



SANITATION: A WAY OF LIFE



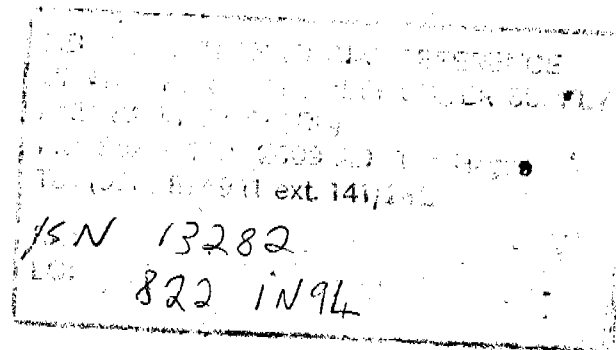
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SANITATION: A WAY OF LIFE

ABOUT THIS BOOK

This book, consisting of nine chapters, will help to bring clarity to the concept of sanitation and facilitate its promotion. The first two chapters discuss the need for sanitation and the concept of sanitation. The subsequent chapters describe in detail the seven components of sanitation, namely, handling of drinking water, disposal of human excreta, disposal of waste water, disposal of garbage and cattle dung, home sanitation and food hygiene, personal hygiene, and village sanitation.



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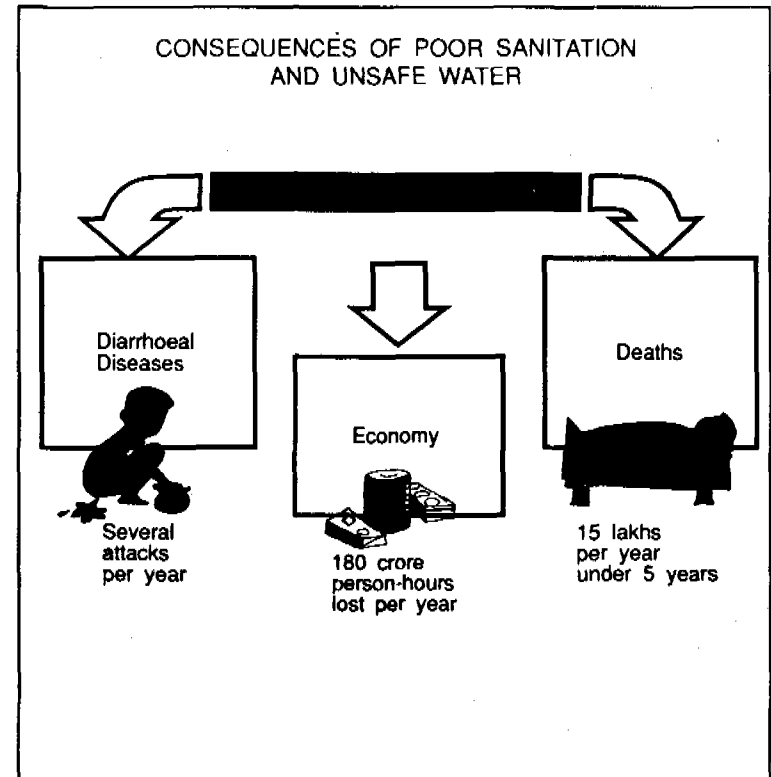
WHY SANITATION ?

If people had proper nutrition and safe drinking water, kept themselves and their surroundings clean and got their children immunized, there would be very little illness. Improved hygienic practices and sanitation can prevent many water and filth related diseases. According to the World Health Organisation, about 80% of all sicknesses and diseases are due to the lack of safe water and proper sanitation.

Survival of children

Children, especially the malnourished ones, are very vulnerable to the effect of contaminated drinking water and an insanitary environment. Every year, 1 million children under the age of 5 years, die of diarrhoea due to dehydration (loss of water and salts in the body). An even larger number suffer from frequent illnesses due to repeated attacks of diarrhoea.

Diarrhoeal deaths caused by dehydration can be prevented by replacing the water and salts that the body has lost. However, frequent attacks of diarrhoea worsen the condition of the poorly nourished infants and children. They will not grow and develop healthily. Improved sanitation, which can help prevent the spread and repeated attacks of diarrhoea, is therefore vital for child survival and development.



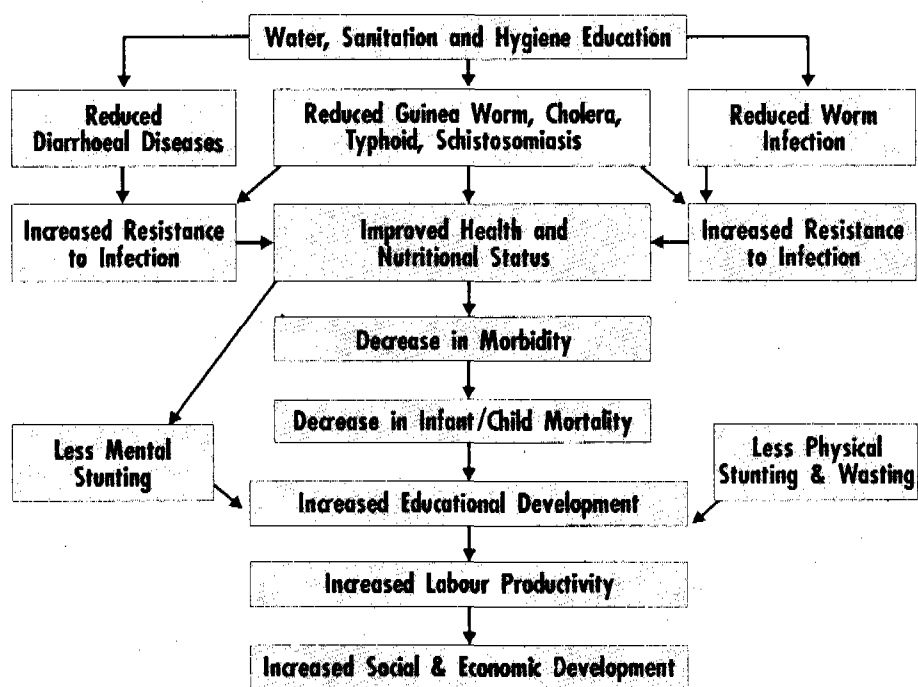
Consequences of poor sanitation and unsafe water

How is socio-economic development affected ?

In India, the most common communicable diseases are diarrhoea, cholera, malaria, filariasis, polio, infective hepatitis, typhoid and worm infestation. These are also water and sanitation related. The prevention of most of these diseases requires that the cycle of disease transmission be interrupted through better sanitary practices. Reduction in incidence of diseases leads to an improvement in health and nutritional status and culminates in the upgradation of economic and social status of the people. (See diagram below.)

Sanitation and Diseases

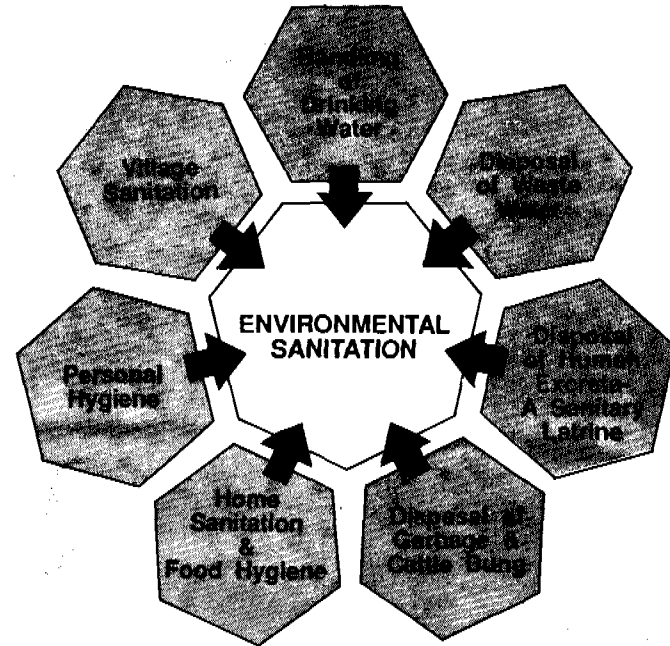
There is conclusive evidence to show that providing a safe water source is not enough to reduce the incidence of diseases. A large majority of the diseases are transmitted through the fecal-oral route. This can be checked through the adoption of improved sanitation practices.(See Box)



Source: Planning for Health and Socio - Economic Benefits from Water and Environmental Sanitation Programmes, A Workshop summary; Water and Environmental Sanitation section, Evaluation and Research Office, UNICEF, New York, April 21- 22, 1993.

WHAT IS SANITATION ?

Many people identify sanitation with construction of a sanitary latrine. This is not correct. No doubt, exposed human excreta is one of the major causes of disease transmission. However, when latrines are used, it does not always control the spread of diseases linked to poor sanitation. The word "Sanitation" is therefore used to define a package of health - related measures. It covers seven distinct components as shown in the diagram. Of the seven components, the first six viz. handling of drinking water, disposal of waste water, disposal of human excreta, disposal of garbage and cow dung, home sanitation and food hygiene, and personal hygiene relate to interventions at the household level while the seventh relates to sanitation in the village.



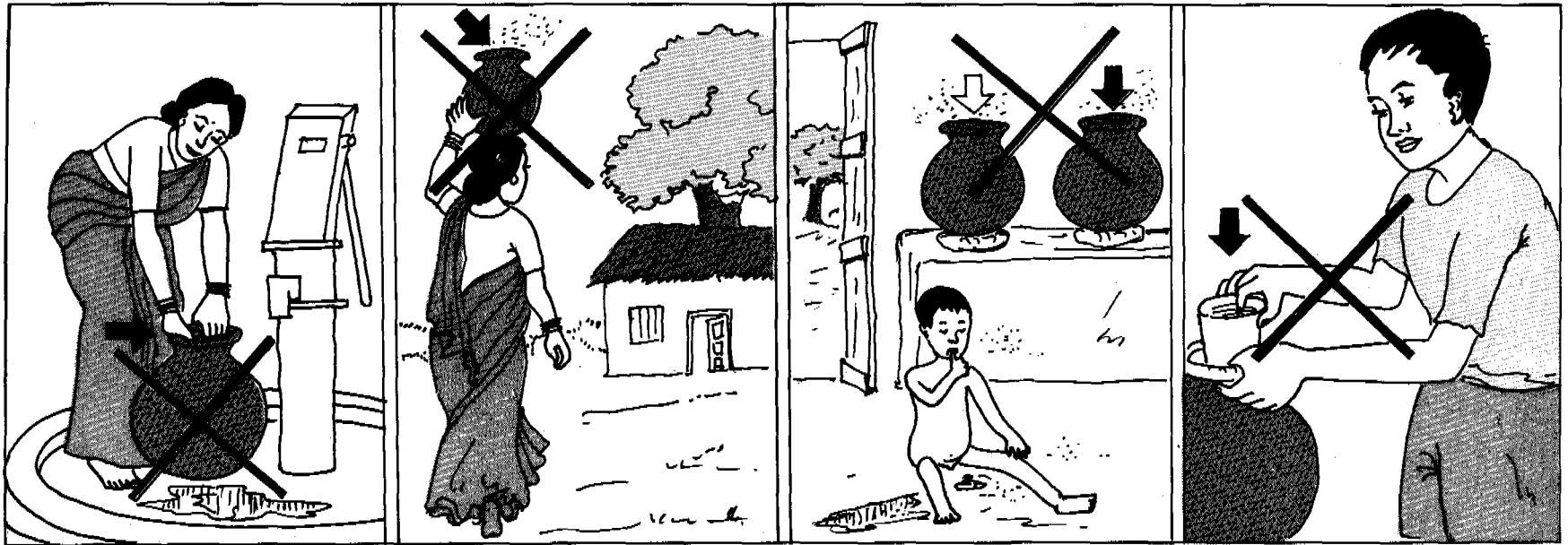
- Sanitation- A health related package

HANDLING OF DRINKING WATER

The problems

Open water sources like rivers, ponds, lakes and open wells get contaminated when people wash clothes, dirty utensils, bathe animals and themselves as well as defecate near these sources. When this contaminated water is used for drinking it can cause diseases like diarrhoea, cholera, typhoid, hepatitis and dysentery.

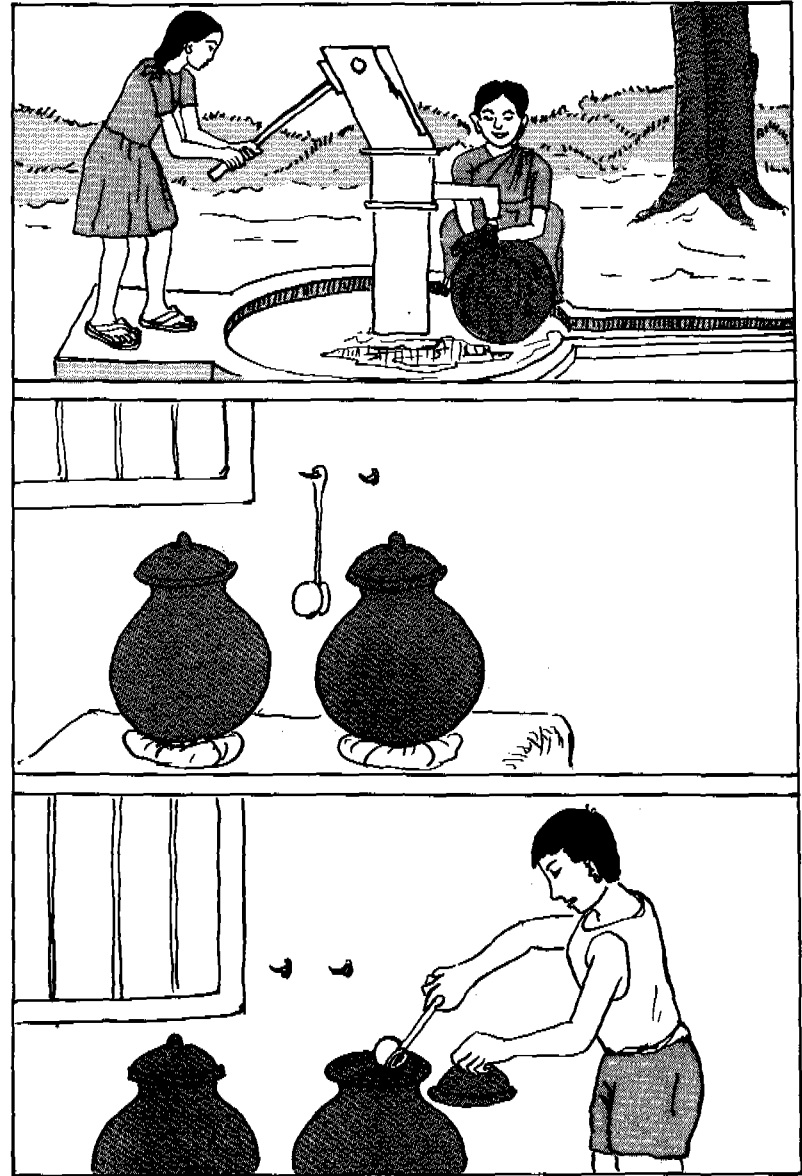
Water from sources like handpumps, taps and sanitary wells is safe as these sources are protected. However, even the safe water from these protected sources can get contaminated if it is not handled properly. The water contaminated due to improper handling can also lead to many kinds of diseases including diarrhoea, dysentery, hepatitis, cholera etc. Therefore, from the sanitation point of view, it is important to keep water safe right from its collection to consumption. This calls for adoption of proper collection, storage, and handling practices.



- Care must be taken to keep drinking water covered and not to dip fingers into it

The solutions

1. Drinking water must always be collected from a safe protected source. Safe sources include a properly installed, hand pump; a sanitary, protected open well and piped water supply through taps. Open sources such as wells, rivers and ponds are not safe as they can easily be contaminated.
2. People should be motivated to use the handpump water wherever available. It is one of the safest sources of drinking water.
3. Water should be collected in clean containers. The containers used to collect drinking water should be cleaned daily before filling them with water. Even while collecting water, hands should not be dipped into it. After collection, the container should be covered immediately.
4. In order to maintain the drinking water safe until consumption it should be stored in a clean container above the ground level. The storage pot should always be kept covered to protect the water from contamination by insects and pets.
5. A ladle should be used to take the water out from the storage containers. Fingers and hands should not be dipped into the drinking water. A long-necked surai can also be used for storing drinking water.



6. In the absence of a safe water source, drinking water collected from an unsafe source should be made safe before it is used for drinking purposes. The following methods may be used to make drinking water safe.

i. Boiling

Boiling the water rapidly for about twenty minutes destroys the disease causing organisms. Stirring the boiled water with a dirty spoon or pouring it into a dirty container should be avoided.

ii. Chlorination

Chlorine is an effective, easy -to -use, relatively inexpensive chemical, commonly used to clean drinking water from an unsafe source like a well, river or pond. Chlorine tablets can be obtained from the local primary health center or the local shop.

Things to remember

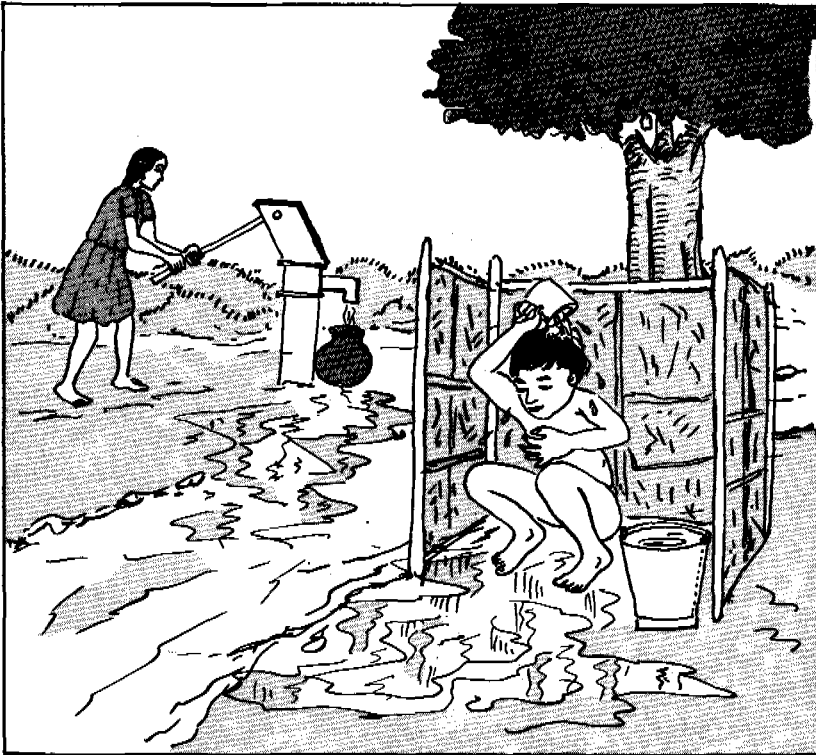
While promoting handling of drinking water it should be ensured that the households:

- collect water from a safe source like a handpump, tap or sanitary well.
- store water in a clean container.
- keep the storage pot covered.
- store the water on a raised platform, above the ground level.
- use a ladle to take the water out or keep water in a long-necked surai.
- boil or chlorinate the drinking water in areas where it is collected from open sources like wells, rivers or ponds.

DISPOSAL OF WASTE WATER

The problems

Stagnant pools of waste water around houses, in streets, around the water sources and in choked drains are a health hazard. Besides being an environmental threat, they smell bad, make the area slushy, provide a breeding place for mosquitoes and can contaminate the drinking water sources.



• Stagnation of waste water

The solutions

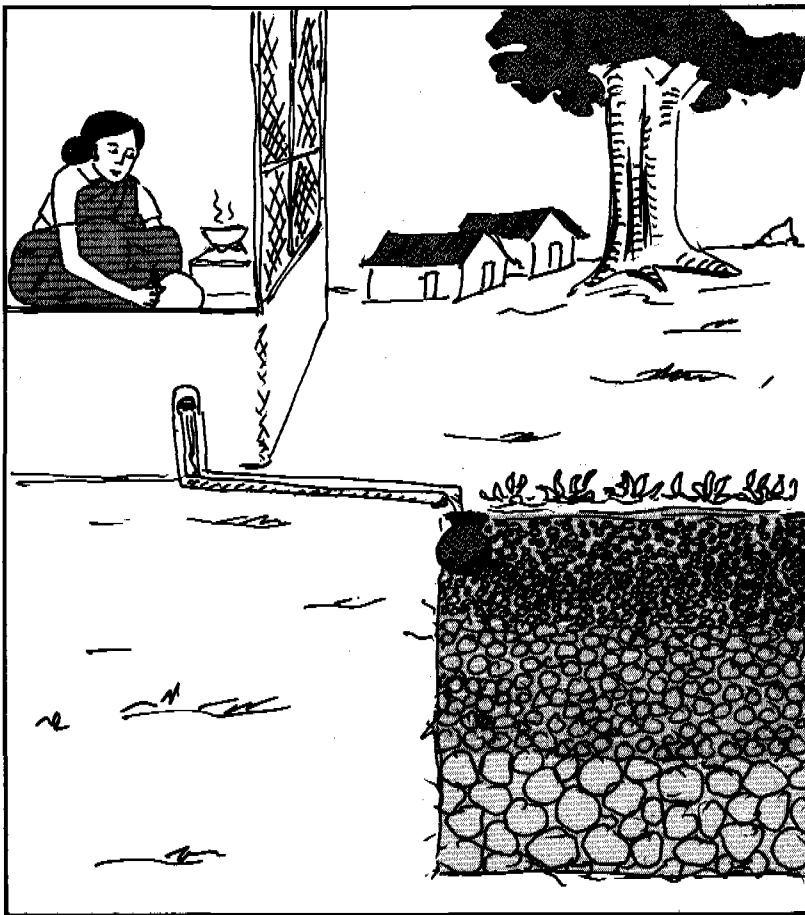
At the household level waste water could be disposed by :

1. Draining the water away to irrigate a vegetable garden (kitchen garden) or into a natural / community drain.



• Waste water for a kitchen garden

2. Soaking the water-The waste water can be led into a specially prepared pit from which it is soaked into the ground. This is called a soakage pit. The soakage pit can also be used to soak the waste, soapy water from a bathing cubicle. It works well in sandy soil but cannot be used in water logged areas with soil having high clay contents like black cotton soil. In the latter case, the water has to be drained away to a natural / community drain.



● Soakage Pit

How to build a soakage pit

A soakage pit is a pit dug in the ground and filled with different sizes of stones or broken bricks in successive layers. The stone fillings prevent the pit walls from collapsing while the successive layers (smaller at top and bigger at the bottom) strain out the solid contents and facilitate easy percolation. As the waste water flows into the pit, it will gradually seep into the ground. The waste water passes through a chamber (mud pot filled with grass, with holes at the bottom or any other chamber) to separate the suspended refuse and the water is drained into the pit. The top of the pit is covered with bamboo mat applied with clay, mixed with water, to prevent excess water running into the pit and choking it during monsoons. It also prevents mud from falling inside the pit when people move around.

As the soakage pit is used regularly, the sediments that have collected in the pot should be removed and replaced with fresh coconut fibre.

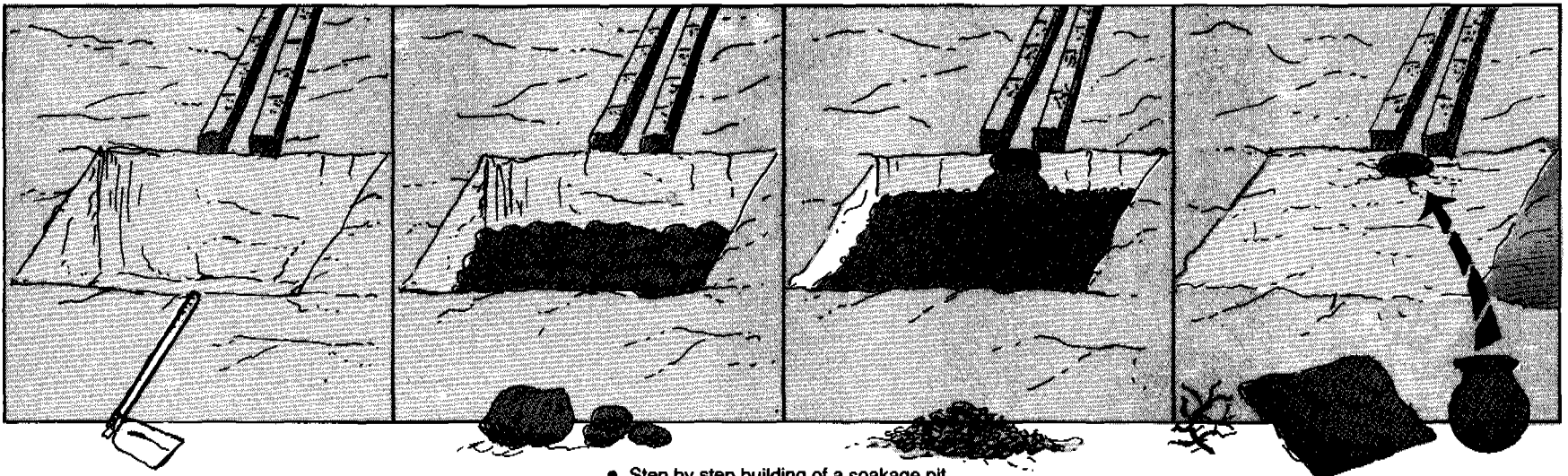
After long use, the soakage pit will get clogged and begin to overflow. When this happens, the pit should be emptied, the contents washed and dried and put back to restore the normal functioning of the soakage pit. During cleaning, care should be taken not to mix up the different sizes of stone/brick chips.

It is very easy to build a soakage pit . It can be done step by step as shown:

1. Dig a pit 1m long, 1 m wide and 1 m deep.
2. Fill the pit upto one third of its depth with larger stones of size 10-15cm diameter. This is followed by stones 5-10 cm diameter filled up to two thirds depth.
3. Place a 20 cm diameter clay pot with small holes,2 cm in diameter,at the

outlet of the channel. Coconut fibre/leaves are placed inside to trap the sediments. Fill the pit with small stones 1 cm in diameter upto a level of 10 cm below the ground level.

4. Place a 5 cm layer of twigs followed by a gunny cloth. Place soil on top of the gunny cloth and compact it to ground level.



• Step by step building of a soakage pit.

Things to remember

While promoting disposal of waste water it should be ensured that the households:

- make a drain to use the waste water for irrigating the kitchen garden, or
- construct a soakage pit to dispose waste water from the kitchen or bathing cubicle, or

build a drain from the kitchen or bathing cubicle to the village or natural drain.

- maintain the soakage pit such that it does not spill.
- clean the household drain leading to the village drain regularly so that it does not overflow.

DISPOSAL OF HUMAN EXCRETA

The Problems

According to the 44th round of the National Sample Survey, in rural areas about 90% people defecate outdoors and even in urban areas 40% people defecate in the open. Furthermore open defecation is much higher among children.

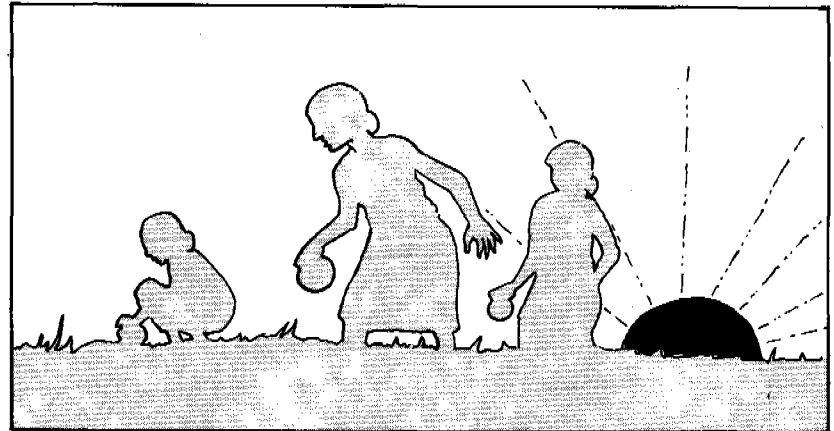
Infants, children and toddlers often defecate just outside their house in a drain or in the street. Many people believe that children's excreta is harmless. This is not true. The excreta of a child is equally harmful, if not more, than that of an adult.

Many diseases are spread from human excreta lying exposed due to open defecation. Disease causing germs and worm eggs are present in the excreta of an infected person. These harmful organisms which cannot be seen with the naked eye continue to live in the excreta. They are transmitted from one person to another through drinking water, vegetables, hands and insects like flies, cockroaches etc. The diseases that are spread in these ways include several types of intestinal worms, diarrhoea, dysentery, cholera, typhoid, hepatitis and polio. Use of a sanitary latrine stops the spread of diseases caused by excreta.

People, particularly in rural and some urban areas, defecate in the fields and forests, along river banks and edges of railway tracks or along the roadside. They have no protection against insect and animal bites. Now a days many of the woods and bushes have disappeared as the lands

are developed for cultivation and town/city expansion. Furthermore, many farmland owners do not allow people to defecate on their agricultural land, particularly during the growing seasons.

Women have to go out before dawn or wait till after dusk for defecation. At these odd hours, they are likely to become victims to unruly elements. If they have the urge during the day there is nowhere that they can go for defecation. Very often they have to suppress it. This is painful and harmful to health. A sanitary latrine provides a secure, private and convenient place for defecation.



• Women go for defecation before dawn or after dusk

The Solutions

Use of a sanitary latrine stops the spread of diseases caused by excreta. It also gives privacy and is convenient for all the young, old and sick as also women and men. A sanitary latrine constructed near the house, is very convenient. Not much space is required for a latrine.

Selection of a particular type of latrine depends upon the physical parameters viz. geo-hydrology, type of construction materials available in an area, extent of space available with the house, etc. while its acceptance depends mainly upon the socio-economic parameters like affordability, habits, practices, and attitudes. Because of the variations of these parameters, the technical design of a sanitary latrine varies from place to place and family to family. The cost of a latrine will depend on the design adopted and the price of materials chosen. The choice of a latrine can be made from among a range of options which cost from Rs. 300 upwards. Given below are a few options in this regard:

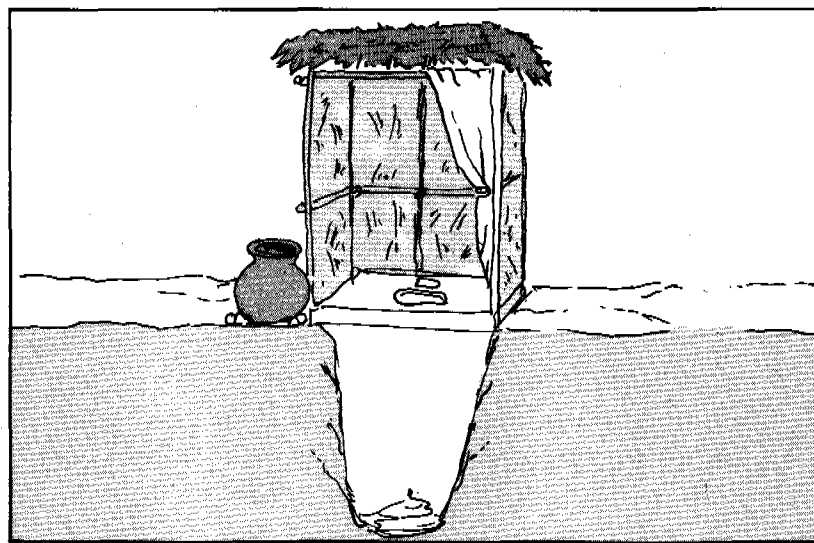
1. Pit latrines (*Simple pit latrines and Ventilated Improved Pit latrines*)

Where water is very scarce and solid materials such as leaves, mud or stones are used for anal cleaning, a pit latrine is suitable. A pit latrine has a pit, a squatting platform and a superstructure. It is constructed by digging a hole in the ground, generally with manual labour. The pit could be kept unlined, partially lined or fully lined depending upon the soil conditions. The squatting platform is made of wood or bamboo with a hole in it and is placed over the pit for defecation. The defecation hole should be provided with a cover which will prevent the entry of flies and emission of odor while the pit is not being used. A temporary superstructure (enclosure) is provided

around the squatting platform for privacy and protection. The superstructure can range from a simple shelter of sacks or sticks to a shelter made of GI sheets or other materials. The choice will depend on the income of the family and the custom of the area.

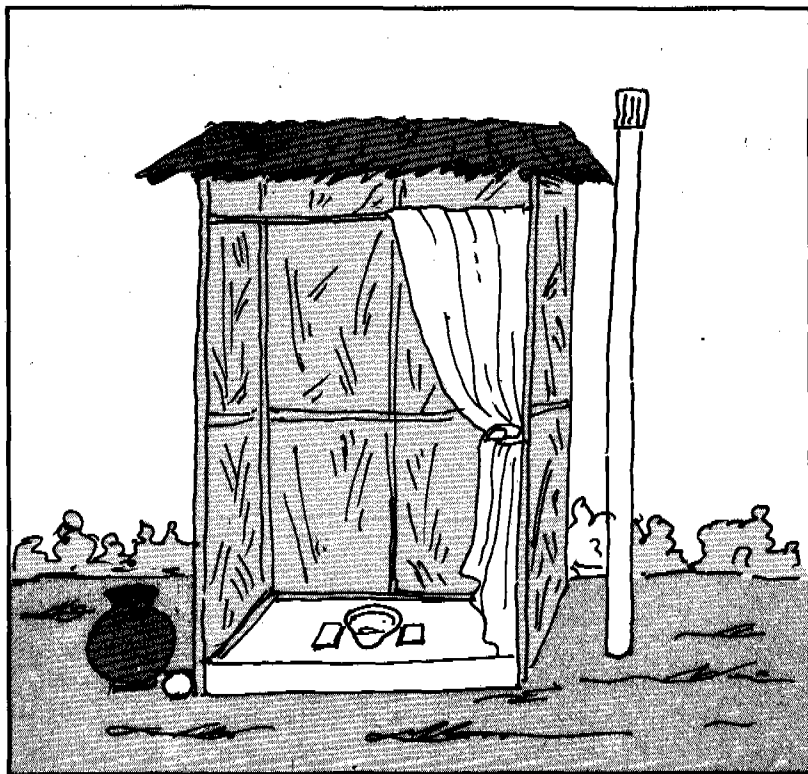
The decomposition of the excreta occurs in the pit after which the effluent leaches out and is absorbed by the surrounding soil while the solid part (sludge) remains in the pit. This latrine is suitable in areas where water is scarce and solid materials such as leaves, mud or stones are used for anal cleaning.

After prolonged use the pit gets filled up when it is covered with a thick layer of soil. A new pit is then dug nearby and the superstructure, along with the squatting platform, is shifted over the new pit. While the new pit is in use the excreta in the previous pit continues to decompose. It can be re-excavated safely after a period of two years.



● A Pit latrine

A pit latrine is a very simple, low cost option and can be constructed by the family members without engaging outside manpower. However, pit latrines, if not maintained properly become unpleasant and unhealthy places, being associated with bad smell and flies which are a nuisance. To eliminate the bad smell and the flies, a simple pit latrine can be upgraded into a Ventilated Improved Pit (VIP) latrine. A VIP latrine has a ventilation pipe which carries the bad smell away. The inside is kept quite dark so that when flies in the pit try to escape through the vent pipe, they are trapped in the fly screen fitted at top of the pipe and ultimately die in the pit.



● A Ventilated Improved Pit latrine (VIP)

2. *Pour-flush, water-seal latrine*

A pour-flush, water-seal latrine is more commonly used where water is available and is used for anal cleaning. The essential part of this type of latrine is a steep pan fitted with a P-trap. This requires minimum amount of water (2-3 litres) to flush the excreta after use. To facilitate easier flushing, the pan is wetted before use. After flushing, some water always remains in the P-trap and forms a 'water-seal'. The water-seal prevents bad smell from coming out and insects from reaching the excreta. The pour-flush, water-seal latrine can be mainly of two types:

i. Direct pit, water -seal latrine

This unit consists of a squatting slab along with a steep pan having a trap at the bottom. It is placed over a pit dug in the ground using some lining to prevent the side from collapsing. The size of the pit is such that it takes at least 2 years to get filled up. For a family of 6 members the recommended size is 1 meter diameter with 1 meter depth. However, in areas where the ground water level is low, a deeper pit can be made provided the distance between the pit bottom and the water table is more than 2 meters. A temporary superstructure is built for privacy and protection.

The gas formed due to the decomposition in the pit escapes through the joints/openings of the pit lining and is absorbed by the surrounding soil. The effluent is leached out and absorbed by the soil while the solid part (sludge) accumulates in the pit. Thus, on prolonged use, the pit gets filled up. When this happens a new pit is constructed and the squatting plate and the superstructure are shifted over it. The old pit is covered with a thick layer of soil and allowed to stabilize for about two years after which the contents of the filled pit would have become organic humus which can be cleaned and used

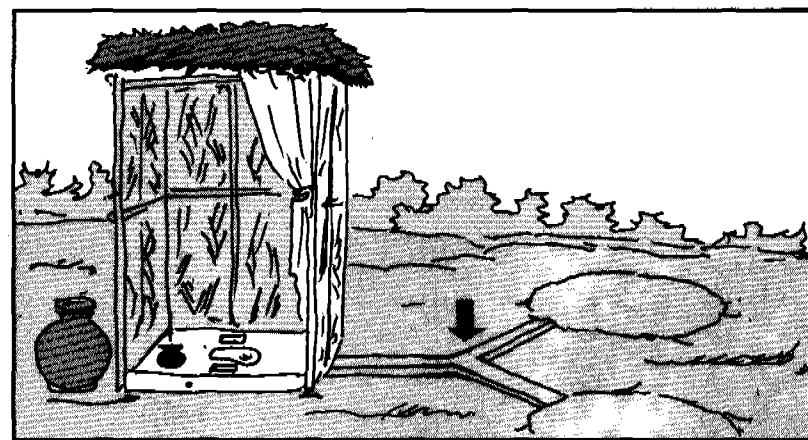
as a fertilizer. When the new pit is filled the first pit is cleaned and the squatting slab and superstructure are again shifted over it. Since the superstructure has to be shifted again and again it is not built as a permanent construction. The direct- pit, water- seal latrine is the most cost effective sanitary latrine.

The pan and P- trap are fixed in the floor during the construction. The pan of the two- pit latrine has a steep bottom slope which allows easy flushing of excreta by pouring small amount of water (2-3 litres). After flushing, some water always remains in the P-trap and forms a 'water seal'. The water- seal prevents bad smell coming from and insects reaching the excreta. The outlet of the P-trap is connected with a junction chamber either with a pipe or by constructing a covered brick drain. The junction chamber has one inlet (connected to the P-trap) and two outlets (connected with two different leach pits) which are for alternate use. A temporary or a permanent superstructure is constructed for privacy and protection.

When the first pit is in use the second one is kept as a standby blocking the corresponding outlet at the junction chamber. It will take 2-3 years for the first pit to fill up. After the first pit fills up the outlet from the junction chamber connected to the standby second pit is opened. At the same time the outlet connected to the first pit (filled up) is blocked. The excreta should remain in the covered pit undisturbed for about two years to decompose. At the end of 2 years the odorless contents of the filled pit can be handled and used as a fertilizer.

ii. *Two-pit, water-seal latrine*

Two-pit, pour-flush, water-seal latrine, more often called as "two -pit latrine" is a complete excreta disposal system which, on one hand, fulfills all sanitary requirements and on the other hand, provides continuous operation without having to handle raw/undigested excreta. The main components of a two - pit latrine are the squatting platform, junction chamber, two pits and the superstructure. The squatting platform is a raised pucca floor constructed with an appropriate foundation.



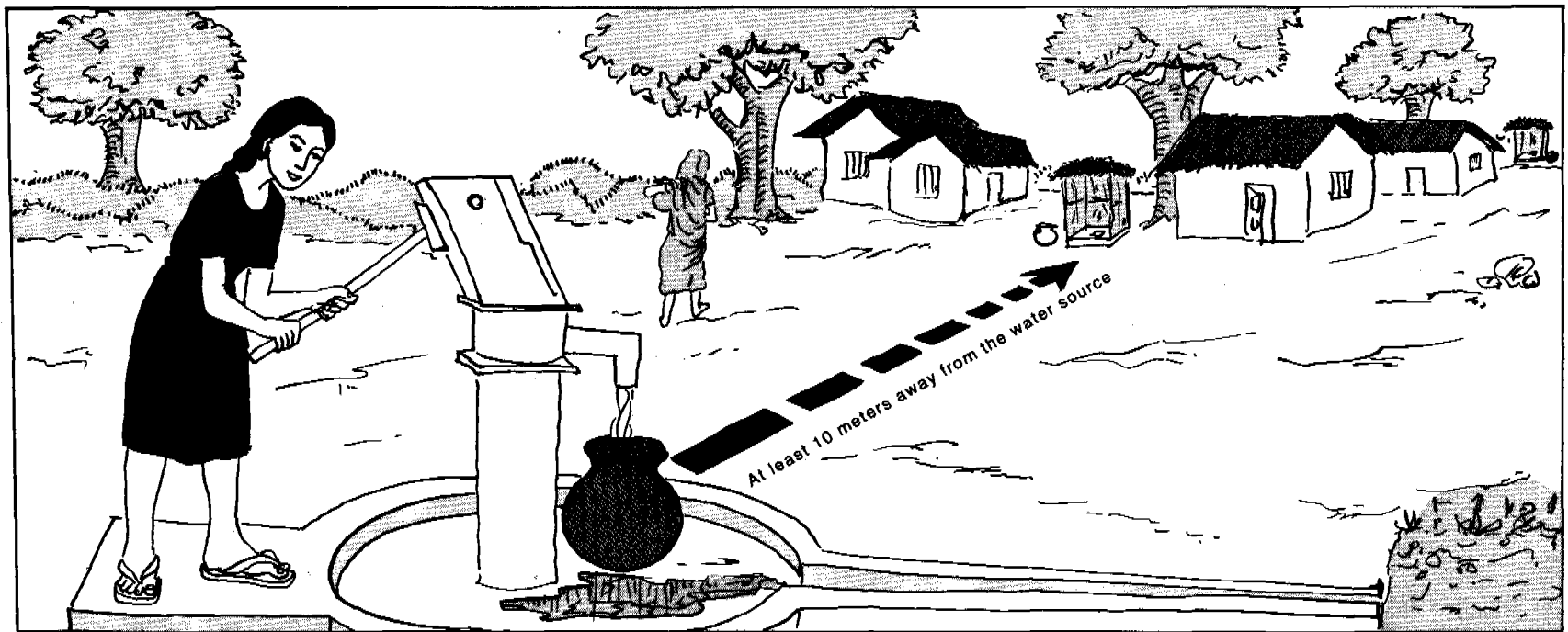
• A pour-flush, water-seal latrine

How to construct a latrine

First, a suitable site is selected. The latrine should not be on a slope or in a depression. It must be located away from the water source to prevent the water from being contaminated. If the groundwater level in the area is less than 3 meters below the bottom of the latrine pit, it should be at least 10 meters away to prevent water contamination. If the ground formation is made of fissured rock through which the water can flow faster, the risk is higher. The cost of a latrine in your area will depend on the design you adopt and the price of materials you

choose. You can select the latrine design from among a range of options which cost from Rs. 300 upwards.

In areas where the government departments are implementing the rural sanitation programme, materials for construction are provided by them. However, in other areas the materials can be procured directly from production centers or from Rural Sanitary Marts (RSMs) established specifically for this purpose.



• Safe distance between water source and latrine

Use and maintenance of a water-seal latrine

1. Always provide a water container outside the latrine for anal cleaning, flushing and cleaning of the latrine.
2. Pour some water to wet the pan before use. This will prevent the excreta from sticking on to it.
3. Position the feet properly on the foot rests to ensure that the excreta drops into the pan outlet.
4. After defecation pour about two litres of water to flush the excreta out of the pan.
5. Clean the latrine pan once a day with a broom and water. Do not use phenyl to clean the pan as it will kill the bacteria which decomposes the excreta in the pit.
6. Do not throw stones, garbage, cloth pieces or other solid wastes into the pan. This will block the latrine.
7. Encourage small children to use the latrine.
8. Use the latrine to dispose an infant's excreta. Flush the latrine with water after discarding the infant's excreta.
9. Wash hands with soap and water after defecation and after cleaning the latrine.



10. If the latrine is not functioning due to blockage, take the following steps to repair it.

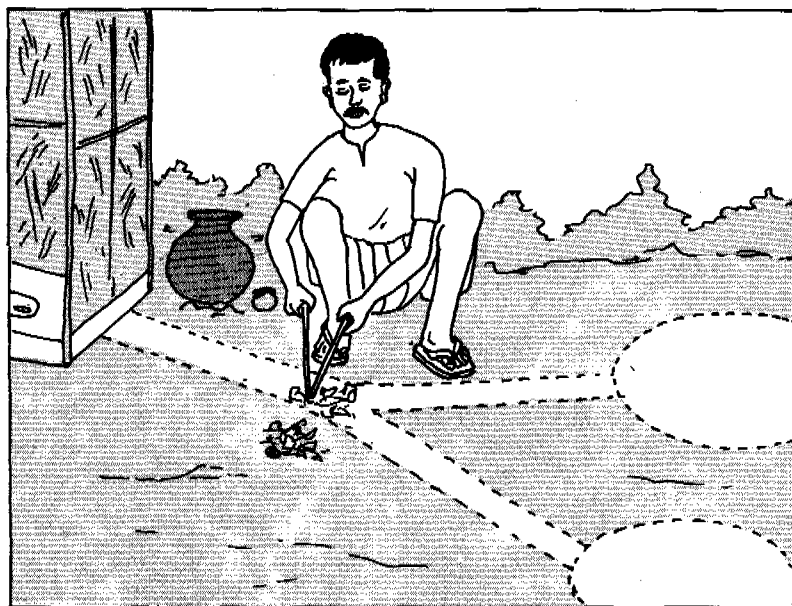
a. Incase of a direct- pit, water -seal latrine blockage:

- i. Remove all solids from the latrine pan and flush the pan with plenty of water.
- ii. If it is still blocked, fill the pan with water and allow time for the blockage to soften. Flush again with plenty of water.
- iii. If blockage persists, check whether the pit is full by lifting the pit cover.
- iv. If it is full, dig a new pit and shift the squatting plate and superstructure over it.

b. Incase of a two- pit, water-seal latrine blockage:

- i. Remove all solids from the latrine pan and flush the pan with plenty of water.
- ii. If it is still blocked, fill the pan with water and allow time for the blockage to soften. Flush again with plenty of water.
- iii. If blockage persists, check junction chamber and drain for blockage.
- iv. If either is blocked, clean with a broom and flush.
- v. If blockage still persists, check whether the pit is full by lifting the pit cover.
- vi. If it is full, put a plug in the drain leading to the pit. Remove the plug in the other drain in the junction chamber so that the excreta is now diverted into the empty pit.

11. Incase of any difficulty, contact the local mason.



● Checking junction chamber to clear blockage

Things to remember

While promoting safe disposal of human excreta it should be ensured that the households:

- know the range of options of latrine designs from which to choose from, with the cost estimates.
- construct a sanitary latrine for proper disposal of human excreta.
- provide a water pitcher outside the latrine.
- before use, pour some water to wet the pan.
- clean the latrine pan once a day with a broom and soap water.
- use the latrine to dispose an infant's excreta.
- know the address of the local mason.
- know the address of the RSM and the local production center.

DISPOSAL OF GARBAGE AND CATTLE DUNG

The problems

A large per cent of the infant deaths in India are due to tetanus. The germ that causes tetanus (lockjaw) lives in filth, particularly in animal dung. The germs enter the body through an open wound. New-born babies can get tetanus if the umbilical cord is cut with a dirty blade or if the wound is smeared with animal dung. Tetanus can also be caused if babies are delivered with unclean hands and in unclean surroundings.

Piles of garbage and cattle dung lying around the house and on streets provide a breeding ground for flies. They can also block roads and drains. They attract cockroaches, pigs, rats, dogs and other animals which are carriers of various diseases. Water logging due to piles of garbage and dung facilitate breeding of mosquitoes which spread malaria and filariasis. Furthermore, indiscriminate dumping of garbage causes a serious environmental hazard.



• Insanitary environment

The solutions

1. The house and its surroundings should be kept clean. A dust bin or any other locally available container can be used to collect the garbage. Any empty carton or a wooden/bamboo crate can also serve the purpose.
2. Plastic (bags, toys, etc), glass, paper and metal waste should be collected separately and handed over to the vendor for recycling.
3. Vegetable peels, tea leaves and other kitchen waste should be collected in a different dust bin.
4. Vegetable waste can be disposed mainly in two ways:
 - a. *Composting* - The garbage can be converted into compost in a garbage pit. Besides vegetable peels, leaves and cattle dung can also be thrown into the garbage pit. The contents of the pit decompose slowly and take about 2-3 months to form compost. This serves as a good fertilizer and can be used in the kitchen gardens or in the fields.
 - b. *Vermiculture* - Earth worms are used for consuming the vegetable peels etc. and converting them into compost. Moderate temperature and humidity are suitable for effective vermiculture.

How to build a garbage pit

It is quite easy to build a garbage pit by one self:

1. Select a site some distance away from the house like the corner of the backyard.
2. Dig a pit 1 meter long, 1 meter wide and 0.8 meters deep.
3. Build an earth bank about 10 cm high around the pit and compact it well. This prevents rain water from flowing into the pit.



• A garbage pit.

4. Every week, level the contents in the pit with a rake or stick and cover with a layer of compacted earth to about 3 finger thickness. This will prevent flies from breeding in the pit. When full, the pit should be covered with a layer of firm soil and left undisturbed. After 2-3 months the contents become good fertilizer.
5. When the pit is full, construct a new one next to it.

Things to remember

While promoting disposal of garbage and cattle dung it should be ensured that the households:

- have bins in the kitchen and backyard for collecting garbage.
- construct a garbage pit to convert garbage into compost a little away from the kitchen.
- dispose the cattle dung in the garbage pit.
- level the contents in the garbage pit regularly and cover them with a layer of mud.
- use the compost as a fertilizer in the kitchen gardens or fields.



• Community organisers and community members working together

HOME SANITATION AND FOOD HYGIENE

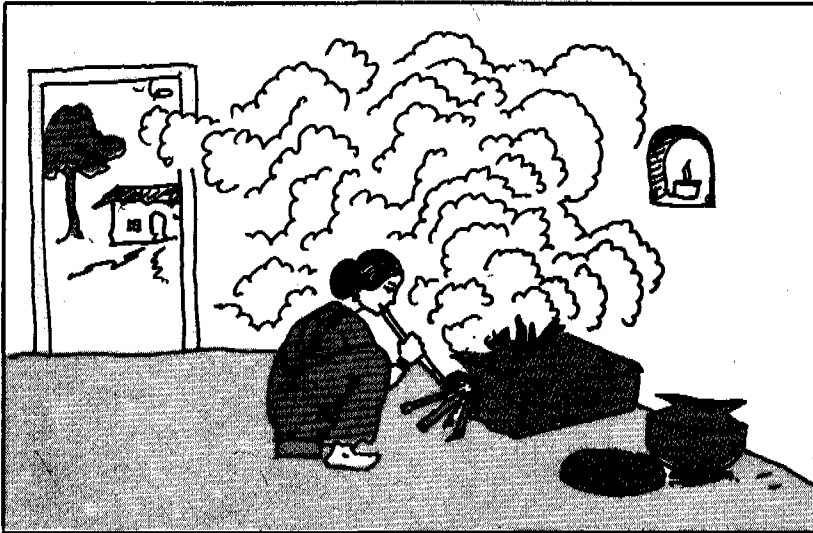
The problems

Many village homes are usually damp, dark and stuffy. They lack light and ventilation. There may be only one room in which the whole family of five or six has to live. They may have to cook in the same room, and the women may also bathe there. Often people and animals have to share the same roof. Insanitary surroundings attract disease carriers such as rats, flies and cockroaches into the house.

The smoke from the conventional chulha (open stove) causes eye irritation and respiratory diseases, particularly among children and old people. Studies have shown that smoke inhaled by the housewife

during daily cooking is equivalent to smoking 200 cigarettes per day. Hence pregnant mothers inhaling smoke from chulhas can even give birth to unhealthy babies.

A large number of people defecate in fields. The infective organisms present in this open excreta are transferred by flies and other insects onto the fruits and vegetables growing there. Vegetables and fruits, if eaten raw without washing, can cause diarrhoea and other diseases. Food which is kept uncovered can get contaminated by flies, other insects and wind.



• Insanitary home environment

The solutions

1. More than one third of one's life is spent at home. It is therefore necessary to have enough openings in the house for light and fresh air. Proper ventilation of the house is essential not only to provide physical comfort and adequate light but also to reduce air borne infections.
2. The house should always be kept clean. The floor should be swept daily and the rubbish thrown into a garbage pit in the backyard.
3. Uncovered food and unwashed utensils attract flies, rats and cockroaches. These are the carriers of different kinds of diseases. Food should always be kept covered to protect it from insects and pests.
4. A wire mesh can be used to protect cooked food from flies. A cupboard with a wire mesh door (food safe) can be made to store food and to keep away insects and rats. Uncooked food like fruits and vegetables can also be stored in the food safe.
5. A smokeless chulha should be used to prevent the smoke from filling the house. The smokeless chulha also reduces respiratory diseases and irritation of the eyes.
6. Drinking water should be kept covered, above the ground level, on a raised platform.
7. A ladle should be used to take water out of the water pot. A long-necked surai can also be used to store water.



● Use of a smokeless chulha reduces respiratory diseases

8. Vegetables and fruits that are eaten raw must be washed well, before they are eaten. Vegetables should also be washed before cooking.
9. Utensils should be washed with water from a protected source. If utensils are washed with dirty/contaminated water they will in turn get contaminated and any food stored in them will also get contaminated.
10. Food from vendors, kept exposed to flies, should not be eaten.
11. The surroundings of the house should be kept clean. The cowdung should be disposed in a garbage pit. Cattle urine can be channeled into a soakage pit with the help of drains.
12. If a child defecates in the house, the excreta should be removed immediately to prevent flies from sitting on it.
13. The child's excreta should be disposed in a latrine or thrown into a hole dug in the ground.
14. Build a cattle shed away from the house. Make its floor with stones or bricks sloping towards a lined drain. Use cement or lime mortar to fill the joints in the floor and to line the drain. Connect the drain to a soakage pit. In this way the animals' urine can be drained away. Sweep the shed regularly and keep it clean.



Things to remember

While promoting home sanitation and food hygiene, it should be ensured that the households:

- keep the house clean.
- throw all the household garbage into a garbage bin and later into a garbage pit.
- keep food in a food safe.
- use a wire mesh to protect cooked food from flies.
- use a smokeless chulha to prevent the smoke from filling the house.
- store drinking water on a raised platform, in a covered pot.
- have a ladle to take water out of the water pot.
- wash hands with soap and water or ash and water before handling food.
- make a soakage pit to dispose waste water or build a drain to divert the waste water from the house to the kitchen garden.
- have their own sanitary latrine.
- clean the child's/infant's excreta immediately.
- dispose a child's/infant's excreta into a sanitary latrine or a hole dug in the ground.



• Disposal of garbage for home sanitation

PERSONAL HYGIENE

The Problems

Many diseases are spread by poor personal hygiene. Studies have shown that inculcation of personal hygiene habits like hand washing and nail cutting have a considerable impact on morbidity due to diarrhoeal diseases. Diseases like trachoma, scabies, etc. can be considerably controlled through improved personal hygiene practices.

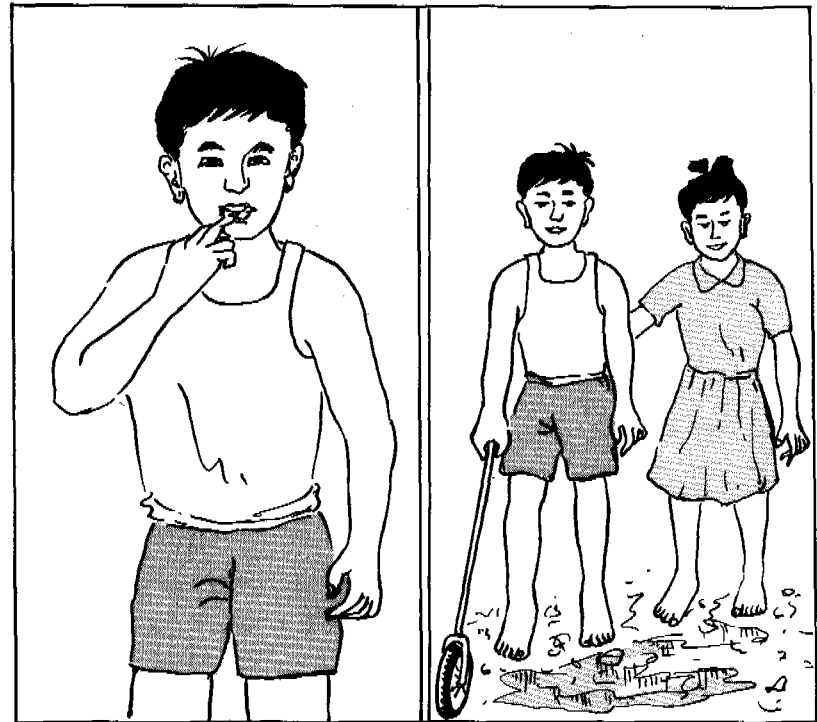
Human excreta contains many harmful germs. It is one of the chief sources from which diseases are spread. If the hands are not washed properly after defecation they can transmit diseases. Germs also collect under long, dirty finger nails. Mothers, who clean their infants after the latter defecate, may forget to wash their own hands with soap or ash. When mothers then prepare the family's food the germs sticking to their hands can be passed on to the food. In this way the whole family can be infected with diarrhoeal germs from one sick child. Similarly if the family members do not wash their own hands after defecation they too can transmit diseases.

Unwashed skin results in skin diseases such as scabies, eczema and ringworm. They make the skin itchy and sore. Skin diseases spread very quickly from person to person by touch, through clothes and through bedding.

Hook worm infestations are common among people who do not wear foot wear as the hook worm larvae enter the human body by piercing the skin of the foot. These parasites cause severe anaemia and weakness in the infected person.

If the teeth are not cleaned regularly food particles collect in between them and rot there. This causes tooth ache and bad breath and can lead to tooth decay.

Diseases such as common cold and tuberculosis (TB) are spread through the air when sick people cough, sneeze or spit on the ground.



- Putting dirty fingers in the mouth and walking barefooted on filth are bad hygienic habits.

The solutions

Some of the more important aspects of personal hygiene are:

1. HandWashing with soap or ash

This is the most important habit. Studies in Bangladesh have shown that just washing hands with soap before handling food and after defecation has reduced the transmission of certain diarrhoeal diseases by 50% Hand washing with soap or ash must be inculcated as a habit among children.

Why hand washing?

- After anal cleaning with water, after defecation, the infective organisms which stick to the hands find easy entry into the body through the mouth.
- During the course of the day, dust or dirt which contains millions of infective micro-organisms sticks to the hands. These micro-organisms enter the body whenever food is consumed using these dirty hands.
- Our efforts at preventing onset of diarrhoeal diseases by collecting and storing handpump or piped water in clean vessels, keeping food covered to protect it from flies and washing vegetables and fruits before cutting and eating them will go waste if the water, food, fruits and vegetables are handled with dirty, unwashed hands.

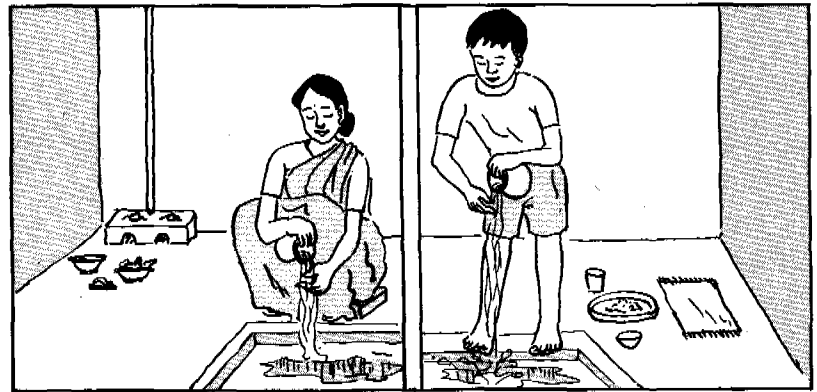
How to wash hands?

- To keep hands clean and free from infective organisms they must be washed with soap and water. If soap is not easily available, hands can be washed with ash and water to keep them clean. Use of mud for handwashing can lead to worm infestations as mud can harbor worm larvae.

When is handwashing most crucial?

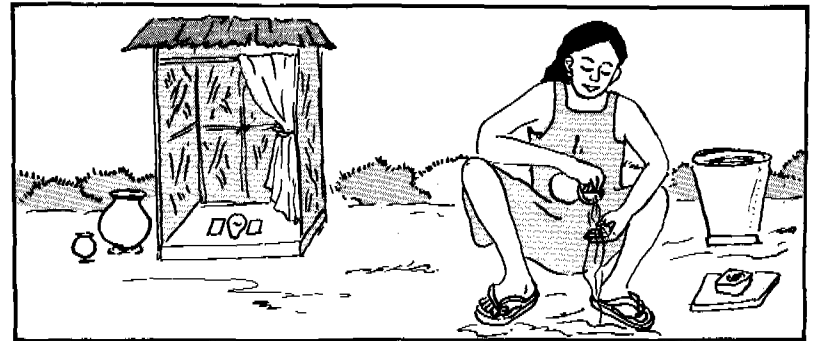
Hands must be washed before:

- cooking or preparing food.
- eating food.
- breast feeding the child.
- serving food .
- feeding the children.



Hands must be washed after handling excreta i.e.

- after defecation and anal cleaning.
- after cleaning an infant or child who has defecated.
- after disposal of an infant's or child's stools..



2. Clipping of nails

Long nails harbor dirt and disease causing organisms including ova of intestinal parasites. These disease causing organisms find their way into the food through unclean, long nails and contaminate it. This food then causes diarrhoea and diseases. Nails should therefore be clipped regularly to keep them short. They should also be kept clean.

3. Wearing footwear

Hook worms are one of the most common human parasites that cause severe anaemia and weakness in the infected person. Indiscriminate open defecation causes the hook worm larvae to live in the soil. The larvae enter the human body by piercing the skin of the foot if walked upon with bare feet. Footwear helps to keep the skin of the feet from coming into contact with parasites like the hookworm. People, especially children, should be encouraged and motivated to wear proper footwear.

4. Caring for hair

Regular washing and proper care of hair is important. Louse infestation is very common in dirty hair.

5. Using the handkerchief

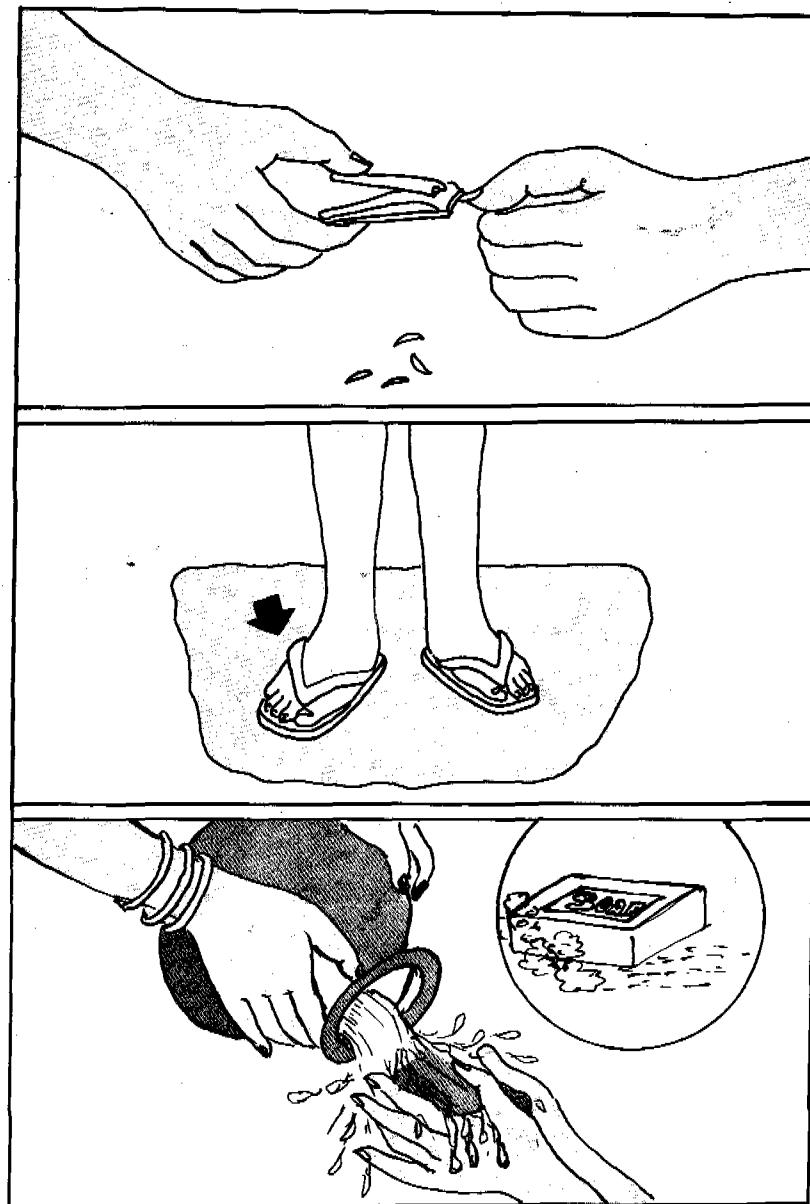
Use of a handkerchief or the hand, to cover one's mouth while sneezing or coughing helps to reduce the chances of spread of air borne infections like colds.

6. Bathing and washing clothes

Having a daily bath with soap is essential. Clothes should also be washed regularly.

7. Playing in a clean environment.

Children should not play in the soil in areas where people defecate. People should be motivated to wear slippers.



• Good hygienic habits.

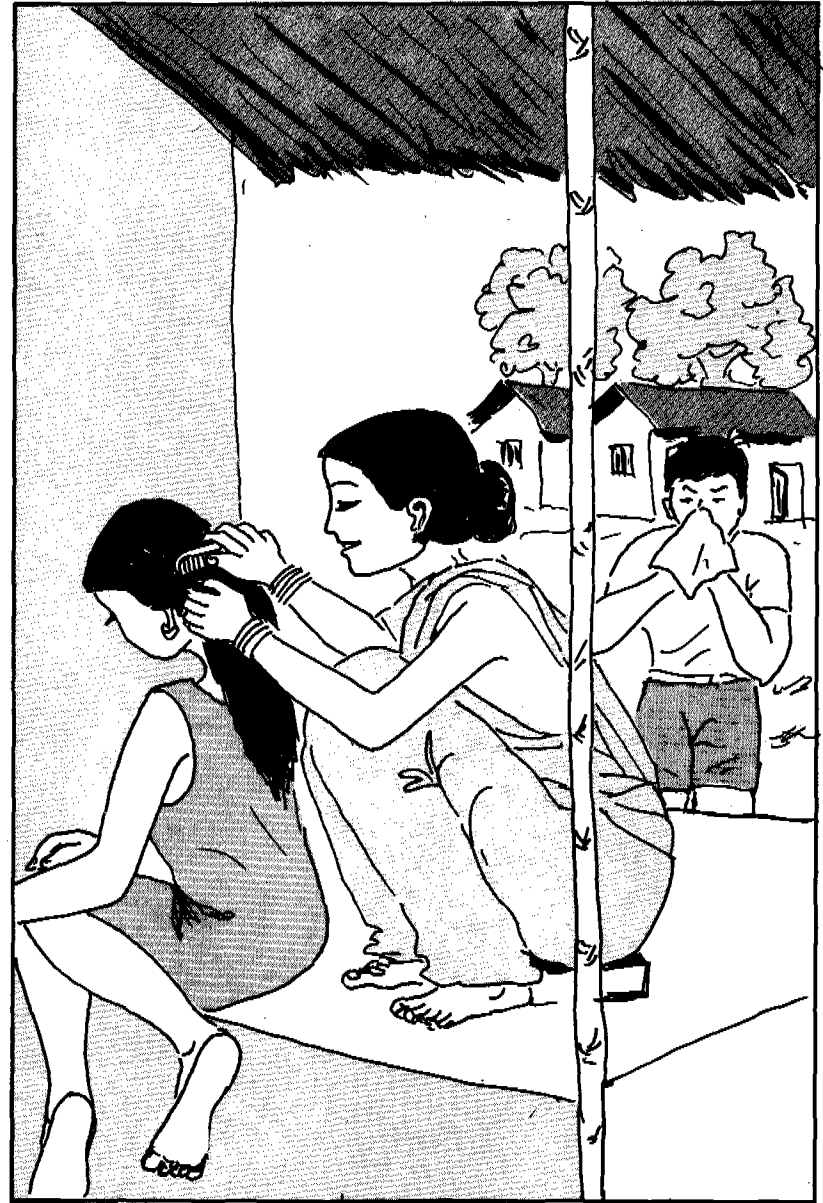
8. Cleaning teeth

Teeth should be cleaned every morning and before going to bed. A neem twig and salt can be used to prevent tooth decay and to keep the breath fresh.

Things to remember

While promoting personal hygiene it should be ensured that the people:

- wash hands with soap or ash after defecation and before handling food.
- use a nailcutter or scissors to clip finger nails.
- wear footwear.
- keep themselves clean by bathing, brushing their teeth, combing their hair and washing their clothes regularly.
- retain a handkerchief to cover one's mouth while sneezing or coughing.



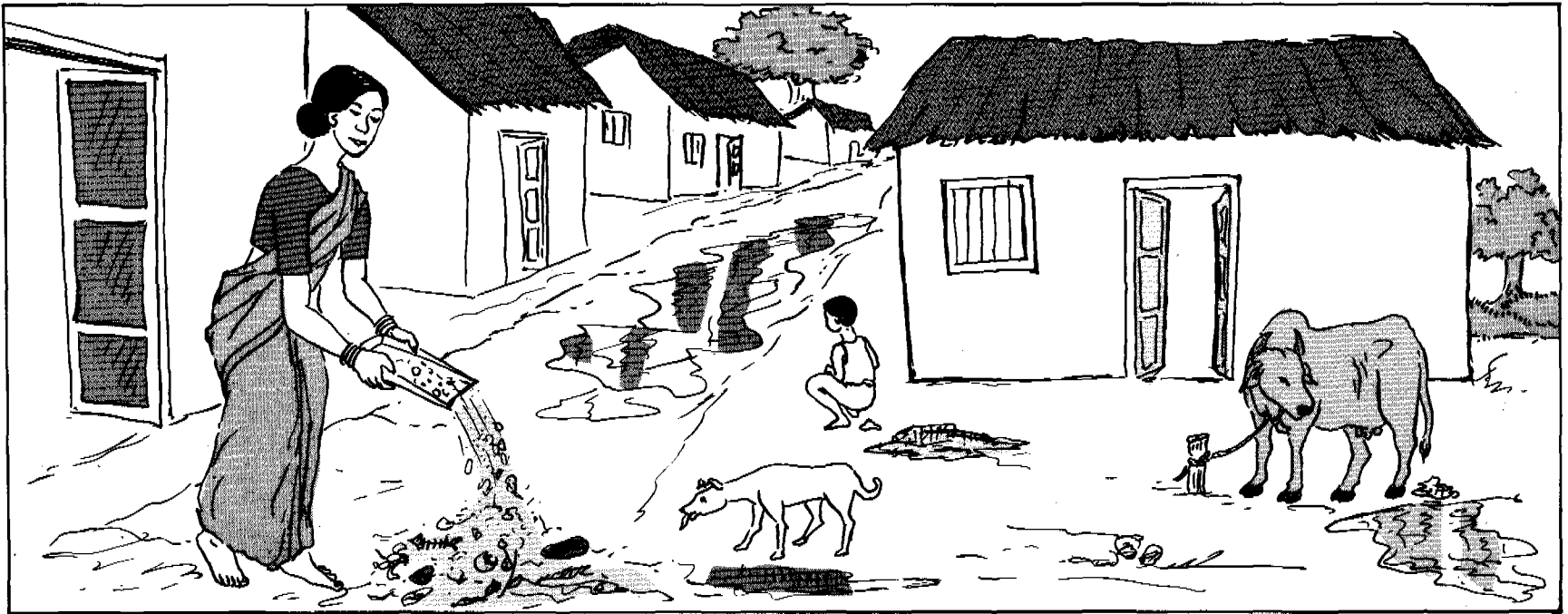
VILLAGE SANITATION

(A clean village environment)

The problems

Sanitation will not become a way of life unless the village environment is kept clean. Following the six components of sanitation is not enough to ensure a clean village. For example, people may clean their own homes and throw the garbage into the streets. The household soakage pits may be constructed but not maintained so that they spill. Small children may defecate outside their own homes, in the community drains/streets. The village drains may be water logged,

the agricultural waste may be thrown on the streets. The market school and other public places may be strewn with garbage and so on. In addition, water logging at the community water points can create an environmental hazard. Lack of village drains can create water pools and provide a breeding ground for mosquitoes. Thus a clean village environment is a generic indicator of the hygiene practices of the people.

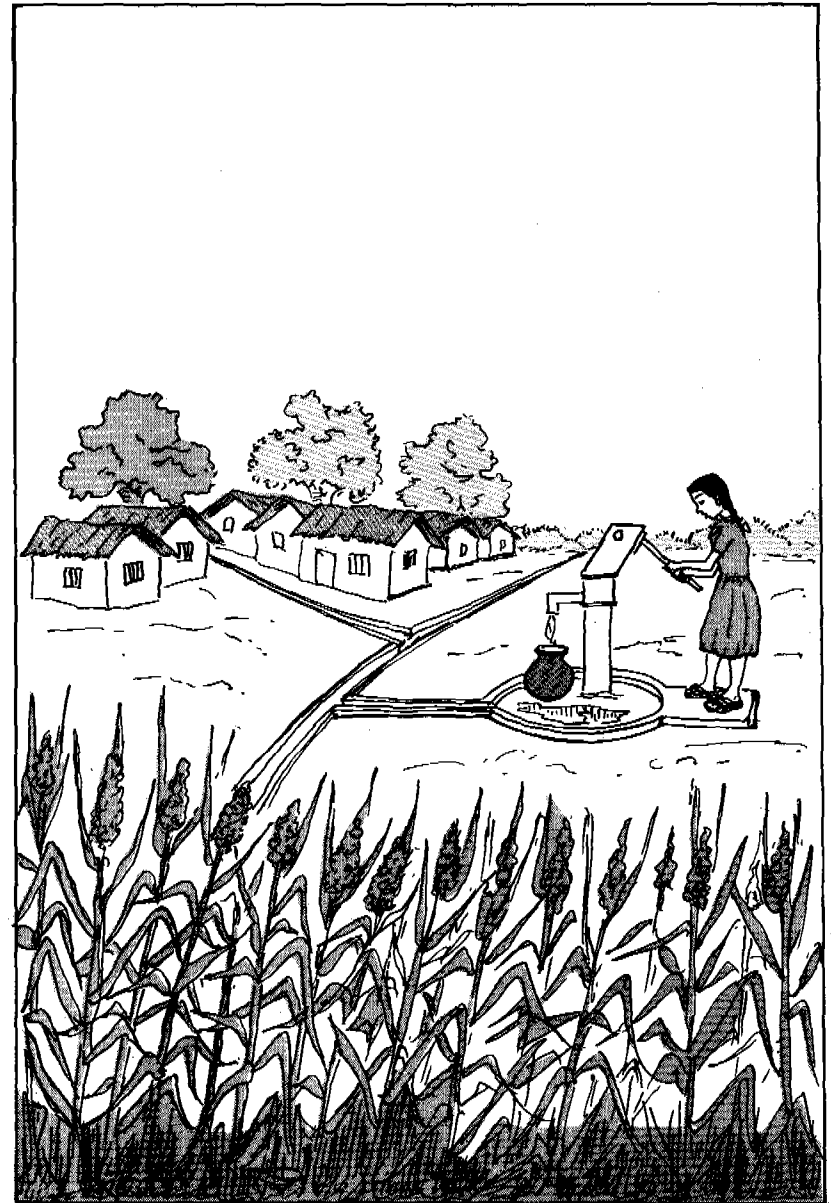


● Insanitary village environment

The solutions

Village sanitation concerns the entire community and requires primary environmental care through group actions. This involves identification of the village environmental problems, their prioritization and working together to solve them. The first step in village sanitation is sensitizing the community regarding its environmental sanitation problems- be it agricultural waste, community garbage or water logging etc. and motivating it for action at the local level.

1. Awareness should be created in the community regarding judicious use of resources with a view to minimize generation of waste and also to adopt local methods for waste recycling.
2. Waste water at the village water source can be disposed by draining the water away to irrigate a garden or a field or, by joining the drain at the water source with the main drain in the village.
3. In areas where no alternative is available for draining the water, the waste water can also be led into a soakage pit. This soakage pit should be larger in size as compared to the household pit. However, this should be taken up as a last resort as it is difficult to maintain a community soakage pit.
4. The community should be mobilized for constructing roads, drains and connecting the drains to the agricultural fields or to the natural drains.

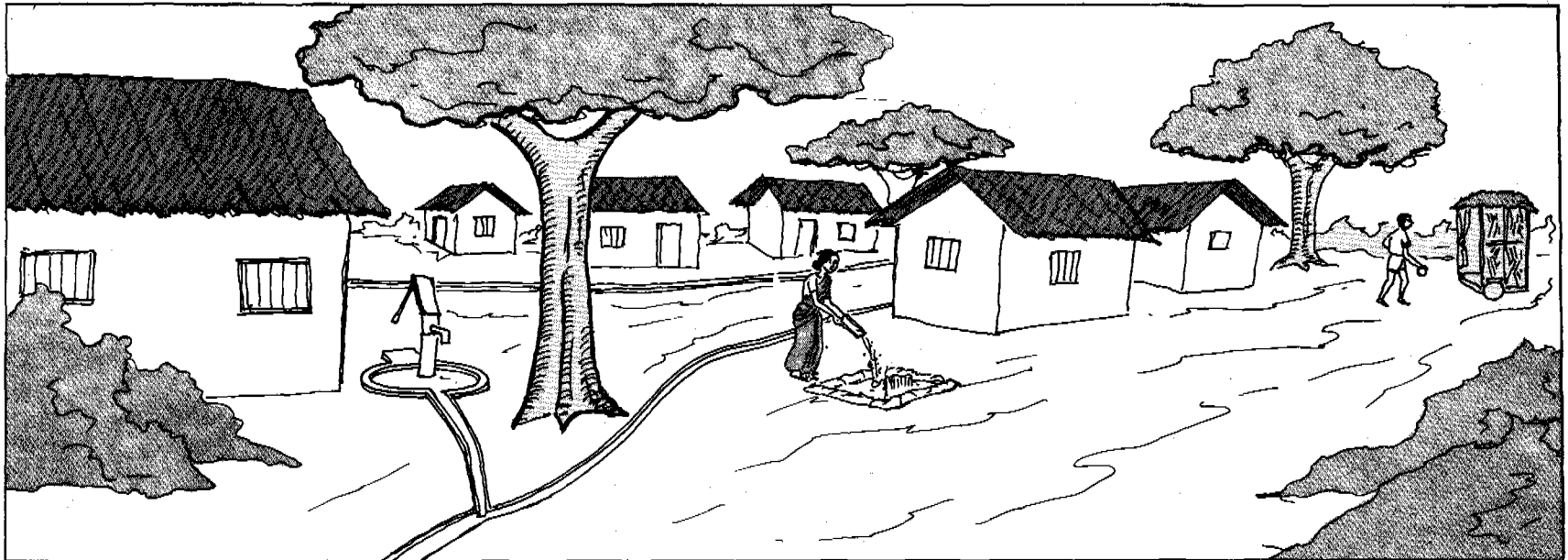


5. The people should be involved in collecting garbage in bins placed on the village roads and at public places. The community should also be mobilized for garbage disposal through recycling.
6. The Gram Panchayat can be involved in village cleaning activities out of the funds available from the special schemes permitting such activities.
7. The community should be mobilized to construct other sanitation facilities such as solid and liquid waste disposal systems.
8. Sanitary latrines can be constructed at the anganwadi centres and schools within the village.

Things to remember

While promoting village sanitation it should be ensured that the villagers follow the components of sanitation relating to the household and

- dispose waste water from the water source by draining the water away to irrigate a garden or fields, or by joining the drain at the water source with the main drain in the village.
- construct roads, drains and connect them to the agricultural fields or to the natural drains.
- collect garbage in bins placed on the village roads and at public places.
- take up village cleaning activities regularly.
- construct other sanitation facilities such as solid and liquid waste disposal systems.



• A clean village environment