Second and third days**  
Dirt and germs in the water will begin to settle at the bottom of the pot.
- **Fourth day**  
Carefully pour or scoop off the clean water at the top of the pot and put it into the second pot. Empty the dirty water onto your garden or at the base of the trees growing near your house. Carefully wash the pot, fill it with water and cover it again.

**Remember:** If you live in an area where guinea worm is a problem, you must filter the water through linen cloth or fine nylon gauze before pouring it into the pots. (See the Guinea Worm unit on page 37.)



## Making water safer using sunlight

"We can use the sun to get rid of harmful germs in our water," said the school teacher. "This is not the best method of making water safer, but it can be used if no better method is possible," he told us. Then he explained how the method works.

### *What you need:*

You need colourless or light blue glass or clear plastic containers. You should be able to see through any container you use.



### *Method:*

- Remove any labels or paper from bottles. Collect water from the well or source. Fill the bottles with clear water. Cover them to keep dirt and insects out.
- Put the bottles in an open space where the sun can shine on them all day. Spread the containers to keep them from shading one another. The bottles should stay in the sun for at least five hours.

If you need the water as soon as possible, a couple of hours in the middle of the day when the sun is strongest will be make the water safer for drinking.

- Use the water which has been cleaned by the sun straight away – if you leave it to stand around, the germs could come back.

**Remember:** You cannot use this method on cloudy days. Whenever possible, boiling or chlorination are much better methods of making water safer.



## Latrines

**We** marked on a map the places where people now defecate. Many men go close to the river early in the morning.

Women usually go outside, behind vegetation, for privacy; some use homemade latrines.

Children go all over the place!

Flies feast on faeces and then land on our food.

We have to build latrines and use them properly to keep flies away from human faeces.

This will protect our drinking and bathing water from faeces causing diarrhoea, dysentery, worms, cholera, typhoid and bilharzia.

Always remember to wash hands with soap and water or ash after using a latrine.

Privacy is another important reason why people like latrines. When properly used, latrines provide privacy and many health advantages.

We organized a meeting to discuss latrines. Here are some of the things that we decided to do to improve our community:

"Using latrines keeps the village clean and safe from many diseases. But if the latrine is close to wells or water sources it will pollute them," a neighbour explained. "Be certain to build the latrines at least fifty paces from any water source," a woman said.

"This means fifty paces from wells, from the river, or the ponds. A latrine should be at least twenty paces from any house," she added.

"Keep soap, ash and clean water near the latrine so you can always wash hands after use," a young man suggested.

"Young children are often afraid to use the latrine. Clean up after them and drop their faeces down the latrine. Teach them how to use the latrine and help them not to be afraid of it," another neighbour reminded us.

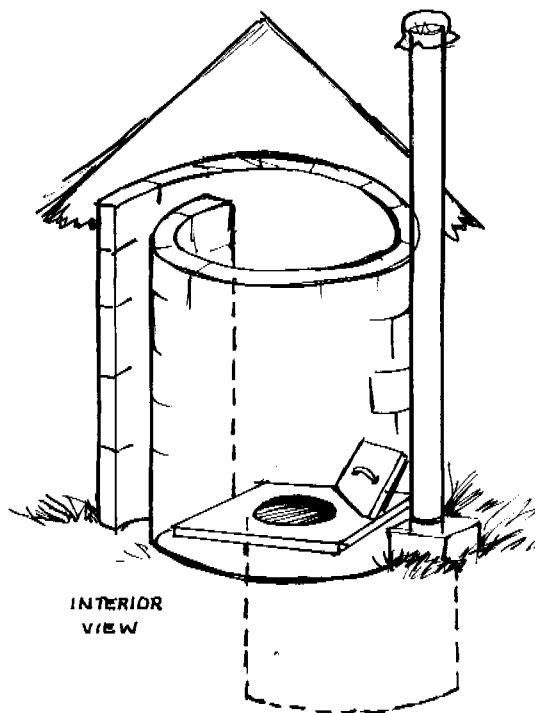
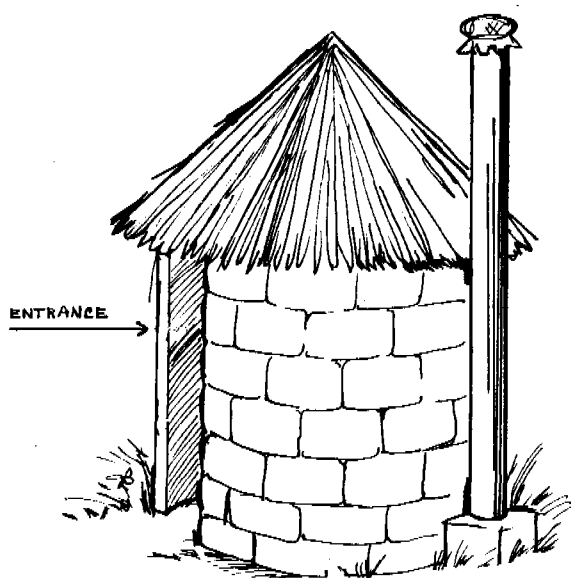


"Sweeping the latrine keeps flies away," he continued. "I often sprinkle ash on the floor before sweeping to help pick up dirt and keep the latrine dry."

"I worked hard to dig and build the latrine. By keeping the latrine clean, I know my family will use it," he said.

The man told us about a latrine with a pipe to remove bad odours.

He said that this kind of latrine is called a **Ventilated Improved Latrine (VIP Latrine)**.



"For other types of latrines, a cover will reduce smells and keep flies away," he explained.

When we are working in the fields or away from home it is not always possible to use a latrine," the school teacher reminded us.

"Please bury the faeces with soil to keep flies and animals away."

"Of course we must follow the first golden rule," we all joined in. "No one should defecate or urinate in or near a source of drinking or bathing water."

## Suggestions

Use a map to show how far tubewells and latrines should be from each other.

## Discussion

Are faeces a problem in or near your home, school or where you work?

Why do people like or dislike latrines?

- Are they too expensive to build?
- Do they smell bad?
- Are they dirty or dangerous?

## Keypoints

### Unit 1: Healthy water and better sanitation

- Clean water is linked to good health.
- Water should be kept clean and the Golden Rules for safe water tell us how.
- People in our villages should avoid defecating or urinating in water.
- Latrines are the best place for defecation. We can work together to build the kind of latrines we need and can afford.
- If we group together, we can improve the environment in which we live.



Unit

2

Coping with some  
of our special  
health problems





# Diarrhoea

All the mothers in our community worry that their children will get diarrhoea.

Diarrhoea is loose watery faeces. Someone who has three or more loose faeces in a day has diarrhoea. In the past many of our children suffered from diarrhoea.

We want to know how to avoid diarrhoea and also what to do if our child has diarrhoea. We decided to ask the health worker about diarrhoea.

## *Why diarrhoea is so dangerous*

"Diarrhoea is dangerous to both children and adults, but it is especially dangerous for children.

"Many children in our country die from diarrhoea because they lose too much liquid from their bodies.

"When a child loses water with diarrhoea, the child begins to dry up, like a plant does when it has no water. This drying up happens especially quickly in young chil-

dren who have diarrhoea," the health worker told the group of women sitting in the shade under a big tree.

"The second reason why diarrhoea can be very dangerous is that some people believe that we should stop feeding, and particularly breast-feeding, children with diarrhoea.

"This is not true. It is very important to feed children with diarrhoea regularly. If a breast-fed child gets diarrhoea, continue to breast-feed the child," she explained.





### *Reducing the risk of diarrhoea*

“How can we reduce the risk of our children getting diarrhoea?” asked one young mother.

The health worker told us about four important ways of avoiding diarrhoea:

- **Keep food and water clean**  
Diarrhoea is caused by germs from faeces entering the mouth. These germs can be spread in water, by flies, by dirty food.

Dirty utensils and babies' bottles increase the risk of getting diarrhoea.

Children may also get diarrhoea if their mothers had dirty hands or dirt under their nails while they prepared food for their children.



Use the cleanest water possible for drinking. It is very important to keep food and water clean, covered and away from flies. Always wash hands before preparing or eating food.





If possible food should be thoroughly cooked, and prepared just before eating. Do not leave it standing or it will collect germs.



- **Use latrines and keep them clean**  
Children and adults should use latrines, and we should quickly clear up the faeces of young children and put them in a latrine.

- **Breast-feed**  
We can also reduce the risk of our children getting diarrhoea and other illnesses by breastfeeding. We should only give breastmilk for the first four to six months of life and continue to breastfeed for at least two years.
- **Immunize children against measles**  
There is no vaccine to prevent ordinary diarrhoea, but because measles often leads to serious diarrhoea, it is very important to immunize children against measles and other common childhood diseases.







## What to do when a child has diarrhoea

"What should we do when a child has diarrhoea?" we asked.

"There are **three important rules** to remember when looking after a child with diarrhoea," said the health worker.

### Rule 1: Give a child with diarrhoea plenty of liquids to drink

"Rule 1 is to give the child more fluids than usual. Diarrhoea can cause death by draining liquid from a person's body. You must replace the fluids and energy washed out of your child by the flood of diarrhoea," she explained." It is very important to give plenty of liquids to a child with diarrhoea."

#### *"Give any of the following fluids:*

- Breast milk (you must continue breast-feeding when your baby has diarrhoea)
- Oral Rehydration Salts
- Cooked cereal
- Plain water, preferably boiled and cooled

- Food-based drinks, such as soup, rice water and yoghurt
- Fresh fruit juice
- Weak tea
- Coconut water (from a young coconut)

"Do not give soft drinks and sweetened fruit drinks. If milk made with powder or animal milk has to be used, give it to the child from a cup instead of a bottle.

"Always use the cleanest water available.

"Water from open wells, springs and rivers should be brought to a boil or chlorinated and preferably filtered and covered before use.

"The drink should be given from a cup because feeding bottles are too difficult to clean properly."



**"How much should the child drink?"** we asked.

"Give as much fluids as the child will take. The child should drink every time watery faeces are passed.

"Give a child under 2 years of age between a quarter and one half of a large cup of fluid, with a spoon.

"Older children can sip between a half and a whole cup of fluid. These drinks should be given until the diarrhoea has stopped. This usually takes from three to five days.

"If the child vomits, wait for ten minutes and then begin again, giving the liquid to the child, small sips at a time."

## Oral Rehydration Salts (ORS)

"When my brother's child had diarrhoea the health worker in his village gave my sister-in-law some packets of special powder. She had to mix the powder with clean water and give the drink to the child to stop her from becoming dehydrated," my neighbour told us.

"What are these powders?" we all asked the health worker.

"In almost all countries, special drinks for children with diarrhoea are available in pharmacies,

shops or health centres" the health worker explained. "Usually these come in the form of packets of Oral Rehydration Salts (ORS). They have to be mixed with the recommended amount of clean water. These salts are specially made to **treat** dehydration, but we can also use them in the home to **prevent** dehydration. Do not mix the ORS with liquids such as milk, soup, fruit juice or soft drinks – only mix them with clean water."

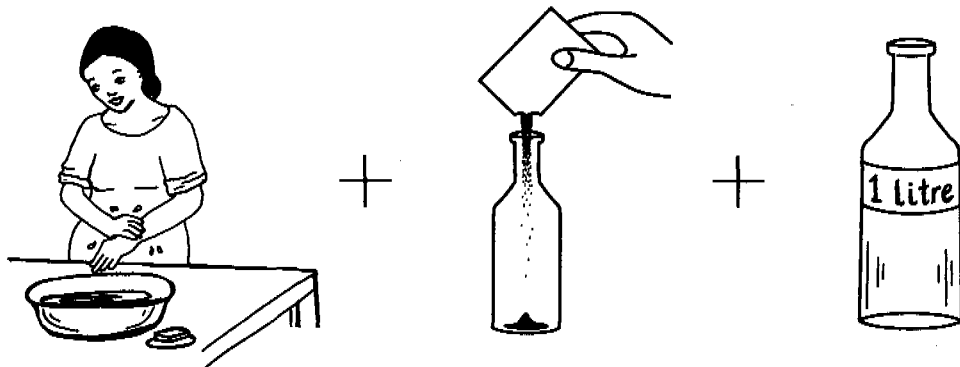


## Method for mixing oral rehydration salts (ORS):

- Wash your hands.
- Measure 1 litre, or the correct amount for the packet used, of clean drinking water (boiled and cooled if possible) into a clean container.
- Pour all the powder from one packet into the water and mix well until the powder has completely dissolved. Give to the child to drink.

## After each loose stool give the following amount of ORS:

- |                                   |   |                   |
|-----------------------------------|---|-------------------|
| A child of less than 24 months    | – | Half a cup        |
| A child of between 2 and 10 years | – | One cup           |
| A child of 10 years or more       | – | As much as wanted |





## Rule 2: A child with diarrhoea needs food

"Should we feed children with diarrhoea?" asked one young woman, who looked confused.

Before the health worker could reply, a woman with a lively, healthy child on her knee told us her story.

"When my 9 month old son had diarrhoea last year, I did not know whether to feed him or not.

"I asked my aunt and she told me not to feed him. I followed her advice, but my son became very thin and weak.

"I was very worried and went to the health centre in the next village to ask what to do. The nurse there told me that my aunt was not right.

"She said that, as well as giving my child with diarrhoea liquids, it was very important to give him plenty of food.

"I went home and breast-fed my son often and gave him soups, clean boiled water and small

amounts of healthy food regularly. He soon recovered and you can all see what a strong child he is now."

"Now you understand why Rule 2 is that children with diarrhoea need plenty of food. Children must eat many kinds of good foods to stay strong and healthy.

Children who do not eat well are more likely to suffer from diarrhoea and other diseases," the health worker explained.

### *While the child is sick*

"It is important to feed a sick child. Some mothers think that a child with diarrhoea needs to stop eating.

"This is not true. A sick child should be encouraged to drink clean water and other liquids and to eat nutritious food," she said.

"Continue to breast-feed frequently. If children are already taking solid or semi-solid food make sure that they get all the different kinds of food that they need.



"These children need soft well-mashed mixtures of the staple food and, if possible, pulses, vegetables, and meat or fish.

"Remember always to add some fat or oil. Fresh fruit juice or mashed banana provide potassium.

"The child may prefer soft foods when sick, so cook and mash or grind the food well. Gently persuade and encourage the child to eat. Offer food at least six times a day."

### *After a child has been sick*

"When a child recovers he or she will need extra food to regain lost weight.

"Give the same foods after the diarrhoea stops, and give an extra meal each day for the next two weeks."

### **Rule 3: Trained help is needed if the diarrhoea is more serious than usual**

"Rule 3 is that we should take children to the health worker if they do not get better in 3 days or if they show:

- Marked thirst
- Many watery stools
- Blood in the stools
- Fever
- Eating or drinking poorly
- Repeated vomiting

## Suggestions

Arrange for training sessions by the health worker on preventing and treating diarrhoea, especially for older women and traditional healers.

## Discussion

Who do mothers consult when their children are sick?

What are the local customs about giving food and fluids to babies and young children with diarrhoea?



## Guinea worm (for parts of Africa and India)

One of the favourite gathering places in our community is a large, open well with steps. But drinking water from the well has infected people with guinea worm. Other people became sick by drinking out of ponds or puddles in the fields.

"No one will get guinea worm if we drink only water from protected wells and stand-pipes," the school teacher explained at a water committee meeting.

"Boiling water makes it safe from guinea worm. You can also filter drinking water through a linen cloth or simple nylon gauze to keep your water free from this disease," she explained.

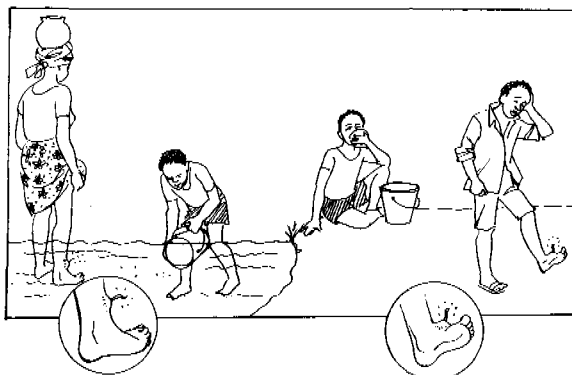
"Filtering through a cloth protects us from guinea worm, but not from other diseases," we were reminded.

"It is a good idea to boil or chlorinate unsafe water if we can."

Guinea worm eggs in the water are too small to be seen. When the eggs are swallowed they hatch inside the body and grow into large worms.

These fester under the skin, causing so much discomfort for sufferers that they are unable to plant or harvest crops or go to school. A person with guinea worm has itchy blisters which form after the worm has moved close to the surface of the skin.

People with the disease put their feet in cold water for relief from the terrible itching caused by the guinea worm. But the guinea worm also likes cold water. The worm pushes through the skin, hangs through the hole, and lays its eggs.



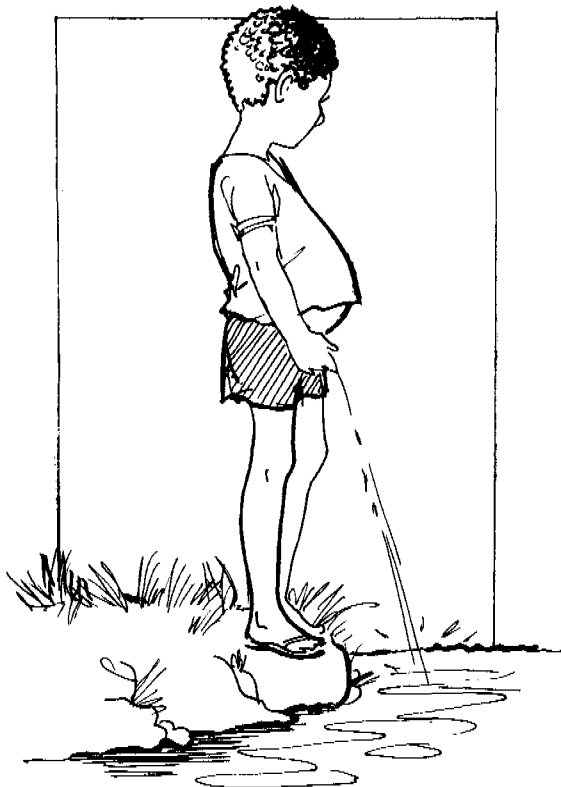


# Schistosomiasis

"Schistosomiasis (sometimes called bilharzia) is a terrible illness caused by people who have the disease urinating or defecating in water," the school teacher told us.

"People with schistosomiasis suffer from swollen bellies with pain in the abdomen. They will often have blood in their urine."

"This disease will disappear if no one urinates or defecates in or near water. It is that simple," the teacher told us.



"Schistosomiasis worm eggs are carried in urine and people's faeces."

"That is easy to say, but how are we going to get children to follow this rule?" said one mother.

"Mothers are children's first and greatest teachers," a neighbour replied.

"Even the urine from young children can carry tiny worms which make others sick," the teacher explained.

"Older children can see to it that younger ones urinate before playing or swimming in water.

"We have posters in school that children made about preventing the 'bloody urine disease'."



"Did you hear the *Schisto Song* on radio,"  
some boys shouted before singing:



You can play and splash  
when you take a bath,  
but water can be mean.



If you have to pee go to a latrine,  
never in a river, swamp or stream.

For "one" and "two"  
a latrine will defend you,  
from bloated bellies and  
the bloody urine disease.



## Suggestions

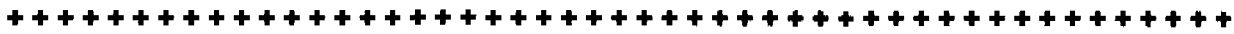
Arrange with the health worker and the school teacher to hold a poster drawing competition for children on the subject "how to prevent schistosomiasis". The best posters could be displayed in the community.

## Discussion

Do many children in your community have swollen bellies and blood in their urine?

Are children afraid to use the latrines because the hole is too big, or because they are dark and smelly?





# Mosquitos

In one of our water committee meetings we were all annoyed by buzzing and biting mosquitos.

"They are not only annoying, but they also carry malaria and other diseases," we all complained. "How are we going to get rid of them? They are everywhere."

"There are also mosquitos that do not buzz. Sometimes you cannot even feel when they bite – but they are still dangerous. Mosquitos are a real problem for us," said the schoolteacher.

"But where do they come from?" asked a young man.

"I heard on the radio how mosquitos can breed in less than a cup of water," a woman replied. "Puddles and rubbish near our houses must be full of them. When we leave old containers lying around they fill up with water and mosquitos come to breed."

"That means if we fill in puddles, unblock drains, and clean up rubbish and old containers, we will be able to get rid of most of the mosquitos," the young man responded.

"We should also cover any water containers we use."



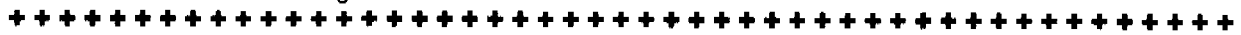


A health worker explained how people near her home filled in puddles.

“Some even turned them into beautiful gardens.”

Ponds can also be stocked with certain kinds of local fish to eat baby mosquitos which are called larvae,” she continued.





"It would help to cut the grass around our houses because mosquitos use tall grass for resting. Rats and snakes also hide in the grass, so it is a good idea to keep it cut short."



One couple with several children told us they protected their family from mosquitos by using mosquito nets.

"We repair the nets regularly."

"That is a very good way to prevent mosquitos from biting you," the health worker said.

"You can also protect yourself by wearing clothing which covers your arms and legs, especially after dark."

"Mosquitos carry several diseases, the most important of which is malaria," the health worker continued.

"What if we take precautions and still get malaria?" a worried woman asked.

"It must be treated quickly," the health worker replied.

"If you have a high fever and think you may have malaria, go immediately to the clinic or health practitioner.

"Usually malaria can be treated very effectively with chloroquine or other tablets, if treatment begins straight away."



"Or you could go to the injection doctor," said a man from the back of the room.

Before the health worker could reply, another man spoke out. "My young son had a fever. We took him to an untrained person who gave him an injection. After the injection, he developed a painful infection. He almost died."

"Many people think that injections are better than tablets for malaria. This is not so," the health worker said. "Injections of chloroquine are not better than tablets or syrups. They do not work more quickly."

She explained that in those cases when injections are really necessary, they should only be given by trained people who have properly sterilized the needle and syringe.

Unsterile injections spread dangerous germs causing abscesses, jaundice and AIDS.

Children can be crippled if the injection is not administered in the proper way.

Fortunately, this tragedy can be avoided in the treatment of malaria because the tablets or syrups are just as effective as injections, except when a child is unconscious, cannot swallow, or is continually vomiting.

"I can see why it is a good idea to deal with our mosquito problem," an older woman said.

"Fewer mosquitos means less malaria!"

The health worker reminded us that in areas where malaria is a big problem, young children (under five years old) should be treated with an anti-malaria drug within 12-24 hours of first having a fever.

Also, in these areas, all pregnant women should take anti-malaria tablets regularly.



# AIDS

One day, when our health worker was sitting near the pump chatting to a group of people, a young man said, "Everybody is talking about a virus called HIV and a disease called AIDS, but I do not really understand about this disease."

The health worker said that she was very pleased that he had asked about AIDS: "HIV is the Human Immunodeficiency Virus. This is the virus which causes people to get AIDS."

"AIDS is the Acquired Immunodeficiency Syndrome, also called Slim in some countries."

"Many people in our country have HIV and after some time – months or years – get sick with AIDS. Many people have friends and relatives who have HIV infection or the disease AIDS."

"It is time for us all to understand what HIV is and how we can prevent it from spreading. We need to know so that we can help ourselves and others."

"**What is HIV?**" we asked.

"HIV is a very small germ called a virus. HIV makes the body go weak and less able to fight sickness. People with HIV in their body go on to become sick with AIDS."





## How HIV is spread

The health worker carefully explained the different ways in which HIV is spread. "HIV is found in the blood and in the sexual fluids (semen in men and vaginal secretions in women)."

This means that HIV is spread in three main ways:

### 1. Sex

Most people get HIV from having sex with someone who already has HIV.

### 2. From infected blood

People get HIV when HIV infected blood enters their blood. This infected blood can come from a blood transfusion. It can also come from a needle or a blade that has been used on a person with HIV and not sterilized afterwards.

### 3. Mothers to babies

Women with HIV can pass it on to their babies.

The baby becomes infected while in the mother's womb or as it is being born. There is also some risk of transmission through breast milk.

But breast-feeding is recommended even if the mother or the baby or both have HIV, unless your health worker gives you special reasons not to do so.

Breastmilk is almost always the best food for babies.

"HIV is not spread by sharing food, touching, hugging, shaking hands, crying, sitting close to other people or holding other people in normal ways," the health worker said.

"You cannot give or get HIV by sharing combs, sheets, towels or clothes.

Sharing toilets or latrines is also safe."

"Can you get HIV from a mosquito bite?" we asked.

"No. You cannot get HIV from mosquitos, bedbugs or any other insect or animal."



## How HIV infection can be prevented

"How can we avoid becoming infected with HIV?" said an anxious looking woman.

"Here are some ways of keeping safe," said the health worker.

"As we said, most people get HIV from having sex so the first three ways are the most important:

1. Do not have sex until you get married and then stay faithful to that partner.
2. If you know that you are uninfected and are already sexually active, have sex only with a mutually faithful partner who you know to be uninfected.
3. In all other situations use a condom during sex."

### *Other ways of keeping safe are:*

4. Women with HIV should seek advice before getting pregnant because they may pass the HIV to the baby.
5. Avoid the need for blood transfusions. Seek medical treatment for hookworm and malaria before you become anaemic.
6. If you cannot avoid a blood transfusion, insist on having blood which has been tested for HIV.
7. When you cannot avoid skin-piercing instruments like blades, needles and syringes, insist on having sterilized instruments.
8. Do not share razor blades, because they might come into contact with cut skin.



## How can we know if we have contracted the virus?

"Can someone know if they have contracted HIV?" we asked.

"Most people with HIV feel healthy at first, for months or even years.

"They do not know that they have HIV. If you are healthy the only way to know whether you have HIV is to have a special blood test.

"It is important for someone to explain about the test before you take it and to make sure someone is there to talk to after the test," the health worker explained.

## Caring for people with AIDS

"My sister has just found out that she has AIDS," said one woman, shyly. "I want to look after her, but I am afraid that I could become infected."

"Do not be afraid," the health worker reassured her. "Take some simple precautions like covering

any cuts or wounds you or she may have with waterproof plasters. If you do not have any plasters, use a piece of clean cloth to cover the wounds. Keep the home very clean. Be careful with any bloodstained clothes or sheets or cloths. Wash them with plenty of soap and water and hang them to dry. The HIV germ cannot survive exposure to sunshine or dryness.

"Remember that your sister needs your love and help. People with HIV or AIDS need support from family members, friends and neighbours.

"We can help make sure that they get medical help, that they have plenty of nutritious food and drink, and that they get enough rest and relaxation."





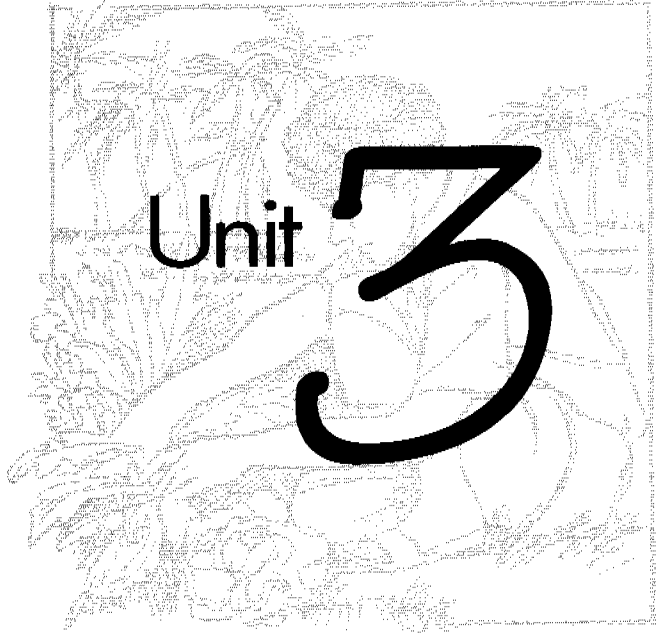


## Keypoints

### Unit 2: Coping with our special health problems

- Diarrhoea is one of our special health problems. We can help prevent it by keeping food and water clean, by using latrines and keeping them clean, by breast-feeding and by immunizing children. A child with diarrhoea needs plenty of liquids, food and, if the diarrhoea is severe, trained medical help.
- Guinea worm is also a problem, but can be prevented by boiling or filtering water.
- Schistosomiasis will go away if people do not urinate or defecate near and in water.
- Mosquitos will be less of a problem if we fill in puddles, cut long grass and put fish in our ponds. We can avoid malaria by protecting ourselves from bites. If we get malaria we need medical help.
- Simple precautions can help us protect ourselves from getting AIDS. We can care for people without the risk of becoming ill.

Unit 3 Healthy food



# Healthy food

Unit 3 Healthy food





## Bright eyes and clear skin

"That's a healthy child," my friend said.

"How can you tell?" we asked.

"The eyes show much about a person's health," she told us. "A child with bright, clear eyes is likely to be the one who eats good food and is kept clean.

**"Our eyes are precious. Children can lose their sight too easily. Good food and clean water are the best protection against blindness."**



### *Night blindness*

"My boys can see during the day, but have problems seeing at night," a worried parent told the group.

"Children who suffer from night blindness," my neighbour replied, "may eventually lose their sight completely.

"Young children who cannot see at night or who have spots in their eyes should get Vitamin A tablets from a health centre."

### *Eating well*

"Eating greens and orange- or yellow-coloured fruits and vegetables prevents blindness," my neighbour told us.

"But it's important not to cook these foods too long as this destroys the special substance in food called Vitamin A, which protects the eyes.

"Just cook vegetables lightly after careful washing.

"Eating these foods is also good for you and for your children's skin.



White crusting at the elbows often means that your skin is 'hungry' for greens, orange- and yellow-coloured vegetables and fruits."

### *Preventing diarrhoea*

Preventing diarrhoea is also important. Many children become blind following diarrhoea. If children do get diarrhoea, it is important to see that they get enough food and liquids when they are sick.

Everyday they should eat an extra meal with nourishing food for at least two weeks after illness. Breast-feeding is also important.

### *Keeping eyes clean*

"A dirty face is also dangerous," my neighbour explained.

"Flies are attracted to food on the face, or mucus from dripping noses. These flies also touch the eyes and spread disease."

Many women walk a long way to get water. This is why many

women say they can't keep their children's faces clean.

Do you need a lot of water to wash a face? You need only about three handfuls of water to wash food and mucus off a child's face.

One handful to wash the sleep from the eyes. One to clean mucus from around the nose and mouth. One handful over the rest of the face.



Follow this advice, and enjoy the peace of looking into your children's healthy eyes.



## To protect children's eyes:

- Breast-feed children
- Give children (from 4–6 months of age onwards) and mothers plenty of green leafy vegetables, yellow- and orange-coloured foods like pumpkins, squash, sweet potato, carrots, papaya, orange, mango, and red banana
- Use clean water and food to prevent diarrhoea
- Wash food and mucus off children's faces so that flies won't feed on them

### Suggestions

Give a demonstration at ante-natal and child clinics of the fruit and vegetables needed to prevent eye problems.

Explain why they are important.

### Discussion

Is there a local name for night blindness?

Do children and pregnant or breast-feeding mothers eat green leafy vegetables or orange- or yellow-coloured fruits? If they do not, what is the reason?

## Good food

**We** have learnt that our bodies need many different things to grow and live. It is important to see that we get the best food we can afford and to make sure that it is safe.

**The best food does not mean the most expensive food. We can often grow our own nutritious and safe food.**

A young woman, with several small children, asked which other foods she could grow and feed her family in order to feel stronger.

"You can improve your health and feel less tired by eating such foods as corn and potatoes," someone replied.

"Rice and wheat are also good energy foods. When eaten with beans, they strengthen your body in much the same way as expensive meats or fish from the market, but for less money."

The health worker pointed out that many women and children often feel weak due to lack of iron. When people are weak, and their blood is lacking in iron, we say that they are anaemic.

We all need plenty of iron to keep our blood strong. "You can add iron to your diet by eating green leafy vegetables," she said.

"A fruit drink taken with meals helps the body to use the iron from the blood.

"Pregnant women especially need a good amount of nutritious food containing plenty of iron.

"We also need fruits, peas and beans, fats and oils, and foods from animals.

"It is not essential to eat foods of each type at every meal, but we should try to eat foods of each type as often as possible.

"We do not have to buy expensive food, we can also grow vegetables and fruit to be sure that we have the right food to eat."

"Many of these nutritious foods are fairly easy to grow," one of our visitors said.

"As well as providing good nutrition, which helps your bodies fight disease, **planting gardens** will help make your village look beautiful!"



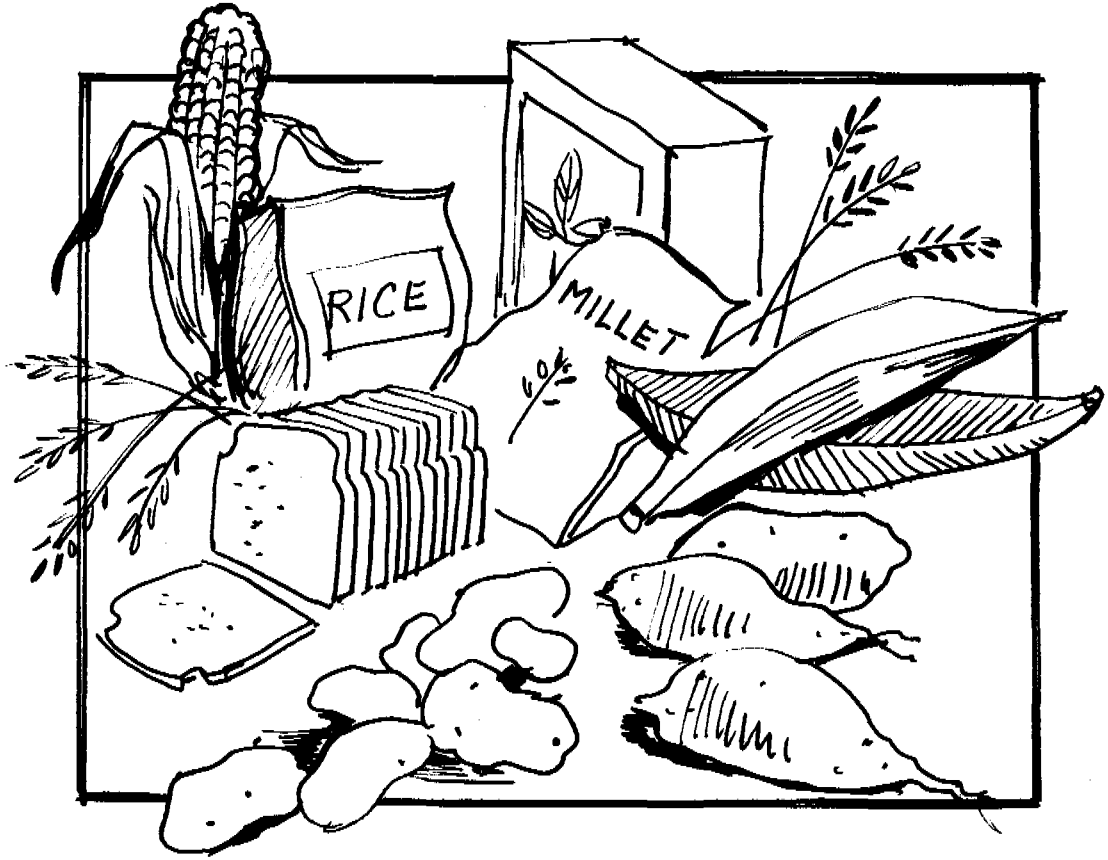
## The different kinds of food we all need:

### *Staple foods*

A staple food is often the first food that people think of when asked about what they eat. It usually contains starch and is eaten by most of the people in the community at most meals.

The staple varies from country to country.

It may be rice, wheat, maize, cassava, sorghum, millet, beans, potato or other food.



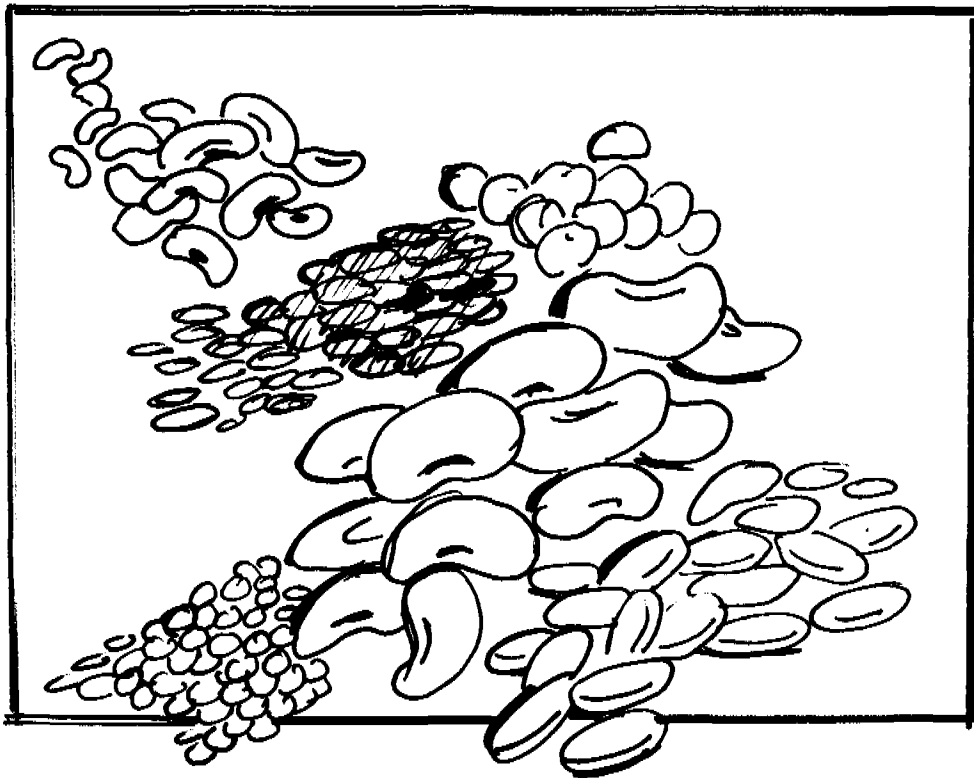




### *Peas and beans*

These are important foods for growth. When added to the staple food they help children to grow well. They are also important for pregnant or breast-feeding women.

Some of these foods are chick-peas, lentils, dahl, soya beans and red beans. Seeds and nuts, such as sesame seeds, melon seeds and groundnuts, are also included in this group.





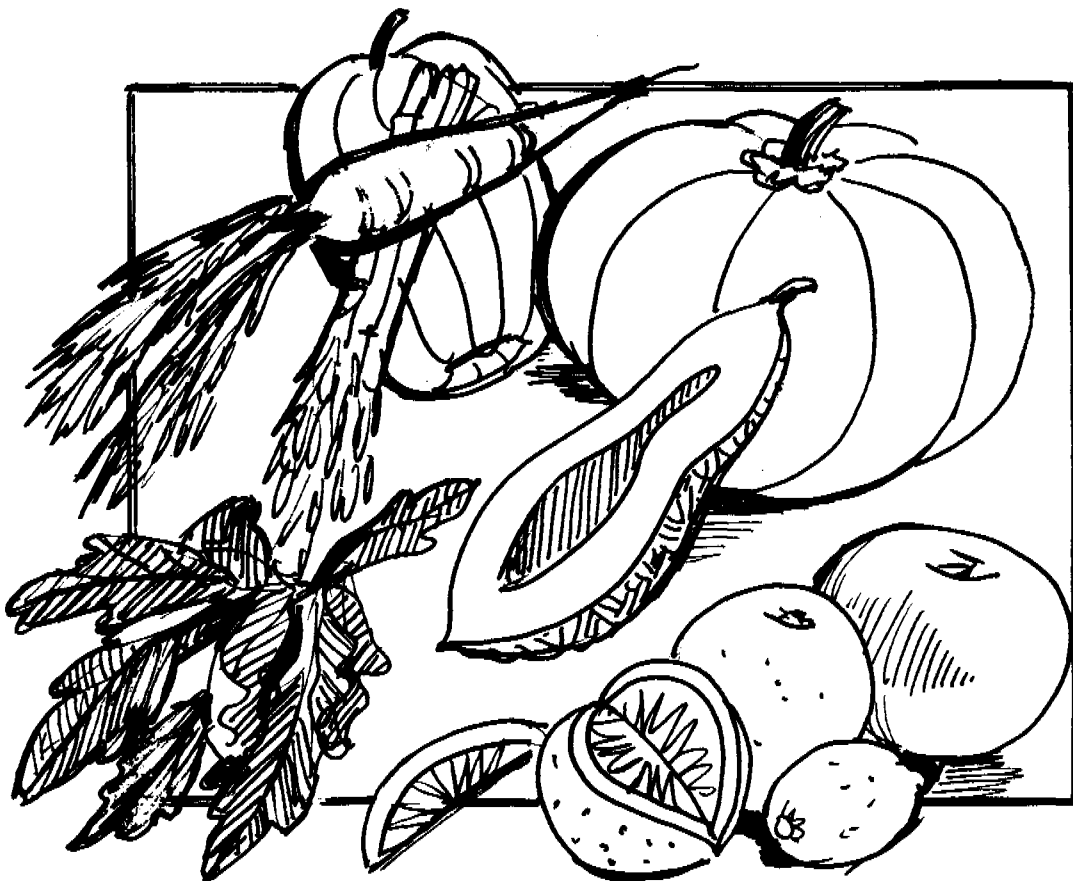
*Dark-green leafy vegetables  
and orange vegetables*

These vegetables are important to keep the eyes healthy.

They can also help to make the blood rich in iron.

Children particularly need these vegetables. So do women, especially those who are pregnant or breast-feeding.

Some of these foods are spinach, pak choi, cassava leaves, many wild dark-green leaves, carrot and pumpkin.



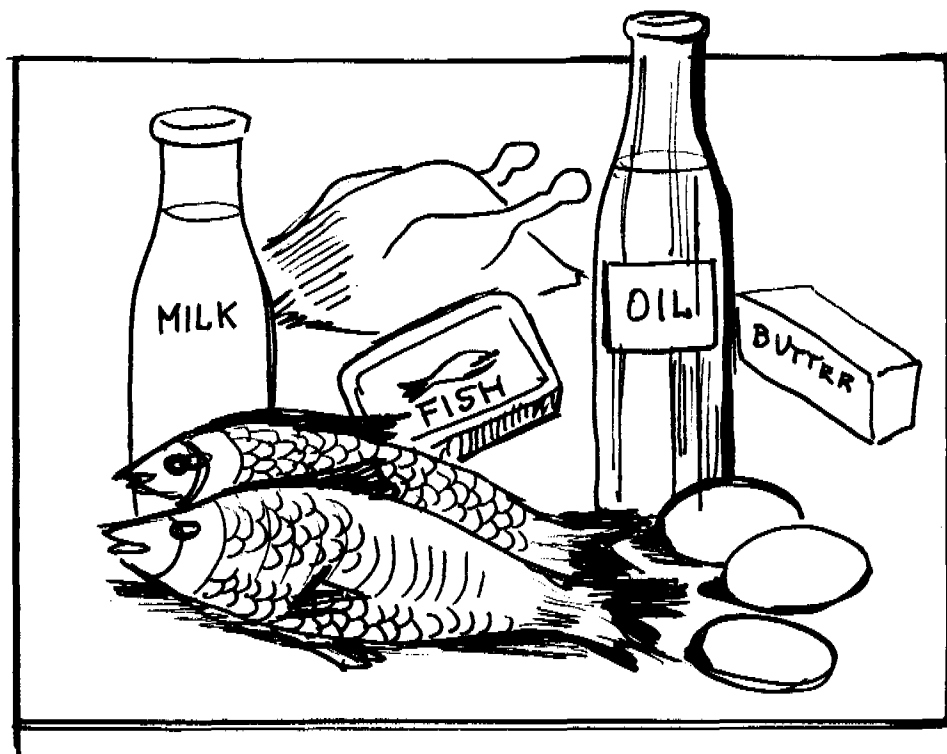


### *Foods from animals*

Foods that come from animals are important to help children grow and to keep them strong and healthy. But they are expensive. Try to eat small amounts of these foods with the staple food. Small children and women who are breast-feeding or pregnant need these foods more than men and older boys do. Examples of these foods are eggs, milk, yoghurt, fish, poultry and meat.

### *Oils and fats*

Oils and fats are particularly important foods for children and for pregnant and breast-feeding women. They also make other foods taste good, and are often used for cooking other foods. They make soft food easier for small babies to eat. Cooking oil, groundnut oil, butter, margarine and lard are all examples of this type of food.





### *Fruits*

Fruits are useful for keeping the skin and eyes healthy. We can eat them during meals, as snacks, or at the end of a meal. Fruit juices make good drinks for children and for women who are taking iron pills.

They help the body use the iron. Pawpaw (papaya), mango, orange, lime, cashew fruit, guava, pineapple, and soursop are examples of fruits.

---

### Discussion

What is the staple food in your area?

What other foods are nutritious and cheap and easy to obtain?



# Protecting our food

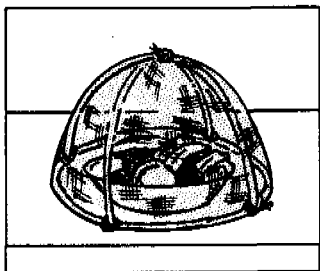
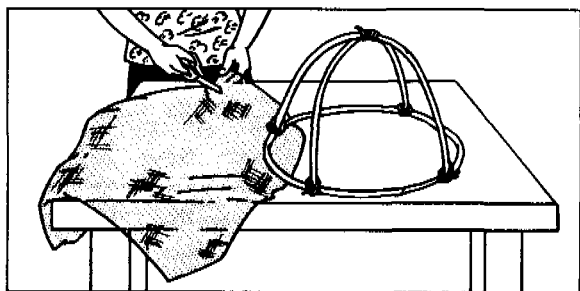
“Remember that buying or growing good food is not enough – we must also make sure that it is safe when it is eaten,” said a wise woman in our community.

This means that we must:

## *Protect foods from insects, rodents, germs and poisons*

Flies and other insects carry germs from dirt, rubbish and faeces into the house and on to food.

Keep food in clean, covered containers to keep flies, dust and animals out.



A closet with a fly screen can help protect food and water.

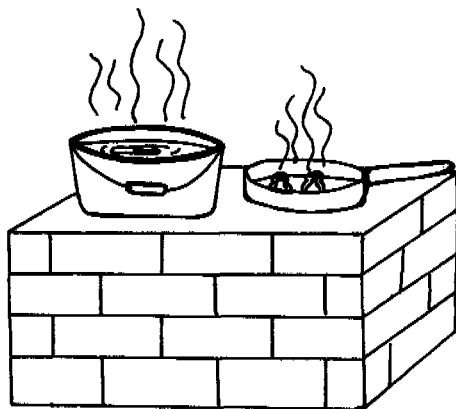
When possible store meat, fish, poultry, milk and leftovers in a refrigerator.

If not, store them in a cool place. Also store fruits and vegetables in a cool place. Use all these foods quickly. When possible store dry foods in well ventilated cupboards.

Put a label on containers of insecticides, disinfectants and other household chemicals and keep them away from food.

## *Eat cooked foods as soon as possible*

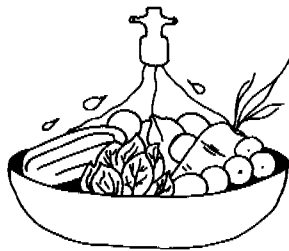
Cook food thoroughly to reduce the risk of germs and eat it straight away – germs can invade food very quickly.





"I know that it is especially important to keep foods for young children fresh, but I do not have a refrigerator," said an anxious young mother.

"Mothers who do not have a way to refrigerate food, should prepare foods for their children fresh for each meal," the health worker told her.



### *Keep containers and work areas clean*

Wash equipment and dishes before making meals. Protect them from flies, insects and dust.

- Keep animals out of the kitchen.
- Put waste on a compost pile. When this is not possible put waste in a covered bin or bury it away from the house.

Wash hands before preparing food and after defecating or handling the faeces of babies or people who are sick.



# Breast-feeding

One of the women at the meeting was breast-feeding her new-born baby.

"Continue eating well now that your baby is born," the midwife reminded her.

"This is especially important for successful breast-feeding."

"Breast-feeding!" one young woman exclaimed.

"My cousin says that breast-feeding is old-fashioned and that I won't be able to produce enough milk to feed my hungry baby! She says I should buy formula, like she does!"

"Your cousin is not right," a woman said, with a quiet, firm voice.

"Breast milk is a baby's best food. It is the only food the baby needs for the first four to six months of life.

"Nearly all women can breast-feed," she added.

"Formula is not nearly as good as mother's milk and it's expensive too," one of the mothers said.

"Formula-feeding is dangerous. Many children get diarrhoea from bottle-feeding because the water used or the bottle are not clean. Bottle-feeding is too much work," she continued.

"Bottles and teats are very difficult to clean. Formula has to be mixed exactly, using boiled water."

"Bottle-feeding is expensive," remarked a young mother who was breast-feeding a healthy looking baby. "This way is easier and cheaper."

"You can see that the real experts on this subject are mothers," the midwife said with a smile. "They know even better than health workers or women who have not breast-fed.

"Begin breast-feeding right away. If possible, put your new-born to the breast even before the cord is cut," the midwife continued.

**The first milk, a thick, yellowish liquid, called colostrum, is a natural medicine. It is a baby's first immunization; use it to protect your baby.**



"But what if I don't produce milk right away?" asked one pregnant woman.

"You should still put your baby to your breast as often as possible," a breast-feeding mother replied.

"The more the baby sucks, the more milk is made," said another.

"Sometimes breasts become swollen and painful. If this happens, fold a cloth several times to make a compress, and dip the compress into hot water. Hold the wrung-out compress against the painful breast for about ten minutes.

"Do this four times a day. Feed your baby from this breast as soon as the pain is bearable," the midwife explained.

"Mothers can help prevent this happening, though, by breast-feeding their children whenever they wish."

"Many mothers start feeding semi-solid food to their babies too soon because they feel their breast milk is not sufficient.

"They think their babies need more food or liquid.

"Remember that your breast milk will provide your baby with all the necessary food and liquid for the first four to six months of life.

"Nothing else, **not even water**, is needed," the midwife said.

"It is good to begin introducing safe solid food at four or five months so your baby will be used to it by the time he or she is six months old, when the baby will definitely need extra food.

"But please also continue to breast-feed!"







There are three main problems with giving a baby anything but breast milk before the age of four months:

1. The baby can get diarrhoea from contaminated food, or from the water used to prepare the food.
2. The baby may get infection from water, tea or any liquids other than breast milk.
3. The baby may not digest or absorb the food properly.

---

### Suggestions

Calculate how much it would cost to feed milk formula to a baby for six months.

Make a list of things you could buy with that money.

### Discussion

Why don't all mothers in your area breast-feed?

How can we help and encourage others to breast-feed their babies?



## Giving other foods: weaning begins

**W**eaning is the process by which babies slowly get used to eating the usual family foods and rely less and less on breast milk to meet their nutritional needs.

This is a time when babies are growing and developing very fast, so it is important to make sure that they get enough of the right kind of safe foods.

Weaning should be slow and gradual.

**“What is the best way to begin feeding solid food to a baby?”** one breast-feeding mother asked.

“I start giving small amounts of food when the baby is four to six months old,” a mother told the group.

“A baby of that age has a very small stomach, so it is best to feed a little at a time, 4 to 5 times a day.”

She reminded the women to breast-feed at each meal before and after giving their children solid food.

At first, other foods do not replace breast milk; they add to the diet of breast milk. Only later will family foods replace breast milk entirely.

“Keep a separate cup and spoon for your baby,” she said. “Wash them in hot boiled water after using them and store them in a clean place.”

**“What kind of food should I start with?”** asked a young woman who looked six or seven months pregnant.

“Start with the usual family foods, prepared in a special way. Make a soft, thick creamy porridge,” one mother said.

She was known for her wisdom about babies and her advice was sought by many young mothers.

“This kind of porridge can be made from the staple food in your area. The staple is a very good base for babies’ first solid food because it is cheaper than other foods and contains many of the things babies need to grow well.

"The staple food in your community might be rice, wheat, maize, cassava, sorghum, millet, beans, potato or other food.

"We can make a thick, creamy porridge from any staple food after it has been boiled, for example in water or milk, and we can feed it to our babies along with breast milk. Make sure that the porridge is thick and semi-solid, and not thin and watery."

**"What should we add to the porridge?"** we asked.

"The staple is a good base for weaning foods, but it is not enough. Other foods are needed as well. At first breast milk is the right 'other food'. Later babies need still other kinds of food," the wise mother said.

These foods are:

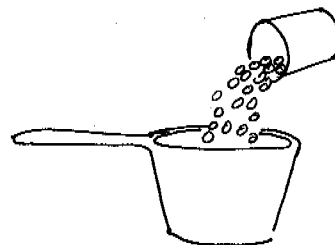
- *peas, beans and groundnuts (peanuts)*
- *food from animals*
- *green leafy vegetables and orange vegetables*
- *oils and fats*
- *fruits*

The mother described how several foods can be mixed into the porridge.

**"Fresh fruit** can be mashed and added to the porridge. Fruits like bananas and mangoes are good for the baby. So are green leafy vegetables and orange-coloured vegetables. Make sure that you wash or peel them well."

She advised the young mother not to add sugar or salt to the porridge. **"But always add a little oil or fat."**

**"Mix small amounts of peas and beans** with the staple porridge. Remember to introduce them slowly, and always give them after **mother's milk.**"



**"Babies do not need every type of food at the same meal. For example, they do not need to eat food from animals every day – peas and beans are very good instead.**



"But remember always to add oil or fat to the porridge and to give your baby some fruit."

A woman with a young baby checked to see if he was sleeping and said quietly, "I tried giving him solid food and it gave him gas."

"That is because the solid food is new to his stomach," another woman explained.

"If this happens, wait a couple of days and try again. As your baby gets used to the soft, thick porridge, you can begin to introduce other solid foods," she said.

"Remember to breast-feed before and after each feed, and add these new foods slowly."

One mother reminded the others that the skins of beans are also hard to digest.

She told us that beans should be soaked and cooked until soft and then broken up to remove the skins.

"If you give your baby only rice pap or barley flour with nothing added, you will soon see a

baby with arms and legs like sticks," another woman warned.

"But a baby who is fed good food, including mother's milk, will look healthy," she added holding up a smiling, chubby one-year-old. "I get fresh vegetables from the kitchen garden to feed my little one."

**"What is the safest way to prepare food for a young child?"** someone asked.

"Be sure to feed your baby freshly made food," the mother replied. "If you must serve leftovers, re-heat them thoroughly, until they bubble, to kill germs which cause infection."

**"How do you feed such a young child?"** asked one young woman nervously.

"It is important to feed the baby slowly, and in very small amounts," answered the older mother.

"Put a little porridge on a clean spoon and give it to the baby.

"If you use your finger for feeding make sure your hands are clean.



"The baby should be breast-fed before a small meal of semi-solid food," she added.

"Forget bottles – they are expensive and too difficult to get really clean.

"Make sure you wash the baby's cup and spoon with clean,

hot water before and after each meal," she said.

"Cover the baby's eating utensils to keep away flies and animals."

"You can use a frame or stand to keep the dishes off the ground when they are drying," a neighbour added.

**Remember :**

*The baby's stomach is small, so feed only a little at a time, 4–5 times a day. It may take a few days for the baby to start to like the new taste, so don't worry if only a little food is eaten at first. Later more will be taken and enjoyed.*

*Always prepare fresh and thoroughly cooked foods. If at all possible do not store foods. If you have to, then make the foods safer by re-heating them until they bubble.*

**Discussion**

Besides mother's milk, what are the other foods we should give a growing child after the first 4–6 months?



## Growing healthy food

One evening we were discussing why it is important for waste water to drain quickly away from the well.

"Speaking of drainage, we can use our precious water twice," my neighbour said.

"We could grow vegetables!" said a young woman who was filling a bucket to collect water for her kitchen garden.

"Why have a vegetable garden?" someone asked.

"I can get perfectly good food at the market. Besides," she added with a scowl, "Vegetable gardens just sound like more hard work to me!"

"Growing fruit and vegetables doesn't have to be hard work," a woman replied.

"It's cheaper than buying them, and fresh produce is better too," another added. "Many of these nutritious foods are fairly easy to grow," one of our visitors said.





*She explained to us how to plant a mixed garden.*

"We grow many plants in a small space by mixing vegetables and fruit trees with trellises for climbing beans, pumpkins, and gourds.

"Trellises are poles, for example bamboo, or anything else which plants can climb. Other plants can grow in the space below.

"We grow green leafy vegetables, of course, as well as fruit trees. Our mixed garden has banana and papaya," her husband added.

"Bigger trees planted a short distance from the garden will provide fruits and wood for many years."

*Starting a vegetable garden*

"It sounds complicated to me," someone said. "How do you start such a vegetable garden?"

"Start simple," urged a visitor from a nearby village, who was well known for her wonderful vegetable garden.

"Clear all rubbish and weeds from the area you have chosen for your vegetable garden."

She explained that weeds are unwanted plants that steal water, nutrients, and sunlight.

"Weeds also shelter pests. Get rid of weeds while they are small," she continued. "They can become a big problem, especially during the rainy season."

She told us how to decide where to plant different crops. "Sunlight is an important thing to consider," she said.

"Greens and beans like some shade, so you can plant them near the house. Fruit-producing plants do well in full sun. Beans and greens are easy to grow. Beans put fertilizer into the soil as they grow."

Our visitor suggested planting crops like bananas, papaya, and avocado close to the water source. "These plants need a lot of water," she explained.



"But there are other foods like mangos that don't need so much water.

"You will need to feed your growing plants in much the same way as you feed your children's growing bodies," she said, gesturing toward a group of young children playing.

**"How do you feed a plant?"** asked a child who had been drawing a picture of a garden. He looked very puzzled.

Our visitor smiled. "You feed a plant with compost," she answered, explaining that making compost is a way of turning grass, weeds, and vegetable waste into rich soil we call compost.

"Do we just throw the kitchen scraps right in the garden?" questioned a young woman.

"No, that would attract flies and other insects or rodents, and cause plant diseases," the visitor answered.

"You should make a compost pile. This is a place where you put vegetable waste and animal manure, and leave it until it turns into compost."

"So do you just throw the scraps and clippings into a pile on the ground?" another child asked.



"It is best to put up a fence around the compost pile to prevent animals or children from scattering the compost.

"You could also dig a hole and make your compost pile in this.





"The compost pile should be about 50 steps from the kitchen. You can add waste, grass, fruit skins and animal manure to your compost pile every day," she said.

"It is important to put rocks or stones at the bottom of the pile, so that water drains away, and then add something like dried, crushed leaves first.

"Compost piles need air," she told us. "Mix the compost every week using a shovel or leave a pole, for mixing, in the middle of the pile."

She added that it may be necessary to wet the compost, especially during the dry season.

Use a layer of ash or soil to cover the pile at the end of each day," she said.

"This will reduce odours.

"When the pile gets about as high as your knees, start another pile.

"Your compost is ready for use in your garden when it has turned a rich, dark brown colour. Mix the compost into the soil and spread it around the plants.

"In addition to feeding the plants, this will help your garden hold moisture," she explained.

"It will also help keep weeds down."

## Discussion

Is there enough water in your community to plant gardens?

What vegetables or fruits could grow well in your area?

How can you keep the ground from losing water quickly?




## Growing a future

Everyone is enthusiastic about our community's new tree project. At first people planted trees near their homes and as part of their gardens.


Planting trees made us think about the future.

Someone started singing:




*Shade us oh tree in our old age  
Shade our daughters and sons  
On their wedding days.*

*Flowers and fruits  
Mark the changes of seasons  
Children grow  
While your roots  
keep the soil moist  
And protect our land.*



*Birds sing from your strong limbs  
Friends sit under your branches  
Or gather fallen leaves  
For goats, compost and gardens."*



The young trees we care for now will help our community for generations. That is why we planted "insurance" and "promise" trees.



*What are "insurance" trees?*

Insurance trees are grown by families to harvest for emergencies or to get cash. You know how expensive wood is.

*What are "promise" trees?*

Promise trees are best of all; come with me and see. Each child from the age of six gets to plant and nurture 10 trees in a special community garden.

The children guard and protect the trees the way they would protect cattle and goats.

They are "promised" trees for when they get married or have to go away for studies or get older.

Before that they can enjoy the fruits and sell them too.

You will always find children in the promise tree park.





# Fish

"Life here has really changed," we all agreed while sharing papayas, before loading baskets of fruit to sell in the market. Suddenly we all had a big laugh.

"Remember when we couldn't sit near the school in the evening without slapping our ankles or waving mosquitos away from our faces.

"Where have all the mosquitos gone now that we changed the mosquito haven into a fish pond?" we joked.

The fish pond by the school is an amazing sight. The sides of the pond are now covered with papaya, banana and other fruit trees.

Between the trees you will find many kinds of vegetables growing.

Next to the fish pond is a duck house where we get eggs. The manure from the ducks, and from animals, helps fertilize the pond to make food for the fish.

People often stop to look at the pond on their way to and from the market.

We are growing fast-breeding fish called **Tilapia**, so we have to be very careful to see that we both feed and harvest them.

The secret to growing Tilapia, or any other pond fish, is to feed them with the husks of rice or other grains, and to be sure that the water is fertilized.

You may have to drain the pond before stocking it with fry. In this way you remove other fish that will eat the fry (baby fish that you put in the pond).

You can keep the small fry protected by nets until they are about a finger length in size.

After the Tilapia start breeding, it is helpful to catch fish every week or the pond will become too crowded and the fish will stop growing or even die.

It is important to harvest fish of different sizes, not only the big ones.

"This way the pond will be more productive," explained a friend, who had received training on fish culture.

"And never dig a pond too deep or the fish will dive under your nets and you will never catch them," she advised.

"You can also grow Tilapia in small ponds or ditches close to home.

"If you do not have water in your pond all year round, you can still grow Tilapia, because if you feed and care for the fish you can harvest them after six months.

"These and other fish also help control mosquitos by eating their larvae and the weeds that shade them."

## Key Points

### Unit 3: Healthy food

- *Good food is important for good health; eating well can help prevent us from becoming ill. Good food means safe, nutritious food, not necessarily expensive food.*
- *Eating well means eating a balanced mixture of food from all main food groups.*
- *Food must also be kept safe by protecting it from germs.*
- *Breast-feeding is the best way of giving our children a healthy start in life.*
- *Children should be gradually introduced to safe family foods.*
- *In our communities we can grow healthy food and trees which help to build us a healthier future.*



Unit

4

•••••

Healthy mothers,  
healthy children

•••••





## Staying healthy while pregnant

"I feel so tired and weak," a woman, pregnant with her first child, complained. "I don't sleep any less, yet I feel as though I have no energy!"

"You need extra rest when you are pregnant," an older woman told her. "You will feel better if you rest once or twice a day. Continue work during pregnancy, but heavy lifting or strenuous effort should at least be reduced if they can not be avoided altogether."

"You need to eat very well," another woman added.

### What should we eat when we are pregnant?

A midwife explained how babies grow very quickly inside their mothers. "This is one reason why pregnant women need to eat well. You are feeding yourself and your baby," she reminded the woman.

"Maybe that's why I always feel hungry," another pregnant woman said. "I'm not eating enough for me and my baby."





"It's important to eat enough, but also to eat the right kinds of food," the midwife said.

"You need to eat some of all the different kinds of foods our bodies need. Greens, vegetables, beans and other foods make your blood strong and your baby healthy."

## Getting enough iron

You will feel weak if you're not eating the right kind of food.

A woman who is pregnant or breast-feeding should have enough iron in her blood to keep herself and her baby healthy.

"You can add iron to your diet by eating green leafy vegetables," the midwife said. "It is good to eat greens. A fruit drink taken with meals helps the body to use the iron from the food."

She added that taking iron tablets is another way to strengthen the blood.

It is important to take the tablets the way that the health worker

tells. It is a good idea to take them during a main meal or very shortly afterwards.

"We should not take the pills with tea or coffee or milk because these drinks stop the body from using the iron properly," said the midwife.

"If possible we should take the iron pills with an acid or sour fruit drink like orange or lime juice."

A woman with three children said, "When I was pregnant with my first child, I felt tired and weak. My lips and tongue turned very pale.

"I didn't think I was going to have enough strength to give birth or take care of my baby.

"My sisters began giving me greens from their gardens because I was not getting enough iron. In a short time I became much stronger."

"Your sisters did the right thing.

"A woman who takes good care of herself during pregnancy is taking good care of her baby!" said the midwife firmly.



## Do we need medicine when we are pregnant?

"What medicines should we take to protect ourselves and our babies?" a woman asked. She, too, was pregnant for the first time and looked a bit nervous.

"Medicines can be harmful to the unborn child. Avoid medications unless they are prescribed at the health centre," explained the midwife.

"But remember that in areas where there is a lot of malaria,

pregnant women must take anti-malarial medication.

"They should also sleep under a mosquito net at night and do everything they can to avoid contact with mosquitos.

"They must do this because when pregnant women get malaria, especially if this is their first pregnancy, they may give birth to a very small baby, or they may lose their baby, and they themselves may even die from the disease."

### Suggestions

*Act out a play to show families about the kind of support a pregnant woman needs.*

### Discussion

*Think of ways that people can work together to make sure that pregnant women get enough of the right kinds of food, do not do too much heavy work and receive any health care they need.*

*Who looks after pregnant women in your community?*

## Warning signs in pregnancy

The health worker urged all mothers to visit the clinic or see a midwife by the third month of pregnancy.

She said that this was especially important for some mothers:

- Mothers under 18 years old or over 35 years old
- First-time mothers
- Mothers who have had more than four previous children
- Mothers who had a previous difficult, premature, or

caesarian birth. Also mothers who have had a previous abortion, stillbirth or miscarriage.

- Mothers who weigh less than 38 kilos before pregnancy or who measure less than 145 cm in height.

The health worker told us that we should come to see her if we do not gain weight (mothers should gain at least 6 kilos during pregnancy); if the inside of our eyelids are pale (they should be red or pink); or if our arms, legs or face swell unusually.





She explained to us that there are certain problems which can usually be dealt with at home. Other problems need help from a health worker.

### Problems you can deal with at home:

- *Sickness and vomiting during early pregnancy*
- *Indigestion*
- *Swollen feet*
- *Lower back pain*
- *Feeling weak and tired*

The midwife reminded the women that a good diet and adequate rest will help prevent or remedy many complaints, and ensure a problem-free pregnancy and a healthy baby.

### Pregnancy danger signs requiring medical help:

“There are some clear warning signals,” she added. “If you have any of these symptoms, you should definitely go to the clinic.”

- *Vomiting a lot and often*
- *High fever*
- *Bleeding or coloured discharge from the vagina*
- *Swelling of legs, face or arms*
- *Severe headache and difficulty in seeing*
- *Hard or painful abdomen*

“You should also go to the clinic or check with your midwife if you experience any of the symptoms we’ve talked about today – vomiting, tiredness, or swollen feet – which do not improve with the proper diet or recommended rest.”

## Swollen feet

One young woman complained of swollen feet. "This is my second baby," she said, pointing to her large belly. "I had the same problem during my first pregnancy."

"Swollen feet during pregnancy are common," said the midwife. "Eat less salt and put your feet up several times a day. If the swelling continues, go to the clinic."

"If your legs, arms or face are swollen the problem is more serious and requires medical help."

## Home Birth or Hospital

Many women give birth at home. Sometimes it is better for a woman to go to a hospital or maternity centre to have her baby. How do you know when it is important to go to a hospital or clinic?

Mothers with birth problems should be sent to the dispensary on a stretcher when either of these problems occur:

- When a lot of blood comes from the birth opening. (Be sure to give her lots of liquid to drink.)
- When the mother has many strong pains for a long time, but the baby's head does not come out.

## Suggestions

Make sure that every mother sees the health worker early in her pregnancy, so that she knows how to look after herself and what warning signs to look for.

## Discussion

Is it difficult to get a pregnant woman to the clinic if there is a problem during the birth? Is there a stretcher so that she can be carried if no transport is available?



## Birth spacing

One day we all started talking about what is the best gap between two children. One of the women whose baby was only one year old had just realized that she was pregnant again. Everyone congratulated her, but some said that it would have been wiser to wait longer before becoming pregnant again.

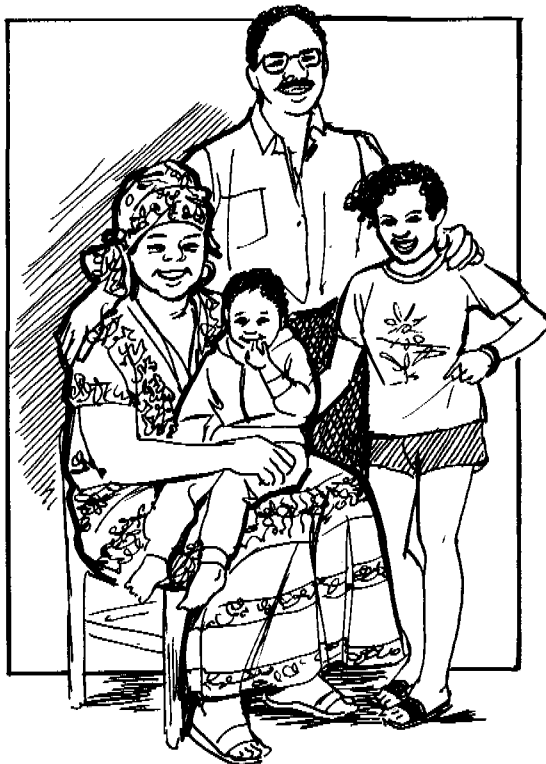
Some women thought that it would be difficult to wait a while before having another child.

"My husband wants a son, so he wants to have another child

soon," said one young woman holding a baby girl.

"I am very tired looking after my young child, but my husband wants as many children as possible to help us work our land," said another mother.

"If I do not have many children quickly my sisters will not respect me. Also my mother-in-law does not want me to do anything to prevent becoming pregnant. She says that this is interfering with nature."



### *Why birth spacing is important*

"We must explain to our family members and friends that our children will not be so healthy if they are born too close together," said one woman who was training to be a health worker.

"When the time between the births of two children is less than two years, both the older child and the younger child are more likely to die than children born with a longer space between them. The mother's body has not fully recovered from the last pregnancy.

"This may mean that she is less able to nourish the baby she is carrying and she may give birth to a baby with low birth weight. Low birth weight means that a baby is much more likely to die.

"Also when the time between two births is too short, there is a strain on the whole family."

The mother, who needs to rest and recover from her delivery, has

instead to care for two very young children. The older child might not receive enough care and attention.

Children need to be growing well, walking and talking, before they have to share their mother and father with a new baby.

Another problem is that if a mother quickly becomes pregnant again, she may wean her young child too soon. Breastmilk is more than good food. It also helps protect young children against disease. When breast-feeding is stopped too soon, the child is more likely to get sick.





### *The ideal space between births*

"How long would it be best to wait after giving birth before becoming pregnant again?" we asked.

"Good birth spacing is waiting at least two years after giving birth to one child before having another baby.

"This means that a woman should wait at least 15 months after giving birth before trying to become pregnant again," our friend who was learning to be a health worker told us.

### *Ways to space births*

"That sounds like a good idea, but how can we space our births?" asked a young mother.

"There are many different ways that parents can use to space their children," our friend replied. They

can avoid sexual relations or use other traditional methods of family planning, such as prolonged, regular breast-feeding or withdrawal. Or they can use modern methods such as oral contraceptives, IUDs, condoms, diaphragms or caps, foaming tablets, injectables or implants."

### *Condoms*

- Remember that of all the different methods, only condoms can also reduce the risk of infection from HIV (the AIDS virus) or other sexually transmitted diseases.
- It is very important to use the condom correctly. If you don't know how, ask your health worker.
- You can buy condoms in pharmacies and other shops. Often clinics distribute free condoms.





The important thing is to find the method that suits you and your situation best. To do this you should visit your community family planning clinic or, if there is no clinic near by, talk to your health worker.

A woman who spaces her children can look after them extra well!

### *How breast-feeding helps to space births*

Breast-feeding helps us to space our pregnancies. Breast-feeding delays the return of menstruation and so helps to postpone the next pregnancy.

## Discussion

How many children do families in your community have?

Are women expected to have a lot of children to support the family?  
How do they feel about this?





# Immunization

A group of women in our community were talking one day about ways of keeping their children healthy. One older woman told us about a radio programme she had heard about immunization.

"Many children in our community die unnecessarily because they have not been immunized against some of the most common childhood diseases," said one old woman. "In the past we could not protect our little ones from these terrible diseases which can kill or handicap children for life. You are lucky, because you can protect your children against diphtheria, measles, polio, tetanus and whooping cough. If I had young children I would act quickly to protect them."

**"When should we have our children immunized?"** asked one young mother holding a very young baby in her arms.

"Immunization is urgent," said the older woman. "All immunizations should be completed within the first year of the child's life.

A child should be taken for immunization five times during the first year of life:

- At birth or as soon as possible afterwards, babies should be immunized against tuberculosis. The first dose of polio vaccine should also be given at this time.
- At the age of six weeks, parents should bring their babies for a first immunization against diphtheria, whooping cough and tetanus. These three vaccines are given together in a single injection called "DPT". At the same time children should be given another dose of polio vaccine.
- At the ages of 10 and 14 weeks, parents should return for their children to have two more doses of the DPT vaccine. A dose of the polio vaccine should also be given on each of these visits.
- As soon as possible after the age of nine months, parents should bring their children for immunization against measles.

**"Isn't immunization dangerous?"** asked the young mother.

"No," the older mother told her firmly. "After an injection a child may cry, develop a fever, a rash or a small sore. This is normal and not dangerous. Just give the child plenty of food and liquids – breastmilk if the child is still being breast-fed."



**"Is it safe to immunize a sick child?"** asked another mother.

"Yes, of course," said the older woman. "All mothers know that young children often have coughs and colds or diarrhoea or some

fever. If children have a minor illness on the day they are due to be immunized you must still bring them to be immunized. If they have had a severe reaction to the first dose of DPT vaccine, they should not receive the second or third doses. Otherwise, all children can be vaccinated."

**"I have heard that we women need to be immunized too,"** said one woman in the group.

"Yes," said the health worker who had just come over to join our group.

"Every woman between the ages of 15 and 44 should be fully immunized against tetanus. Tetanus germs are very dangerous. They grow in dirty cuts. This can happen after childbirth if an unclean knife is used to cut the cord, or if anything unclean is put on the stump of the cord. Anything used to cut the cord should be thoroughly cleaned first.

"We can protect ourselves – and our new-born babies – against tetanus by making sure



that we are immunized before or during pregnancy," the health worker said.

"All women of child-bearing age should be immunized against tetanus, and every woman who becomes pregnant should make sure that she is immunized.

"If a woman is not already immunized, a first dose of tetanus vaccine should be given as soon as she knows that she is pregnant.

"The second dose can be given four weeks after the first, and should be given before the last two weeks of pregnancy.

"A third dose should be given 6 to 12 months after the second dose or during the next pregnancy, and fourth and fifth doses one and two years later," she continued.

"These tetanus vaccinations protect the mother, and her newborn babies, for five years.

"All children should be immunized against tetanus during the first year of life.

"Also remember that breast-feeding is a kind of natural immunization against several diseases," said the health worker.

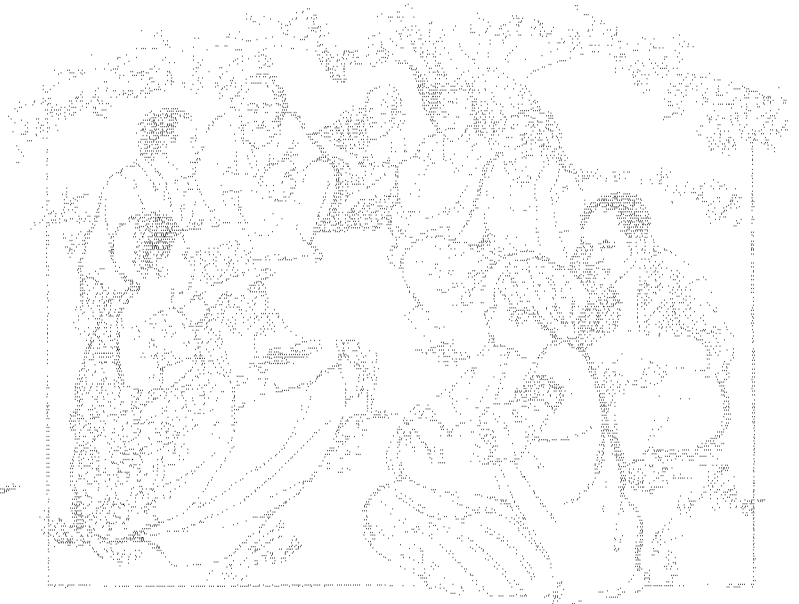
"Some of the mother's resistance to disease is passed to the child in her breastmilk, and especially in the thick yellow milk (called colostrum) which is produced during the first few days after the birth.

"But it's a temporary protection – the child still needs to be immunized."

## Key points

### Unit 4: Healthy mothers, healthy children

- During pregnancy, eating properly and getting plenty of rest are essential.
- We should watch out for warning signs during pregnancy and get professional help if any occur.
- Birth spacing is an important way to ensure happy, healthy families.
- We can also look after the health of our families by immunizing everyone, and especially children, against many common diseases.



*Sources and  
resources*





## Thank you for your visit

We now have a map showing all the places where we planted trees, and the location of wells and latrines.

Join us for a water-watching walk and see how our community has changed.

Beautiful trees and flowers grow near our kitchen gardens which are protected by fences. You will always see children at the "promise tree" park or at the school ponds and gardens. They make us all feel proud.

Our compost piles are neat, and we are sure to feed the soil, and to use mulch to keep moisture in the ground.

You may see attendants clearing drains, repairing or cleaning the site around the well or talking with people gathering water. On clear days you will see bottles of water being cleaned by the rays of the sun. Nearby, mothers are nursing their children or gathering eye-protecting vegetables to add to the babies' porridge.

Instead of unsafe infant feeding bottles, you will see mothers using cups and spoons to nourish older babies after breast-feeding.

All our mothers visited the clinic while they were pregnant, and made sure to eat plenty of vegetables and other foods to protect themselves and their babies. Everyone understands when to get help for problems during pregnancy.



Our community is healthier now and everyone, including children, have learned never to pass urine or to defecate in or near the water.

Both adults and children use latrines and keep them clean.

You will notice people washing their hands after using the latrines and before preparing food. They have jars with dippers designed to keep hands out of drinking water. We know this will help protect all of us from diarrhoea. When someone does get sick we are sure to give liquids and food.

# Bibliography

**All for Health, A Resource Book for Facts for Life, 1989, UNICEF, Facts for Life Unit, 3 UN Plaza, New York, NY10017, USA**

**Better Care for Diarrhoea, 1984, Voluntary Health Association of India, 40 Institutional Area, South of I.I.T., New Delhi – 110016 INDIA**

**The Community Health Worker, 1994 (in press), World Health Organization, CH-1211 Geneva, Switzerland**

**Community Health Workers Manual, 1987, African Medical and Research Foundation, P.O. Box 30125, Nairobi, KENYA**

**Community Self-Improvement in Water Supply and Sanitation, 1988, IRC, International Water and Sanitation Centre, P.O. Box 93190, 2509 AD The Hague, The Netherlands**

**Creciendo Sano – Manual Para El Control Del Crecimiento Y Desarrollo Del Niño, Instituto de Investigacion Nutricional, Av. La Universidad 5ta Cdra. La Molina, Apartado postal 18-0191 Lima, PERU**

**Developing and Using Audio-Visual Materials in Water Supply and Sanitation Programmes, WASH, 1611 N. Kent Street, Room 1001, Arlington VA 22209-2111, USA**

**Dialogue on Diarrhoea; The international newsletter on the control of diarrhoeal disease, AHRTAG, 1 Bridge Street, London, UK**

**Facts for Life; A Communication Challenge, 1989, UNICEF, Facts for Life Unit, 3 UN Plaza, New York, NY10017, USA**

**Food, Environment and Health; A Guide for Primary School Teachers, 1990, World Health Organization, CH-1211 Geneva, Switzerland**

**From Handpumps to Health; The Evolution of Water and Sanitation Programmes in Bangladesh, India and Nigeria, 1990, UNICEF, 3 UN Plaza, New York, NY10017, USA**

- My Name is Today; An illustrated discussion of child, health, society and poverty in less developed countries, 1986, TALC, Box 49 St. Albans, Herts, AL1 4AX, UK**
- Nutrition Learning Packages, 1989, Joint WHO/UNICEF Nutrition Support Programme, World Health Organization, CH-1211 Geneva, Switzerland**
- Partners in Evaluation; Evaluating Development and Community Programmes with Participants, 1986, TALC, BOX 49 St. Albans, Herts, AL1 4AX, UK**
- Participatory Evaluation; Tools for Managing Change in Water and Sanitation, PROWESS/UNDP, 777 UN Plaza, New York, NY10017, USA**
- Planning for Agroforestry, Save the Children Fund, 54 Wilton Road, Westport, Conn. 06880, USA**
- Pretesting and Revising Instructional Materials for Water Supply and Sanitation Programs, WASH, 1611 N. Kent St., Room 1002, Arlington, Virginia 22209-2111, USA**
- Rural Sanitation in Lesotho; From Pilot Project to National Program, UNDP/World Bank Water and Sanitation Program & PROWESS/UNDP, 777 UN Plaza, New York, NY10017, USA**
- Rural Water Supply and Sanitation; A Text from Zimbabwe's Blair Research Laboratory, Macmillan Education Ltd., TALC, P.O. BOX 49, St. Albans, Herts, AL1 4AX, UK**
- Tools for Community Participation; A Manual for Training in Participatory Techniques, PROWESS/UNDP, PAC, Inc 777 UN Plaza, New York, NY10017, USA**
- Where There Is No Doctor, Hesperian Foundation, P.O. Box 1692, Palo Alto, California 94302-1690, USA**
- Teaching Health Care Workers; A Practical Guide, Macmillan Education Ltd., TALC, P.O. BOX 49, St. Albans, Herts, AL1 4AX, UK**

## Sources of information

**TALC** – *Teaching Aids at Low Cost*. For complete list of books and teaching material, write to: TALC, P.O. BOX 49, St. Albans, Herts, AL1 4AX, UK

**AHRTAG** – *Appropriate Health Resources & Technologies Action Group Ltd*. For other publications write to: AHRTAG, 1 London Bridge Street, London SE1 9SG, UK

**Developing Countries Farm Radio Network** – Provides radio scripts on health, nutrition, hygiene, gardens and food production. DCFRN, 595 Bay Street, Suite 9, Toronto, Ontario, M5G 2C3, CANADA

**INTRAH** – Publishes training and reference materials that complement its comprehensive human resources development programs and that can be used either as written by trainers or trainees or adapted to meet local needs. INTRAH, University of North Carolina, 208 N. Columbia St. CB#8100, Chapel Hill, NC 27514, USA

Note: Technical information on the design of wells, boreholes, hand-pumps, standposts, improved latrines, slow sand filtration, urban sanitation, may be obtained from government ministries as well as from UNDP, UNICEF, WHO, the UNDP/World Bank Water and Sanitation Programme, and nongovernmental organizations.