



# WHY DO WE BECOME SICK?

HEALTH AWARENESS BOOKLET - I



03632

Booklet prototype  
for  
Lok Sampark Andolan on Health  
&  
for Neoliterate Publications

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**Community Health Cell**  
Library and Documentation Unit  
BANGALORE



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## WHY DO WE BECOME SICK?

What is being healthy?. What is being sick?



Raman is sick. He has vomiting and diarrhoea:



Salim is sick. He has TB.



Mangai goes cycling to school. She plays a lot. She reads. She sleeps well. She eats well. She is healthy.





Her friend Sumati has no fever or sickness. But she tires easily and cannot do all her work. She does poorly in class. She feels unwell all the time and takes various tonics from her doctor. But does not improve. Is she healthy? No, obviously not.



Her sister Geetha is happy. And she is pregnant. She doesn't do much work but has such a big appetite. She goes to a doctor often. But is she sick? "Not at all!", says she, "I am as healthy as ever!".



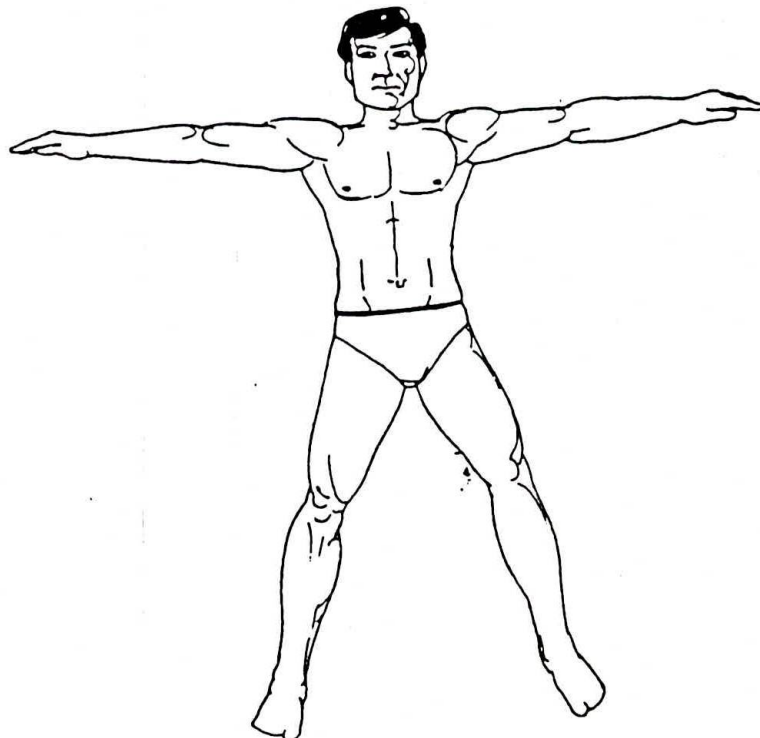
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What is being healthy! What is being sick?

Being healthy is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. (WHO definition)

Then what is good health made of!

1. Adequate nutrition
2. Safe drinking water
3. Clean environment
4. Adequate employment
5. Leisure
6. Basic health services



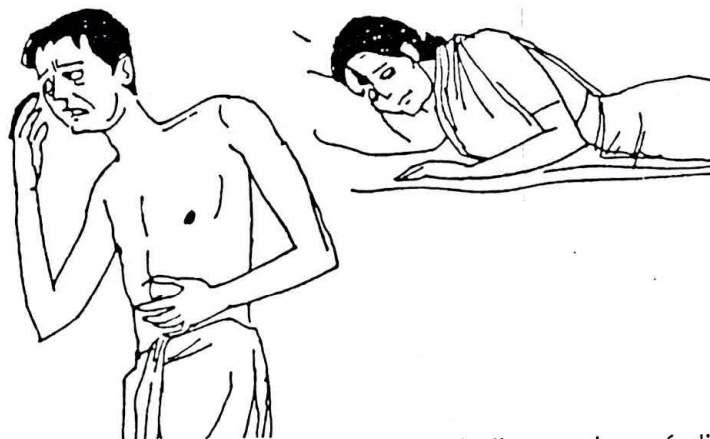


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## NUTRITION

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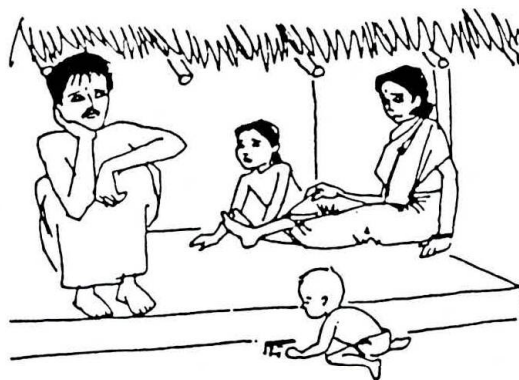
Malnourished persons are more prone to all diseases.



Malnourished persons are sick longer and die easier of disease. Malnourishment by itself is a major cause of ill-health and death.

**What is needed?**

**MORE NUTRITION**



Kallu gets Rs. 12 a day. His wife gets Rupees 8. They have two children. Unless they have more income, they cannot get more food.

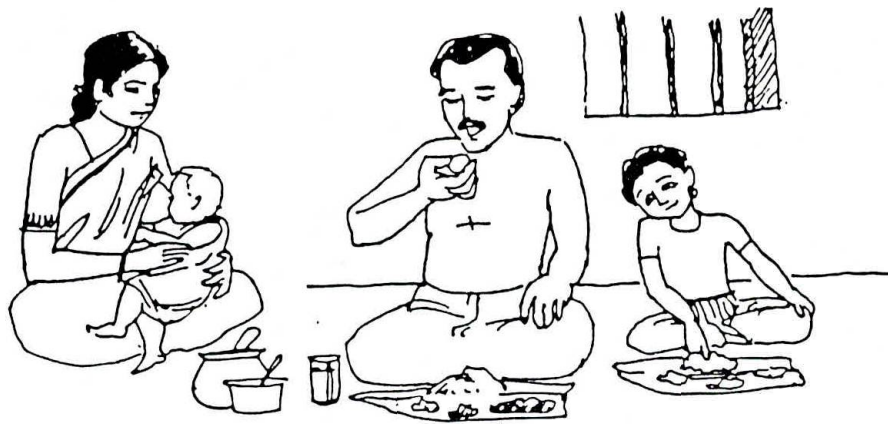


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## BETTER NUTRITION



Aniyappan gets Rs.20 per day. His wife gets Rs.12. They are able to buy only rice and some onions and chillies with it for themselves and their children.



But Murugesan's family too earns the same. They buy some greens too. And often groundnuts. They pluck drumstick leaves from a nearby house. And in their small garden there grows a papaya tree! Their children eat better! The baby gets breast milk.

ADEQUATE NUTRITION, BOTH IN QUANTITY AND QUALITY IS THE MOST BASIC REQUIREMENT FOR HEALTH.

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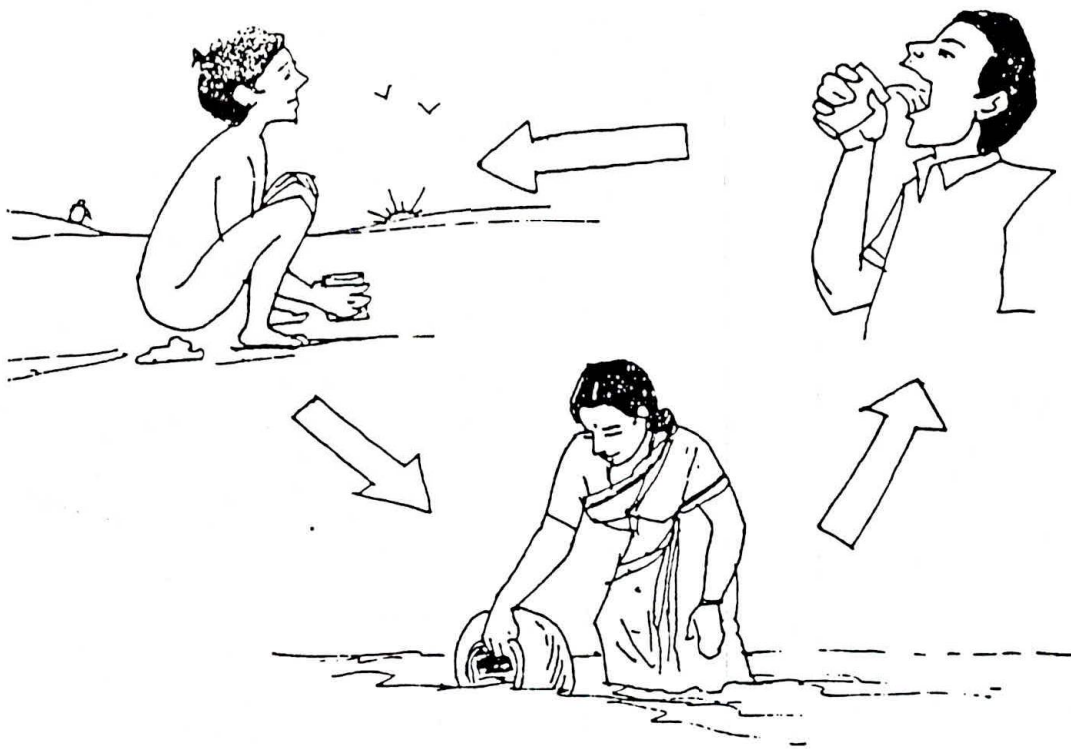
## SAFE DRINKING WATER

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80% of all diseases is due to dirty water.

The most common dirt in drinking water is infected stools which reach the water due to lack of safe disposal of faeces.

What are the diseases caused by unsafe water: Cholera, diarrhoea, dysentery, jaundice, worms.





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## CLEAN ENVIRONMENT

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Banu lives in a crowded slum. It is dirty here and smoky. There are flies and mosquitoes. And her single room house has 6 persons staying in it. There is hardly any sun inside and the roof is leaky!

Overcrowding, lack of proper housing, smoky atmosphere all lead to greater respiratory infections, especially tuberculosis and pneumonia.

Flies and mosquitoes carry so many diseases.

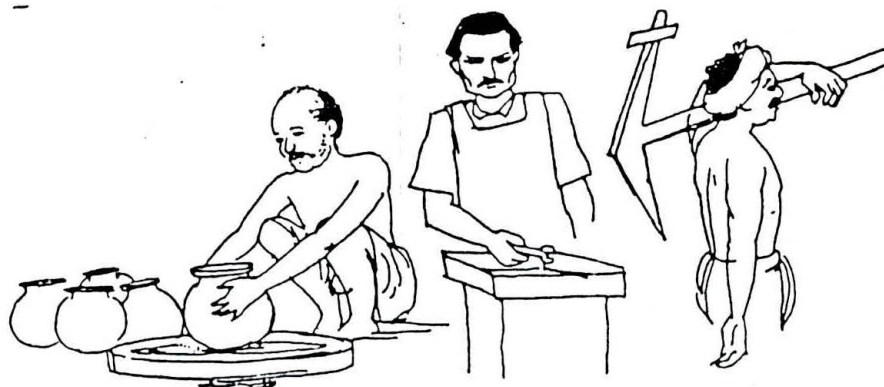
Can anyone be healthy in such an unhealthy atmosphere?

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## WORK AND LEISURE

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Everybody needs gainful, meaningful work.



Without income how to provide for food, clothing, shelter, essential health care etc?

Without employment how to ensure mental and social health; how to prevent crimes, drug addictions, suicides, violence?

Leisure is needed to provide:

- opportunity for cultural growth, for human interactions, for family and friends.

- time for body to rest and recuperate, time for recreation and exercise.



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## BASIC HEALTH SERVICES

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In addition to the above, one needs good basic health services to maintain our health.

What are the functions of basic health services?

**The most important function is to prevent diseases and promote health.**

For example,.

a) Immunization - Prevents tuberculosis, diphtheria, whooping cough, tetanus, polio and measles.



b) Care for the pregnant women and the lactating mother, safe delivery conducted by trained assistants as well as availability of efficient family planning services and care for the child. Provision of nutritional supplements, especially for pregnant women and children who need it most!

c) Health education.

d) Ensure safe water and sanitation.

e) Measures to control and prevent locally endemic diseases e.g. fluorosis, lathyrism, leprosy, guinea worm etc.,



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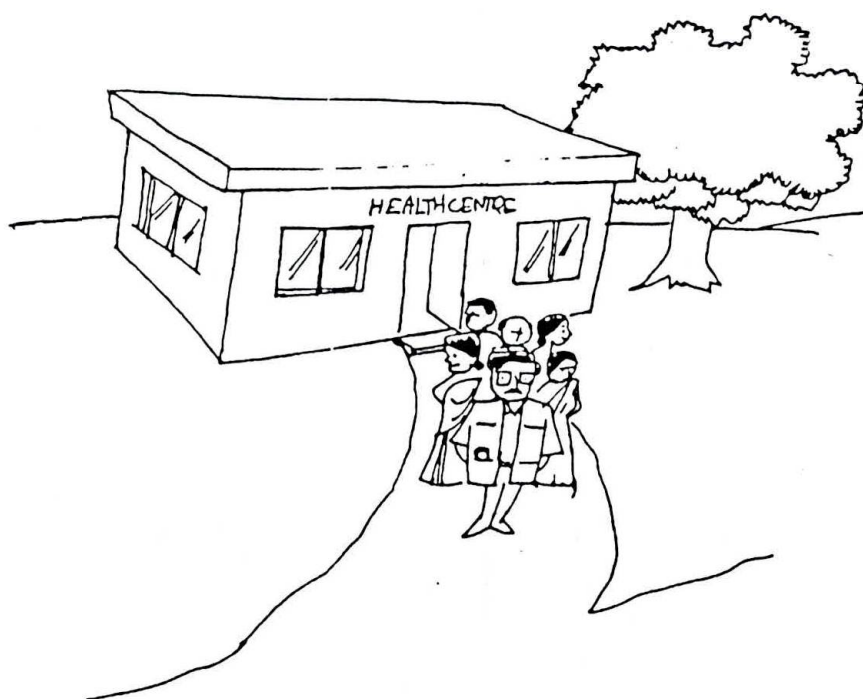
## BASIC HEALTH SERVICES

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But will we be able to eliminate all diseases ?

Certainly not !

Therefore basic health services must also provide curative services for sick people



What are the curative services available in your area?

Is there a government doctor or health centre nearby?

Are there any private doctors? Any homeopaths or indigenous medical practitioners in your area? Are there any nurses or community health workers. What is the role of each of these people in treating diseases? But before that let us learn more about sickness:

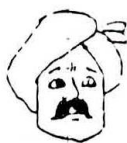
**WHY DO WE BECOME SICK \* 10**

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Why do we become sick?

This child has diarrhoea and dies !

What is the cause?



A local person says that the village god or spirit is angry !

Some others say that it is a punishment for some wrongs done by parents.



A doctor says that it is due to tiny germs.

The health worker says that it is because there is no safe water or latrines and the well water is contaminated.



A social worker says it is because the mother is illiterate and uneducated. A political worker says that it is because the family is poor and has neither adequate land nor income !

Who is right ? Discuss.

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Sickness usually results from a combination of causes.

These sicknesses are of various types.

We can think of them as being in two groups.

**A. Infectious** - That spread from person to person. These can spread by the air, by water, by direct touch etc.



Most of these diseases can be prevented if people work together to do so. But still some may occur if some of the preventive measures fail.

**B. Non-infectious:** There are many diseases that occur :

- a) because something wears out or goes wrong within the body. eg. rheumatism, heart attack, epilepsy, strokes, cataract, cancer.
- b) because something from outside harms or troubles the body. eg. poisons, snake-bite, alcoholism, allergies, smoker's cough etc.
- c) because there is a lack of some essential part. eg. malnutrition, anemia, goitre etc.
- d) because it is "inborn" - people are born with it. eg. birth marks, hare lip, cross- eyes, some type of heart diseases etc.
- e) because the " mind " is affected. eg. nervous worry, uncontrolled fear etc.

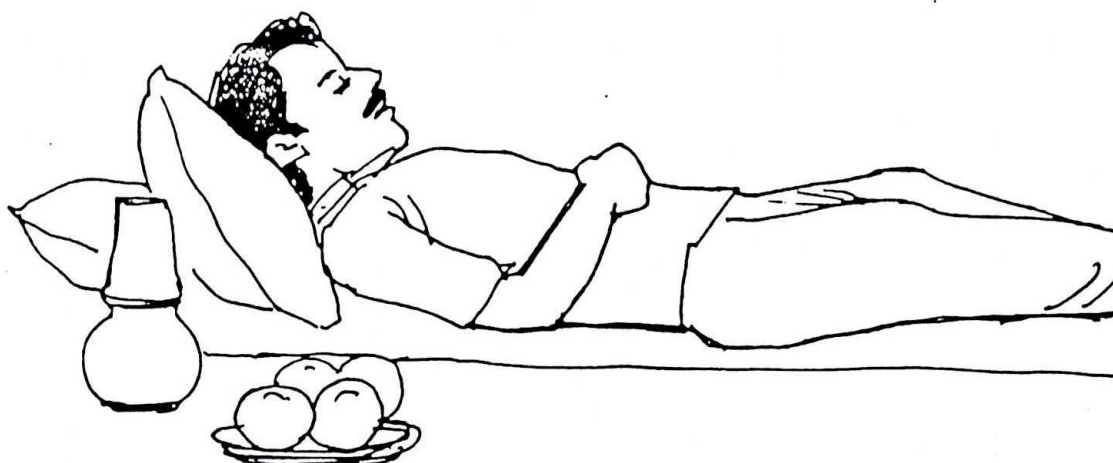


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### Most diseases are self-limiting!

Diarrhoea, mild 2 or 3 day viral fevers, common cold, even most types of jaundice, measles etc., are all diseases that become well on their own.

Not only these. Many other diseases are also self limiting. One only needs to ensure that persons with the disease take adequate rest and adequate food and plenty of drinking water !



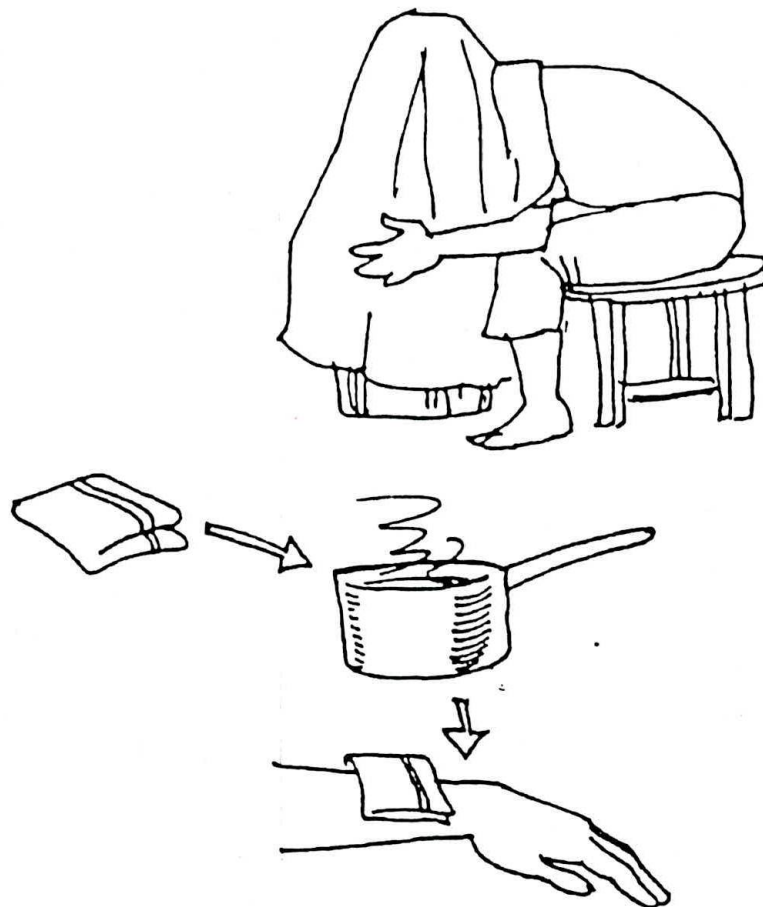
The body has a powerful defence mechanism called the immune system that automatically takes care of these diseases.

We only have to help it by eating well, drinking water and taking rest !

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**Many diseases do not need drugs at all.**

Many people think that for every disease we need tablets and injections. This is wrong. There are other forms of treatment. For example, in fever, sponging with warm water, for cough and cold-steam inhalation. For sores, washing with soap and water, for constipation eating greens etc.



Some home remedies help in minor illnesses like cold, sore throat indigestion, constipation, sprains, aches etc.

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**Some sicknesses need medical help.**

- Any trained health worker should be able to let you know whether you need to see a doctor at once.



- If there are any signs of dangerous illness like bleeding from any site, difficulty in breathing, fainting, high fever, fits etc. then see a doctor at once.

Do not delay.

- If there are any diseases that are persisting for long, despite local treatments, then see a doctor.

Within 5 to 10 kilometres, there is usually a government primary health centre or a private doctor that one can see.

One needs to go to a bigger hospital only if the local doctor is not available or the doctor himself suggests it. (Sometimes people have to go because they are not happy with the local doctor).



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Who is a doctor?

A doctor is a person who has been trained to identify the cause of your disease. He/She is expected to explain to you the cause of your problems and what you may need to do to get well.

Giving medicine is only one of a number of ways to get better.

Advise on food, rest, exercise, use of water, etc., may be as important or even more important than medicine.

There are many diseases which cannot be cured, in which case the doctor explains this and may help relieve suffering.



When you see a doctor -

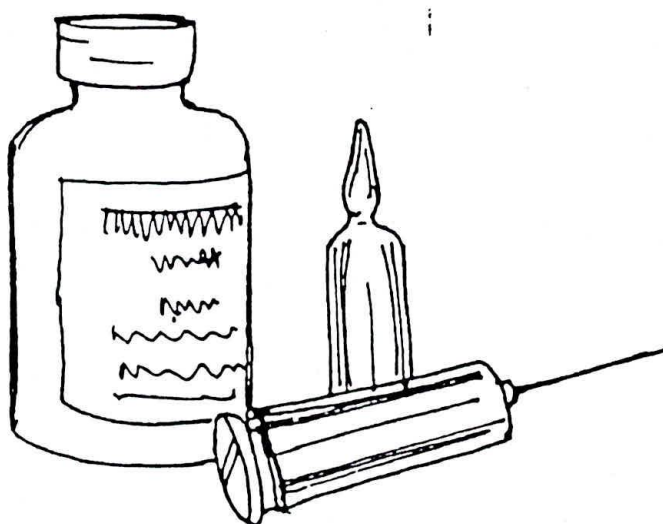
- a) Insist on knowing what your problem is !
- b) Insist on knowing the names and dose of medicines prescribed for you !
- c) Do not ask for injections:

Most injections given today are totally useless and even harmful. If injection is given by the doctor ensure that the needle is from a fresh pack not used before or it has been properly cleaned and boiled after use on the patient before !

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The total number of drugs needed for treating all known diseases in the world is only about 250. These are called essential drugs.

The drugs needed for treating the common diseases are much less. Only about 30. Ensure that these 30 drugs are available in your village.



Remember these guidelines for use of medicine.

a) Use medicines only if necessary.

Remember all medicines can kill if used wrongly or excessively.

b) Know the correct use and precautions and make sure you ask a doctor or health worker this and read the paper slip or instructions if any.

c) Be sure to use the right dose prescribed and for the correct number of days prescribed.

d) Check the expiry date of the medicine. After this date, do not use it.

e) When in doubt, or if some new symptoms develop or if there is no effect - go back and talk to you health worker or doctor !



**-Health is a basic human right**

Everyone, whatever the age, sex or religion, whether rich or poor must get health care.

**- Health is a responsibility of the state**

One of the key objectives and functions of any government is to ensure that people get good food, safe water, a clean environment, alongwith employment and leisure as well as ensure them access to basic health services.

**- Health is guaranteed only by collective action**

Without collective action one cannot ensure food, water and a healthy environment for all. Without collective action one cannot ensure access to health services for all.



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## Review/Discussion

1. What are the main reasons for malnutrition in your area? Is it lack of income or lack of knowledge?
2. What is the relationship between water, environment and disease in your area?
3. What are the health care facilities available in your area? Are there health workers and doctors available? What are their essential functions and to what extent are they carried out in your area?
4. All people do not have equal access to either the basic requirements for health (like nutrition) or to curative health care facilities. Who have access and who do not have access? And why?
5. What are the necessities and possibilities for collective action to ensure health? What do we have to learn to make such action possible and successful?



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# WATER BORNE DISEASES



HEALTH AWARENESS BOOKLET - 2

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## WATER - BORNE DISEASES

In Pangur Village there is an outbreak of cholera. More than 20 persons are affected. Of these 5 have died. All these 5 were children! How did so many people get affected? Why did the children die?

Last year, Kamala, a woman in a nearby village got jaundice during her pregnancy, became very sick and passed away. There are many more cases of jaundice this year.



Last year there were deaths from typhoid in my village. A number of others got the fever also but somehow they managed to recover.

It is like this in most villages and in our slums. What can be done?



There is a doctor in the village's government health centre. He is a good man. He comes daily by 9.00 and leaves by 2.00. He gives tablets or injections for these diseases. Some recover with the drugs he gives. Some die despite taking drugs. Even those who recover have suffered a lot. And lost a lot of money too! Yet more and more people are getting affected.

What is to be done?

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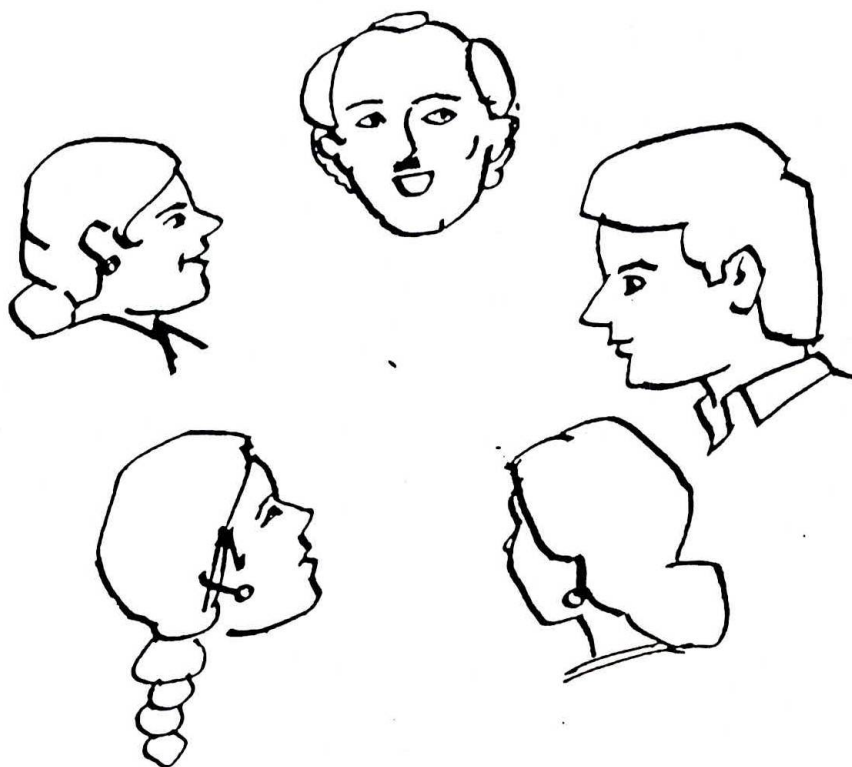
There are many suggestions:

Some suggest that they insist with the government that the doctor stay in the village. And that the government hospitals provide more and better drugs.

Others suggest that we need to ask for a hospital to be built. They write to the government asking for this. Nothing happens.

Yet others suggest that a bad man has cast a spell or the goddess is unhappy. Nobody believes it but they decide to do a special pooja. Just in case!

All of these suggestions do not help much.







The health activists visit their village. They say, "All these deaths from diarrhoea, from jaundice, from typhoid. Do you know, that all of them have a single cause! It's the water you drink - it is bad".

How can that be, said one villager. We take water from the well or the nearby pond. The water is sweet and crystal clear!

In the neighbouring village the water is bitter and often brown. Yet they do not get these problems.

Another villager said, 'I have heard that from bad water one gets fever and colds. But diarrhoea and typhoid from water? This I have not heard !

The health activist says:

'No, one does not get colds (Sputum) because of bad water'.

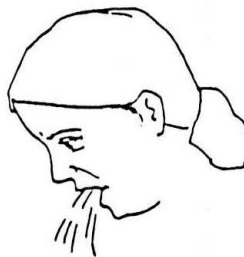
But because of drinking bad water we get a number of other diseases. Let me list some of these.

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a) Diarrhoea - Passing plenty of watery stools. If severe, persons affected become dehydrated and many even die. For children, especially if mal-nourished it is much more dangerous. Diarrhoea is the commonest cause of death in India. One million of our people die of this, every year.

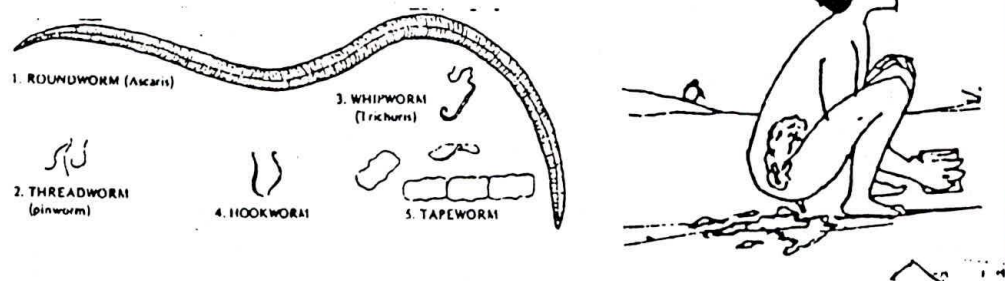


b) Cholera - This is a severe form of diarrhoea which spreads much more quickly. Many many people die of cholera every year.

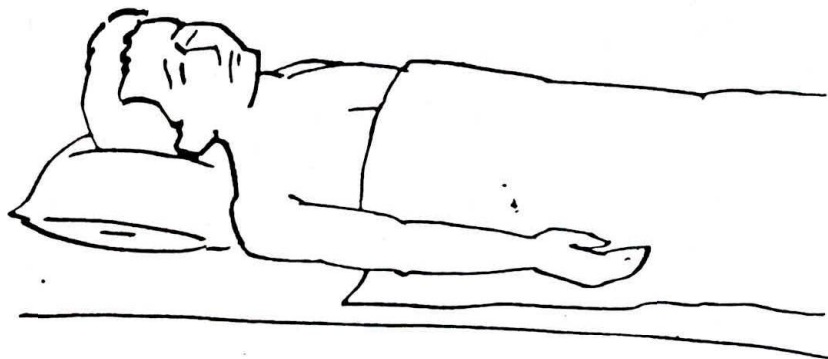


c) Dysentery - This is passing stools associated with blood and mucus. There is usually a lot of stomach pain also.





d) Worms - There are more than 20 common worms that one can get. The pin worm and the round worm are the most common but there are many others. One of them, hook worm is not easy to see. It enters into our body and sits in the intestine sucking our blood. It is by far the most common cause of anemia in India.

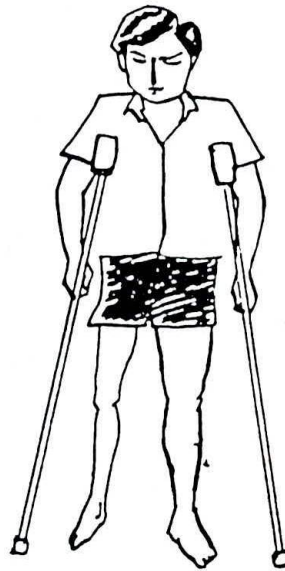


e) Typhoid - This is associated with prolonged fever. Patient becomes more and more sick and if untreated dies of internal bleeding or coma. And treatment today has become very very costly.





f) Jaundice - There are many causes of jaundice . But by far the most common cause is due to a virus that we get from bad water.



g) Polio - A disease which tends to affect children mainly. Crippling them, leaving one limb paralysed and stunted.

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DO YOU KNOW ALMOST 80% OF ALL DISEASES WE GET IS RELATED TO BAD WATER!

But how does water become bad?

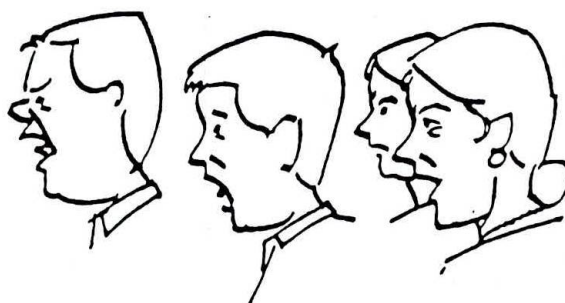
All the above diseases are caused by tiny disease germs. These germs are passed out in stools by persons infected with that disease.

A part of these stools and therefore these germs, finds their way to the water you drink. When you drink this water you swallow the germs. Once they have entered your body they can cause disease. The weaker the body (due to malnutrition etc) the more likely and more severe the disease.

- The more the germs or faeces you drink the more likely and more severe the disease.

**But remember:** All these diseases are essentially because in some way or other you have ingested another person's faeces!

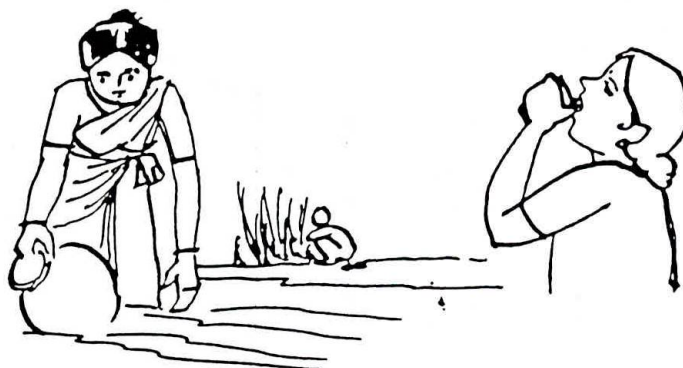




"Ugh! How Horrible!  
Impossible!

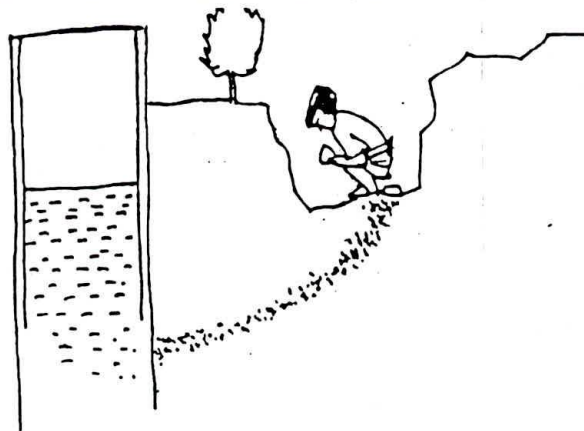
We take water from the well or the pond. We go for defecation to the fields. This is impossible. We ensure our water is clear. We ensure that the mud settles before we collect it".

"Well, let me tell you the way the faeces enters your drinking water."



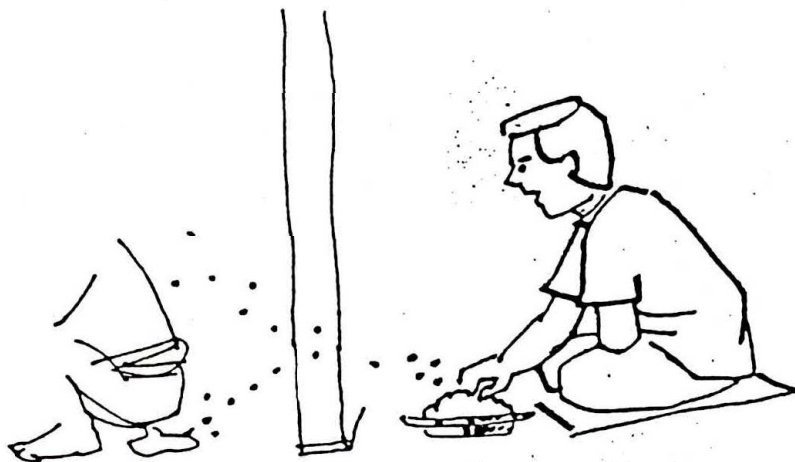
a) Look at this person washing himself (after defecation). Just because he is on the other side does not mean the germ cannot swim across. In fact they do. Even if he passes stools some distance away, when it rains it will be washed down into the pool! Have you not heard of outbreaks whenever it rains?

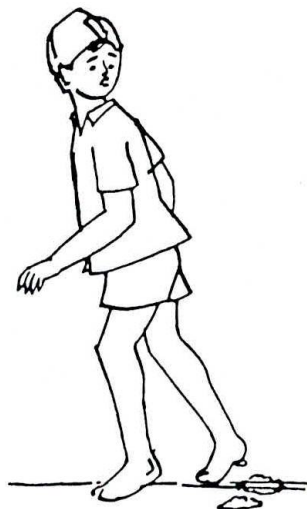




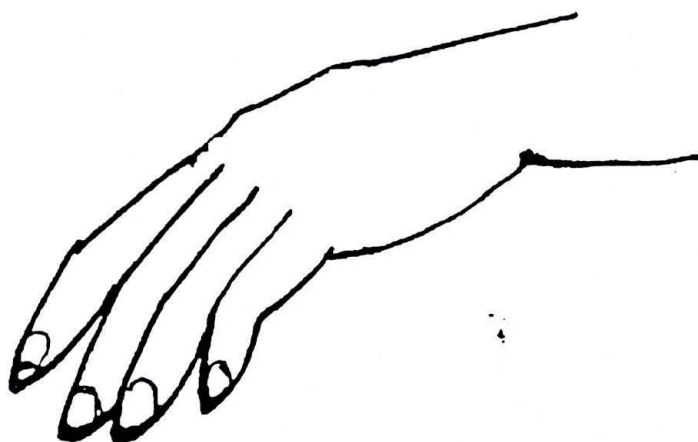
b) Or this person thinks it is safe in this hollow. Besides it is only a well nearby. But the faeces can travel through the ground as well. For about 50 to 100 feet the germs are alive. If the well lining is damaged the germs enter easier.

c) Or look at this. The flies and cockroaches are sitting on the faeces. Now they are sitting on his food. They have carried small pieces of faeces to the food. And he is eating it now!





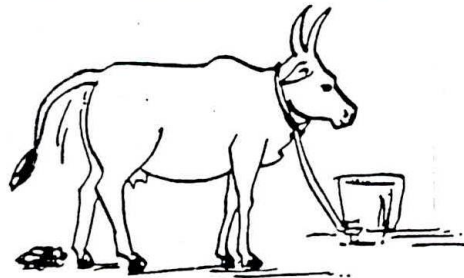
e) Or look at this person. He has stepped on some dry faeces, a few days old. With bare feet. A small tiny worm has entered. In a few days it will reach his intestine and multiply. This worm, called the hookworm, will make him weak.



f) This person has dirty hands. He has not washed it with soap. It has some faeces sticking on, which is too small to be seen. When he eats, it enters the food.

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g) This family is very clean. They have a latrine in their home. But they forget that the dung of animals is equally dangerous. You can get disease from them also!

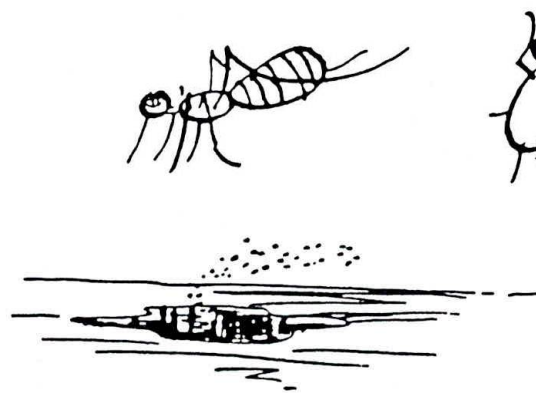


h) And from children's faeces as well. Children's faeces is as dangerous as adult faeces. If it is not disposed of safely!



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But water is related to disease in other ways also:  
See these dirty pools of water on the road. Or in the ditch. Here mosquitoes and flies breed. These spread infections too.



Mosquitoes spread :

- Malaria fever
- Filariasis
- Viral fever
- Brain fever

Children get a number of skin diseases, that come of inadequate washing or bathing or bathing in bad water. This also is a water related disease.



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In Thirumayalam village there is a festival. It is a time of joy and laughter. What fun!

But in the morning after, hundreds have diarrhoea! Or perhaps many developed typhoid or jaundice. What happened?

Dirty latrines and people defecating all around. Plenty of flies and cockroaches. Flies sitting on food people are eating. Or servers serving with dirty hands. Or preparing food in unhygienic way. Or all the water sources contaminated. Or drinks made from dirty water! Indeed in the festival everyone ate sweets and savouries and drank cool drinks and so on. But they all ate faeces also!

After floods, in refugee camps, in marriages, in temple festivals and on so many such occasions there is a lot of disease outbreaks.



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But what is to be done?



Let us go to the doctor!

Villagers : Doctor, is all that he says true? You have never told us all this!

Doctor : Yes it is true. We call this 'disease-spread by the faeco-oral route'. But I can't do anything about it. I only treat people who are affected.

Villagers : But many people die nevertheless. And many cannot afford the drugs. And people have to spend a lot. And waste so much time. And oh, suffer so much. Is it not better to prevent it?

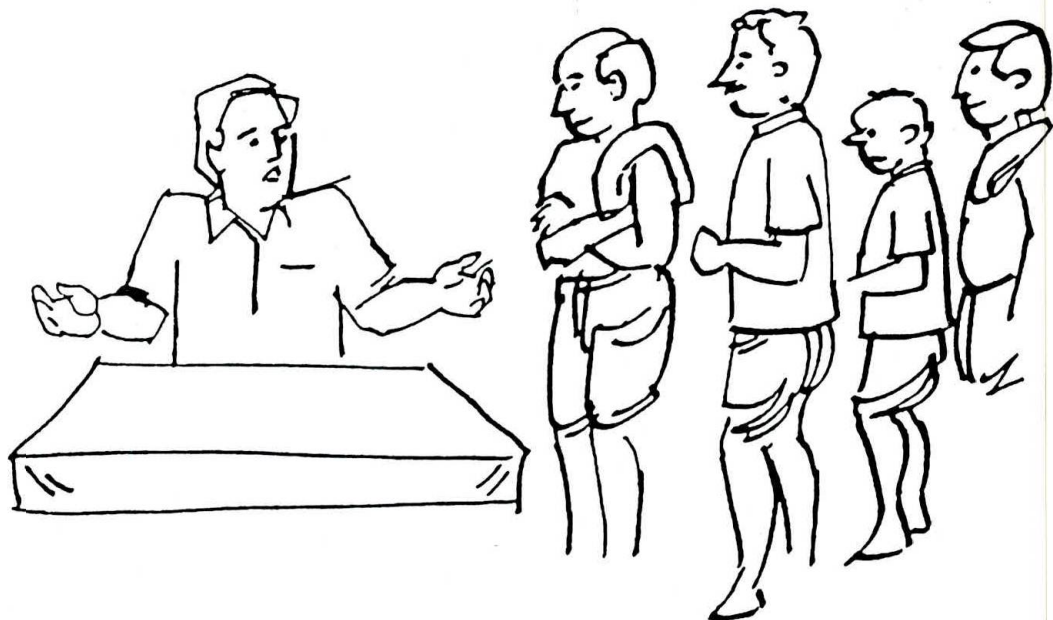
Doctor : But that is not my job. I have no time to explain all this to my patients, let alone to the general public. It is government's job.

Villagers : But are you not the government doctor in charge of our health.

Doctor : No no I am only an employee! My job is to treat diseases. Go ask the government. There are public health engineers and health educators and community health workers. It must be their job.

Villagers : Then let us go to the B.D.O





BDO : Look. I have my orders. We are doing our best. We have money for only a few bore wells and a few latrines. We cannot make them everywhere. And what is the point anyway. People do not use them. And people are so dirty.

Villager : Why do you not help us prevent these diseases, at least in our village.

BDO : There is no scheme for your village. You must ask the government.

Villager : Are you not the government.

BDO : No I am only an employee. I do what I am told. I do not make the policy.

Villagers: Then who is the government? Who can stop these diseases.

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Health activist: It is possible to prevent all water borne diseases in our village. We have only to ensure that no further faeces enters the water we drink or the food we eat.

These are 3 essential aspects of this :

One : Make sure that all the faeces in our area is disposed safely. That is, in such a manner that it cannot reach our drinking water or our bodies in any way.



Second : Ensure that all our water sources are protected. So that no faeces can enter the water. And if one is not sure, treat the water so that all germs are killed.

Third : Ensure by good personal and social hygiene that germs from faeces do not enter your mouth via flies or hands or any other means.



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Villagers : But how can this be done? We are not even able to meet the government authority who is in charge of it.

Activist : We are the government. Our elected panchayat is our authority. What we need is to sit down and together with some help from persons who know plan out how to eliminate these diseases. Yet if we decide to see that no child dies of diarrhea or typhoid or gets polio or jaundice, we can do so. Let us act together.

Do you know that in many countries and places in the world they have done just this. There are many countries in the world, where there is no polio and very little infective hepatitis(jaundice) or typhoid. Almost no child dies of diarrhoea.

Let us see in the next 2 books as to how we can achieve this in our panchayat!



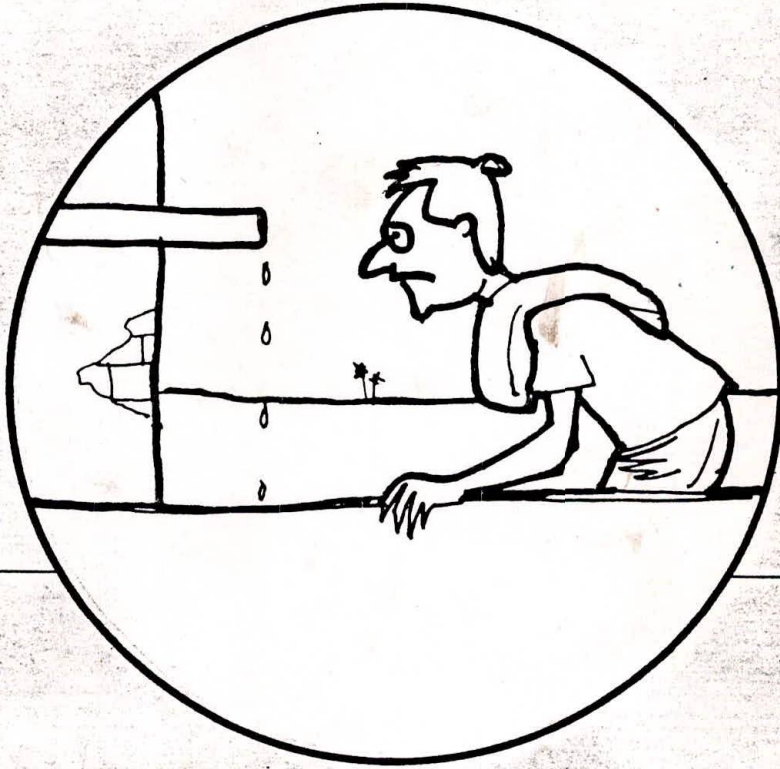


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Review/Discussion

- a) What diseases are spread by water?
- b) How does our food and water get contaminated by faeces.
- c) If there is an outbreak of cholera in your village who all are responsible? And in what way is each person responsible?
- d) The book says 'we are the government'. Do you agree? Does your local panchayat have sufficient will and commitment to undertake the task of preventing water borne diseases?
- e) Do a survey to find out how many cases of these waterborne diseases, at least diarrhoea and jaundice are present in your area. Can you find out the sources of these infections?

Nurturing our common wealth - 3



DRIED UP WELL!

BHARAT GYAN VIGYAN SAMITHI



## Foreword

This booklet is part of a series of 12 booklets meant for farmers. It is an attempt to understand the causes of some of the burning problems that farmers in this region are facing — the declining yields, the wasting of lands, the declining water table and the failure to control pests, the increasing cost of all inputs and the failure to get an adequate price at the markets. The booklet series also looks at suggestion for what can be done by farmers individually and collectively to cope with this crisis. We hope that this series initiates a discussion between the people's science movement and the farmers associations which throws up new possibilities for interventions in rural developments.

A number of scientists with very rich field experience have helped us in writing this series by their critical review and suggestions on the draft. In particular we would like to thank Ed. Giordano, Ardhendu Chatterjee, Vasant Kumar Reddy and Ajay Verma for their comments. We also thank the entire CIRD team for their assistance at various stages. Any errors are however our responsibility.

**Dr. T. Sundararaman**

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Nurturing our common wealth - 3

### **DRIED UP WELL!**

- First Edition : **October 1994**
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C.I.R.D. - Pondicherry**
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- Drawings : **Parthibo Basu**



## DRIED UP WELL

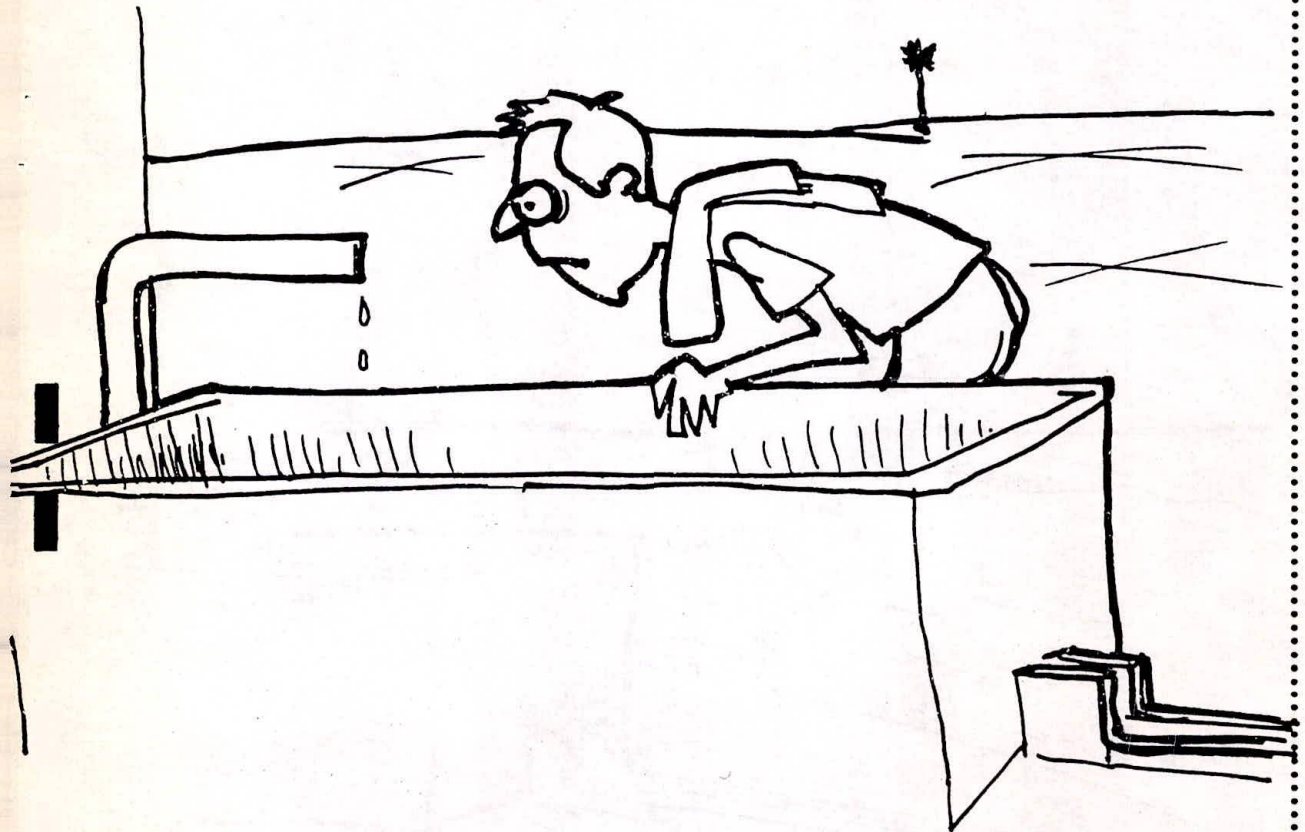
**D**evraj's well has run dry.

He has been noticing that the volume of water that used to gush out of his bore well, has been steadily going down during the past one year.

But today it hardly runs for 15 minutes before it trickles.

Devraj is agitated!

He has been investing a fortune on these pumpsets with the hope of getting a big yield.



DRIED UP WELL

2

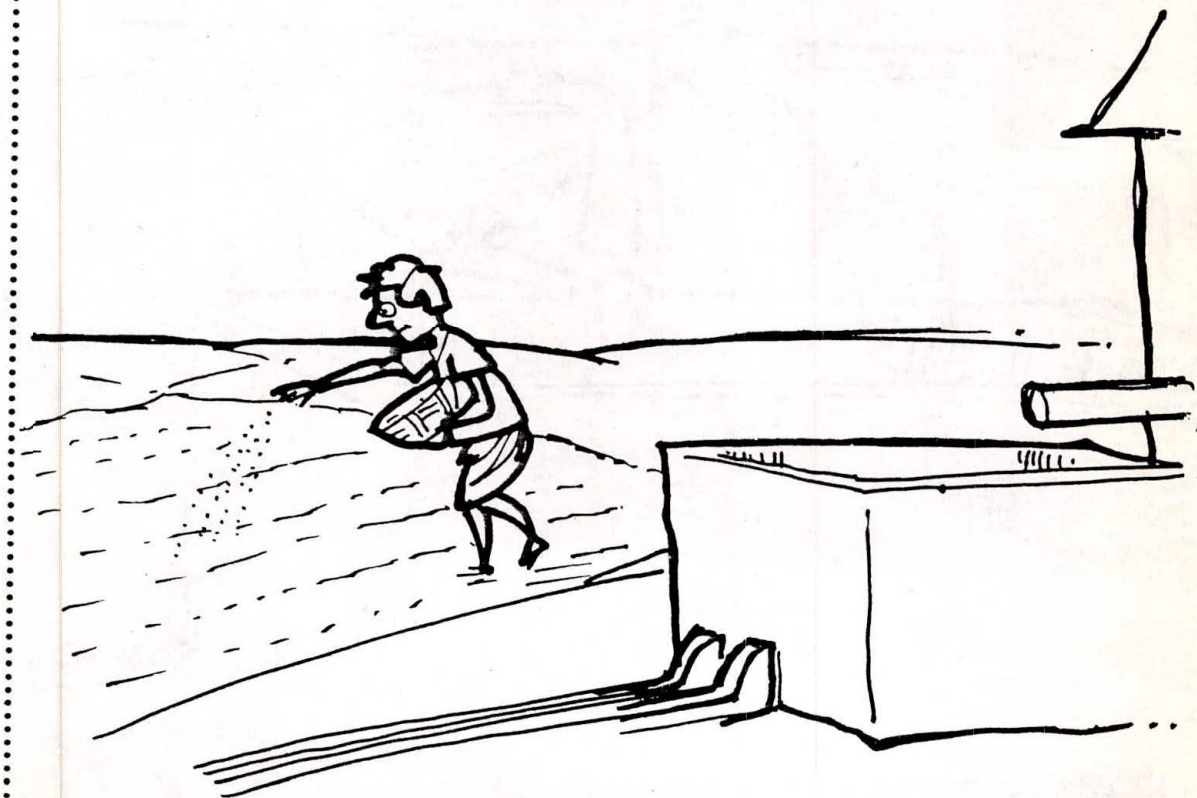
When he took up farming from his father, he used to draw water from a dug well like his father did.

It was about that time when he heard that it was possible to grow three crops of rice a year instead of one crop of rice and one crop of millet that his father or grand father had practised.

He was told that this would be possible if one uses the high yielding varieties of seeds, puts more fertilizer and above all has access to enough water to irrigate these crops.

He was shown a dream which he wanted to realize.

In 1972, he bought a pumpset at the cost of Rs.20,000 to pump out water from the well and was soon growing three crops a year!



**B**ut his happiness was rather shortlived.

This well dried up.

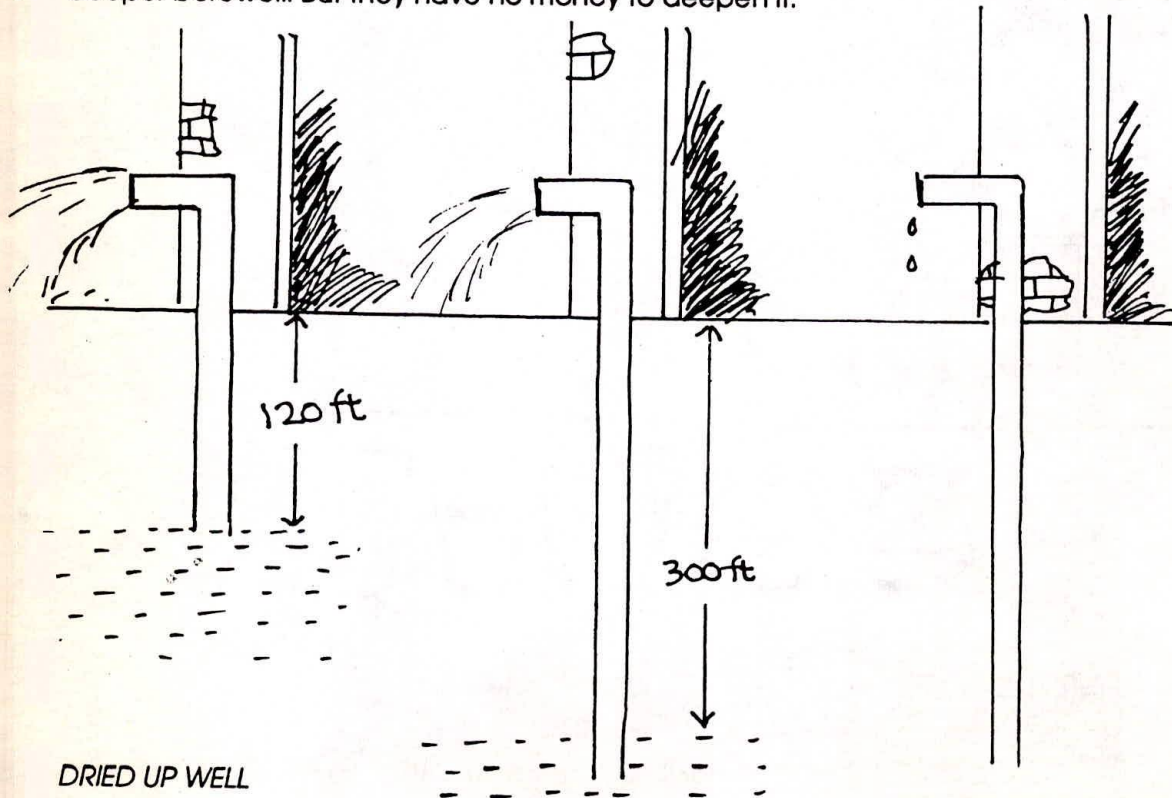
Devraj pulled in some more money and sunk a borewell at 60 feet depth. But a couple of years ago this too dried up.

Devraj ran to the experts who suggested to him to deepen the bore further. By now there was electricity in his village. Devraj took out whatever resource he had and borrowed the rest as a bank loan to buy one electric submersible pump and deepened the bore upto a depth of 300 feet.

And this is the well that has run dry today.

Devraj feels betrayed!

Devraj is not the only one who has had the same fate. Many other like him feel that their luck has betrayed them. They are at their wits end. They go to the government authorities and experts who shrug their shoulders and suggest a deeper borewell. But they have no money to deepen it.





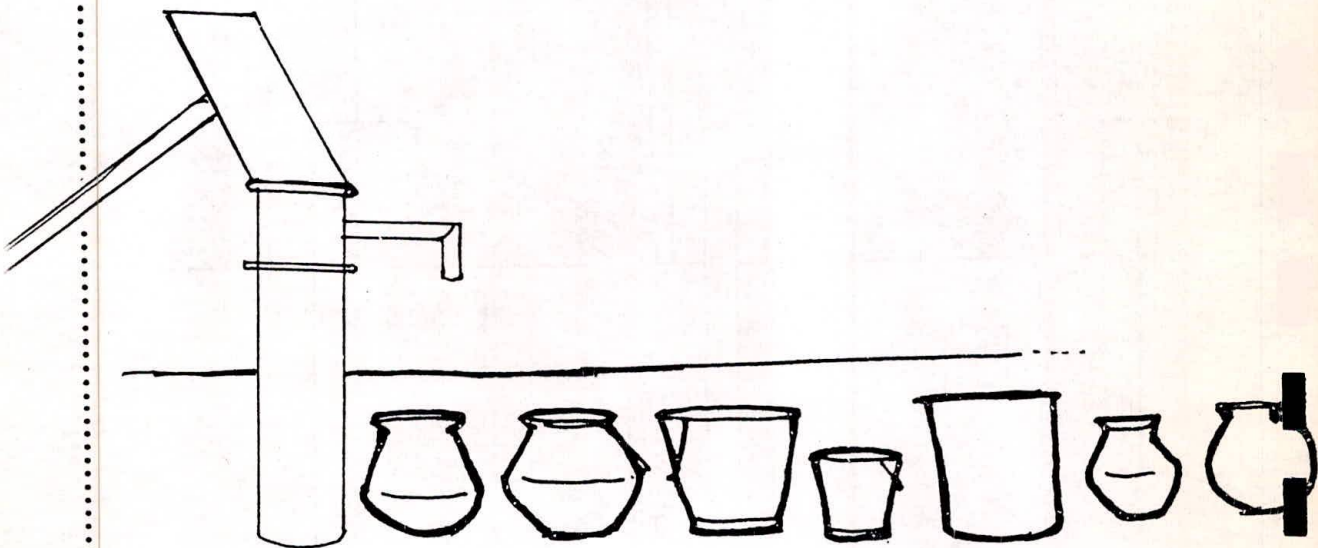
**N**or is the problem confined only to irrigation. Take the village of K.V. Kuppam in North Arcot. Fifteen years back, this village had 8 wells what according to local people were "over flowing" with water. Even at 10 feet, every well had water. Then the water level started falling. Today after 2 successive deepening at about 60 feet depth there is a bit of muddy water that comes out of no use to anybody.

Meanwhile to supply drinking water, the government has put in bore wells with hand pumps. And there is one large borewell from which water is pumped to an overhead tank. From the tank, water is supplied through standposts. But there are frequent repairs; and whereas earlier, everyone would take as much water as required, there is a strict ration of 5 pots per family today. Soon it will run dry like many of the other borewells have!

What can be done?

"Government must put in a deeper borewell", the chorus goes in the village.

But this too won't last long. And then?





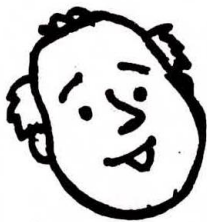
Devraj goes to the peasants association too. They say "what can we do? The water table going down is a natural event. The rains are failing! At best we can try to get you a loan for another deeper borewell". But Devaraj has not even managed to pay back his last loan.

At least 15 years back, before the pumpsets started, he grew one crop of rice and one of millets. Now one crop of millets is all that he grows. His land lies wasted!



**E**veryone knows why the wells are running dry!

RAINFALL IS  
GOING DOWN!



ELECTRIC WIRES ARE  
SUCKING UP  
RAIN!



RAIN IS  
FAILING!



RAINGOD IS  
ANGRY!



The weather man rules out the theory of depleting rainfall firmly.

### THERE HAS BEEN NO MAJOR DECREASE IN RAINFALL OVER THE LAST 50 YEARS.

Meher Homji is a famous Bio-climatologist who has been studying the rainfall pattern of the last 100 years.

—“The rainfall in Tamilnadu is more than in most countries of the world. And though there are variations from year to year there has been no general decline” he says.

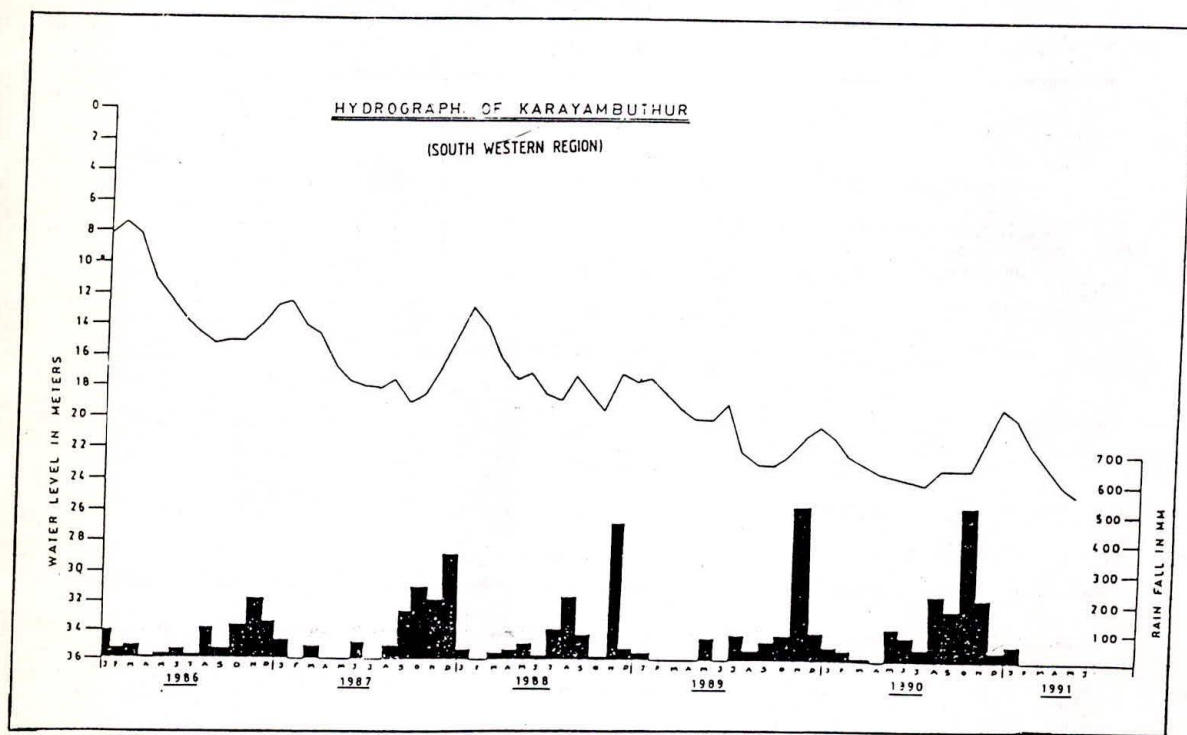


FIGURE-4

Well, electric wires and declining rainfall does not seem a correct explanation.

What then is the story behind these dried up wells?

Before we get to the reason for Devraj's plight, let's learn something about ground water.

### DRIED UP WELL

**H**ow it is formed? Is ground water infinite? Is it possible to improve the stock of ground water?

A geologist or a climatologist will tell you that the amount of water on the earth is still the same as it was 5000 million years ago when this earth was created!

It is the same water that fills our lakes, tanks, rivers and the seas and evaporates from these water bodies up in the sky, - forms clouds and falls back on the surface of the earth, - flows back into those lakes, tanks, rivers and the seas again!

Only a little portion of this water is usable. If all the water in the earth is filled within a one gallon jug, the fresh water will be just a spoonful of this. The rest are in oceans or in the form of ice near the poles. That part that is usable is the part that circulates as the water cycle.

---

*Let's suppose that there is just 1 litre of water on the earth. Then, of this 1 litre-*

972 milli litre is in the OCEAN,

21 milli litre is in the ICE CAPS,

6.2 milli litre is UNDER THE GROUND,

0.09 milli litre is in the FRESH WATER LAKES,

0.08 milli litre is in the INLAND SEA & SALT LAKES,

0.01 milli litre is in the ATMOSPHERE,

0.001 milli litre is in the RIVERS.

Again of this small proportion of fresh water only a little is available to us for our use.

---



.....

All this water on earth is really a single body inter-connected by what we call the water cycle.

Heated up by the sun, water evaporates from the sea and forms large water bodies to form clouds. These clouds move along with the winds, picking up moisture along the way.

Soon they become heavy. Under certain conditions they fall down as rain.

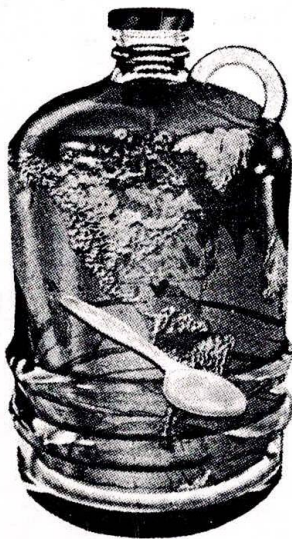
Then some of the water runs off rapidly into streams and then into rivers and then into seas or lakes.

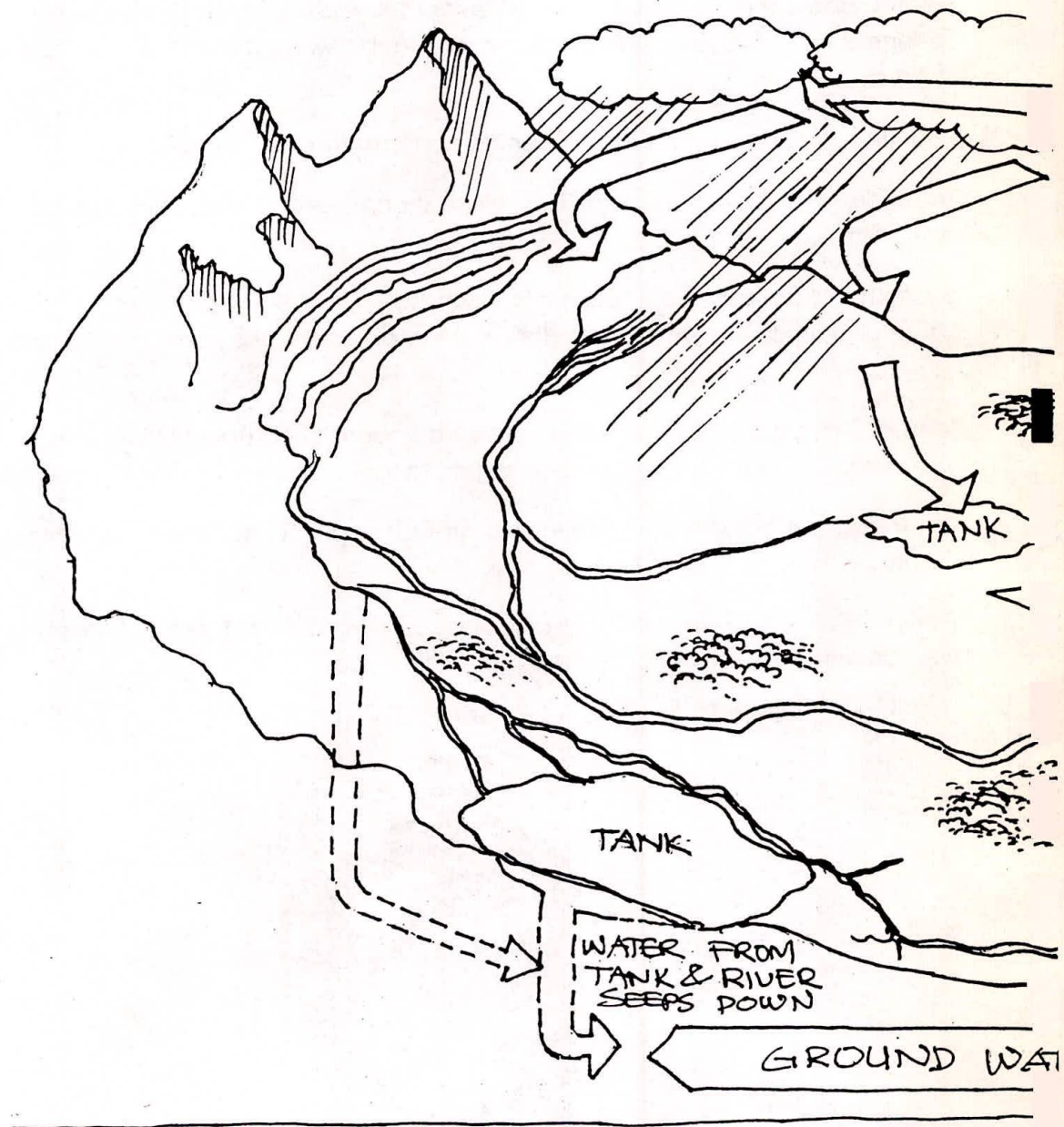
But some of the rain water does not flow back at once. A portion of it is absorbed into the ground. This water, that does not run off and is absorbed into the ground is ground water.

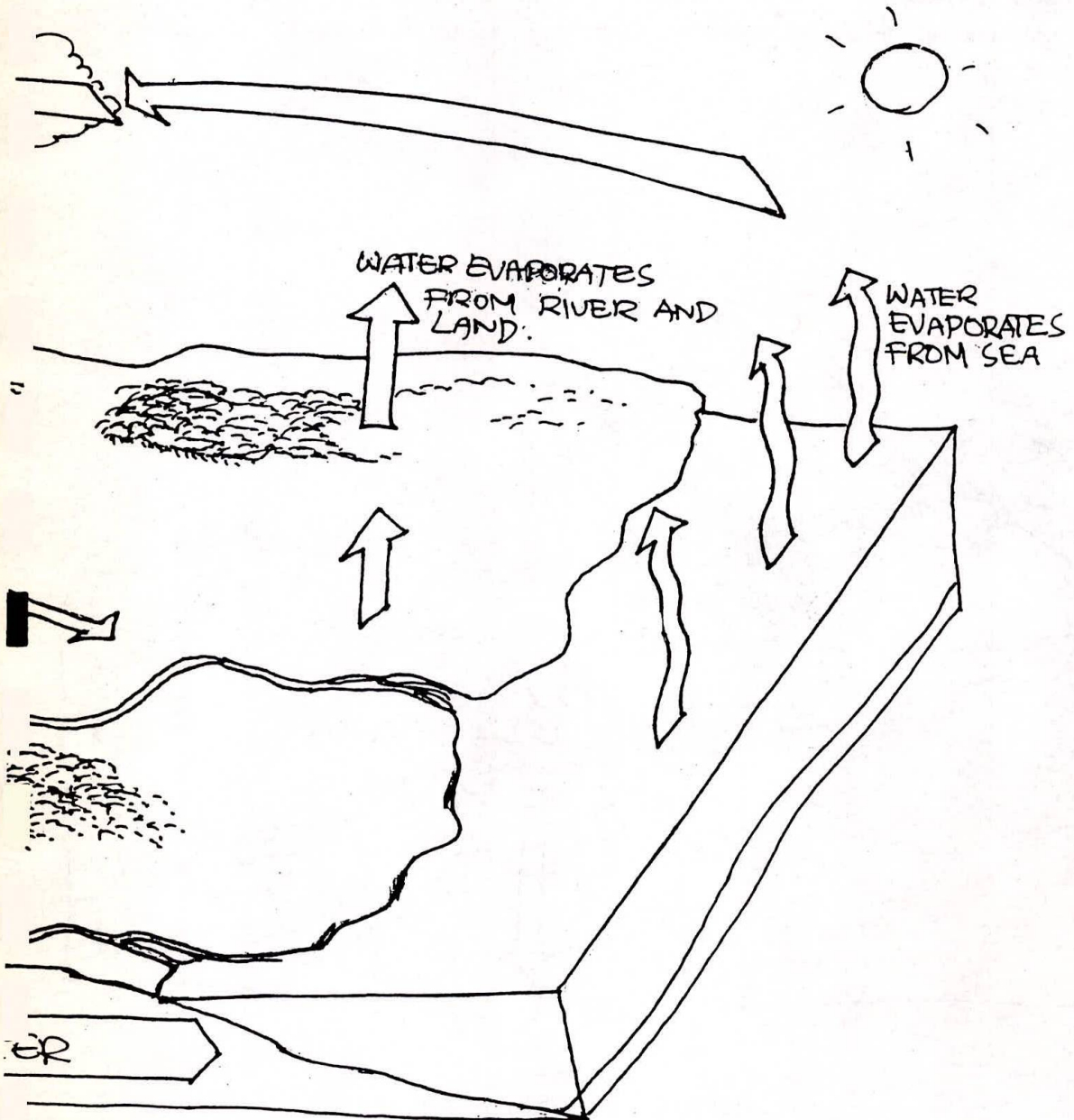
Most of this groundwater travels downward underground (roughly like what surface water does) and soon emerges as springs to form streams which join to form rivers.

The rest of the groundwater percolates deeper and is stored in deeper layers of the ground.

All water we use is therefore from only one source: the rains. The question is how best we can use every drop of it before it reaches the sea!

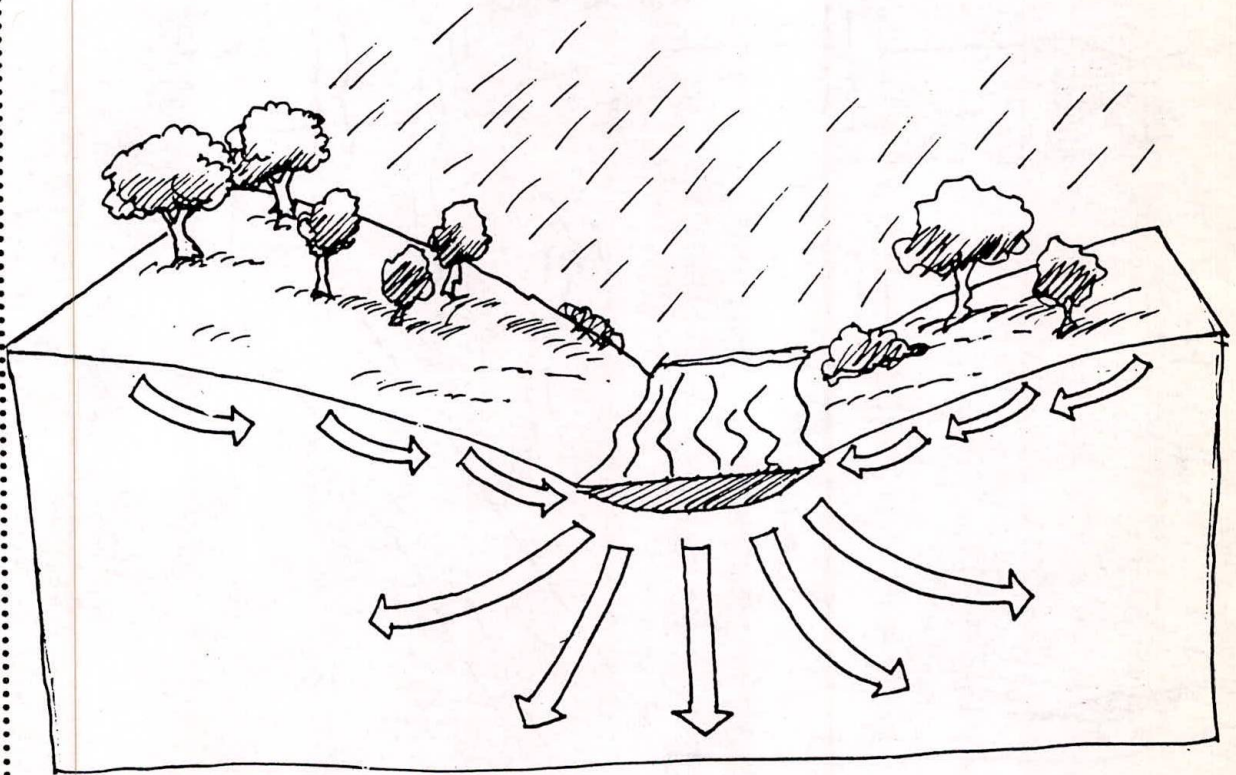








**W**ater also gets absorbed into the ground from ponds, tanks and rivers. If there are plenty of these ponds, the rain water gets trapped in them and then lets it into the ground slowly. If on the other hand, these structures are filled up with silt or, for some other reasons not in use, the water just runs off into the rivers.

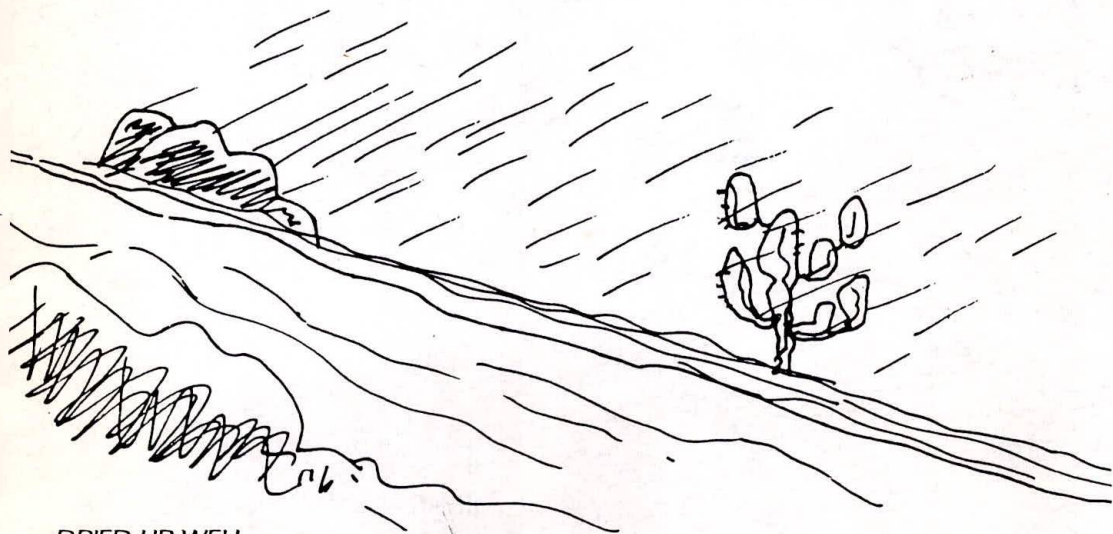
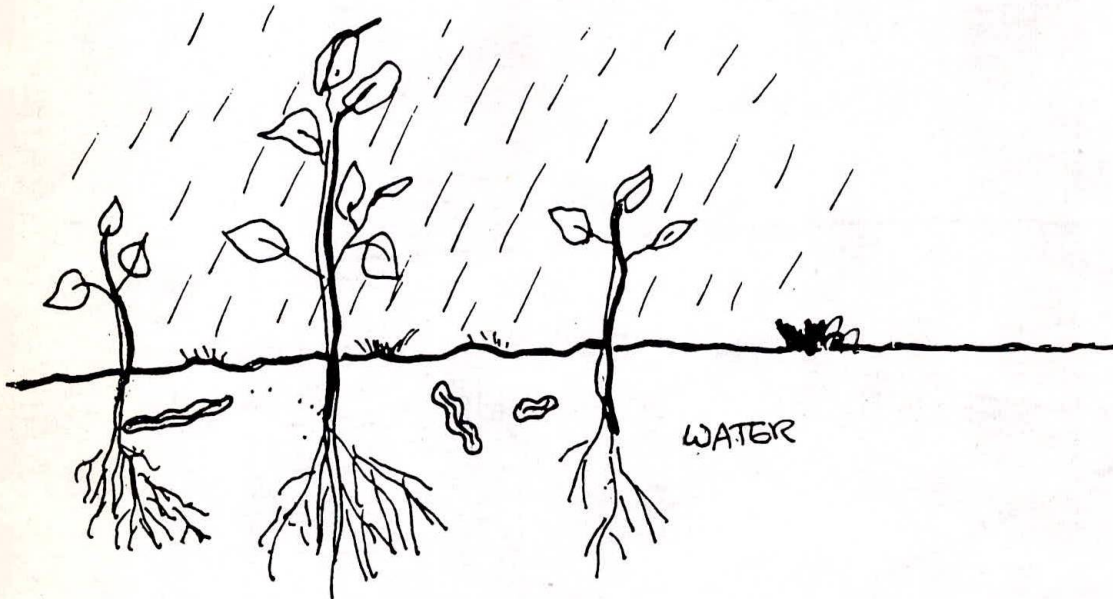


WATER FROM TANK  
PERCOLATES TO THE  
AQUIFER.



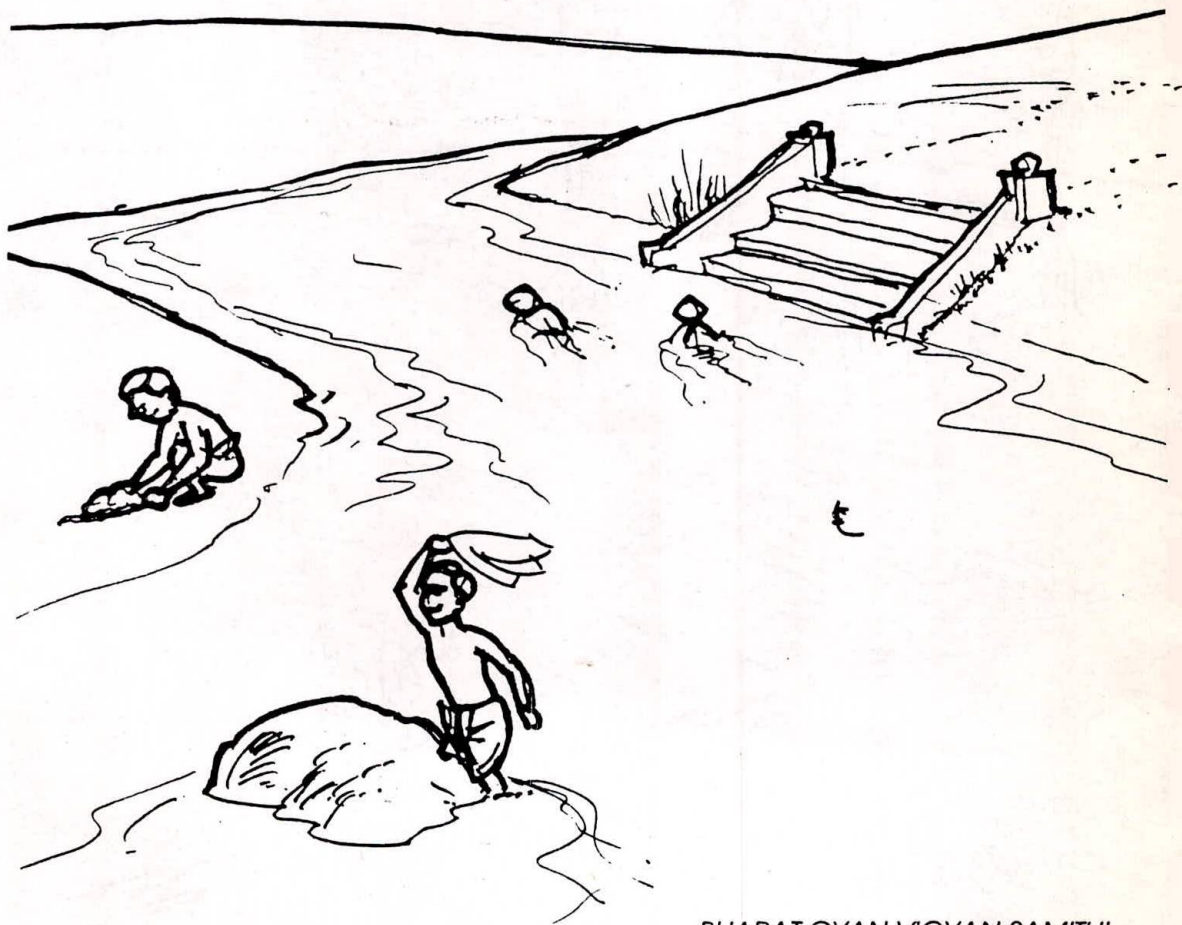
**N**ow, how much water runs off immediately and how much enters the ground depends on a number of factors. If the soil is covered by vegetation, the roots create a number of spaces along which water can enter. Such soil is full of insects and other living forms which make the soil full of pores. Such loose, living soil absorbs the rain water like a sponge. Only a few drops will run off.

If however, the soil is hard, rocky or clayey and barren, almost all the rain water runs off and little enters the ground.



DRIED UP WELL

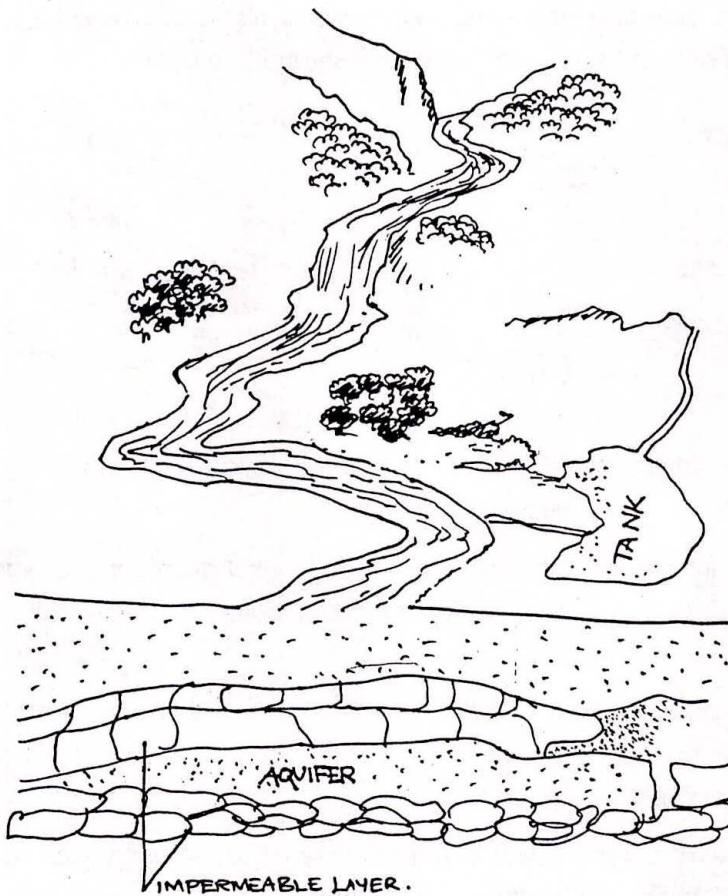
**S**ome of the water on entering the ground, moves downward along a gradient along the superficial layer of the soil (almost like the way water moves in streams on the surface). This water soon emerges as springs into streams and from there flows to rivers. Or they feed the nearby ponds and tanks. Earlier, even about 30 years back, the ground was healthier, the streams in our villages were full of water for 6 to 9 months a year. Three months from the rain themselves and 6 months from the water let out by the soil. Our grandfathers used to fish and bathe in them. But now only during the 1 or 2 months of rain there is water in them. For the rest of the year these streams are dry!





Once the water enters the ground some of it moves further and further downward until a layer of impermeable rock is reached. The layer of earth, just above this layer of impermeable rock is saturated with water. This layer is known as an **aquifer**. The top level of the saturated zone is known as the water table depth. When we say that there is water at 100 ft depth, we mean that at 100 ft the pores of the earth are saturated with water.

But even this water in the aquifer does not stay still. It moves.

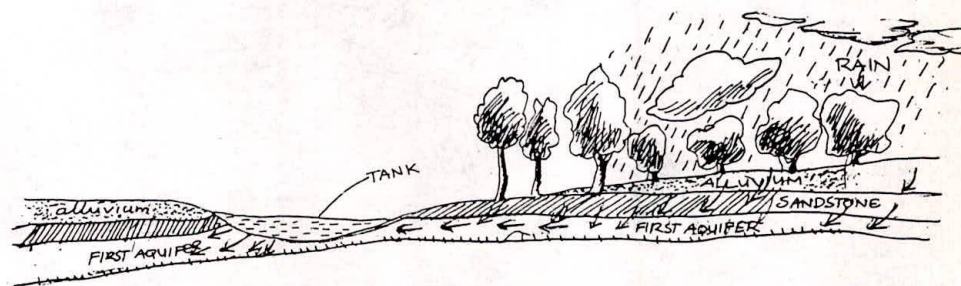


DRIED UP WELL



The water moves in the aquifer, like water flows through the sponge if it is squeezed. Only the movement is as slow as 1 cm a year. In the aquifer, water moves slowly through small pores. The movement is mainly due to the gravitation. Responding to the gravitational force, percolation occurs from areas where the water table is high toward areas where it is lower. Only a part of the water travels by the most direct route, down the slope of the water table while most water travels by the innumerable long curving paths that go deeper through the ground.

Depending on the type of rock or sand in the aquifer, the water moves faster or slower. Its direction and extent of travel is also determined by the location and spread of that layer of rock that constitutes the aquifer.



The accumulation of this underground water is, to a great extent, controlled by the permeability of the rocks.

A rock is called permeable when it is loose and granular (eg. sand or gravel) which allows passage of water through the pores between the sand or gravel particles.

Water can also be trapped between two layers of impervious rocks like granite where it remains as if in a closed pipe under the soil. It reaches this zone through cracks in the impervious rock layer about it.

The water which is there within the deeper aquifer has percolated down over hundreds of years and is preserved within the aquifer for hundreds of years.

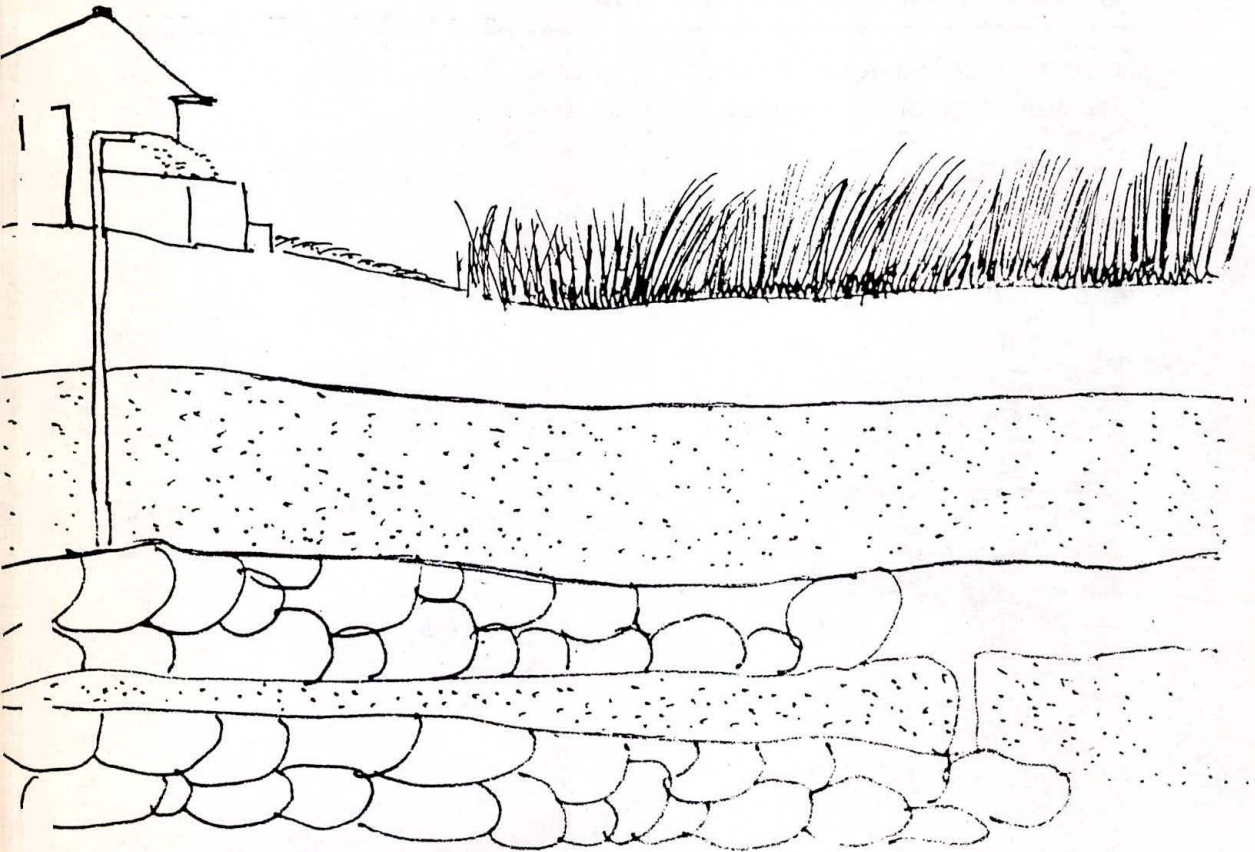
Thus the water Devaraj has been pumping out at 300 feet is probably hundreds of years of old hidden treasure. When this water fell on the surface as rain, possibly the pallavas were ruling!

Thus, when we sink a submersible pump, we just sink a bore reaching down to this saturated water bearing rock.

Even a single bore can have pronounced effect on the water table. The well takes out water from the saturated rock, thus literally drying out part of the saturated zone.

It would again take another hundreds of years for water to reach and recharge this region in the aquifer. In fact as we can imagine, with many other bore wells in the same area, this area will probably never get a chance to get recharged.

Unless the same amount of water that is taken out is recharged into this aquifer, the water content in this aquifer is bound to go down.



DRIED UP WELL



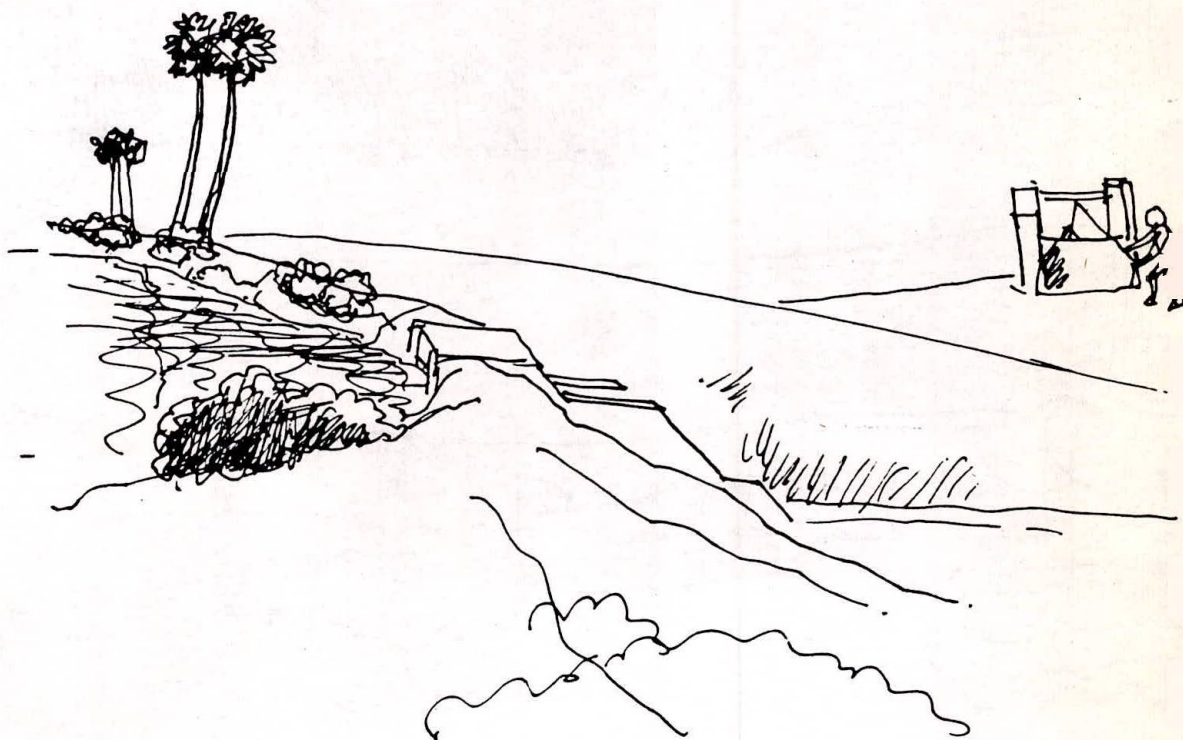
The dug wells, that were the main source of irrigation (other than tanks and their canals); did not go as deep as these bore wells. They were only about 10 or 20 feet deep. They tapped the flow of subsurface or the superficial aquifer water. If there were good rains, these wells would fill up and allow enough water for a second crop of grain.

However, if there was a tank or large pond nearby, the water absorbed into the subsurface from these would flow down and keep all these wells downstream of the tanks full of water, right through the year.

Today, in most villages, these wells too, like the village streams and tanks, have water only for a month or two (when it rains) but are dry for the rest of the year. This is because any subsurface water that is left after the rain, is pulled downwards immediately by the much lower water table.

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(N.B: difference between alluvial and other areas. In alluvial areas this is the water table itself. In other areas it is a distinct aquifer!)





Now let us try to understand:

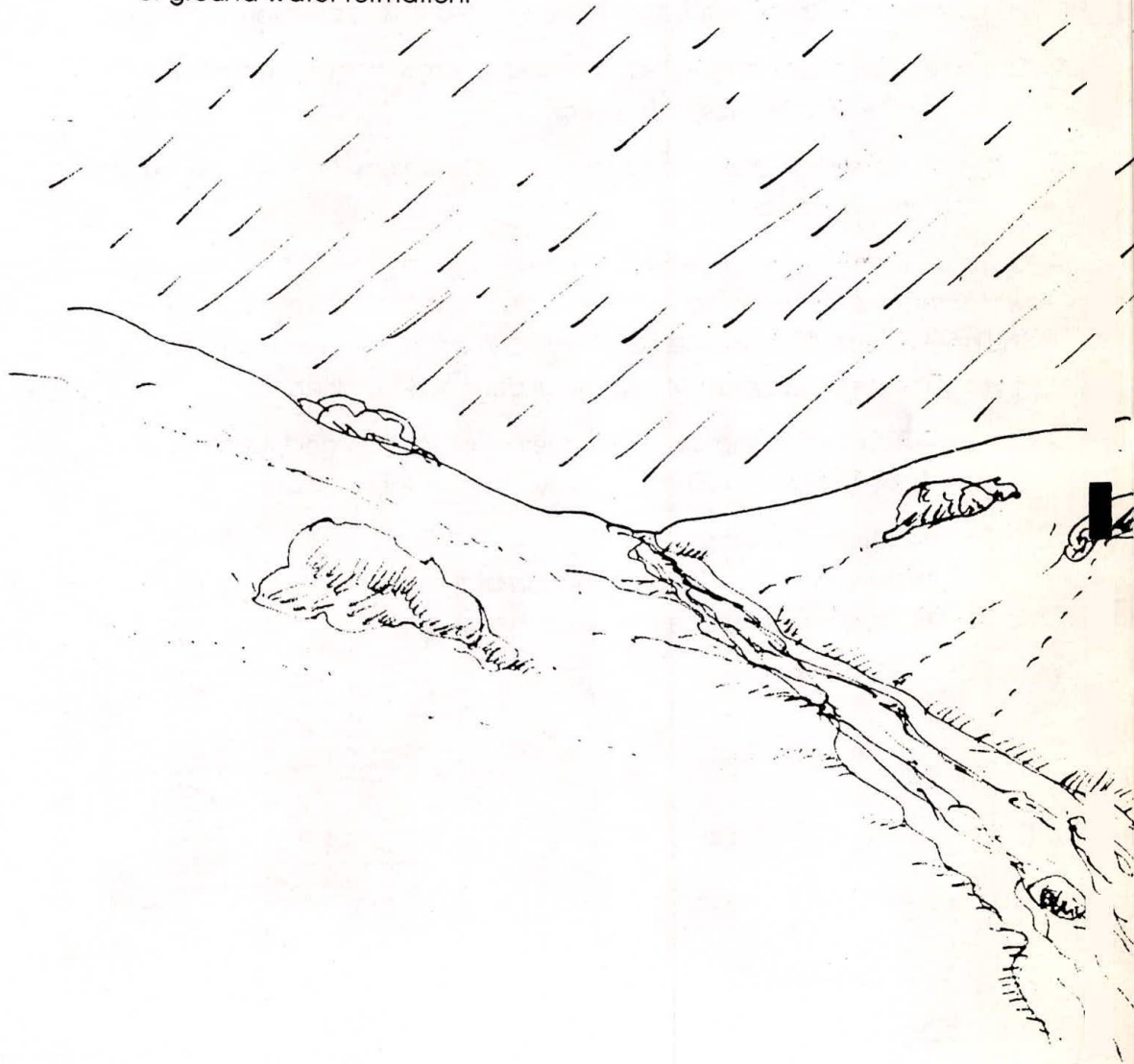
Why are the wells drying up!

We learnt:

1. All water that we use, whether it be from over the ground or under the ground, whether it is streams, wells, tanks or borewells; are the same water. They come from the same rains. And the rains have not decreased over the last 100 years.
2. Some of the water we needed, we used to draw from streams or rivers, but these are now dry for most of the year.
3. Some of the water we needed, we used to draw from shallow wells, but these too are dry for most of the year.
4. Some of the water we needed, we drew from deep wells which draws the water that were trapped from rains that fell hundreds of year ago. And since this deep ground water is like water stored in a tank the pump can only empty it year after year. We cannot refill this underground tank easily.
5. The cause of the drying up of the rivers and streams and for the drying up of wells is the lesser amount of ground water available today.
6. There is lesser ground water because:
  - a) Less water enters the ground than before,
  - b) More water is pumped out than before.

Less water enters the ground than before because of

- a) decreased vegetation cover.
- b) the resultant erosion of the loose spongy top soil, leaves behind only hard, relatively impermeable earth.
- c) the disintegration of all village ponds and tanks that were a major source of ground water formation.



**T**oo much ground water is pumped out because:

### **THERE ARE TOO MANY TAKERS.**

While on the one hand, the recharge of the aquifers has reduced, on the other, there have been many farmers taking out much more water than before from the aquifer.

Number of bore wells and submersible pumps have grown enormously over last 20 years.

The availability of ground water throughout the year has meant that all farmers could move to 3 crops of paddy per year or to sugarcane. These crops give much more profits but they consume much more water! So on one hand, food production has gone up, but on the other, water table is falling rapidly.

Table 1

Privately owned wells (000 s).						
	1960-61	68-69	73-74	79-80	84-85	%
A.P	500	676	775	919	1,067	4.5
Karnataka	135	280	325	415	500	11.0
T.N.	875	1,140	1,140	1,472	1,522	2.9

Table 2.

Centrifugal submersible pumps (000 s).						
A.P	52	161	376	468	547	59
Karnataka	27	123	229	307	338	70
T.N.	155	477	764	913	1000	26

From 'A FORFEITED TREASURE: TANK IRRIGATION IN KARNATAKA' by S.T. Somasekhar Reddy

**DRIED UP WELL**



## **B**UT IS EVERYBODY BENEFITTED FROM ALL THESE BOREWELLS ATLEAST?

The growth of borewells and submersible pumps have been tremendous. But did every one — the large and small peasants alike, benefit equally from the bore wells and submersible pump boom?

NO.

Many rich farmers who could afford to sink a borewell did so. They shifted to new high yielding crops early. Whenever their well ran dry, they had the capital to deepen it. Or at least they had the influence needed to get bank loans.

But what happened to those who could not sink one?

Most could not afford it. If they did get a loan once then it was difficult to get another loan again to deepen it. And since many of the smaller farmers started later, the laws regulating number of borewells in an area affected these small farmers more. The rich farmers had already installed their borewells.

Now, the small farmers have been forced to buy water from those who have bore well or submersible pumps. Earlier they took water from the tank.

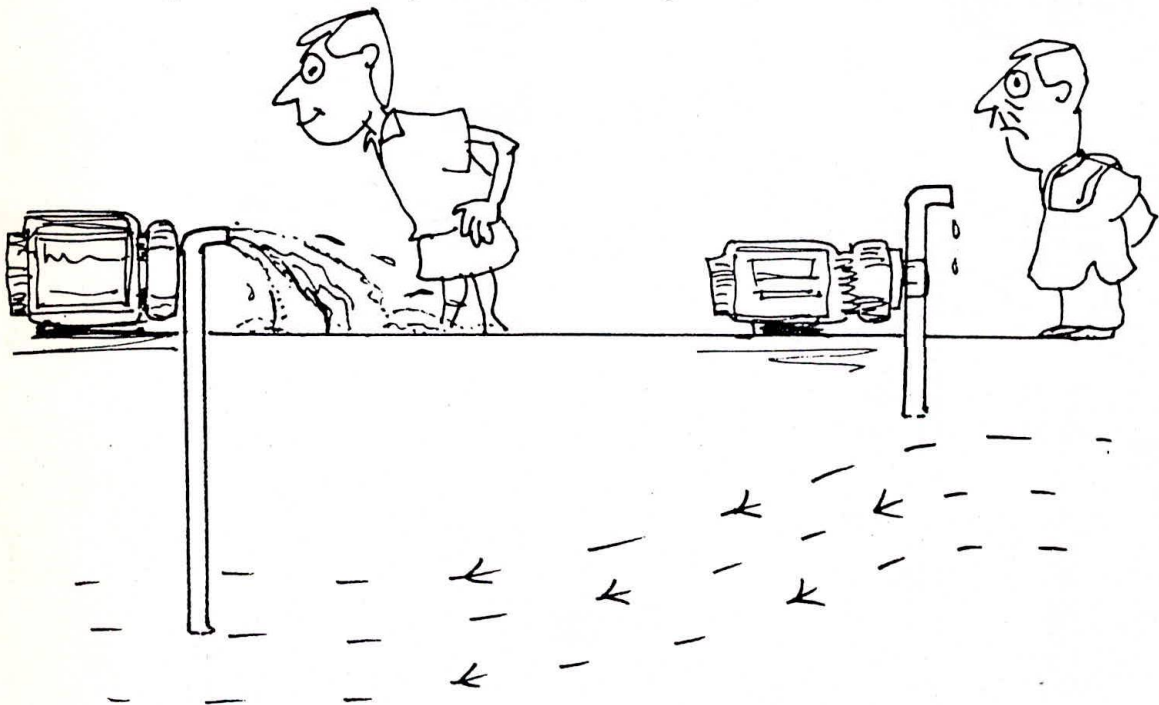


The water in the tank and the tank itself was common property. Or they took water from their wells which was charged by the tank water.

Now, they have been compelled to buy the resource over which they have the same right as the rich farmer.

Worse, every time one farmer in that area deepens his well, a downward gradient is established and water in surrounding field, slopes downwards in a cone with the deepest well in its apex. A number of neighbouring wells thus run dry as the water table in their field falls. The rich farmer thus sucks water underground from the common pool including from below the small farmer's land and then sells it over ground for a fat fee — either 20 rupees an hour or 1/3 of produce or 10 tonnes of sugarcane per acre and so on.

As time goes on and the wells are successively deepened, only the richest will manage to survive! And grow richer by selling this water!

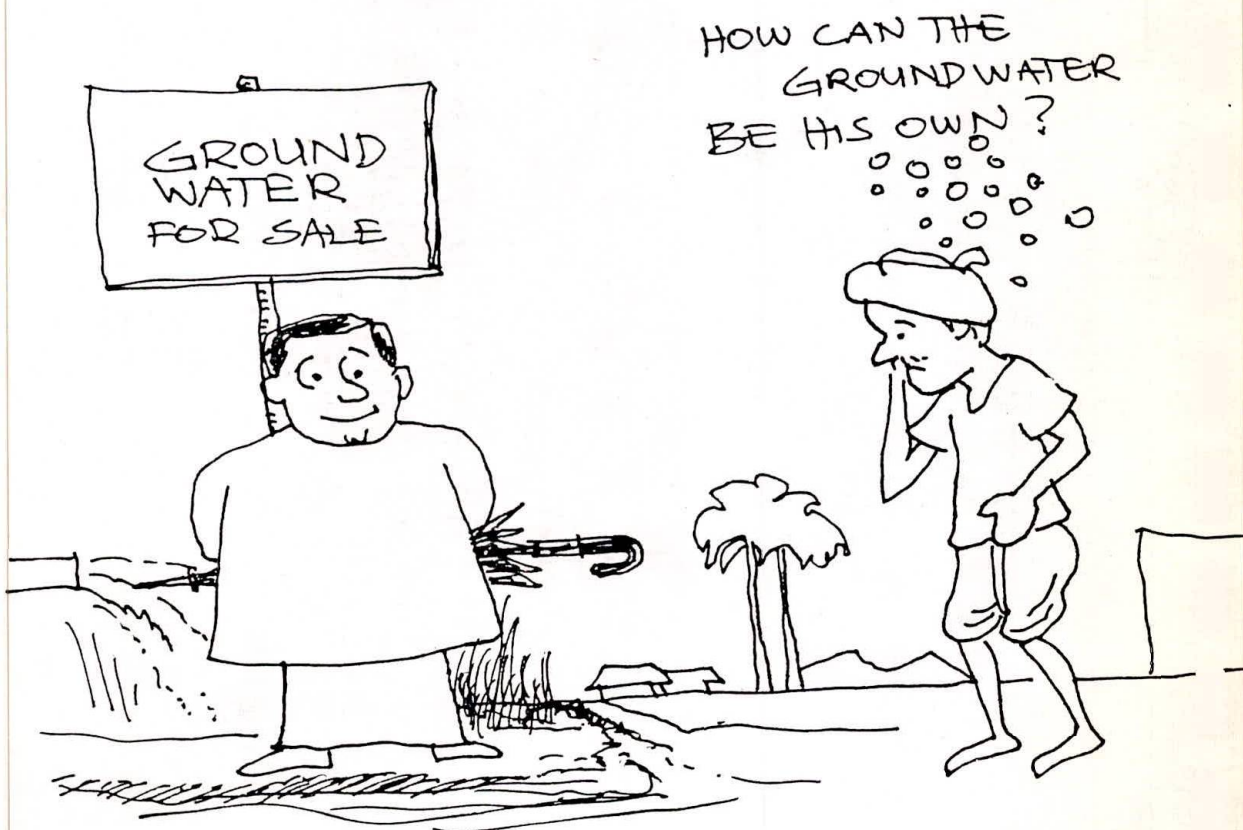


The water in the ground we saw is the same water as the water in the tank and pond. If the tank water is common property how can ground water become private property? If the canal from the tank flows by his field the land owner cannot take all its water!

Then how can the rich farmer take all the water flowing below the ground! And sell it to others!

And the water deep below is hundreds of years old. It is a precious mineral like coal or oil which once taken out can never be replaced. So why is it not treated like coal or oil?

The change from the use of tank water to ground water has meant the privatization of common property — water! Its privatization meant, the rich can use their resources to grow richer. The poor who have no resources become poorer.

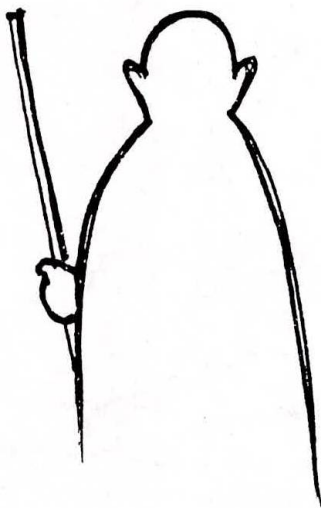




The central message of this book is this:

**THERE IS ENOUGH FOR EVERYONE'S NEED  
BUT NOT ENOUGH FOR EVERYONE'S GREED**

- \* There is enough water for everyone.
- \* There has not been a decrease in rains! And all water comes from the rains.
- \* But one has to plan collectively to use this water wisely.
- \* If everyone can do what he pleases and each one tries to grow the most commercially valuable crops, a handful of the rich with access to resources will be able to draw away all the water and grow rice and sugarcane, throughout the year. But most of the landowning families will suffer from water scarcity.
- \* If on the other hand the use of this water is planned carefully then every plot of land can yield a good amount and in the village the production will be more as a whole. There will be enough food, fuel and fodder produced for everyone plus a larger surplus for sales than before.



**E**ven the rich cannot continue like this — growing 3 crops of rice and sugarcane all round the year. Such heavy irrigation and fertilizer spoil the soil and soon the yields fall. Some of the rich, aware of this are changing. But others feel they can make a fast buck and when it becomes worse, sell their land and move away to industry or a government job etc.

**REMEMBER:**

- If the food production must remain adequate
- If the food, fuel and fodder needs of every village must be met.
- If agriculture must continue (as it must if human life must survive)

then there is no shortcut but to plan!

Plan to use our water resources equitably and wisely.



It is possible for us to plan:

Indeed it is not even a new idea.

For hundreds of years now, up to just 30 to 40 years back all the water used for irrigation was planned collectively.

We shall see how this was done in our next book on tanks.

And this planning was done by the village panchayats.

Indeed it was the village panchayats main function.

Now again village panchayats must take up this task.

And they have to learn how to draw up a fair and wise plan for both tank water and ground water!

There are a number of panchayats in our country which do this today. You will read about it in our next booklet.

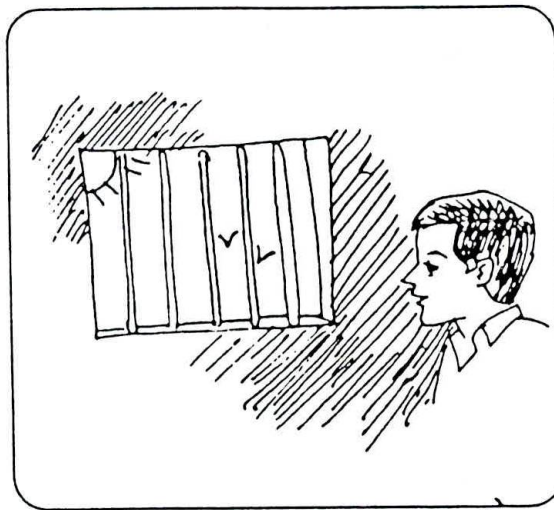
Is your village one such village?

Or is yours one where the water table continues to fall?



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# SANITATION - WASTE TO WEALTH



HEALTH AWARENESS BOOKLET - 4

BHARAT GYAN VIGYAN SAMITHI

West Block - 2, Wing-6  
R.K. Puram, Sector-1  
New Delhi-110 066



Booklet prototype  
for  
**Lok Sampark Andolan on Health**  
&  
for Neoliterate Publications

These facts are largely taken from the book "**Facts for Life**" published jointly by UNICEF, UNESCO, & WHO in partnership with over 100 of the world's leading medical and children's organisations.

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# SANITATION: WASTE TO WEALTH!

## Why Sanitation?

Many diseases are spread from person to person through human excreta exposed by people defecating in the open. 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 water, vegetables, hands and insects like cockroaches and flies. The diseases that are spread in these ways include.



- \* several types of intestinal worms
- \* diarrhoea, dysentery and cholera
- \* typhoid and hepatitis (jaundice)
- \* polio

If one must prevent these diseases one must ensure the proper disposal of all wastes. Whether it is human excreta or animal dung, whether it is garbage or waste water it must be disposed of safely.

SANITATION : WASTE TO WEALTH



## WHERE TO GO?

People, particularly in rural and some urban areas, defecate in the field, forest, river bank, the edge of a railway track or along the roadside. Nowadays many of the woods and bushes have disappeared as the lands are developed for cultivation and towns and cities expand.



Women have to go out before dawn or wait till after dusk for defecation. 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.

If they develop diarrhoea or during their monthly periods they face a terrible problem.

Furthermore, many farmland owners do not allow people to defecate on their agricultural land particularly during the growing seasons.

### DISPOSAL OF HUMAN EXCRETA - SANITARY LATRINES:

One of the most important steps to check the spread of disease is to build and use sanitary latrines. **For women it is a basic essential demand and a right.**



People often reject latrines thinking that it will be dirty and smelly. This is because they have only seen latrines in places like bus stands where they are not properly maintained. A properly built and well maintained latrine is very clean and has no smell at all.

There are many types of latrines. Let us look at two types only.

**SANITATION : WASTE TO WEALTH**

## POUR FLUSH WATERSEAL LATRINE

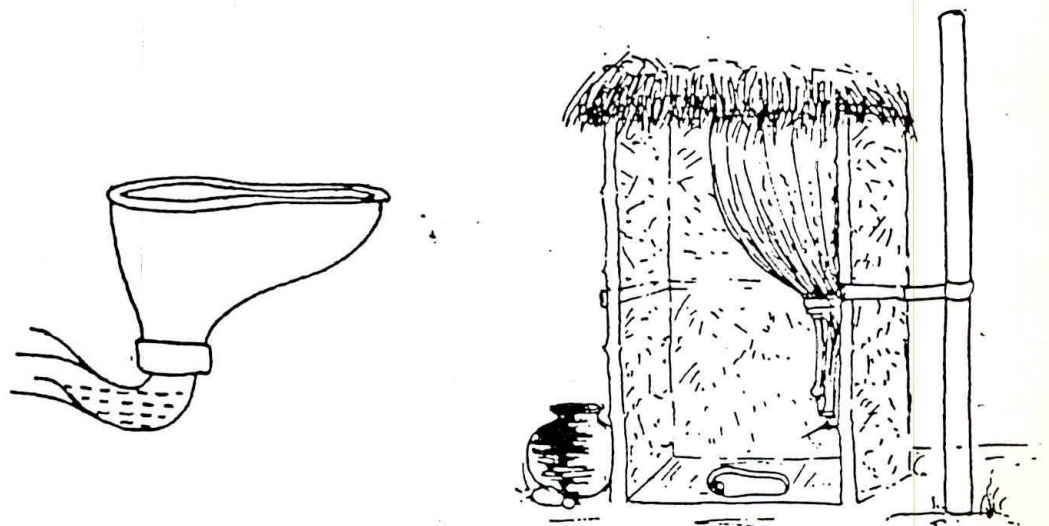
This type is more commonly used where water is available and is used for cleaning.

Water from a container is poured into the latrine pan to flush the excreta into a pit. If the pan is wet before it is used for defecation, flushing is more effective, as the excreta will not stick to the pan.

About two or three litres of water are required for flushing. The excreta, urine and water collect in the pit which is covered.

Some water always remains in the pan. This forms a "waterseal", which prevents bad smells from coming out of the latrine pit.

A big pot of water can be kept near the latrine for flushing and cleaning the latrine.

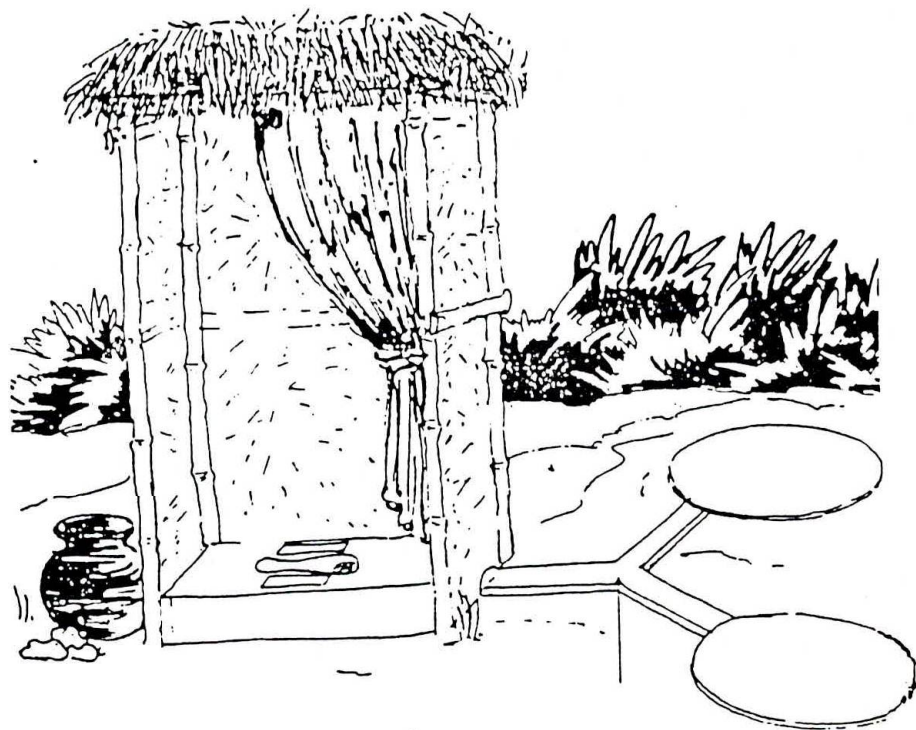




This latrine has two pits. For a family of 5 to 6 members each pit is of 1 metre diameter and 1 metre depth. Only one pit is used at any one time by blocking the inlet of the Y-shaped drain leading to the second pit (as shown by the arrow in fig. given below). One pit will fill up to the drain outlet in about three years.

The excreta should remain in the covered pit undisturbed for about two years to decompose. After that time, the odourless contents of the pit can be handled safely and used as fertilizer.

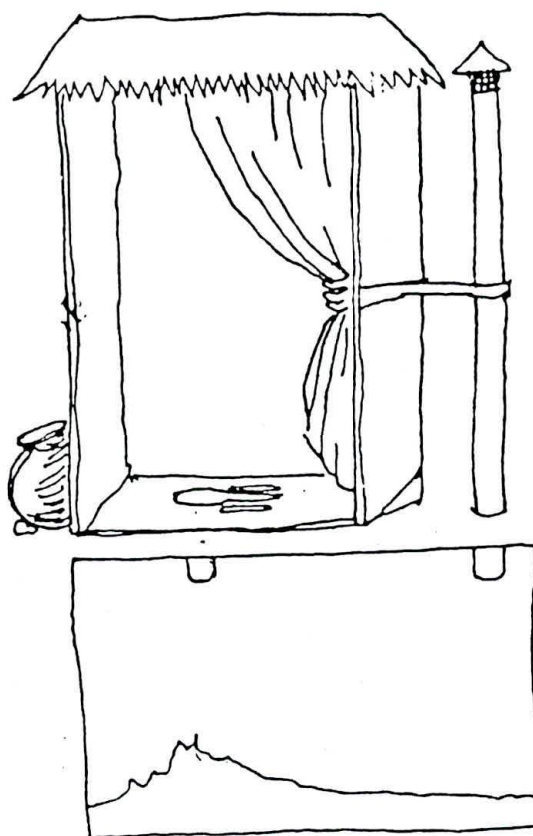
Thus the latrine can be used as long as one wants by using each pit alternately. One can also make this latrine with only one pit. It has to be cleaned more often but it is easier to build and cheaper.



## PIT LATRINE

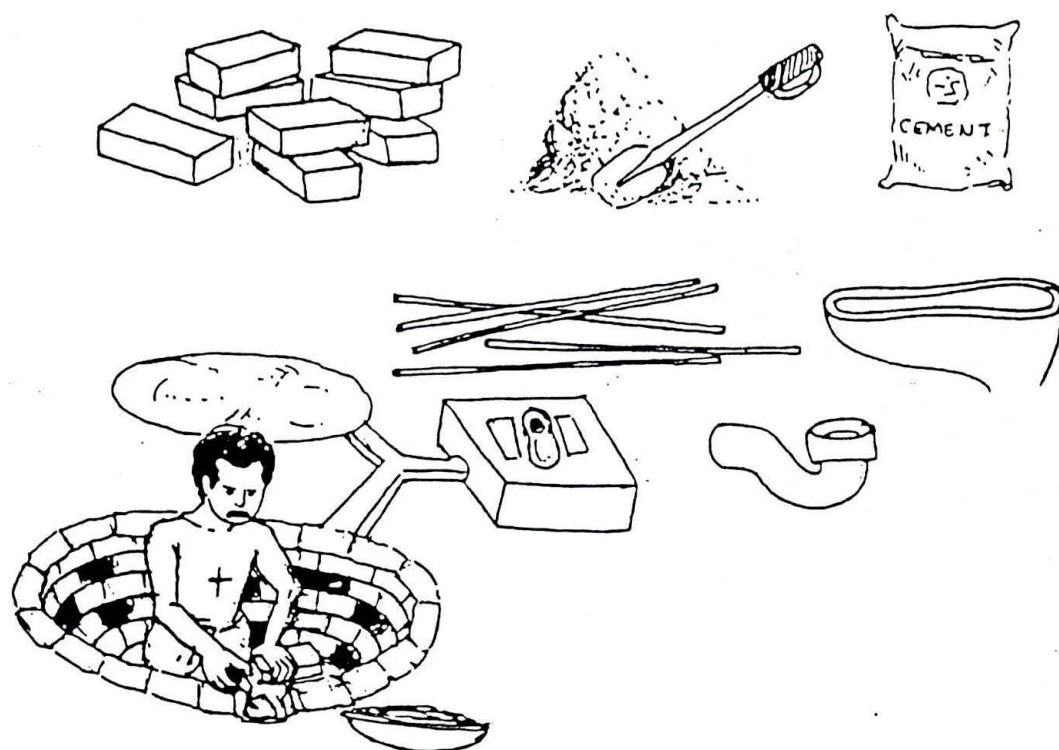
-Where water is very scarce, and solid materials such as leaves, mud stones are used for cleaning.

For eliminating the nuisance of flies and bad smell, the latrine can be improved to a Ventilated Improved Pit (VIP) latrine. A VIP latrine has a ventilation pipe which carries the bad smells away. The inside is kept quite dark so that flies in the pit tend to go up the vent pipe because they are attracted by light. However a fly screen fitted on top of the pipe traps them.



## BUILDING 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 more than 5 meters below the bottom of the latrine pit, it should be at least 10 meters away to prevent water contamination. The safe distance is 15 meters. If the ground formation is made up of fissured rock through which the water can flow fast the risk is higher. The advice of the block or district engineer should be sought.





MATERIALS AND LABOUR REQUIRED FOR WATERSEAL  
LATRINE UP TO PLINTH LEVEL<sup>(1)</sup>

Item	Quantity	Cost/Unit (Rs*) <sup>(2)</sup>	Amount (Rs)
Bricks	410 units	0.45	184.
Cement	2 bags	55.00 <sup>(3)</sup>	110.
Brick ballast	0.15 M <sup>3</sup>	75.00	11.
Aggregate	0.1M <sup>3</sup>	110.00	11.
Sand	0.5M <sup>3</sup>	60.00	30.
Steel (6mm dia)	6 kgs	7.00	42.
Pan & Trap (mosaic) set		40.00	40.
Trained Mason	2 man-days	40.00	80.
Unskilled labourer	2 man-days	20.00	40.
			Rs.548.
	10% contingencies....		54.
	Total....		Rs.603.
	Say....		Rs.600.

Note: (1) The cost does not include the superstructure

(2) New Delhi price 1986

(3) Rate based on government price

## MAINTAINING A WATERSEAL LATRINE IN GOOD CONDITION

What needs to be done?



1. The latrine pan should be cleaned once a day with a broom, using soap powder or ash.



2. Stones, garbage or other solid wastes should not be thrown into the pan. This will block the latrine.



3. If any part of the latrine is damaged, repairs should be made promptly.

### Who will do it?

If it is a private latrine, each family will do it. This is easy. However if it is a community latrine one must engage some person to look after this. This employee can either be paid by each user separately or by the village as a whole. But remember to make this arrangement before you build the latrine!

## ENVIRONMENTAL SANITATION:

Latrines are not the only aspect of sanitation.

What else is there?

Look at this picture. What do you see?

Try to name all the sources of infection.



## GARBAGE

Piles of garbage lying around the house or street provide a breeding ground for flies. They can also block roads and drains. They attract pigs, rats, dogs and other animals. Flies breed in cowdung and garbage. Mosquitoes also breed in the water blocked by piles of garbage and dung. Mosquitoes spread malaria and filariasis and many other diseases.



### What can be done to avoid the problems caused by garbage?

- a. Keep the house and surroundings clean. Use a dustbin to collect the garbage. Any empty tin or carton or a wooden crate will do. Keep it covered and empty it everyday.
- b. Convert garbage into compost in a garbage pit. Vegetable peels, leaves, waste paper and cattle dung can be put into the garbage pit. The contents of the pit decompose slowly to form compost. This serves as a good fertilizer and can be used in the kitchen garden or field.

### HOW TO BUILD A GARBAGE PIT

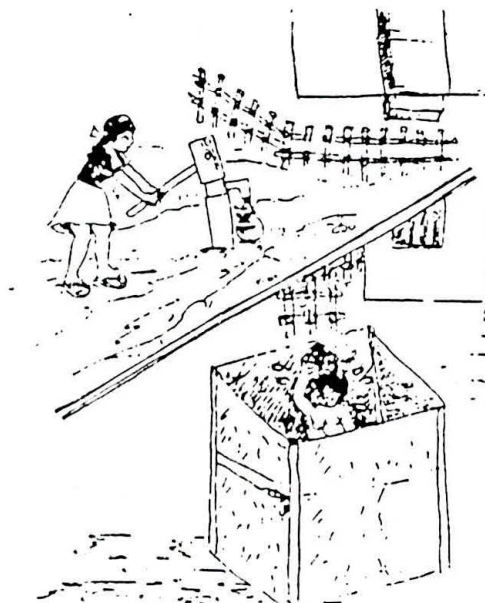
It is quite easy to build a garbage pit for oneself.

1. Select a site at some distance away from the house like the corner of the backyard and dig a pit 1 meter long, 1 meter wide and 0.8 meter deep in the backyard.
2. Build an earth bank about 10 cm high around the pit and compact it well. This prevents rain water from flowing into a pit.
3. Every week, level the contents in the pit with a rake or stick and cover with a layer of compacted earth of about 3 finger thickness. This will prevent flies from breeding into the pit. When full, the pit should be covered with a layer of firm soil and left undisturbed. After 2 to 3 months, the content becomes good fertilizer.
4. Construct a new pit next to the existing one when the first one is full.



## DISPOSAL OF WASTE WATER:

Stagnant pools of waste water around houses, in streets and in chowdrains are a health hazard. They smell bad, make the area slushy and provide a place where mosquitoes can breed. What can be done?



## THE SOLUTIONS

1. Draining the water away - A good way to use the waste water from a handpump or well is to lead it through a drain to irrigate a vegetable garden (kitchen garden). The vegetables grown in the garden can improve the family's nutrition.
2. Soaking the water away - The water can be led into a specially prepared pit from which it is soaked into the ground. This is called a soakage pit. It can also be used to soak the waste water from a bathing cubicle. It works well in sandy soil, but cannot be used in a water logged area or soil with high clay content, like black cotton soil. In the latter case, the water has to be drained away.

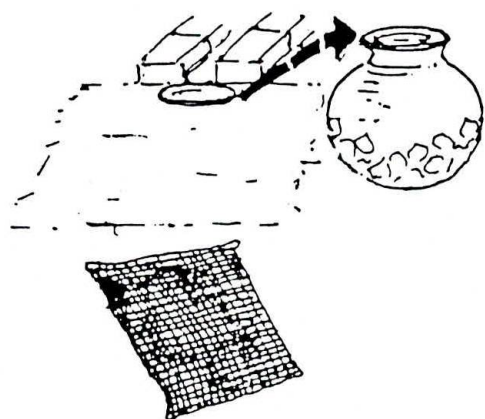
## HOW TO BUILD A SIMPLE SOAKAGE PIT

A soakage pit is a pit filled with different sizes of stones or broken bricks. The stone filling prevents the pit walls from collapsing. As the waste water flows into the pit, it will gradually seep into the ground.

The sediments in the pot should be removed regularly and fresh coconut fibre or leaves put back.



1. Dig a pit 1m x 1m x 1m
2. Fill one third with large stones (10-15 cm diam.), then upto two-third with smaller stones (5-10 cm)
3. Place 20 cm diam. clay pot with many small (2 cm) holes. Put coconut fibre/leaves inside. Fill pit upto ground level with small stones (1 cm diam.)
4. Place 5 cm twigs layer and gunny bag. Put soil on top and compact.

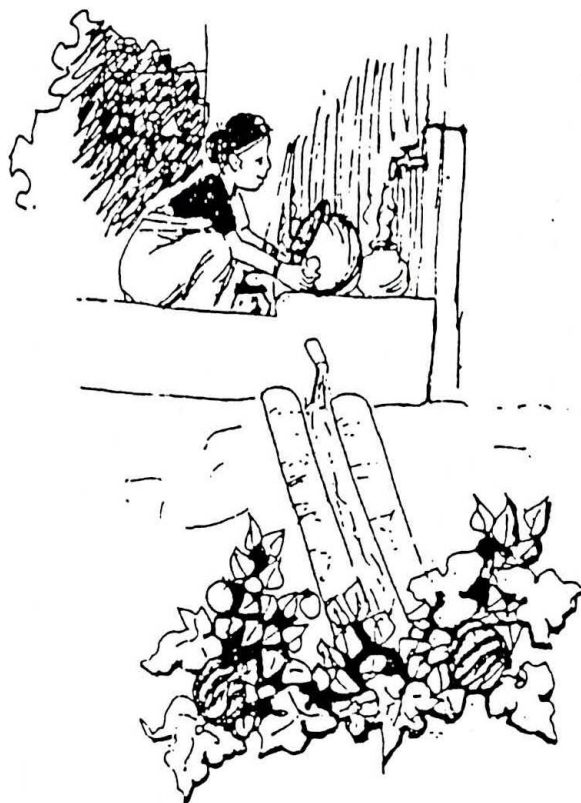


After several years, the soakage pit will become clogged up and overflow. It has to be emptied, the stones washed, dried and put back.



## HOW TO BUILD A KITCHEN GARDEN

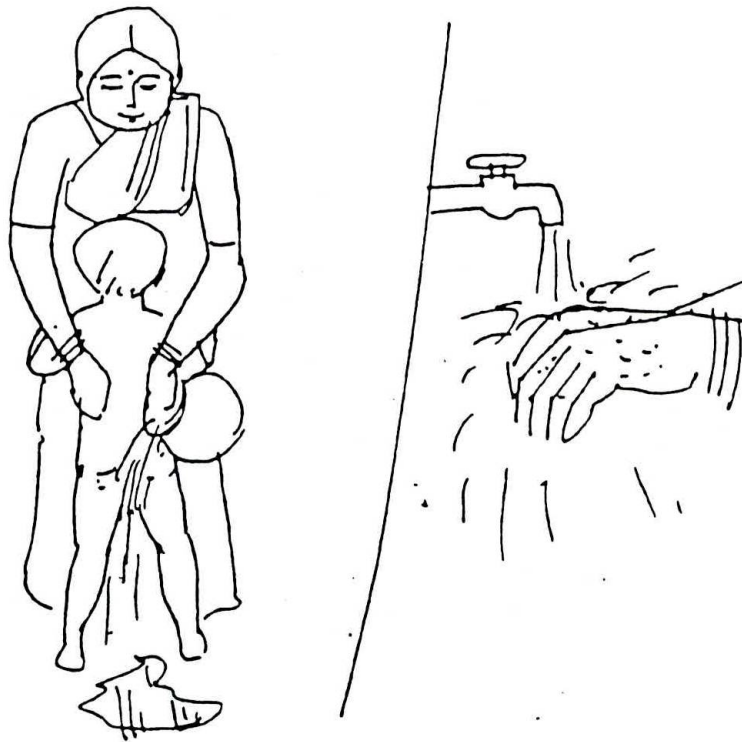
1. First, select a site for your vegetable plot. It should be at a lower level than the outlet of the waste water, so that the drain has a slope.
2. Next, beat down the soil so that it is compacted (packed close together). A channel is cut in the compact soil for the water to flow through. The channel can be left unlined or lined with stone. A clay pipe laid along the channel can also be used. Be sure that the drain is clean, so that the water can flow freely to the plot.
3. Get help from the local farmers to decide which vegetables are suitable for a kitchen garden. It may also be possible to grow fruits.



## PERSONAL HYGIENE

Many diseases are spread by poor personal hygiene. Some bad hygiene habits are discussed.

Human excreta, contains many harmful germs. It is one of the chief sources from which diseases are spread. Mothers who clean their infants after the latter defecate, may forget to wash their own hands with soap or ashes. These germs also collect under long, dirty finger nails. 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 diarrhoea from one sick child.



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 bedding.

If the teeth are not cleaned regularly, food particles collect in between them and rot there. This causes cavities in the teeth, leads to toothache and causes bad breath.

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

### WHAT CAN BE DONE?

Some of the more important aspects of personal hygiene are listed here.

#### A) Sanitary latrine

It is important to use a sanitary latrine if it is available. Otherwise try to save money to build a latrine near the house.





## B) Washing hands with soap or ash



This is the most important clean habit. Studies have shown that just washing hands with soap before handling food and after defecation has reduced the transmission of certain diarrhoeal diseases by 50 percent. Children usually forget to do this. It is also important to wash hands before preparing food and before eating. Soap will remove the traces of excreta and dirt on fingers and hand. If soap cannot be afforded one can use ash. But do not use mud.

## C) Bathing and washing clothes

Having a bath everyday using soap regularly is useful. It is also useful to wash clothes regularly, and to air bedding in the sun.

## D) Not playing in dirt

Children should not play in the soil near where people defecate.

Motivate the people to wear slippers, so that worms in stools do not enter via bare feet.

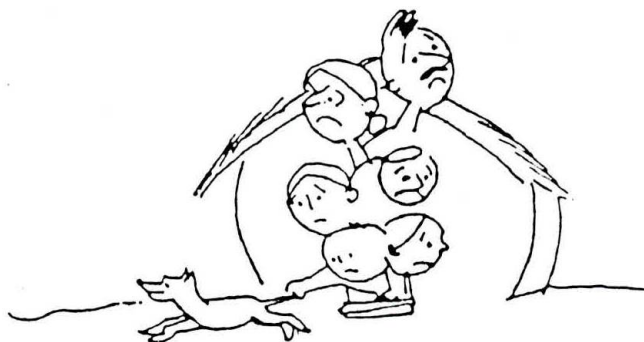


## E) Cleaning Teeth

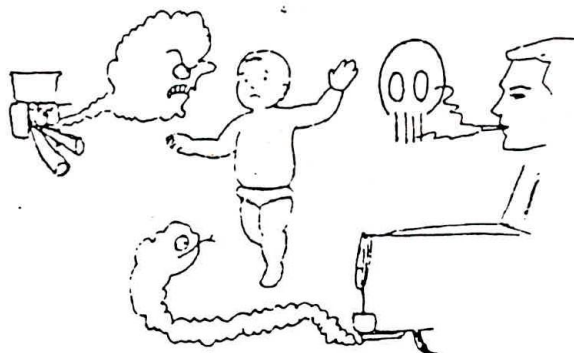
**SANITATION : WASTE TO WEALTH**

## SANITATION IN THE HOME

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 have 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.

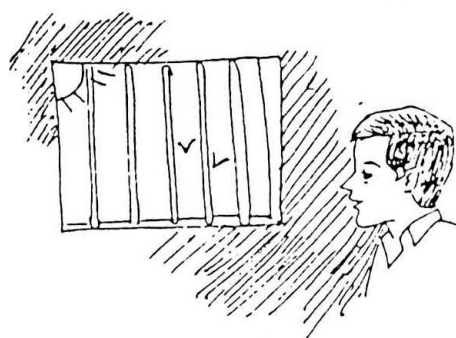


The smoke from the conventional chulha (open stove) causes eye irritation and respiratory disease, particularly among children and old people. Studies have shown that smoke inhaled by the housewife during daily cooking is equivalent to smoking 20 packets of cigarettes per day. Hence pregnant mothers can even give birth to unhealthy babies, if there is excessive smoke exposure.



## THE SOLUTIONS

1. More than one-third of one's life is spent in the home! Try and have enough openings for light and air



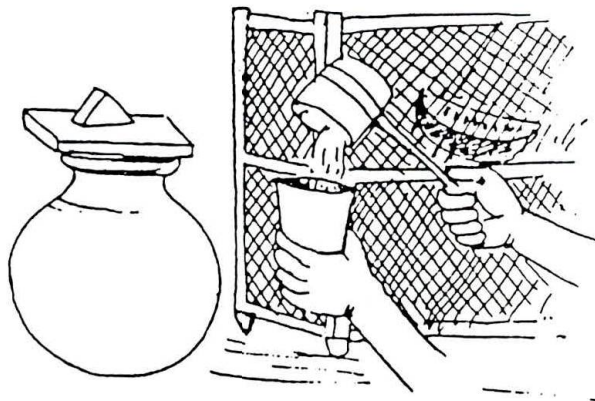
2. Use a smokeless chulha. It will prevent the smoke from filling the house, because the smoke goes out of a chimney attached to the chulha. It will reduce respiratory disease and irritation of the eyes.

3. Keep food and drinking water covered. Use a cupboard with a wire mesh door, for storing food to keep away insects and rats.





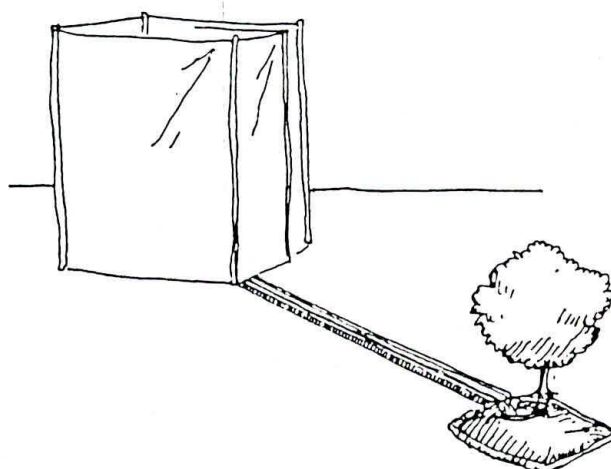
4. Have a common ladle to take water out of the water pot, instead of each person dipping a cup into it to take water.



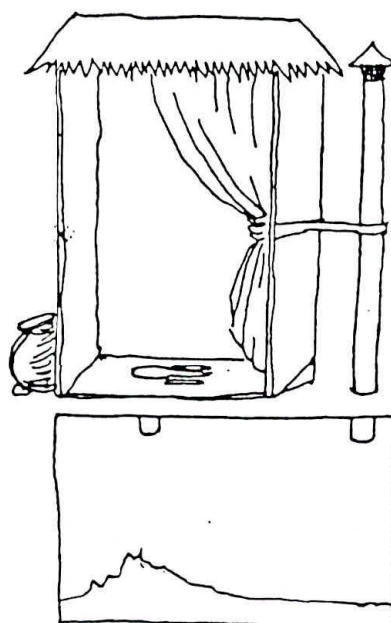
5. Keep the house clean. Sweep the floor daily and throw the rubbish in a garbage pit in the backyard. Also keep the surroundings of the house clean. Remove piles of garbage, dung and stagnant pools of water. Use a garbage pit. Grow some vegetables in the kitchen garden and build an earth drain to divert the waste water from the house to the garden.



6. Build a simple bathing cubicle and a soakage pit for the waste water



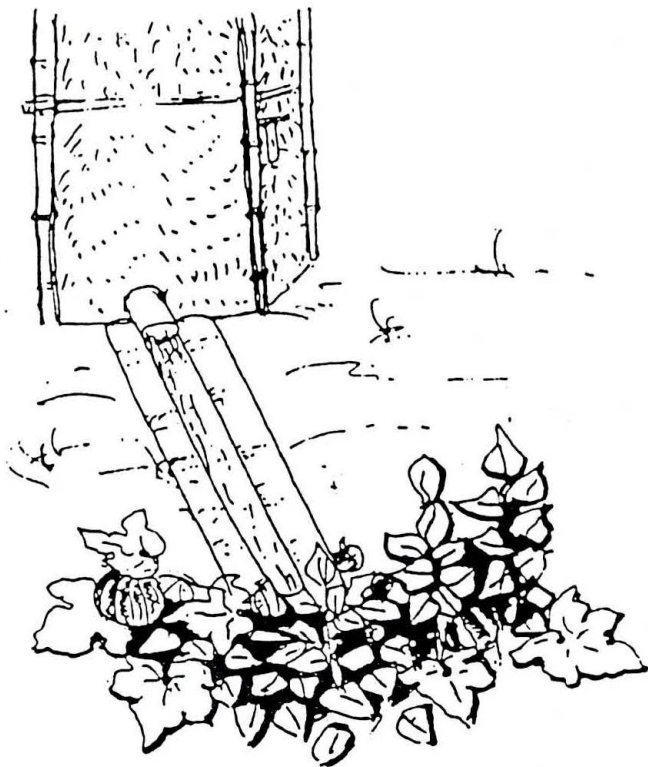
7. Build a sanitary latrine.



## WASTE OR WEALTH?

We saw that if it is not properly disposed of human excreta, animal dung, garbage, waste water are all sources of disease and are very harmful to us. However if they are properly disposed of they are sources of wealth. After 3 years in the pit the human excreta becomes totally harmless and is the best quality fertilizer for fields. Garbage becomes compost. Waste water can grow vegetables. And so on. Why, if we plan well and get some more money to invest then we can generate biogas as a fuel and even generate electricity from it.

Is it not much wiser to make our wastes into wealth instead of into disease?





## WORKING TOGETHER!



But why has it not happened so far? What can be done now?

People need to work together to achieve this. Perhaps we should first organize a 'clean the village' campaign! and then we should draw up a plan. How many latrines do we need?. Shall it be private latrines or community latrines? How many soakage pits do we need and so on. Then we should find out the cost for the total plan and from the village panchayats fund we can build it.

Of course the panchayat has only limited funds and you may have to see that your designs are cheap. And each family will have to pay a part of the cost or contribute by doing labour especially if many latrines are to be built. And your local mason may need to be trained. Perhaps even after all this, you may have to demand more funds for panchayats. Yes a lot of work is there.

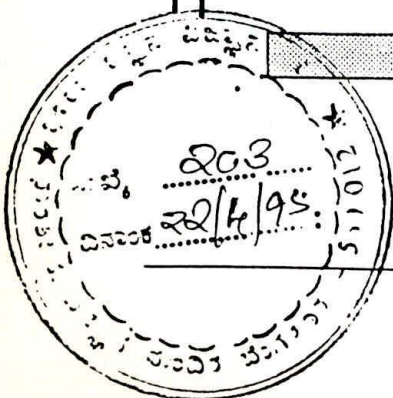
But it can be done if the village together decides that it is necessary. Besides that our wastes will no longer be the causes of our suffering and disease and death but that they will be turned into wealth.

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# OF DARKNESS AND LIGHT



Health Awareness Booklet No: 5



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BOOKLET PROTOTYPE PREPARED FOR  
LOK SAMPARK ANDOLAN ON HEALTH  
AND FOR  
NEO LITERATE PUBLICATIONS.

ILLUSTRATIONS - TROTSKY MARUDHU  
DESIGN - M. BASHEER AHMED  
TYPESET AT - EZHIL PRINTS, MADRAS-24

BHATAT GYAN VGYAN SAMITHI  
WEST BLOCK 2, WING 6  
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NEWDELHI-66

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OF DARKNESS  
AND LIGHT

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Let me tell you a story  
The story is about a village  
The village is called Irularai  
The village is as dark  
as its name suggests.



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**OF DARKNESS  
AND LIGHT**

---

This is not a village of criminals  
But all the elders, they commit a crime  
I call it a crime, because there is a law  
An Article, that specifically forbids this practice  
What is this law?  
This law states that no girl shall  
be married before she is 18 years old.  
No boy shall be married before 21  
To do so is to invite punishment by law



But the elders say  
'No one has punished us  
Nor is ever likely to  
What we do is for us essential  
And this others will not understand'  
'A daughter in the house is only trouble  
She belongs to another house  
It is another house she will serve  
Why spend on her. Why educate  
Let her go  
The earlier the better'.





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**OF DARKNESS  
AND LIGHT**

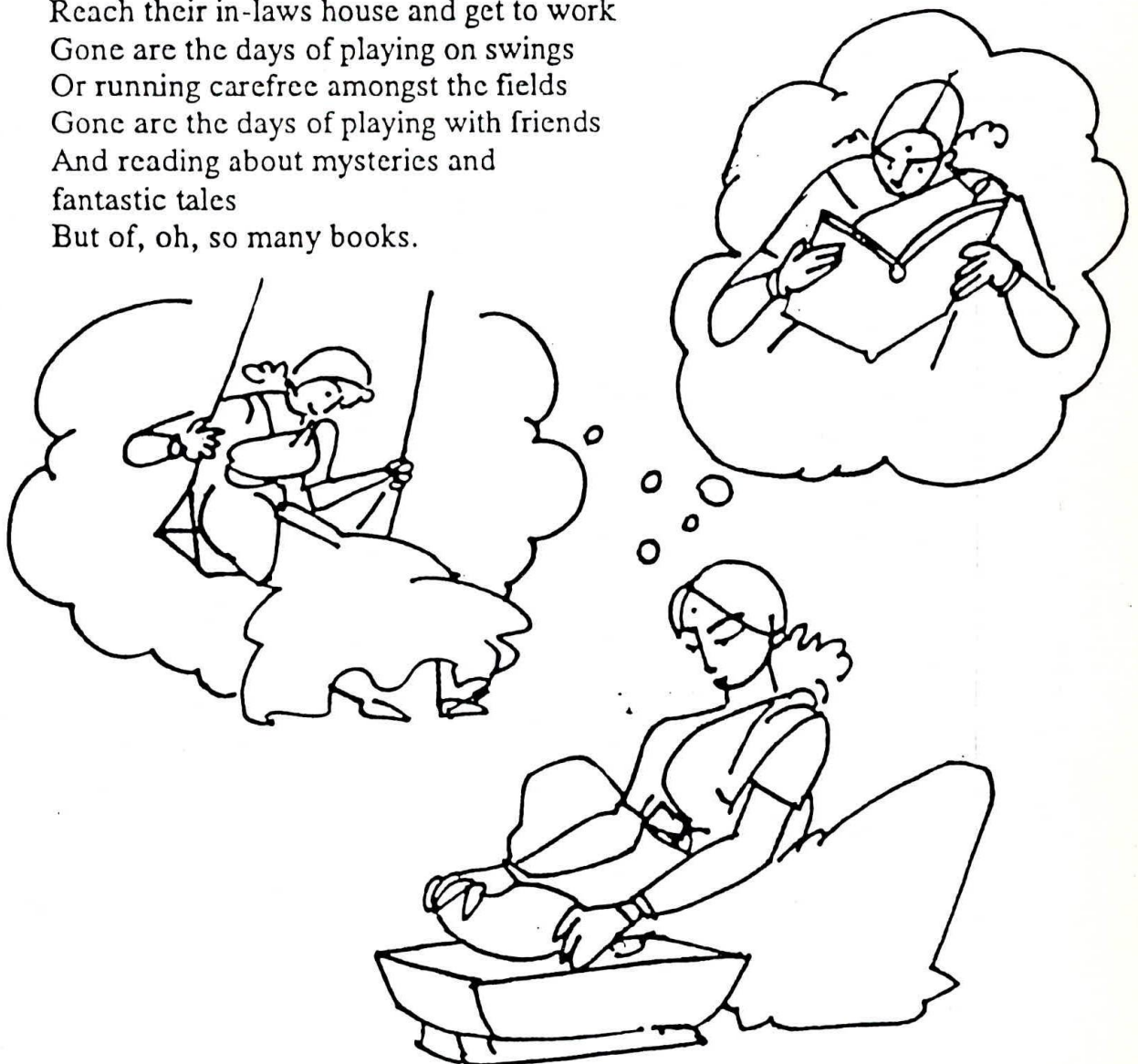
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What if they grow up? Say the mothers  
And get into trouble with boys  
Then who will marry her!  
Who will provide for her  
And if she gets educated  
She will get ideas of her own  
And heavens know what that will lead to  
Better she is married now  
Before she is able to decide

It is true that the law has not punished them  
For reasons no one really knows  
But a far worse punishment has befallen them  
But like worms in a dung heap seldom realize  
the brighter world outside  
Many are not even aware  
of how it would have been,  
had only they done otherwise.

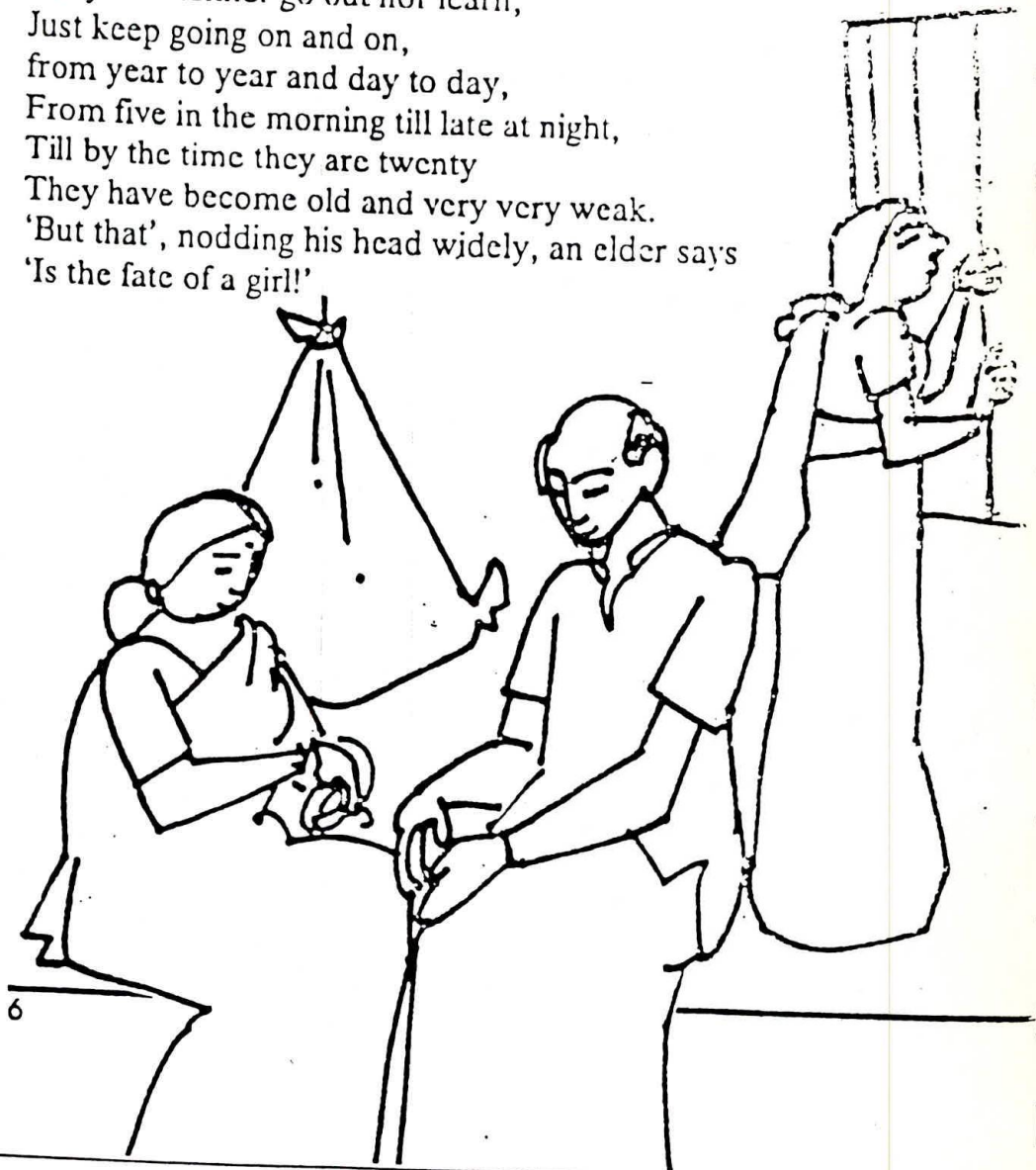


Let us see what they suffer in Irularai  
The little girls hardly understanding  
Reach their in-laws house and get to work  
Gone are the days of playing on swings  
Or running carefree amongst the fields  
Gone are the days of playing with friends  
And reading about mysteries and  
fantastic tales  
But of, oh, so many books.



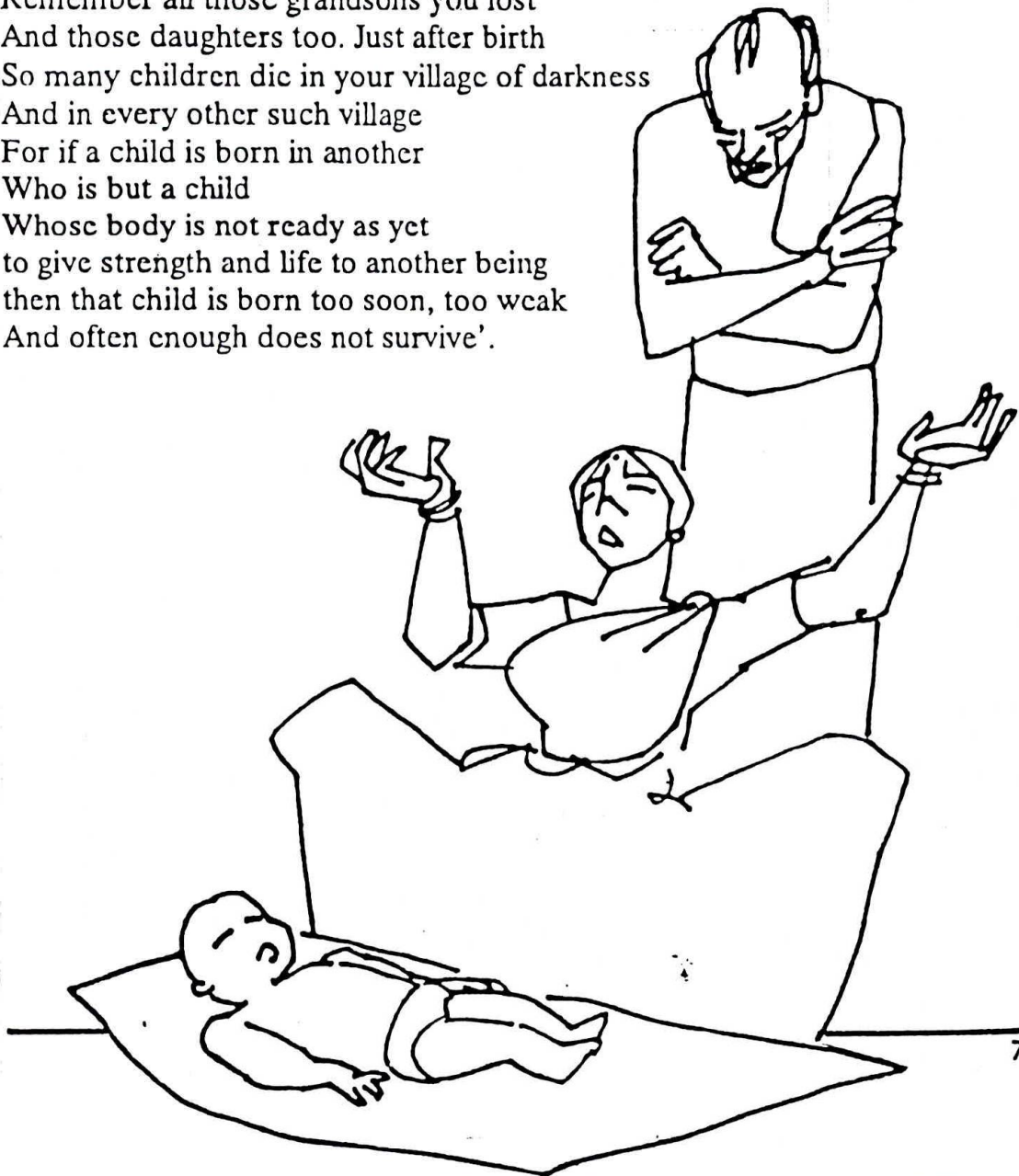
**OF DARKNESS  
AND LIGHT**

Soon they are with child  
They have to take care of another child  
When they themselves are but children.  
As well as look after house work  
And the husband and his parents.  
The house becomes their prison.  
They can neither go out nor learn,  
Just keep going on and on,  
from year to year and day to day,  
From five in the morning till late at night,  
Till by the time they are twenty  
They have become old and very very weak.  
'But that', nodding his head widely, an elder says  
'Is the fate of a girl!'





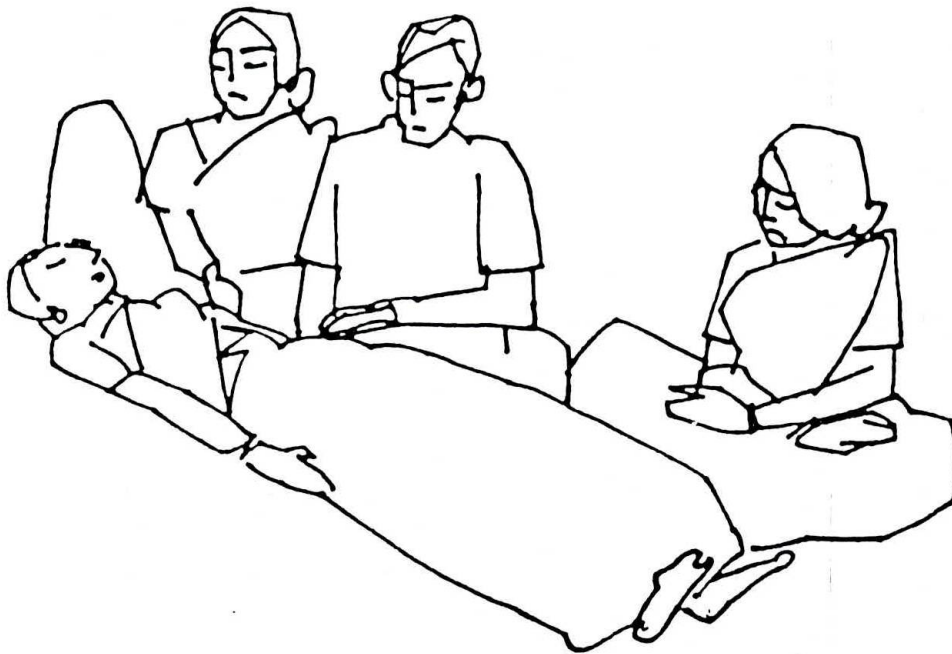
'But old man' say I, 'Justice will be done  
But not think you go scot free  
For what you do to your women  
Remember all those grandsons you lost  
And those daughters too. Just after birth  
So many children die in your village of darkness  
And in every other such village  
For if a child is born in another  
Who is but a child  
Whose body is not ready as yet  
to give strength and life to another being  
then that child is born too soon, too weak  
And often enough does not survive'.



**OF DARKNESS  
AND LIGHT**

'And what of these young mothers  
How many of them, quite unable to bear  
So many children and so much work, die.  
Do you know that in your village  
And in villages like yours and in every home  
Where girls are treated thus.  
Many many days are spent in mourning  
And for every bit of laughter you deny the girl  
the family spends many more days in despair!'  
'Nor are these deaths the only price you pay? Old man!  
What of their little bodies, wracked by pain  
What of their torn parts and weary limbs  
What of the stunted growth of  
Children who can never go out of doors!  
Can such practices be without its cost?  
Can a mother who is thus,  
look after your cherished grandsons?  
Can they be well fed and well educated,  
Encouraged and stimulated,  
To grow up and spread the fame of your family,  
If their mother is bent over / with such  
pain and trouble?  
Will they be able to bring forth girls  
who can care after the families of the future?  
If not what will happen of your tribe!  
But above all, what of the cost  
Of the half of society that is lost?  
What is the cost, of the talents destroyed  
How many musicians have you choked?

How many dancers have been buried?  
How many scientists have been imprisoned.  
Or P.T.Usha's have been crippled.  
How many flowers wilted,  
how many fruits ripend too early,  
What right do we have  
To deny them their identity.  
What right do we have  
To push them behind doors  
Cover them behind screens  
And bury them alive.





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**OF DARKNESS  
AND LIGHT**

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But if we look around  
(In Kerala for example)  
There are other villages, like this one,  
let us call it Arivoli!  
Here girls all go to school  
They even get their degrees  
They go out to work  
And by the time they are married  
Are definitely eighteen if not much more!  
Yes there are many villages like this  
In our own country.

In these villages, like the ones of Kerala  
Children die very rarely.  
Their mothers are older and give birth  
To strong and healthy ones. And they are educated  
And know to look after them well  
And above all they know  
How to bear babies  
only when they want to.



There are women who have become doctors,  
Policewomen, nurses and health workers  
They are women engineers and women masons  
Carpenters, mechanics, Sales girls and musicians,  
Auto drivers and butchers, Judges and soldiers  
All of these jobs can also be done by women!  
Women have cooperatives and elected representatives  
They control business and conduct agitations  
Indeed in no way are they lesser to men.

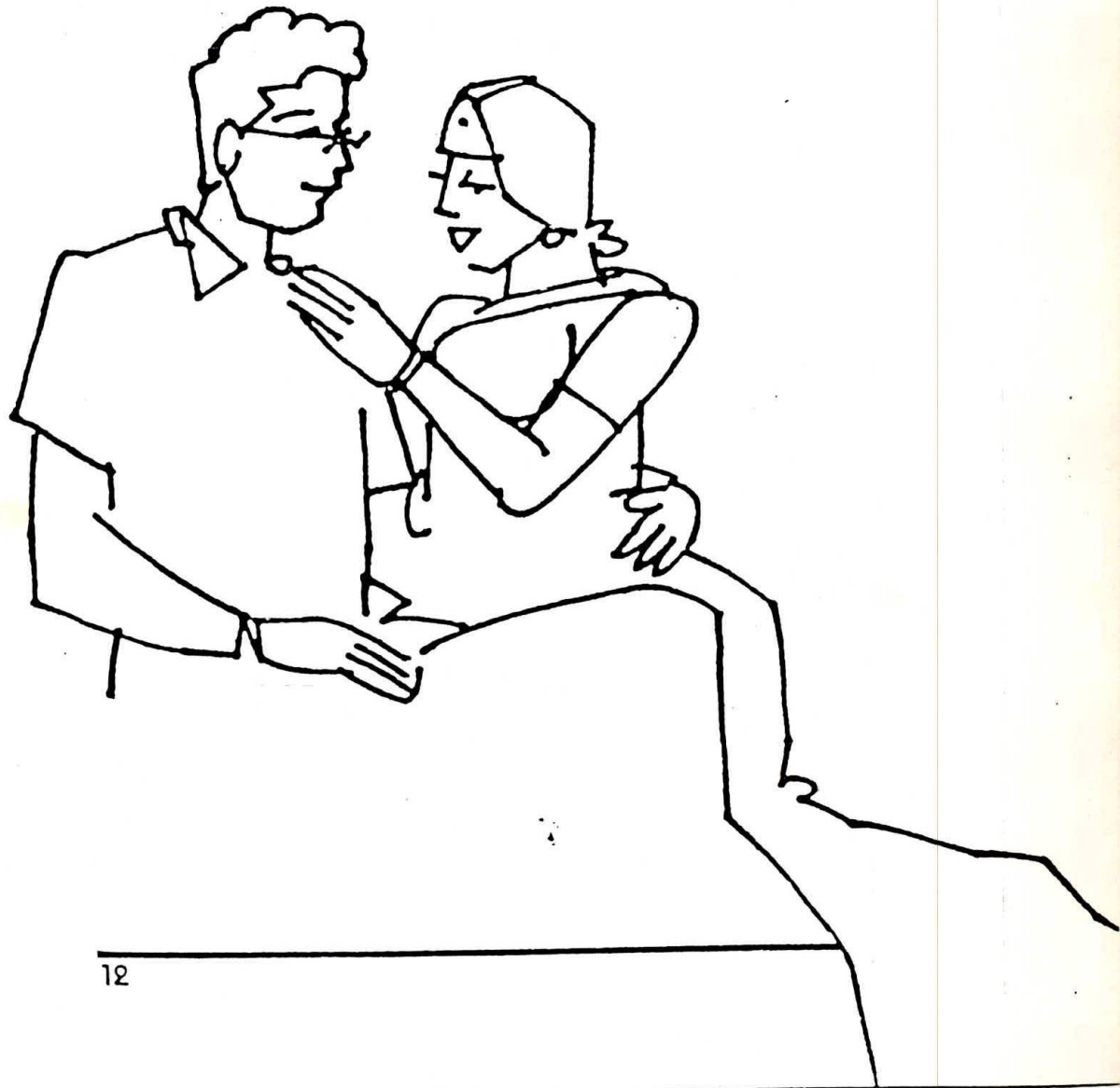


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OF DARKNESS  
AND LIGHT

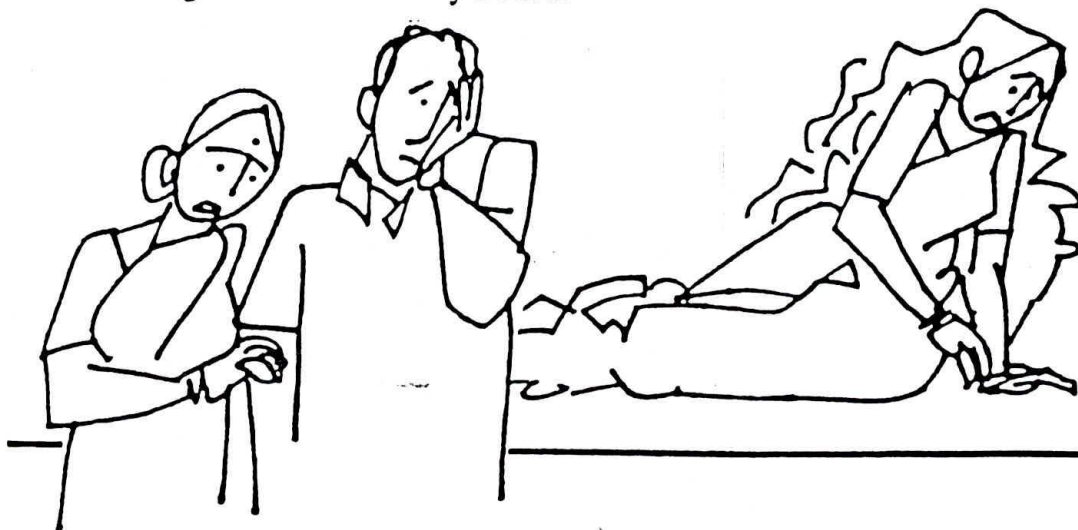
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The men too are very happy for now,  
In their house is not only a wife  
But there is a friend who can give advice  
Who is educated and can help  
In all things from earning an income  
To making decisions in times of need





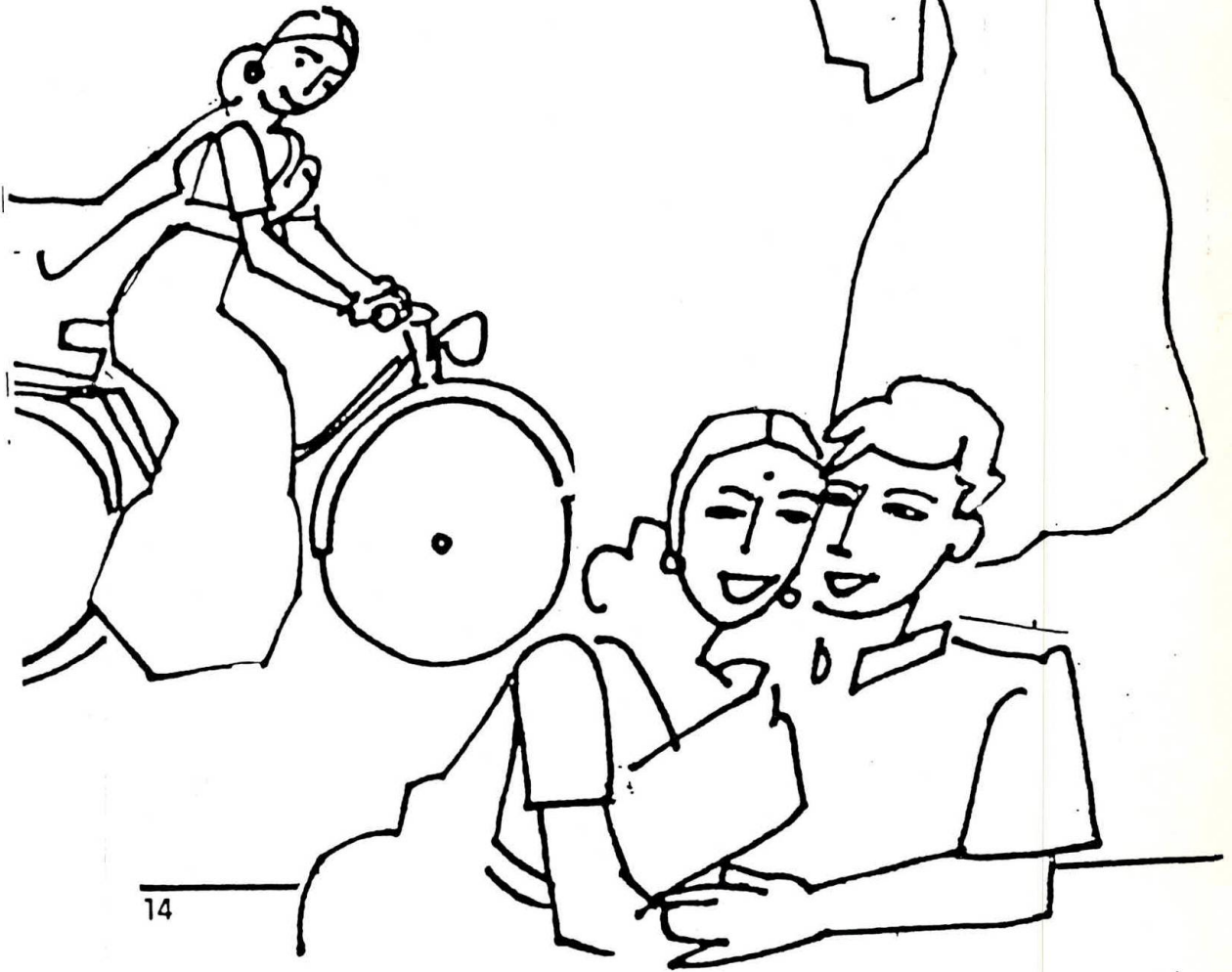
Now Arivoli and Irularai are both in India  
But look at the great contrast  
In Irularai, girls are considered a burden  
For they have to spend much on their marriage  
And on other rituals - coming of age,  
first pregnancy, first diwali and so on  
And are married off early and bring no income  
Pity the poor girls, whose husband dies early,  
curbed in their new homes, unwanted at their parent's  
Incapable of earning, they become white with suffering  
So, often enough these families  
Resort to even greater crimes than told above,  
like killing the girl child after it is born  
Or even finding out in the womb  
Whether it is a girl and removing it.  
But for all this shame, if you go to Irularai  
Or see villages like them, they have not improved.  
Indeed they are worse.  
And despite wealth, there is poverty and despair  
and suffering in each and every house.



OF DARKNESS  
AND LIGHT

But in Arivoli village, it is different  
Girls are welcome, just as for boys  
Both are educated and are capable of earning  
And marriage is only if the girl becomes eighteen.  
There may be little wealth, but whatever is there  
Is used optimally. And laughter and sadness  
is well shared.

And if need arises she can  
support herself and her family.

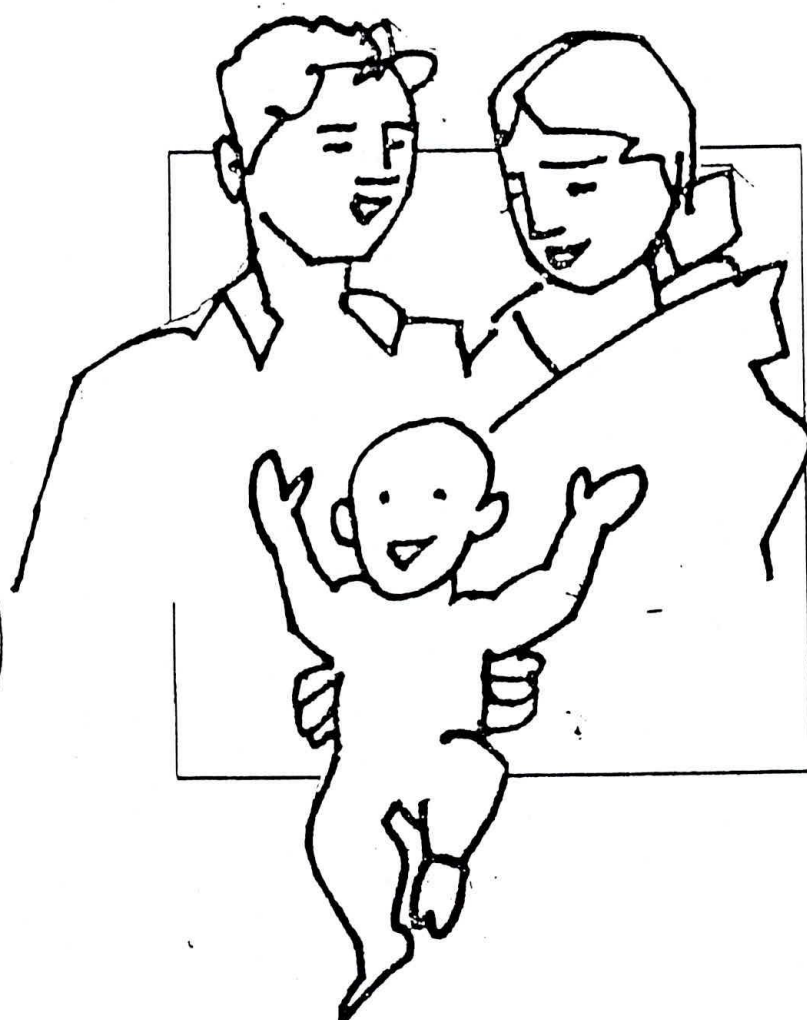


So let us say to the people of Irularai  
Or to all those villages which are like that  
And indeed to all the houses  
Where girls are married before eighteen  
And not educated in full and made  
capable of earning  
Please stop, before it is too late  
It is unnecessary, all this suffering  
Stifle your women and you damn your society  
let them grow, let them bloom  
Let them dance, let them sing  
And only then will the new dawn be coming.





# PREPARING FOR THE NEW ARRIVAL



Health Awareness Booklet No: 6

BOOKLET PROTOTYPE PREPARED FOR  
LOK SAMPARK ANDOLAN ON HEALTH  
AND FOR  
NEO LITERATE PUBLICATIONS.

ILLUSTRATIONS - TROTSKY MARUDHU  
DESIGN - M. BASHEER AHMED  
TYPESET AT - EZHIL PRINTS, MADRAS-24

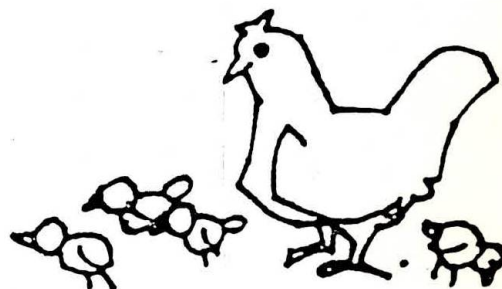
BHATAT GYAN VIGYAN SAMITHI  
WEST BLOCK 2, WING 6  
RK PURAM SECTOR - 1  
NEWDELHI-66

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## PREPARING FOR THE NEW ARRIVAL



**T**here is great happiness in Padma's house. Padma is 21 years old and married for one year now. Her mother-in-law says that she must be pregnant. Her husband says to her, 'Let us meet the health worker today'





How does Padma's family know?

For one it is 15 days now past  
the usual time for her periods. Absence  
of menstrual cycle is one indicator

Padma has nausea and a little vomiting  
especially in the morning. This is  
another sign of pregnancy

Some pregnant woman do not develop  
vomiting



By testing her urine for some changes  
a trained person can make out for  
certain,

whether she is pregnant or not. This  
test costs money. So one may also  
wait. There are other signs soon.

By the 18<sup>th</sup> week, if there is still  
no periods - and if the mother feels the  
child move, one can be certain

By now the breasts are becoming larger  
also and by the fourth month the mother's belly  
starts to bulge!



PREPARING FOR THE NEW ARRIVAL / 5

3632  
TM-110



How long does a normal pregnancy last?

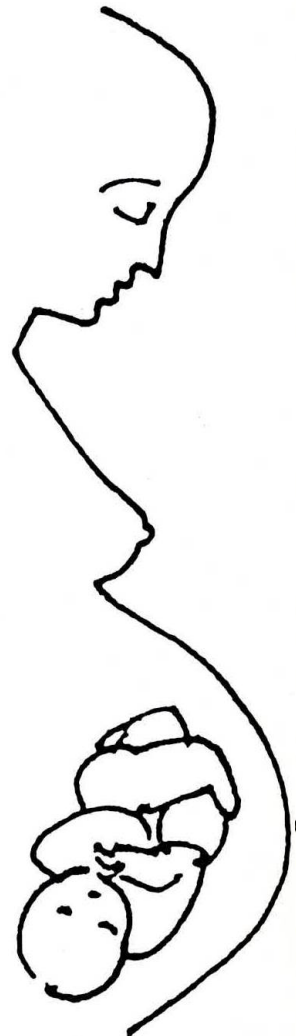
A normal pregnancy lasts for 9 months and seven days. You count the days from the first day of the last menstrual period. By the lunar calendar it is 10 months! Put another way it is about 280 days (It is not exactly 280 days It can be upto 10 days more or less)





In these 9 months the child in the womb is formed and it grows gradually  
The mother's blood passes nutrition and air to the child's blood in the placenta  
The umbilical cord connects the placenta to the child. It brings the nutrition and oxygen to the child and removes wastes and carbon dioxide.

The child is surrounded by fluid which protects it from shock. It survives in this fluid. From the 16<sup>th</sup> week, its movements is felt.



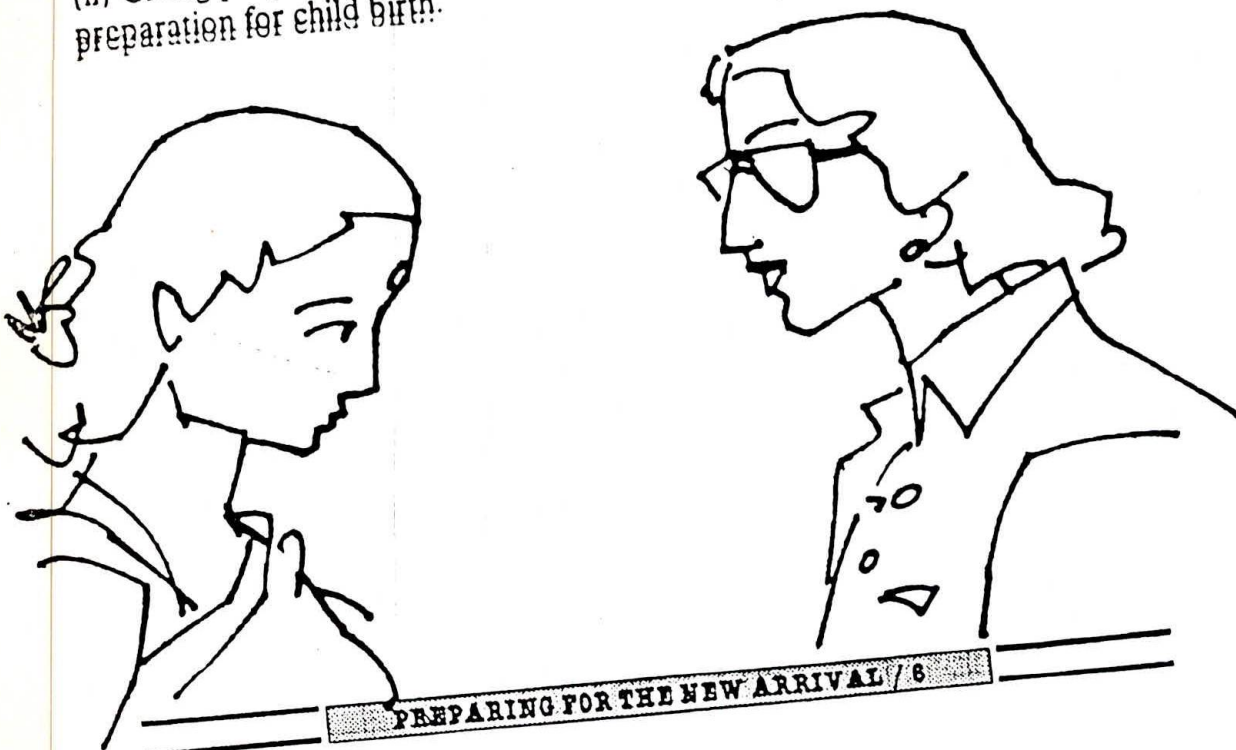
## VISITING HEALTH WORKER

Padma meets her health worker or doctor

- The health worker is essential for
- Identifying any problems that needs medical attention at an early stage:
  - (a) checking whether child is growing properly this she does by checking her weight
  - (b) blood pressure and urine,
  - (c) looking for the danger signs of pregnancy related diseases.

The health worker is also essential for

- (i) Giving two anti-tetanus injections and iron tablets for those anaemic
- (ii) Giving proper education on nutrition and preparation for child birth.



---

## NUTRITION

What must every pregnant woman and her family know about nutrition

(a) The family must ensure that she has extra food every day. She has to eat both for herself and for the child.

(b) She should have a variety of best foods. Milk, green vegetables, ~~meat~~ fish, eggs, pulses, grains, None of these foods need be avoided on any health grounds.

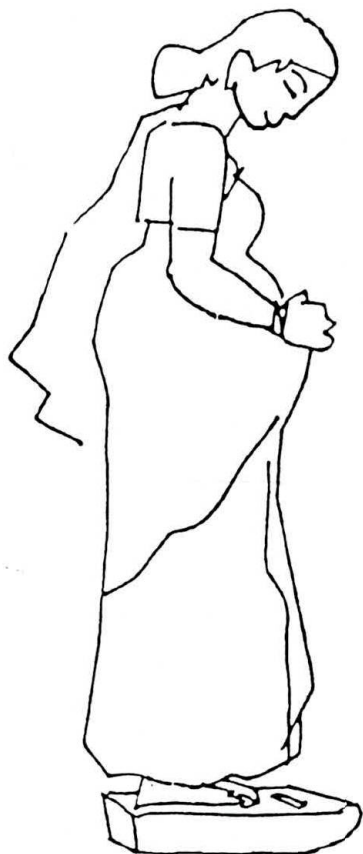




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## NUTRITION

c) Every pregnant woman must gain about 10 to 12 kilos weight before baby is born. If possible weigh the pregnant mother on her first visit and keep a weight record subsequently. If weight gain is too much or too little consult the doctor!



---

## NUTRITION

d) Most Indian women are anaemic. They must take iron supplements

Iron tablets are available free of cost in government health centres and at very cheap rates in private pharmacies also!



### EXERCISE AND REST

Pregnant women should not exert too much

No lifting heavy weights

Nor ~~severe~~ straining

She needs rest

she also needs light exercise - like walking

(severe





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### WARNING SIGNS

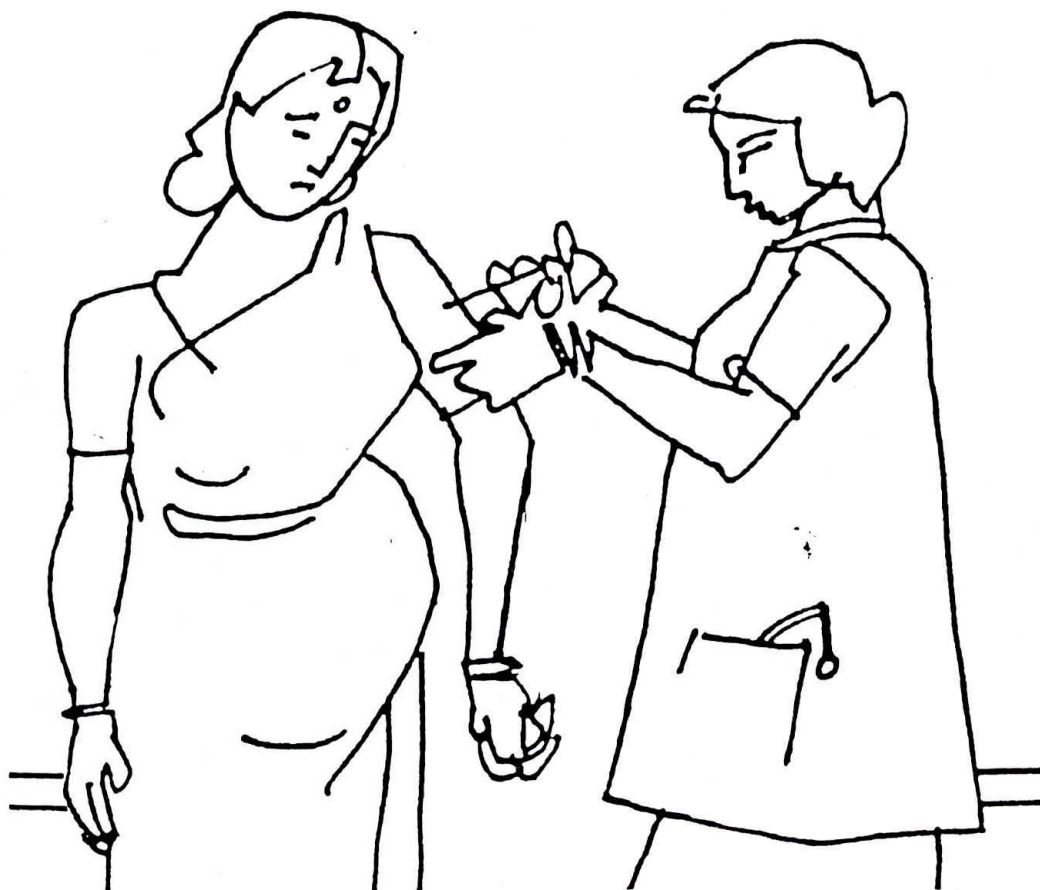
Danger signals of pregnancy :

If a woman has these signals seek medical help at once. Ensure that delivery is conducted in a hospital. All these signs indicate greater risk for mother or child.

### WARNING SIGNS

a) Warning signs before pregnancy <sup>be i</sup> signs

- (i) Less than 18 years age
- (ii) More than 35 years old
- (iii) Less than 2 year before previous child
- (iv) More than 4 children

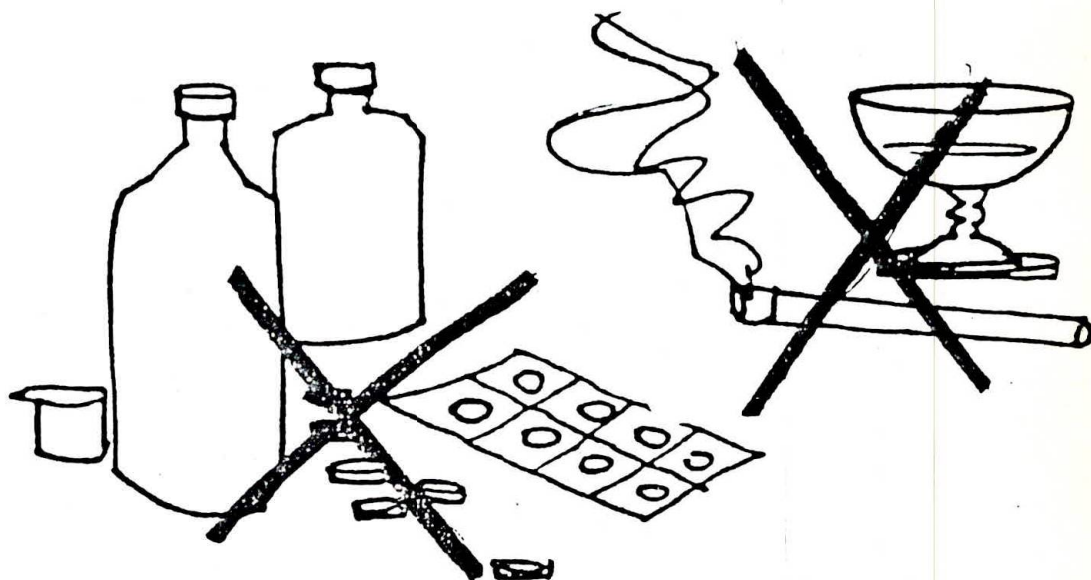


## IMMUNISATION

Must take 2 anti-tetanus injections  
These injections should be atleast  
four weeks apart. The last injection  
must be atleast 2 weeks before delivery.

### SOME DO NOTS

- (a) Be careful about  
taking any medicines. Especially in the first  
3 months one must avoid almost all medicines  
They can harm your baby.
- (ii) Take special care to avoid getting jaundice  
(Use only boiled water to drink) and diseases  
like measles (keep away from sick children)
- (iii) Smoking and alcohol must be avoided.



### WARNING SIGNS

(Warning signs of pregnancy - seek medical help) 8

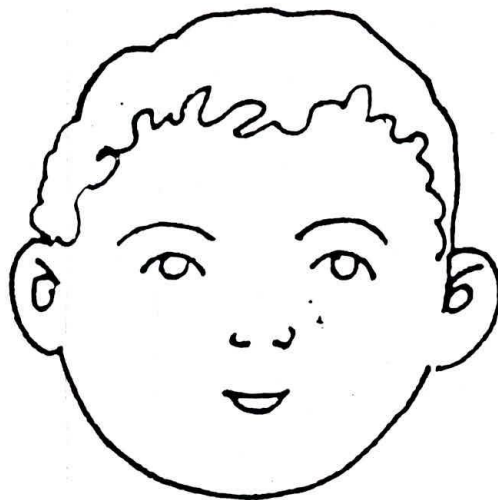
- (iv) Less than 38 kilograms weight before pregnancy
- (v) Less than 145 cm height
- (vi) Previous still birth or miscarriage or an abortion
- (vii) Previous premature birth of baby weighed less than 2 kilograms
- (viii) Previous birth was difficult or by operation

### WARNING SIGNS

(Warning signs of pregnancy - seek medical help) 8

Signs during this pregnancy

- a) failing to gain weight (less than 6 kilo gain)
- b) Anaemia (pallor inside eyelids - should be normally red or pink)
- c) ~~The~~ Usual swelling of legs, arms or face





---

## DANGER SIGNS

Rush to a doctor at once.

- a) Bleeding from vagina
- b) Severe headache (sign of high blood pressure)
- c) Severe vomiting
- d) High fever



---

### TRAINED BIRTH ATTENDANT

Ensure that there will be a trained dai to assist every birth

A trained dai is essential

- a) to keep the birth clean and reduce infection
- b) to cut the cord cleanly and safely
- c) to help begin breast feeding and to dry the baby and keep it warm
- d) To recognize any problem in labour and call on more expert medical help in time
- e) to identify any problem in child's health that need more expert medical help



---

### CHOOSE! CHOOSE WELL

Two more essential points to prepare well for your new arrival

a) Have a baby only when you choose. Use birth control measures to choose, Do not have a baby when you are physically or mentally not ready or when circumstances are not alright. Remember you can choose.

b) It is not enough to prepare only during these nine months. Good food, good health and education for all girls from an early age onwards is a must.

And to be fully ready till they are 18, they must not get married.

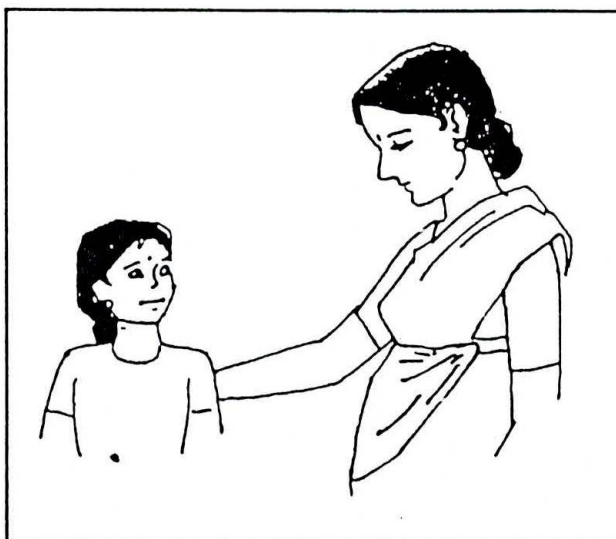
**SAFE MOTHERHOOD CAN BE ENSURED**  
If the pregnant woman and her relatives pay attention to the points mentioned earlier, safe delivery is ensured.





# WE CAN CHOOSE

HAVING A BABY WHEN WE WANT IT



HEALTH AWARENESS BOOKLET - 7

BHARAT GYAN VIGYAN SAMITHI

West Block - 2, Wing - 6

R.K. Puram, Sector - 1

New Delhi 110 066



Booklet prototype

for

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&

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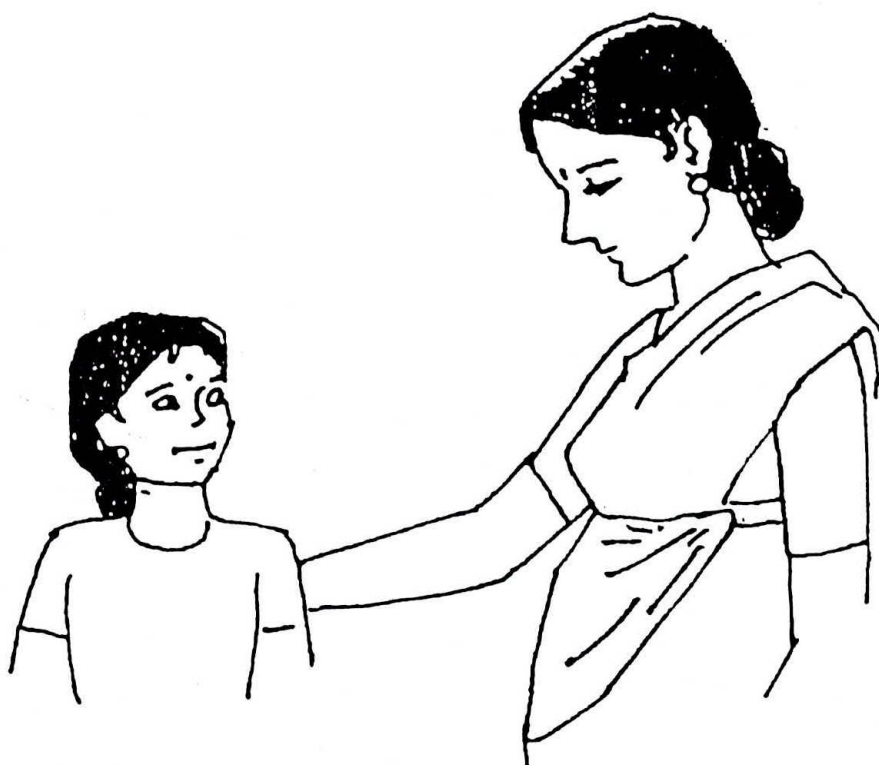
## WE CAN CHOOSE!

—HAVING A BABY WHEN WE WANT IT!—

How wonderful it is to have a baby!

Have you felt a baby kick inside its mother's womb?

Have you wondered about the marvel of the baby emerging and growing up?



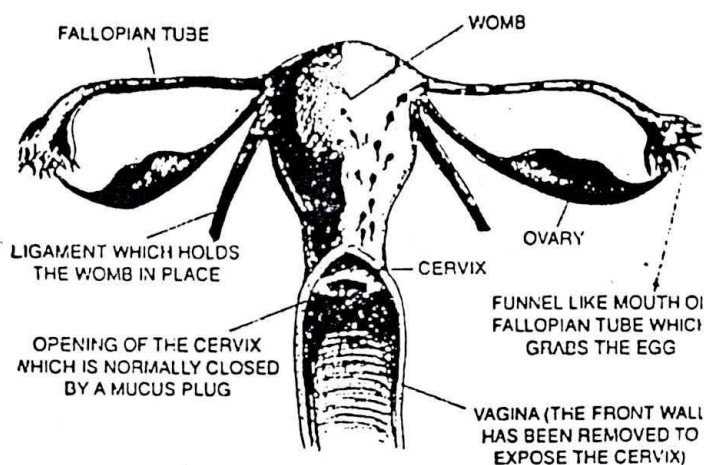
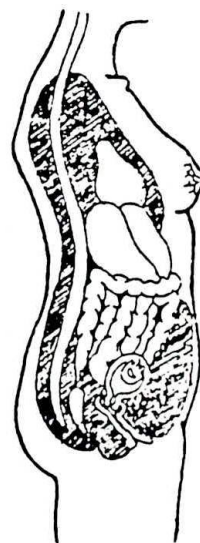
☆ ☆ W E C A N C H O O S E ! ☆ ☆



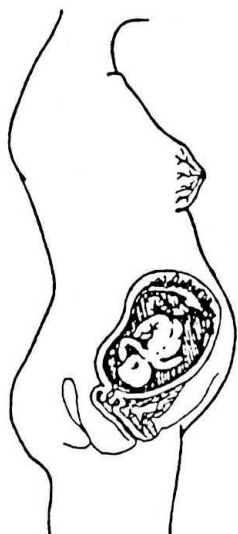


When the human seed is six days old it is no bigger than a grain of rice. A plant seed grows in the loving warmth of mother earth. The human seed has the warmth of a mother too.

The little one is formed when the seed from the father, placed inside the mother's body, swims its way up to unite with a tiny egg released inside the mother's body. Then this little one takes root in the soft dark and warm bag that is inside the mother. This is called the uterus.

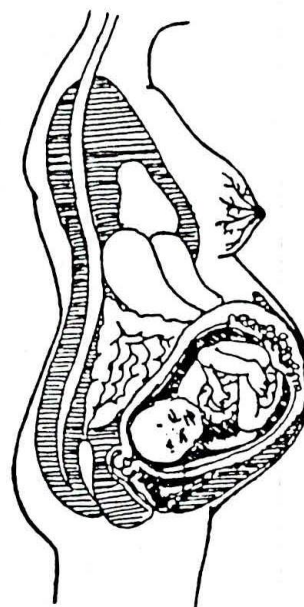


✿ ✿ W E C A N C H O O S E 2 ✿ ✿



When the human seed is 3 weeks old, it needs more food. More air. It has a special part called the umbilical cord. This reaches for mother's blood vessels. The place where the food and air pass from the mother to the child's umbilical cord is called the placenta.

Now mother must have enough food and air to feed two. So she must eat more and do less work. Then, the baby can grow safely, surrounded by a bag of water where the baby swims. Free from any dangers or shock.



✿ ✿ W E C A N C H O O S E 3 ✿ ✿



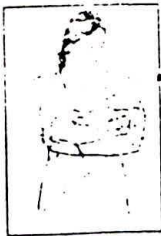
Shanthi has recently been married. She is only eighteen. She has to finish her studies in college and it will take two more years.

And she wants to know her husband better, spend some time with him. She wants a baby very much. But not now. Later, when she and her husband are ready. To be able to do all for the VIP. Right now she must study a bit more. She herself must grow a bit more.



❖ ❖ W E C A N C H O O S E 5 ❖ ❖





Rukkumani too is recently married. Also eighteen years of age only. She finds herself lost in her husband's place. There is so much work to do in the fields and in the house. Her in-laws keep wanting her to have a child at once. But she needs time to adjust to her new life and this new family. The health worker says that she can wait longer. Inside her she also feels, "I want a baby, but please god, not now. Let it be one or two years later. I'm not ready, I cannot cope now".

✿ ✿ W E C A N C H O O S E 6 ✿ ✿



Saroja has a six month old baby. How demanding she is, and tiring too. At night, when her husband comes to her she becomes almost faint with anxiety.

What if she becomes pregnant again? But her husband becomes impatient. Sometimes he is rude. What is she to do?



✿ ✿ W E C A N C H O O S E 7 ✿



Though having a baby is such a wonderful thing, for most women it becomes such a big problem. That is because they are not able to choose when to have babies. If they could have babies only when they wanted to and not have babies when they do not want to, then it would be wonderful.

☆ ☆ W E C A N C H O O S E 8 ☆ ☆





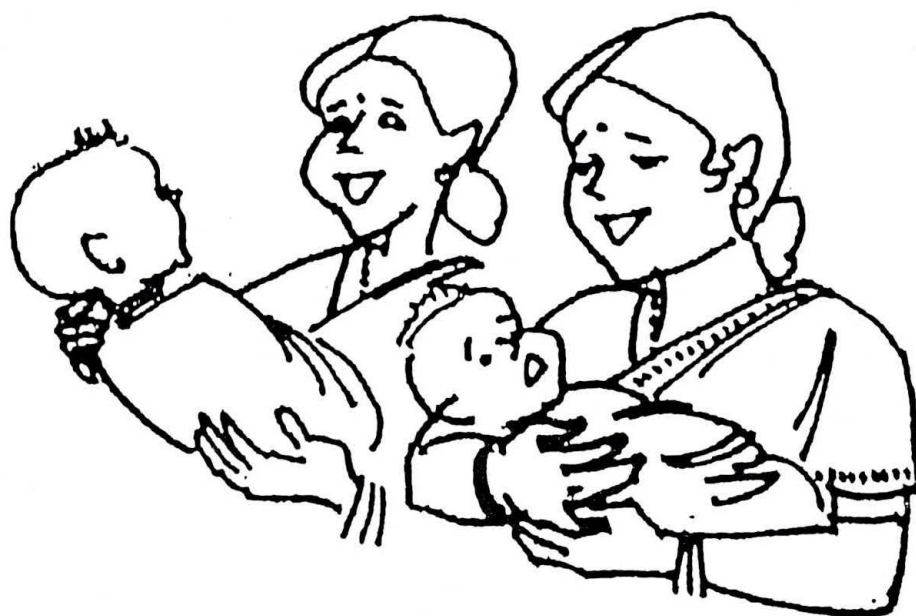
But they can now.

Women can choose!

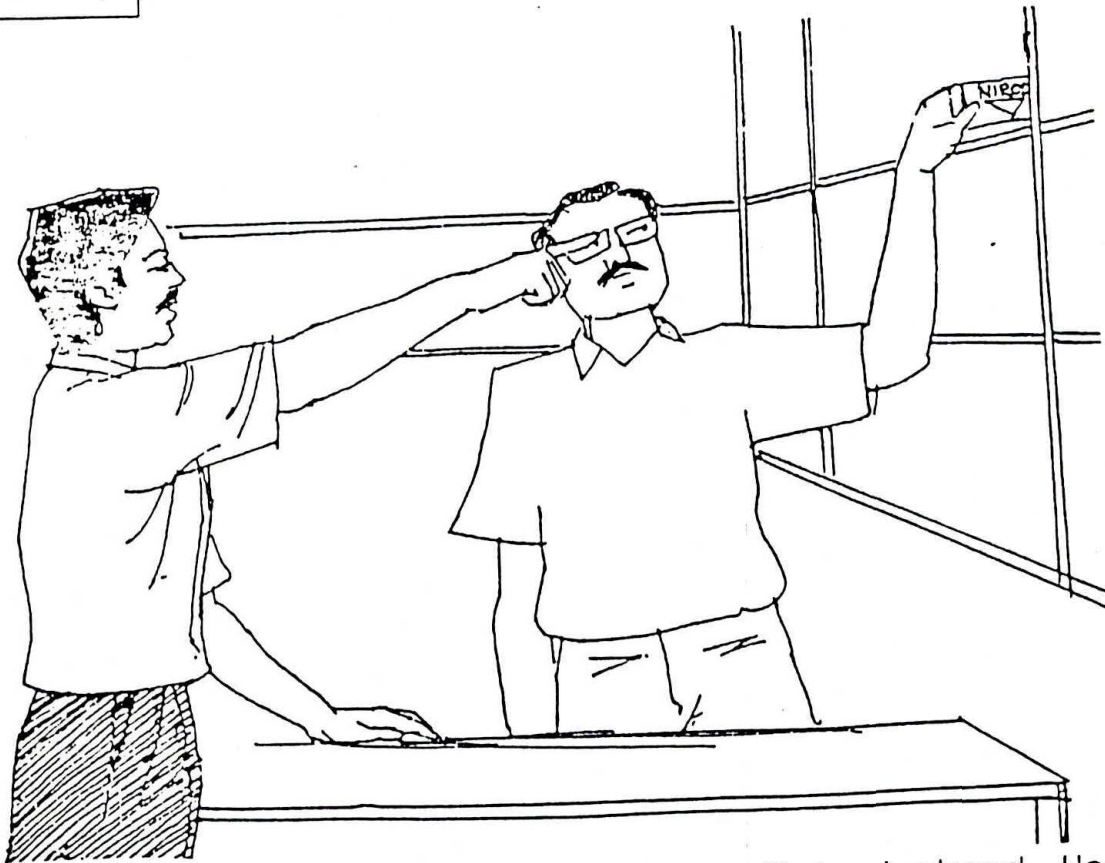
Women must choose.

Family planning gives them this power (Shakti).

Family planning is having the number  
of children you want, when you want them.



☆ ☆ W E C A N C H O O S E 9 ☆ ☆



How does Rani manage? She talks it over with her husband. Her husband readily agrees. They decide to use condoms for birth control. He buys the condoms from the local drug store. After use he flushes it into the latrine. Or takes it wrapped in paper to the fields and throws it in a waste area. Except for the small embarrassment in buying it in the shop, he has no other problems.



Rukkumani finds it more difficult to convince her husband. But she is determined. She goes with her husband to the local doctor. There she chooses to take Mala-D pills. Her husband is not so cooperative. But he does not object either. And Mala-D pills can prevent her from becoming pregnant till she is ready for it. The doctor has warned her that she may have some morning sickness, or swelling of breasts initially. This she has for the first two or three months-but it becomes OK. The only problem is remembering never ever to miss taking her daily tablet. After 2 years she chooses to have a baby. She tells her husband and then she stops having the pills. Within three months she becomes pregnant.





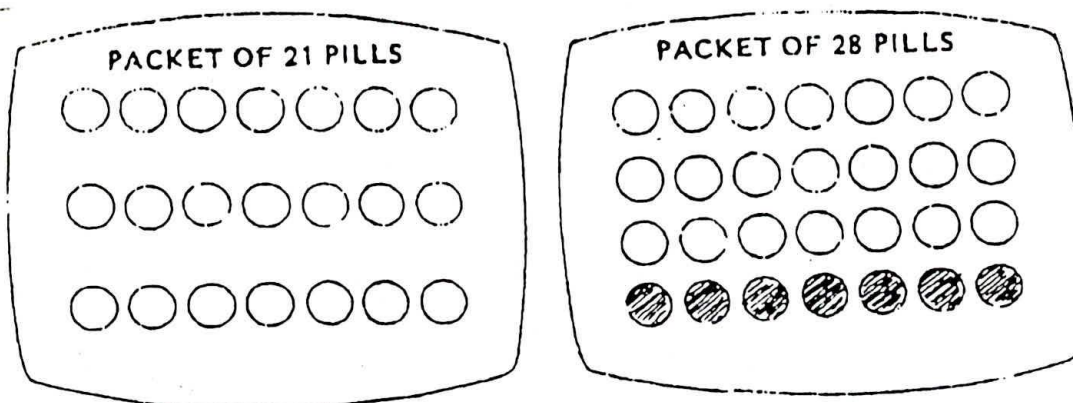


Why does Saroja not want to have a child now? Because her last child is only six months old. She feels too weak still. Her body needs time to recover. Besides the child needs all her care. And her breast milk. If there is another child now, both children will not get enough attention. And the second child is likely to have a low birth weight and therefore more likely to fall sick. Indeed all doctors tell her that - "THE RISK OF DEATH FOR YOUNG CHILDREN IS INCREASED BY ABOUT 50% IF THE SPACE BETWEEN BIRTHS IS LESS THAN TWO YEARS"

☆ ☆ W E C A N C H O O S E 1 2 ☆ ☆



How does she solve her problems? She learns about various birth control measures. If her husband cooperates he could use a condom. That would be the best. If not she decides to get a loop inserted. If there are no problems with it, she can keep it in for 3 years. Of course she will need regular check ups. Then when she is ready to have another child it can be easily removed by herself. Then she will have her second baby. When she, the mother chooses of not before. If by chance this loop does not agree with her she will take Mala-D, the pill.



☆ ☆ W E C A N C H O O S E 1 3 ☆ ☆



Saroja's friend tells her that if she gets pregnant, she can opt to 'clean it' i.e., have an abortion.

Before deciding Saroja must know three things, about abortion.

Firstly, never have an abortion unless it is done by a qualified doctor trained for this. Never never use 'kuchi', or tablets to cause abortion. These are very dangerous and the mother's health is always affected seriously. Very often the mother dies.

Secondly, if an abortion is to be done, do it early. Abortion in the first 3 months is relatively safe. In the next 3 months it can be done but the risks are more. After 28 weeks, abortion is never to be done.

Thirdly, use abortion only if it is a must. Even the best done abortion has its risks for the mother's health. Do not use it as a method to space. Better to have the second child and then a sterilization operation. Remember some women find abortion psychologically unacceptable and are racked by guilt. Other women find it acceptable. Having a child would have been more unacceptable. So let the woman decide!

Some centres test the sex of the child and if it is a girl, the parents choose abortion. This is unjust to women. It is against the law. And it is damaging to the mother's health.

So let us tell Saroja's friend:

- a) Better to prevent pregnancies than opt for abortion.
- b) If an abortion becomes necessary, go to a qualified doctor only!

☆ ☆ W E C A N C H O O S E 1 4 ☆ ☆





To Rani, to Rukkumani and to Saroja knowledge of how their body works and how they can control it gives them strength and freedom. It has given them confidence and self reliance.

Many of our sisters are illiterate. They do not know how to control their bodies. How to choose? Their husbands decide. Their in-laws decide. Fate decides. But, she, the woman, the mother, does not decide. \* Yet it is her body. Her labour (pain). Her work. Must she not then be the most important person to decide?

Yes, all our sisters must become the persons to decide how many children to have and when. For this they must learn. Education is needed. Also needed is education about birth control. Do read the next few pages. If you want more information meet your nearest health worker or a doctor who knows about this.





#### 4. MAJOR METHODS OF BIRTH CONTROL

##### The Condom

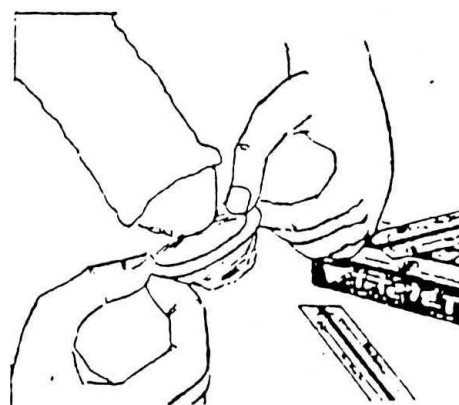
Nirodh is the most common variety.

It costs only 50 paise for three.

And is available in almost all villages.

And in all medicine shops.

How to use it: Tear open the packet. Take out the rolled up condom. Hold it by its teat between thumb and forefinger, thus squeezing out the air.



Place it like that over the erect penis and roll it open and on to the penis. After sexual intercourse this is taken off and disposed. Use a fresh one each time. Do not re-use.

It is totally safe and has no side effects at all. It also helps prevent venereal diseases from spreading. It is especially good to prevent AIDS. It is easy to use. Its main disadvantage is that it needs a high degree of male motivation. The male must be fully concerned and interested enough in the decision to implement this measure every time without a single slip. If such motivation is not there then it is better for the woman to consider other alternatives.

✿ ✿ W E C A N C H O O S E 1 6 ✿ ✿



## The IUD

It is also known as Copper -T.

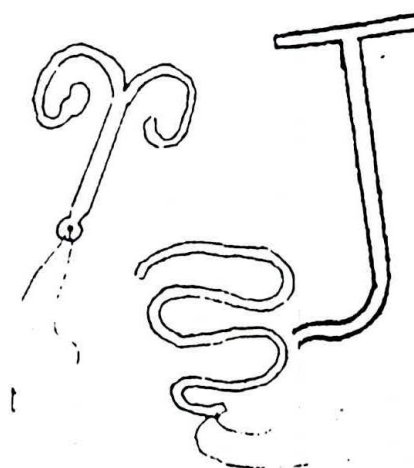
It is a small metal and plastic object that is placed inside the uterus by a nurse or doctor. When it is in place it prevents pregnancy.

Sometimes it falls out. Therefore after every menstrual period, women must check if the IUD is still in place.

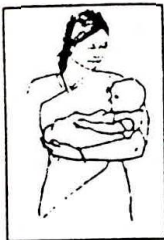
In some women it causes pain, discomfort and sometimes serious problems. These women must stop using it and may change to another method. For others it works fine.

It must never be used in a woman who has extensive white discharge or pain in that area for it may worsen it.

Its greatest use is for women who have had one child, to delay their second child for 2 to 3 years. This method is cheaper and for most women who develop no problems, it is easier to manage. If the male is not cooperative about using condoms and if her breast feeding is affected by the pill, this may be her only choice!







### The oral contraceptive pill.

Mala - D is the most common. And the cheapest. Only Rs. 2.00 for a packet.

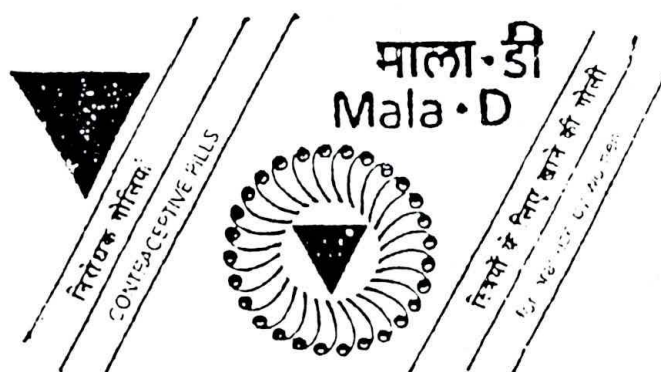
This can be taken from health workers, local health centres or from drug stores.

This usually comes in a packet of 28 pills.

Take the first pill on the fifth day of the period. Take 1 a day. Seven of the pills will probably be of a different size and color. Take these pills last (one a day) after the others have been taken. The day after you finish the packet of 28, start another packet. Take 1 a day without ever missing a day, packet after packet for as long as you do not want to become pregnant.

Side effects: Some women get a little swelling of breasts and morning sickness in the beginning. After two to three months it become alright.





Some women may bleed more or less during their period. If the change is not much it does not matter. Rarely they can develop serious clots that damage the brain or heart. But this problem is much more if a woman becomes pregnant!!

However to be safe, all women taking the pill should:

- a) examine their own breasts themselves every month for lumps.
- b) have a medical check up, at least once every 6 months which includes checking BP.
- c) Watch out for headaches or pain in the leg with swelling or pain in chest.

Women with any persistent pain anywhere or any serious disease should check with a doctor before they start taking this drug.

Women who are breastfeeding their babies should not take birth control pills, at least for the first 6 months.

✿ ✿ W E C A N C H O O S E 1 9 ✿ ✿



### STERILIZATION

This is only for those who have decided to have no more children. For such persons there are safe, simple operations which are free also. The operation is much easier and simpler for a male. A small cut about 1 cm long in each groin is enough to do this operation. It has no ill effect on man's strength or sexual ability or pleasure. His fluid comes out just the same but has no sperm in it. This is therefore the ideal thing to do.

There is also a simple operation for women. A small cut is made on each side in lower belly and then the tubes coming from ovaries are cut and tied. The operation has no effect on any of the woman's abilities. Indeed since she no longer fears becoming pregnant, her life may improve.

### WHICH METHOD TO CHOOSE:

There is not one best method. The choices vary for each, depending on the circumstances. It is best to discuss this with a health worker or a doctor or even some friend who has adequate knowledge and experience. But the choice must be yours and your husband's. Especially yours.

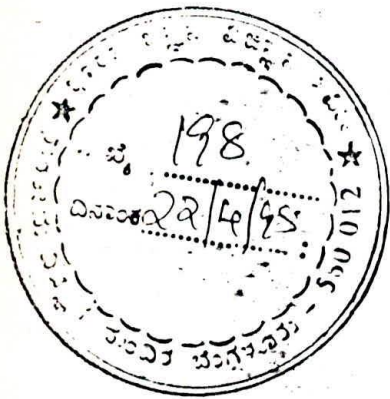




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### Discussion questions

- a) Is the decision to have a baby consciously made? How is it made?
- b) What obstacles are there for women to exert their choice in this?
- c) What are the advantages and disadvantages of each method. In what situation would each choice be more suitable.
- d) Are condoms and mala-D available always and easily in your area?. What arrangements are to be made to ensure it?
- e) Are facilities for IUD and sterilization available?. How far is it? How safe and clean do you feel these facilities are? What are the problems in your area in utilizing these facilities?.



# WOMEN'S HEALTH AND WOMEN'S RIGHTS

Health Awareness Booklet - 8

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BOOKLET PROTOTYPE PREPARED FOR  
LOK SAMPARK-ANDCLAN ON HEALTH  
AND FOR  
NEO LITERATE PUBLICATIONS.

ILLUSTRATIONS - TROTSKY MARUDHU  
DESIGN - M. BASHEER AHMED  
TYPESET AT - EZHIL PRINTS, MADRAS-24

BHATAT GYAN VIGYAN SAMITHI  
WEST BLOCK 2, WING 6  
RK PURAM SECTOR - 1  
NEWDELHI-66

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Women's Health and Women's Rights!

**Do you know?**

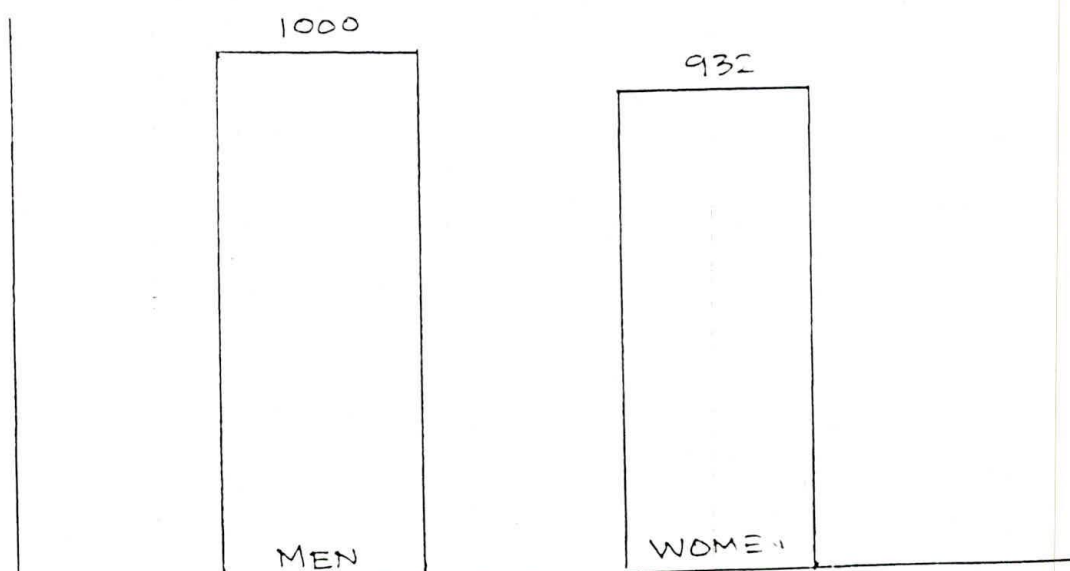
The health of women  
in our country  
is much worse  
than that of the men.

In almost all parts  
except the state of Kerala.



### How can we say so?

In most parts of India for every thousand men alive there are only about 932 women alive.



### Why is this so?

It is so largely because the women are dying more

And many of these deaths are in girls below the age of 5! And many other deaths are during their child bearing years.

This is not so in many places of the world and even in many places in India. In Kerala and in almost all the advanced countries of the world-USA, Britain, Russia, Japan and so on - the death rates are equal and there are as many men as women alive. If anything for biological reasons there are more women alive than men.



Why are women sick more often?  
Why are women dying more often?

a) Because women have less access to nutrition.



Women and even little girls eat last.  
Often they have to go to bed hungry.





b) Because women are subject to chronic overwork and exhaustion





c) Because of women's habitat





d) Lesser access to health care

HOW CAN I GO NOW TO THE PHC  
LEAVING ALL THIS, LET ME SEE FOR  
ANOTHER DAY.







e) Lack of education





f) Cultural attitudes

(i) Shame about bodily functions

e.g. menstruation, white discharge

(ii) Woman is considered a burden!

'HOW CAN I TELL ANYBODY ABOUT  
THIS NASTY DIRTY PROBLEM  
I HAVE?'





g) Lack of knowledge and awareness

h) Lack of facilities and correct training of medical professionals to handle women's problems.

HOW CAN I TELL  
LOUDLY BEFORE ALL  
ABOUT MY WHITE  
DISCHARGE PROBLEM.  
WHAT WILL THEY  
THINK?

HOW CAN SHE BE  
EXAMINED. THERE  
IS NO SEPARATE  
ROOM.

OH, THESE WOMEN.  
WHAT A FUSS THEY  
MAKE.







i) Misuse of medical technology!

THIS IS A FEMALE FETUS.  
THE ABORTION WILL COST  
YOU RS. 5000 !





j) Or just plain murder

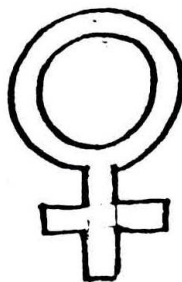
ANOTHER CASE OF FEMALE  
INFANTICIDE IN SALEM..

FEMALE CHILD  
FOUND IN  
A DUST BIN.

DEAD BODY  
OF FEMALE CHILD  
FOUND IN  
PANRUTTI.



ABANDONED  
GIRL CHILD  
FOUND.





k) Some health administrators' narrow view of women's health

YOU ARE ALL HIRED AS HEALTH  
WORKERS. YOU HAVE TO FULLFIL  
THESE TARGETS EVERY MONTH.  
ATLEAST 30 STERILIZATIONS.

WHAT ABOUT THEIR HEALTH ?

YES. YES. IF THEY ARE PREGNANT  
YOU MUST HELP. BUT YOU HAVE  
TO MEET YOUR TARGETS.







It is true that many women die during pregnancy and maternal care needs special emphasis.

But remember a) Woman is not only a reproductive machine. Women's health is not just pregnancy and family planning.

b) One cannot make maternity safe by maternal care alone.



To the healthy woman with adequate food and rest and education, pregnancy is a joy. She knows to choose when to be pregnant and how not to become pregnant. To the starving woman who is overworked and undercared for pregnancy is a great danger!



Hepatitis, TB, malaria, pelvic diseases are all diseases that can be cured. But in pregnancy they are often fatal. In woman whose health is already compromised by poor nutrition and care, any disease may prove the last straw!

We must ensure that pregnant women especially those with poor nutrition are given support to tide over the crisis. This means that all pregnant women must get:

- food supplements
- iron tablets
- Rest
- Special visits by health worker to identify high risk cases





But all these (food supplements at pregnancy, iron tablets etc.) will not be enough to save the woman  
if she is already stunted in growth by malnutrition  
if she is illiterate  
if she is not used to attending to her health needs  
if after delivery there is not enough care  
Maternal health is inseparable from all problems of women's health at all stages of her life.  
Maternal health is only a part of woman's health.







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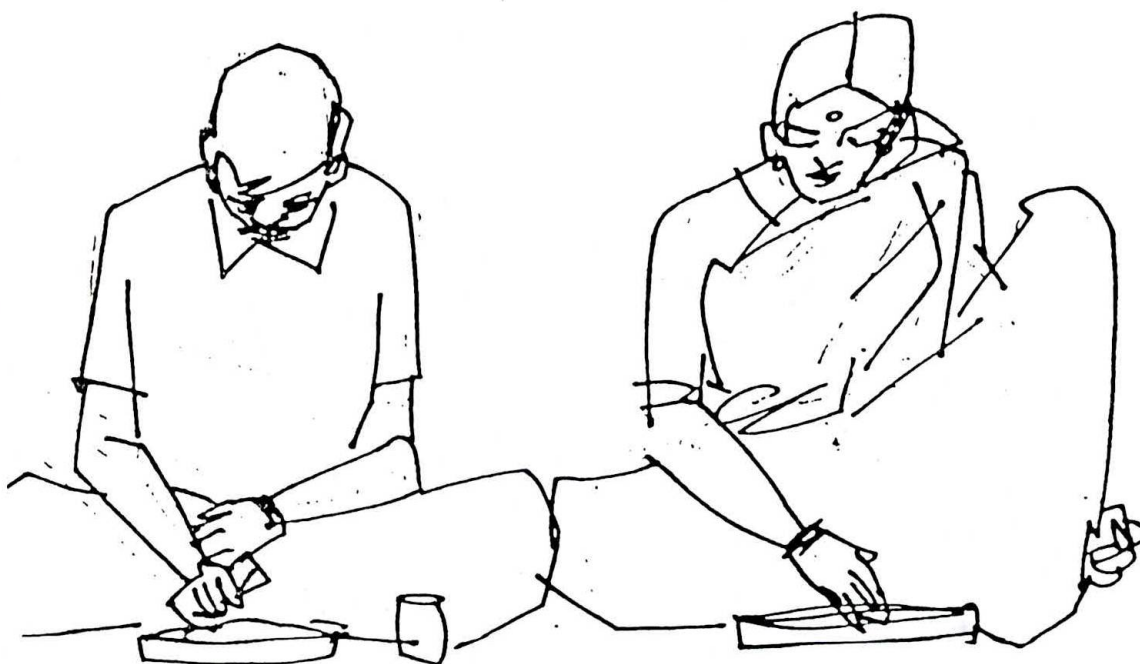
HEALTH IS A REFLECTION OF THE QUALITY OF LIFE.

Women's health can be ensured only by ensuring Women's equality.

The right to equal food.

(Which means more food during pregnancy and during breast feeding when she is feeding two!)

The right to work and equal remuneration for the same.





- The right to equal education
- The right to equal health care
- The right to choose.





For women's health to be ensured  
we need a new society  
a better society

Where women have an equal voice

- in their homes
- in their villages & towns
- in their states.







But how to begin?

By 'LEARNING'

'knowledge is shakthi'

Women must learn

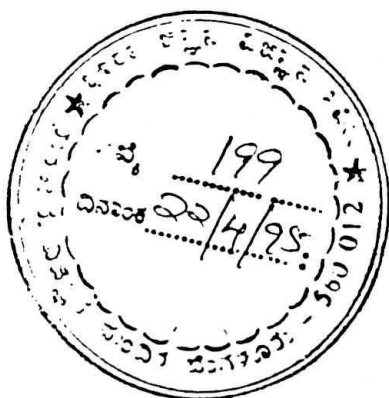
- to read and write
- to understand their bodies and how it works
- about what is needed to ensure women's health.
- about how to choose when to have a baby and how to ensure safe motherhood.
- about how to protect their children
- about how to be self - reliant
- about how to build a new society.



# One Magical Morning

Health Awareness Booklet No: 10

**Theme: Maternal Health Care : The Community's Role**



Booklet prototype

for

**Lok Sampark Andolan on Health**

**&**

**for Neoliterate Publications**

This story is adapted with minor changes from "Tamasha"-June 1991

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Plx, Design: **M. Basheer Ahmed**

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New Delhi - 110 066



## ONE MAGICAL MORNING....

**O**ne bright summer's day, Periyasamy of Annaipatti was going to his fields. Periyasamy was the village panchayat's president. On his way he found a stone. The stone glowed. It felt warm like the sun.

"I'm the Sun God", a soft mysterious voice said. "Make a wish".





Periyasamy had no son.

"I want a son", he said.

Soon, Periyasamy's stomach  
began to grow

"Me? Me?" spluttered Periyasamy.

"I don't want a son!"

"You don't?"

"No, No... Men do not have babies"

The Sun God laughed.



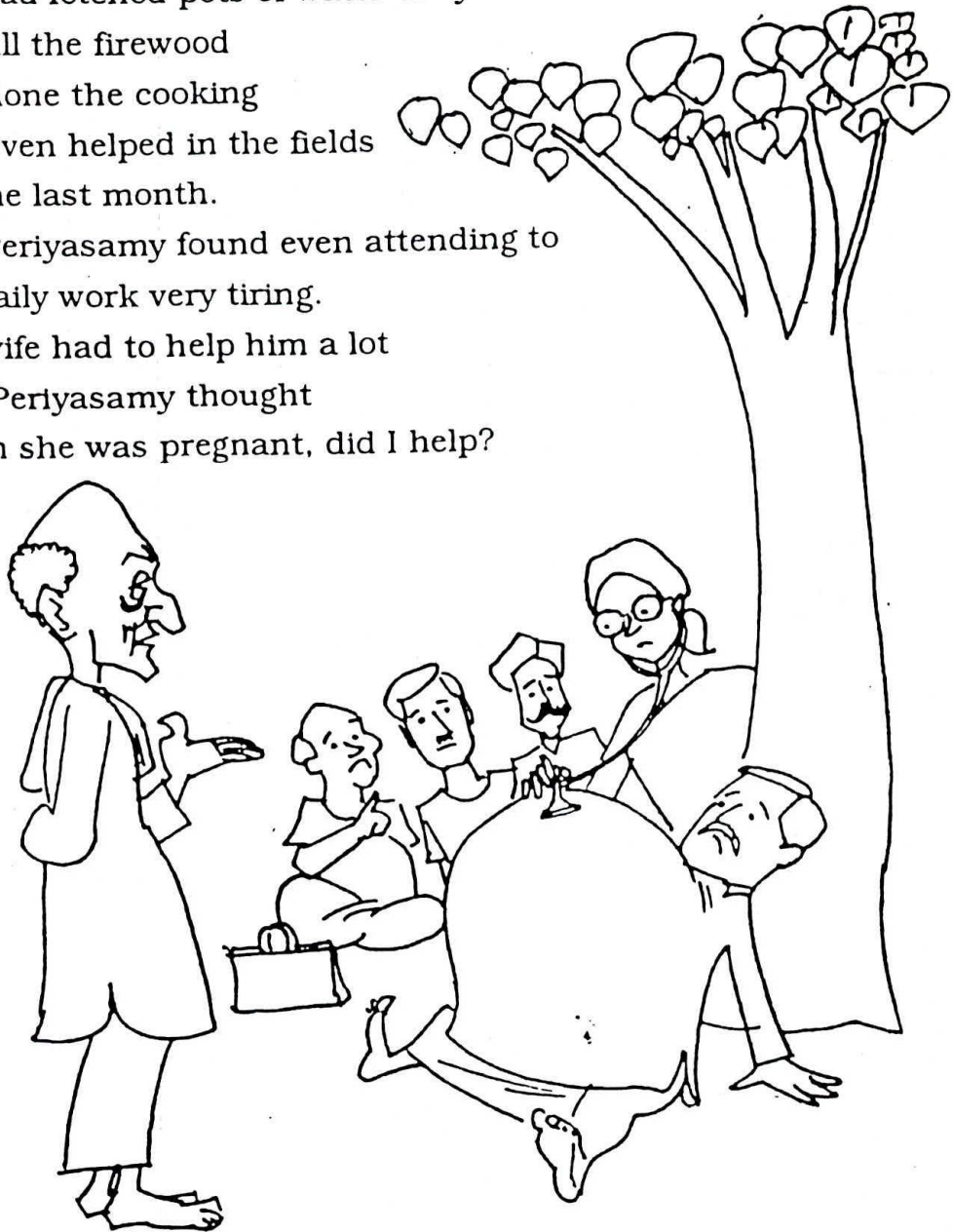
Did not Vishnu become Mohini  
to have a baby?  
Now it's your turn.

The news spread like fire.  
"When we had our first girl,  
you made such a  
big fuss" said Periyasamy,  
to his wife Rani.  
But soon his stomach began to grow.  
He became tired easily  
And hungry  
He wondered how Rani had managed.





When Rani was pregnant  
She had fetched pots of water daily  
And all the firewood  
And done the cooking  
And even helped in the fields  
Till the last month.  
But Periyasamy found even attending to  
his daily work very tiring.  
His wife had to help him a lot  
And Periyasamy thought  
When she was pregnant, did I help?



He felt he would die.  
He was very worried.  
He called a panchayat meeting.

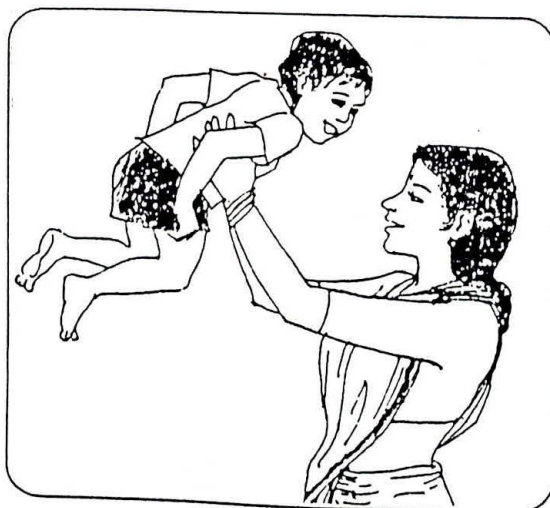
A lot of people came to the meeting.  
A lot of women also came.  
The health worker and doctor also came.  
An elder got up to say  
'Lots of women in our area  
die of childbirth'  
A woman said 'Lot of children also die'  
After so much trouble and pain  
What a shame to lose the child  
And oh what sadness.  
The villagers also said,  
This must not happen  
to our president.



---

THE CHILD MUST SURVIVE

# NUTRITION



HEALTH AWARENESS BOOKLET - 12

BHARAT GYAN VIGYAN SAMITHI  
West Block - 2, Wing-6  
R.K. Puram, Sector-1  
New Delhi-110 066





Booklet prototype  
for  
Lok Sampark Andolan on Health  
&  
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## THE CHILD MUST SURVIVE

### Nutrition

#### Foreword

We know the pain  
of giving birth to children

We know  
the anxiety  
of looking after a sick child

We know  
the agony  
of a child lost

Far too many children are sick today  
Far too many children die:

(If only these children survive we can bear less children)

BUT WE CAN PREVENT MOST OF THESE DEATHS  
BY JUST 4 MEASURES:

- a) Proper child nutrition and growth:  
    especially breastfeeding
- b) Ensuring total immunization
- c) Prevention and proper treatment of diarrhoea
- d) Prevention and proper treatment of acute  
    respiratory infection.

This book is about how to ensure  
"CHILD NUTRITION AND GROWTH"!

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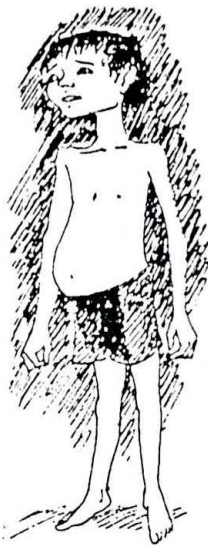
## NUTRITION

The single most important need of the child is adequate nutrition!

Malnourished children get diseases like diarrhoea, TB, measles, etc., much more commonly than well-nourished children. A malnourished child is much more likely to die from these diseases than a well-nourished child.

Without adequate nutrition children cannot grow well. They remain stunted. They cannot learn well. They cannot play. What a shame! Should we allow a single child to go hungry? Never.

Yet, lakhs of children are malnourished and dying. What is the main reason? Poverty. Parents are not able to afford food for their children!







There is another factor also. Lack of adequate knowledge. Many parents do not know the best way to use the limited money they have!

**Did you know?** A child 1 year old weighs only about one-tenth of her mother - but needs half the amount of calories her mother needs!

This book tells us 7 major facts about child nutrition

## BREAST MILK

For the first four to six months, give Breastmilk alone.

- \* Breastmilk alone is the best possible food and drink for a baby in the first four to six months. It is the best food a child will ever have. It is superior to all other foods and milk powders.

- \* Even in hot climates, breastmilk has adequate water for all the child's needs.

- \* Breastmilk protects against diarrhoea, coughs and colds and common illnesses. Protection is greatest if breastmilk alone is given to the baby.

- \* Start breast feeding within an hour of delivery of baby.

**Remember:** The first milk (colostrum) is thick and yellowish and very good to prevent infections. It must always be given to the baby.



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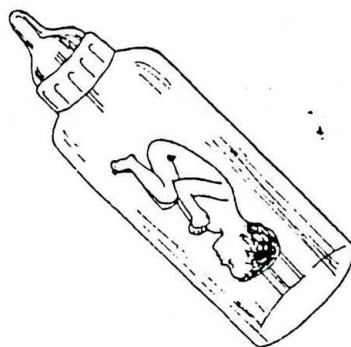
- Even if the child is sick or mother becomes pregnant, again upto 1 year or if possible 2 years, child can continue to get breast milk.

**Almost all mothers have enough breastmilk.** Let the child suck as often as he or she wants. The more it tries, the more milk is produced. If other foods or milk is given assuming that the mother's milk is not adequate, then the child sucks the breast less and less milk is then produced.

**Remember:** Bottle feeding is dangerous to the health of the child! And costlier too! If the child cannot suck, then squeeze milk from breast into a sterilized cup and give with a clean spoon!

**Remember:** A mother breastfeeding her child needs support of family and friends, health workers and women's organizations, especially when they start breastfeeding.

**Remember:** If breastfeeding is painful or breasts are engorged, consult a health worker or doctor. Do not stop breastfeeding. It is usually a minor problem





At the age of four to six months, the child needs other foods in addition to breast milk.

But continue breastfeeding.

- Give breastfeed before giving other foods.

**What to give?**

- Boiled, peeled and mashed vegetables.
- Gruel or porridge of rice, or ragi.
- Soft idlis, or khichri or rice-dal mixtures
- egg yolk





#### FREQUENT FEEDING

A child under 3 years of age requires food five or six times a day.

Its stomach is small. In body size, it is one-fourth or even less than the adult's. But in food, it needs to take half as much as the adult!

But one cannot cook five times a day!

In between meals, give banana or other fruits or coconut or groundnuts or biscuits and milk!

Do not leave child's food standing for hours after cooking. Germs may grow in it. Better to give freshly cooked food.

#### FATS & OILS

Add a small extra amount of fat or oil to a child's food:

Why? Because its stomach is small but its needs are great.

**What to add?** Butter, ghee, vegetable oil, or groundnut oil or crushed nuts!

---

More greens and more yellows!

**GREENS & YELLOWS**

Children need vitamin A and other vitamins too  
and a number of minerals - like iron!

They can get these from vegetables and fruits.

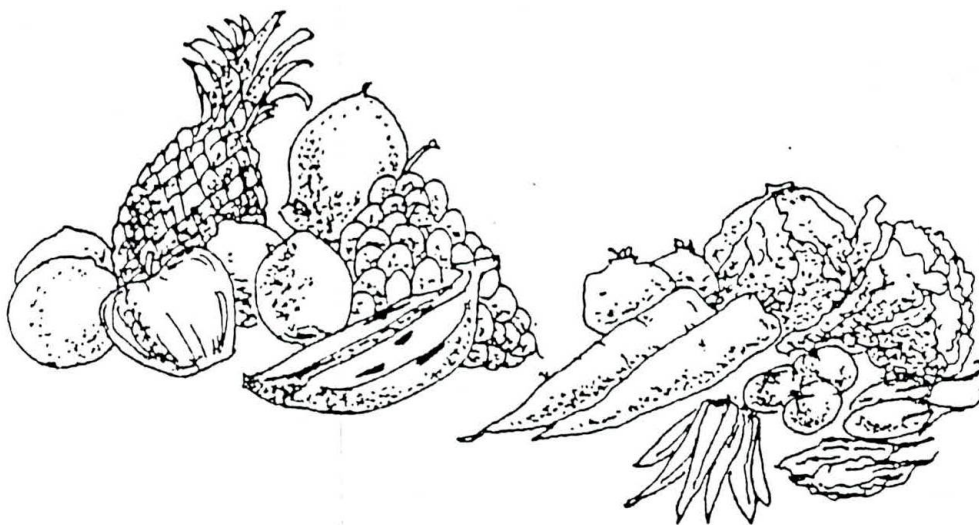
Which vegetables?

Dark green leafy vegetables: palak (Keerai),  
drumstick; orange or red fruits and vegetables:  
Carrot, beetroot, papaya, mango, and chikkoo  
(sapota)

Remember the more green it is,  
the more red it is,  
the better it is.

The darker the colour, the better!

**N.B.** Gur (Jaggery) is more healthy than sugar  
It has more iron and calcium!





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**EXTRA MEALS  
FOR THE SICK**

After an illness a child needs extra meals to catch up on growth lost during the illness.

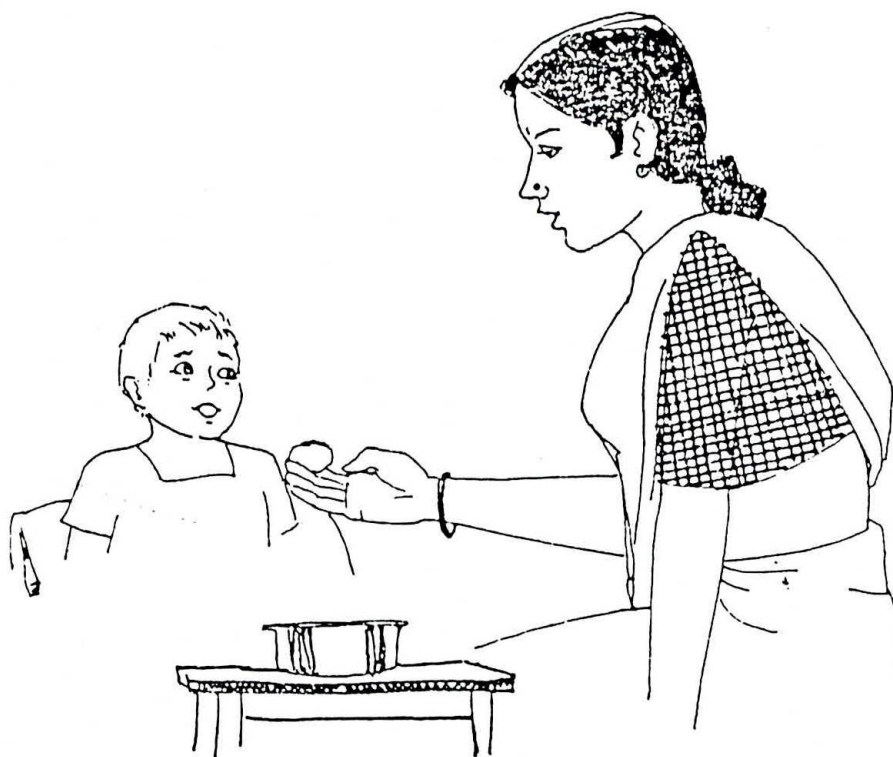
Illnesses are inevitable. But remember to use your best talents to get the child to continue eating and drinking water during the illness.

After the illness, give more food to the child for a week or two!

**N.B.:** Breastmilk prevents most illnesses.

Immunization also prevents illnesses.

Use of latrines and clean hands and surroundings prevents illnesses.



How does one know whether the child is eating enough?

#### WEIGHT CHART

- The best way is a regular monthly chart of the baby's weight.

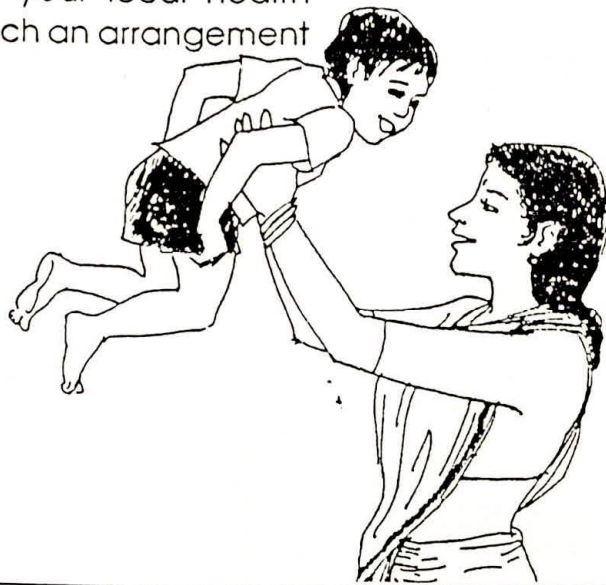
If there is no increase for two months then it is serious!

- One can also measure the circumference of the arm. If there is no increase in circumference for two months it is serious.

Between age 1 and 5, for a normal child, mid-arm circumference is 16 to 17cm. If it is below 13.5 cm it indicates malnutrition.

All children must have one of these measurements done periodically (at least once in 2 or 3 months) at least upto the age of three!

Your local health worker or your local health centre can get this done! Is such an arrangement available in your village?



---

**AFFECTION  
& STIMULATION**

Talking, playing and showing love are essential for a child's physical, mental and emotional growth.

Food and shelter is not enough.

A child needs **attachment and stimulation**.

Every child needs to give and receive affection. Children need to be bathed in words, cuddled, smiled to, listened, encouraged. To interact with people, smile at them, see them respond. Lack of attention affects growth.

Children need to play. Play is not pointless. Children learn by doing. Play develops mental, social and physical skills. Play must be encouraged. We also need to develop their creativity - by play, by testing their curiosity, by songs, rhymes, drawing pictures and stories.

Above all we must ensure that they receive praise and recognition of their efforts.





---

This child's weight did not increase:

REVIEW



What can the problem be?

Ask the following questions:

- \* Is the child eating frequently enough?



(child should eat 5 or 6 times a day)

- \* Does the food have enough energy?



(add small amounts of fat or oil)

- 
- \* Is child frequently ill?



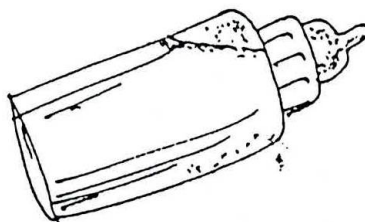
(needs persuasion to eat when it is sick, an extra meal later)

- \* Is child getting enough vitamins- especially vitamin A?



(add more dark green vegetables, give vitamin A supplement, if not given)

- \* Is child being bottle-fed?



(bottle and water may not be clean, milk may be diluted etc.)

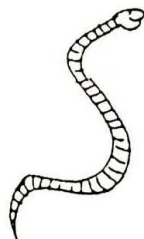
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\* Does child get frequent diarrhoea?



(food and water must be clean, faeces must be put into latrine or buried)

\* Does child have worms?



(needs de-worming medicine from health worker or health centre)

\* Is child alone too much?



(needs more stimulation and attention)

**Discussion:** What are the causes of malnutrition amongst children in your village? What can be done about it?

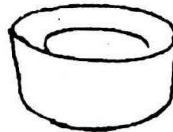


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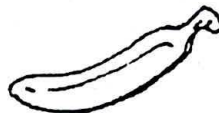
**Chart 1**

**Start These Foods From 4 to 6 Months of Age**

**DAL**



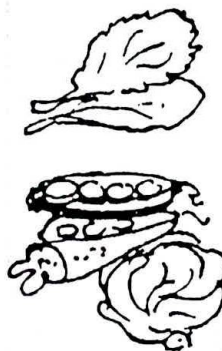
**BANANA**



**KICHRI**













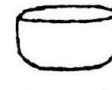







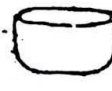
**BEANS  
CARROTS  
GREEN LEAFY  
VEGETABLES**



**WHEAT FLOUR  
PORRIDGE**























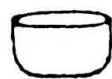


**Chart 2**  
**For a Child of 1 Year**

Morning	 125 g Milk	 1 Sugar	 1 Slice	or	 1/2 Chapati
10 O'Clock	 1 Banana	or	 1 Chapati	or	 1/2 Katori Atta Halwa
Noon	 1 1/2 Chapati		 1/2 Katori Dal	 Green Vegetables	
2 O'Clock	 1/2 Katori Atta Halwa	or	 1 Slice		
4 O'Clock	 125 g Milk	 1 Sugar	 1 Slice	or	 1/2 Chapati
Night	 1 Chapati		 1/2 Katori Dal		

*Wheat-based diet*

**Chart 3**  
**For a Child of 1 Year**

Morning	 125g Milk	 1 Sugar	 or  or  1 Slice    1/2 Katori Rice    Suji Kheer		
10 O'Clock	 1 Banana	or	 1 Katori Khichri	or	 1/2 Katori Suji Halwa
Noon	 1 1/2 Katori Khichri	or	 +   1 Katori Rice    1/2 Katori Dal    Green Vegetables		
2 O'Clock	 1/2 Katori Suji Halwa	or	 1/2 Katori Khichri	or	 1 Slice
4 O'Clock	 125g Milk	 1 Sugar	 or  or  1 Slice    1/2 Katori Rice    1/2 Katori Suji Halwa		
Night	 1 Katori Khichri	or	 +  1/2 Katori Rice    1/2 Katori Dal		

*Rice-based diet*

**Chart 4**  
**For a Child of 2 Years**







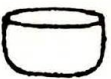












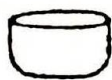







Morning	 125 g Milk	 1 Sugar	 1 Slice	or	 1/2 Chapati
10 O'Clock	 1 Banana	or	 1 Chapati	or	 1/2 Katori Khichri
Noon	 1 Katori Khichri	or	 1 Chapati	+	 1/2 Katori Dal
2 O'Clock	 Groundnuts	or	 Roasted Gram		
4 O'Clock	 125g Milk	 1 Sugar	 2 Slices	or	 1 Chapati
Night	 1 Katori Rice	or	 2 Chapatis		 1/2 Katori Dal
					 Green Vegetables



Chart 5

Recommended Food Intake for a Child of 1 to 2 Years

Name of food	Dry wt (g)	Quantity Dry Cooked	Calories	Proteins (g)	Nutrients supplied
RICE	60		206	4.1	Carbohydrates, Proteins
WHEAT	88		300	10.6	B <sub>1</sub> , B <sub>2</sub> , Niacin, B <sub>6</sub> , Carbohydrates, Proteins
PULSE	50		167	11.1	B <sub>1</sub> , Niacin, Carbohydrates, Proteins
MILK	250		168	8.0	A, D, B <sub>2</sub> , B <sub>6</sub> , Calcium
SUGAR OR JAGGERY	15		60	—	Carbohydrates
GREEN LEAFY VEGETABLES	50		—	—	Carotene, B <sub>2</sub> , B <sub>6</sub> , Iron, Calcium
OIL	11		99	—	Fat (essential fatty acids)
VEGETABLES & FRUITS	Recommended if economically feasible		—	—	—

Total value 1000 33.8

1 Katori Rice  $\equiv$  2 Chapatis

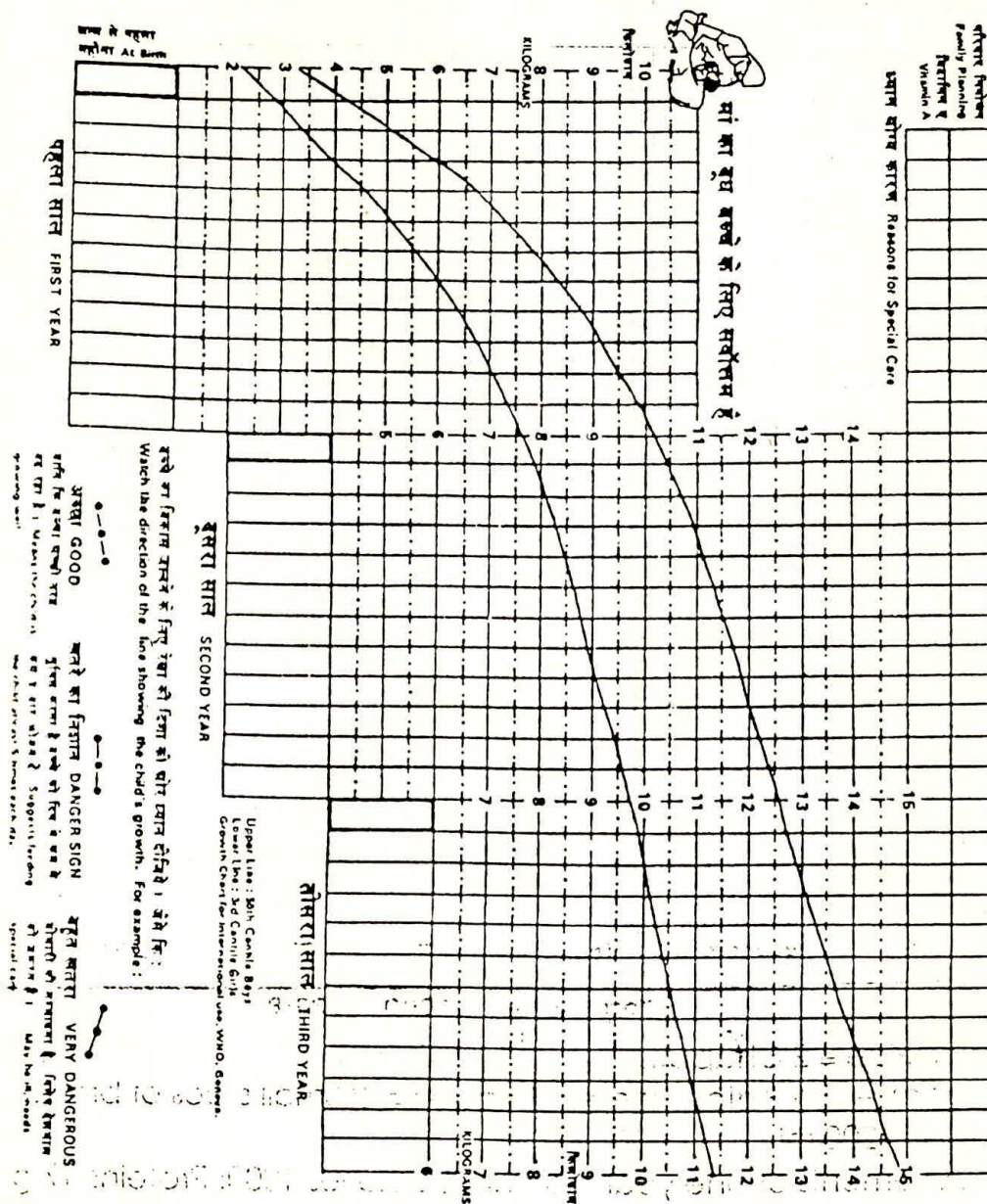
1 Chapati  $\equiv$  1/2 Katori Rice  $\equiv$  1 Banana  $\equiv$  2 Small slices of bread

1 Katori  $\equiv$  200 ml

Requirements of one year old child : Calories 1000; Proteins 17 g

Chart 1-5 Source: *The feeding and care of infants and young children* ; Shanthi Ghosh - VHA.

## ROAD TO HEALTH CHART (INFANTS WEIGHT RECORD)





THE CHILD MUST SURVIVE

# IMMUNISATION



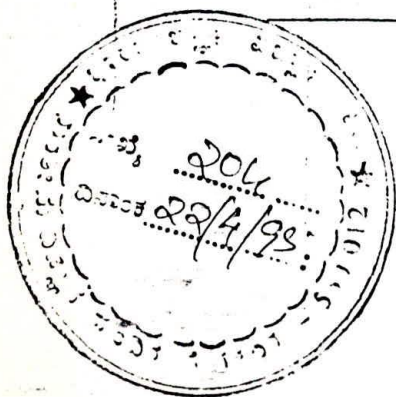
HEALTH AWARENESS BOOKLET - 13

BHARAT GYAN VIGYAN SAMITHI

West Block - 2, Wing-6

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THE CHILD MUST SURVIVE  
**Book II-Immunisation**

Foreword

We know the pain  
of giving birth to children;  
We know the anxiety  
of looking after a sick child  
We know the agony  
of a child lost

Far too many children are sick today

Far too many children are dying.

(If only these children survive, less children need be borne)

**BUT WE CAN PREVENT MOST OF THESE DEATHS.**

By Just 4 Measures:

- a) Ensure proper child nutrition and growth, especially breast feeding.
- b) Immunization.
- c) Preventing diarrhoea and proper treatment of diarrhoea.
- d) Prevention and proper treatment of acute respiratory infection.

This book is about

**"Immunisation"**

Look, oh look  
the health worker has come!

But why has she come?

My children are healthy and  
none of us is sick!

*I have come, says the health worker  
to ensure that happiness and laughter always  
fills this house.*



*In Ram Dulari's house last month a child was lost*

*- it was only a scratch*

*perhaps the prick of a thorn*

*But in 3 weeks time, she stopped her play and was unable to eat*

*She had*

*A lot of fits and soon*

*the child was gone.*

*Now instead of her laughter*

*the house is filled*

*with her mother's despair!*

Oh why do you come  
with such evil thoughts and  
frightening words;  
Go quickly. I must hurry  
say my prayers quickly  
and tie an amulet  
to ward off the evil.



My mother, listen to me  
Do not think of evil,  
Do not speak true.  
What I suggest is also an amulet,  
and a much better one  
to keep your child well.  
Thousands of children today  
are most unnecessarily like  
the child of Ram Dulari.  
If only they would listen  
to these few words of mine.





*My message is simple.*

*At birth take an injection  
that will prevent tuberculosis  
that disease of cough and fever  
which kills so many.*

*When the age of your child  
is 2 months and 3 months and 4 months,  
ensure that your child gets an injection  
and a drop of medicine in the mouth.*



The injection prevents tetanus  
that was the cause of Ram Dulari's sickness  
a disease caused by germs  
that grows in dirty cuts and wounds  
and kills.



This injection also prevents  
whooping cough and diphtheria  
that once upon a time killed  
but is now gone.

Thanks to this injection.





*The drop in the mouth  
is very much essential  
to prevent children from becoming  
paralysed and deformed  
by the dreaded disease polio.*

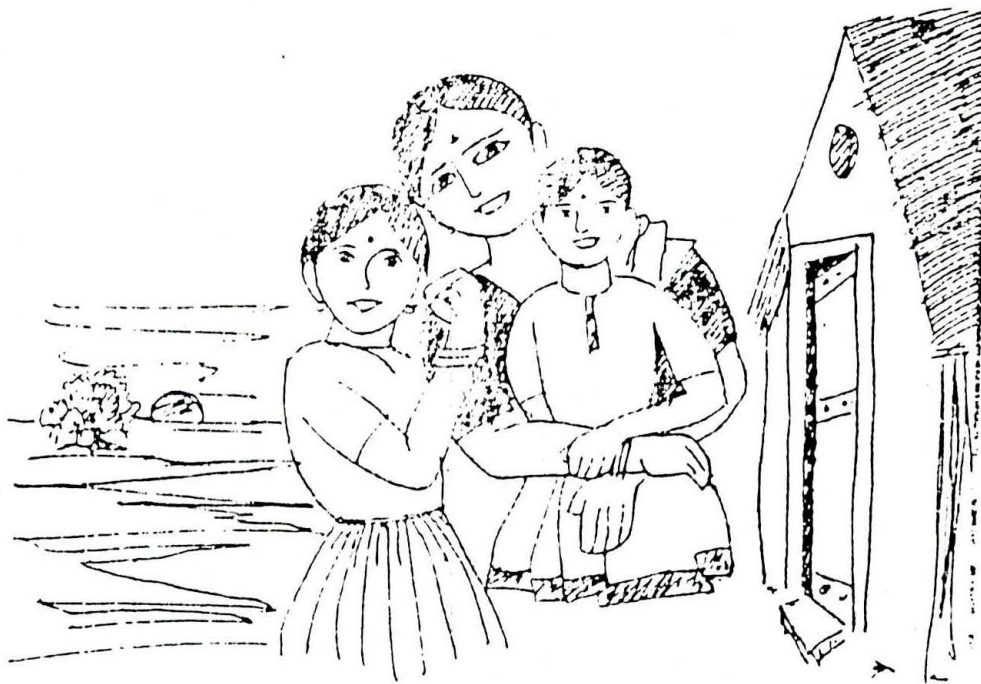


*At 9 months give another injection  
to protect the child against  
measles, the silent killer.*



What you say seems good!

But should I not wait longer  
for my child to grow bigger  
and perhaps you could give one  
injection instead of three.



*No.. No.. No.. Never*

*Before one year we must  
give all the injections.*

*If we begin by 6 weeks itself  
so much the better.*





*Nor can one injection do or even two.  
Three injections and 3 drops  
with 4 weeks gap between each  
are beyond doubt a must!  
If these dread diseases  
at all cost we must prevent*

*Of course if there is a child  
not immunized by one year  
Better late than never  
there is still time  
But how much better  
to avoid the risks  
and give the doses  
well in time.*

But not now, not now  
My child has a cold and a little fever  
afterwards when it is better  
we can consider giving the immunisations



*Better not mother to wait  
Better to give, it is quite safe  
There may be some crying  
Occasionally a fever and even a rash  
But just continue to give food and liquids  
And soon the child will be  
Playing and eating just as before.*

Well thanks be to you  
who go from house to house  
to ensure that the laughter and joy  
of a happy house is not lost  
Could you tell me  
some more about all this.



*These injections and drops  
Are called immunisation.  
Not only for children  
Even pregnant mothers need them  
To prevent tetanus .  
A woman needs three doses,  
If already immunized two will do  
with a gap of atleast  
four weeks between the two doses  
the last dose being at least  
two weeks before delivery.*



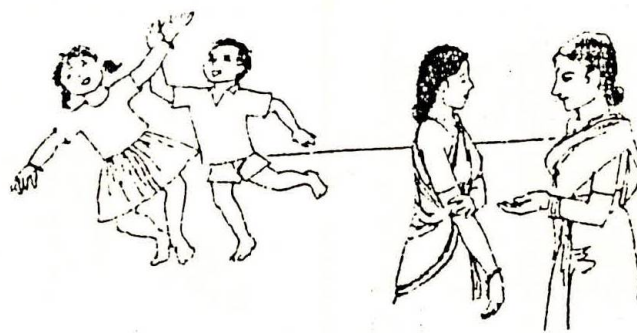
*And yet another piece  
of advice to note  
Especially nowadays.  
Whenever you are given an injection  
for immunisation or for anything else  
Ensure that the needles are sterile,  
that means boiled or opened out fresh.  
For each patient, a separate one.*



### Review Questions:



- When is immunisation against tuberculosis given?
- How can we prevent polio? How many times do we need to give the drops?
- We give three injections at 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> months.  
What three diseases do these injections prevent?
- When the child is 9 months old, what immunisation is given?
- What injection is to be given for a pregnant mother?
- What side effects can the injection have? How do we manage it?
- What precaution must we ensure when the injections are given?



THE CHILD MUST SURVIVE

# DIARRHOEA



HEALTH AWARENESS BOOKLET - 14

BHARAT GYAN VIGYAN SAMITHI

West Block - 2, Wing-6  
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THE CHILD MUST SURVIVE  
**Book III - Diarrhoea**

Foreword

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of giving birth to children

We know the anxiety  
of looking after a sick child

We know the agony  
of a child lost

Far too many children are sick today

Far too many children are dying

If only these children survive, less children need be borne.

**BUT WE CAN PREVENT MOST OF THESE DEATHS**

By Just 4 measures.

- a) Ensuring proper child nutrition especially breastfeeding
- b) Immunization
- c) Preventing diarrhoea and its proper management
- d) Prevention and proper management of acute respiratory infections.

This book is about

**DIARRHOEA**



## PLAY

### A Discussion with a Doctor

Scene: *A group of neo-literates sitting. A doctor talking to them.*

Kamala: Doctor, my child gets diarrhoea very often. My neighbour's child died of it. I am worried. What must I do?

Raman : Perhaps someone has cast the evil eye on it.

Naresh : What nonsense, there is no such thing. May be it has new teeth emerging.

Kamala : My mother says it's the local bad 'spirit'. We must quickly go to the priest and tie a sacred amulet around its arms.

Shanthi: But ask the doctor here! Doctor, is not diarrhoea due to eating too much sweets or new teeth emerging? Or perhaps it is the heat. Every summer we get diarrhoea.

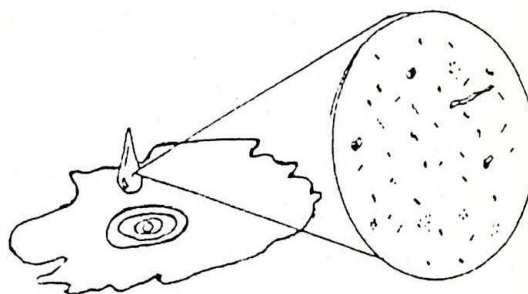




Doctor: Well, it is not spirits or evil eyes that cause diarrhoea. Nor is it due to heat.

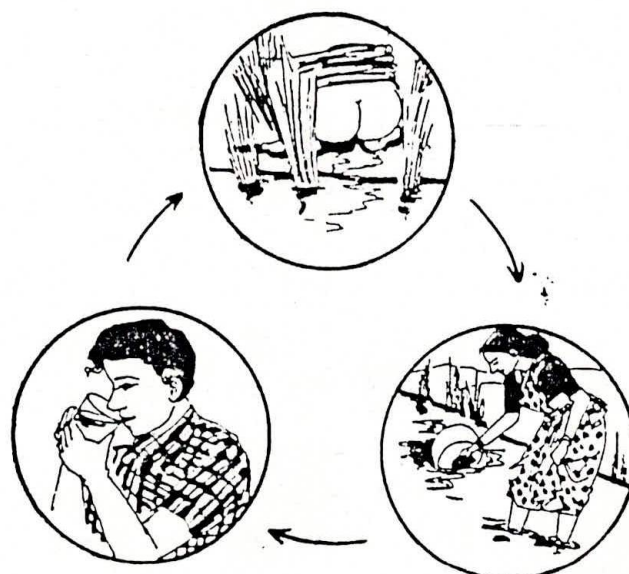
It is a number of tiny organisms that exist in the water we drink or food we eat. These organisms cause diarrhoea.

There are many such micro-organisms in the food we eat and in the water we drink and indeed all around us. Indeed they are too small to be seen. Except with a microscope. Most of them are not harmful.



However a person with diarrhoea passes watery stools that have many many such organisms. Now, if these stools with these germs get into our food or water - then, and then only do we get diarrhoea.

Food left overnight or not properly cooked may also have tiny organisms that cause diarrhoea!



DIARRHOEA 3





Kamala: But how can infected stools get into our drinking water? It's quite impossible.

Doctor: Not impossible. Even a tiny bit carried by a fly or even in your dirty nails is enough.

And it can pass for some distance, say 25 feet through the ground, thereby entering even well water!

Unless we ensure that all our faeces is safely disposed in latrines or buried, that our drinking water is safe, and that our hands are clean and our surroundings are clean, we cannot prevent diarrhoea.

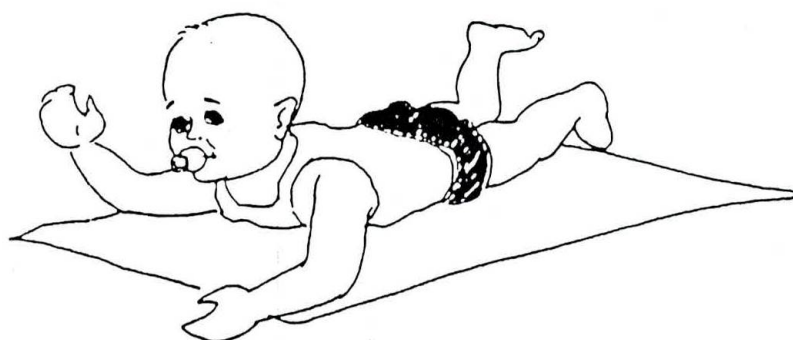
#### DIARRHOEA 4



Naresh: But does it not have anything to do with teething?

Doctor: Well, when new teeth emerges for a child, it has a deep urge to bite objects. So it picks up all manner of dirt and puts it in its mouth. If we provide clean objects, e.g. wooden toys for it to bite and keep clean the places where the baby would crawl then it will not get diarrhoea.

Eating too much sweets does not cause diarrhoea or worms!



Shanthi: But why did the neighbour's child die?

Doctor: I do not know, because I did not see the case. However usually such children die for only one reason - dehydration i.e lack of water. Had some water to drink been given, the child would not have been lost.



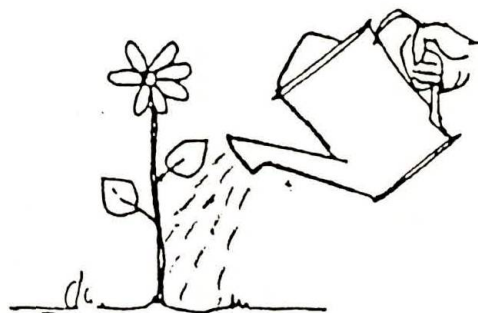
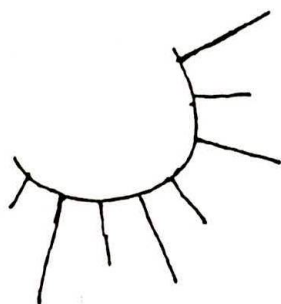


Shanthi: Water? How doctor? Already the child is passing water. Will not giving more water worsen it? Indeed their grandmother advised them to stop giving water!

Doctor: That is a mistake. A serious mistake. A fatal mistake.

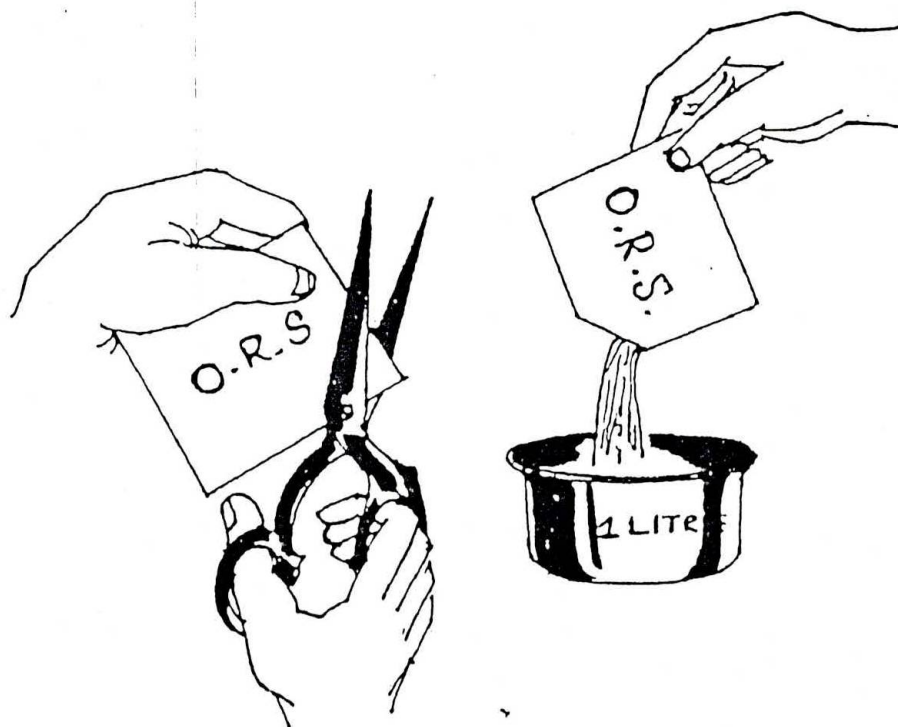
You know that on a hot day a plant loses a lot of water. But that is why you have to water it, otherwise it will wilt.

A child with diarrhoea is losing all its body water. This body water needs to be replaced urgently. If not the child will die. The water it loses is from the last part of its gut. The water the child drinks is absorbed from the gut at its first part itself and it goes to replace body water. If the child does not drink water it would soon wilt and die.



DIARRHOEA 6





Naresh: How much water to give? And how is it to be given?

Doctor: Water alone is better than no fluids at all. However the child loses various salts also and therefore it is best to give special drinks or solutions.

**What can be given?**

a) The best thing is to give ORS solution. In all our pharmacies and health centres small packets of "ORS" are available. Take a packet and mix it with a litre of clean water. Stir it and give it to drink.

Do not add ORS to other liquids like milk or soup. Only to water.

Make sure you taste it. It must not be too salty or sweet. That means there is too little water and that is bad for the child.

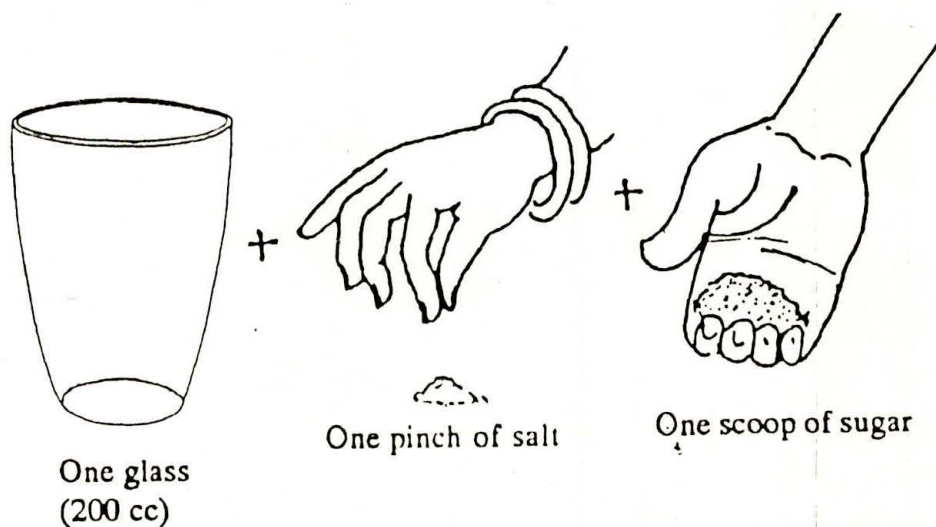


b) If ORS is not available or one cannot buy it, here is an alternative.

In one glass of clean water, (about 200 ml.) add a scoop (four fingers full) of sugar and a pinch (taken with three fingers) of salt. Stir well. Remember to clean your hands first with soap and water. A drop or two of lemon may make it more tasty. But lemon is not a must.

Stir well and give.

One can also remember- 8 level teaspoons of sugar and 1 level teaspoon of salt in one litre of water.



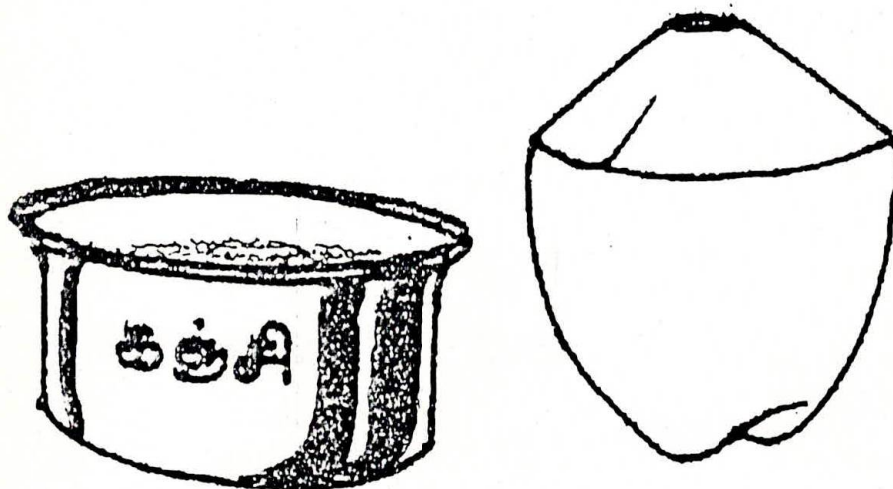
DIARRHOEA 8



c) Tender coconut water is also very good but perhaps it is too costly.

Then you can also give

- Rice water
- Soups
- fresh fruit juice
- weak tea



Kamala: But doctor how much to give?

Doctor: Give half a cup of water (for children under two) or about one cup of water (for older children).

One must give this, every time the child passes a watery stool.

Give fluids until the child passes plenty of light coloured urine!

Kamala: But my child often vomits everything out.

Doctor: Try giving fluids as a very small sip at a time. However if severe vomiting persists or water loss is severe, then take the child to the health worker.



Shanthi: When must we take the child to the health worker or doctor?

Doctor: If a health worker is available you may go to her first. Or if a doctor is available nearby, you may go to the doctor.

Shanthi: When must we go for help?

Doctor: If the child has severe vomiting or if she has severe loss of water. We can recognize this by:

- Sunken eyes.
- extreme thirst.
- no tears when the child cries.
- sunken forehead (in child below 1 year).
- dry tongue.
- skin when pinched up remains folded.
- scanty, dark coloured urine.

One may also go to the health worker if:

- a) child has fever.
- b) passes blood in stool.
- c) passes excessive watery stools within an hour.





This child has diarrhoea and is seriously ill

The soft spot on  
her head is sunken.

When her skin is  
pinched, it stays  
folded for two  
seconds.

She has not  
passed urine for  
half a day.

Her tongue is dry.

She is drowsy.

Her eyes are  
sunken.

She vomits a lot.

She has been  
having watery  
stools for two  
days.

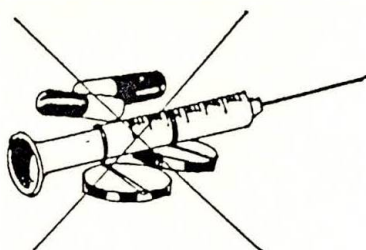
This child is already in great danger

Don't wait for all these things to happen.  
Start treatment early.

Take her to the health centre if she does not get  
better.



Shanthi: But is it not important to give tablets or medicines?



Doctor: Most medicines for diarrhoea are either useless or harmful. The diarrhoea will usually cure itself in a few days. The real danger is the loss of water. Only in some special situations will a qualified doctor need to give medicines.

Kamala: But my child has lost a lot of weight. Everytime she has diarrhoea she doesn't eat her food.

Doctor: A child with diarrhoea needs food! Even if little appetite is there, persuade the child to eat small amounts frequently. Try her favorite foods. You can give well washed mixes of cereals with dal or vegetables with a bit of oil. Also good is curd (yoghurt) and fruits (e.g banana, mangoes etc.)

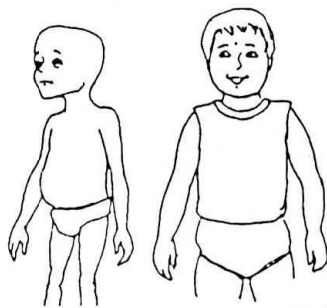
When child is recovering do not forget to give extra meals, for her to pick up weight.

Most important for children on breastfeeding - continue breastfeeding without fail.

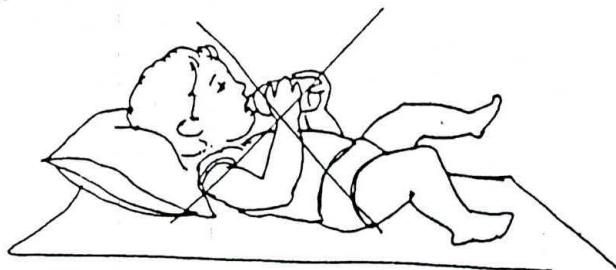




Naresh: Why is it that some children in our village have diarrhoea much more frequently than others? Kamala's child has wasted away with it, while Shanthi's child is quite healthy and normal.



Doctor: Malnutrition itself is a major cause. Children who are malnourished get diarrhoea easier and die easier. Healthy children are less likely to get diarrhoea or be affected by it.

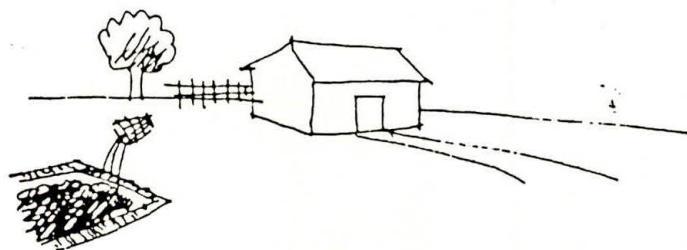
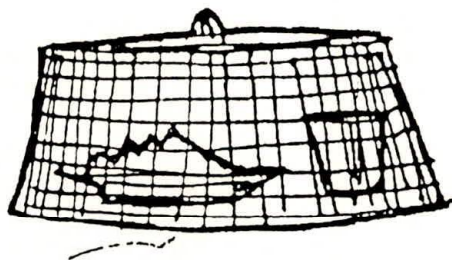
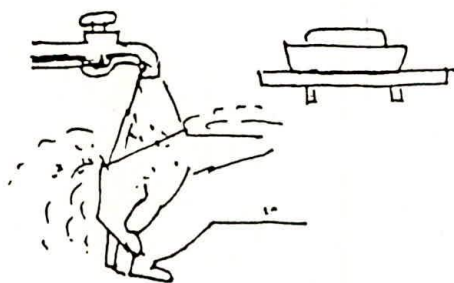


Children on breastfeeding alone are much less likely to get diarrhoea than children not on breastfeeding or having breastfeeds and other food. Children on bottle feeding are much more likely to get diarrhoea. Bottle feeding is one of the most important causes of diarrhoea.





Cleanliness is also another major factor that prevents diarrhoea. Using clean water, preferably boiled, using latrines to dispose faeces or at least bury it, washing hands with soap or ash and water, before touching food and keeping foods and drinking water covered, preventing flies and insects from proliferating by safe disposal of garbage and waste water - all these are essential steps also.



And yes, immunization, especially for measles also helps prevent diarrhoea.



Evaluation and Review Questions:

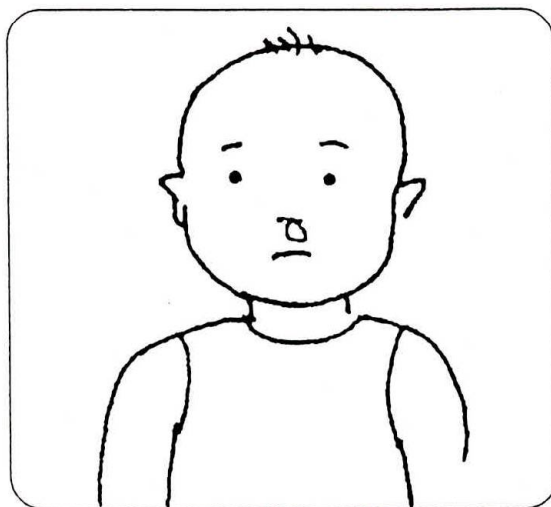
- a) What all factors cause diarrhoea?
- b) How can one prevent diarrhoea?
- c) Why do children die of diarrhoea?
- d) What treatment to give a child with diarrhoea?
- e) When must a mother seek medical help for a child with diarrhoea?
- f) What must a child with diarrhoea eat?



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THE CHILD MUST SURVIVE

# COUGHS AND COLDS



HEALTH AWARENESS BOOKLET - 15

BHARAT GYAN VIGYAN SAMITHI

West Block - 2, Wing-6

R.K. Puram, Sector-1

New Delhi-110 066

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Booklet prototype

for

**Lok Sampark Andolan on Health**

&

**for Neoliterate Publications**

These facts are largely taken from the book "**Facts for Life**" published jointly by UNICEF, UNESCO, & WHO in partnership with over 100 of the world's leading medical and children's organisations.

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What is one of the most common health problems of children?

Coughs and colds ..... Of course!

Usually it becomes well on its own.

But sometimes.....

Sometimes it becomes dangerous!

This is when it becomes pneumonia!

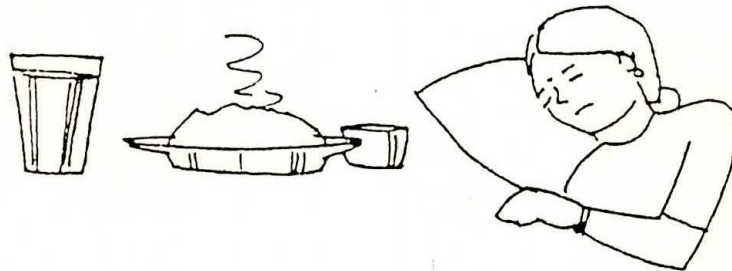
Pneumonia is one of the most common causes of death of children

From this book we will learn

- a) How to distinguish between an ordinary cough and cold and a dangerous pneumonia?
- b) What to do if your child gets either of these problems?



Colds come, they go.  
A child with a running nose is no cause for alarm  
It will stop by itself.



- All you need to do is to drink plenty of water, continue to eat good food and get enough rest.



- If nose is blocked a lot, one may inhale steam, or put a little warm water into our hands and sniff it into the nose.

In little children one can suck out the mucus with a suction bulb or syringe, without a needle



Wipe a running or stuffy nose. Do not blow it. It can lead to ear infection if you blow your nose.



We do not catch cold by getting cold or wet. However a cold, if already there, becomes worse by getting wet.

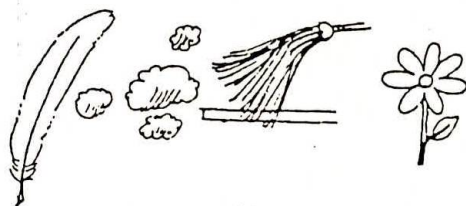
A child does not catch cold by being taken into the open air.

We catch a cold from others who have the infections, when they cough or sneeze the virus into the air! The virus is a very tiny organism which we cannot see. But this causes the cold.



To prevent colds from spreading to children, persons with the cold should avoid going near children.

Sometimes a running nose is due to allergy i.e. the body not being able to tolerate certain substances e.g. house dust or feathers or pollen of certain flowers etc.





Often colds are accompanied by a little cough. And sometimes little fever as well!

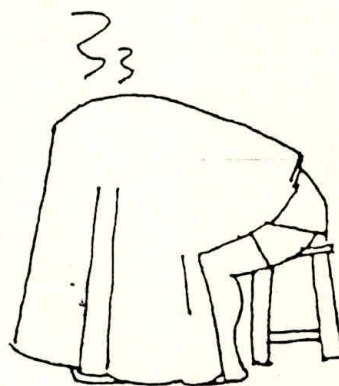
Coughing is the body's way of cleaning the breathing system and getting rid of mucus in throat or lungs.

So when a cough produces mucus do not stop the cough with medicine.

Instead loosen it by drinking water or breathing steam so that it comes out easier.

Most coughs too go by themselves!

However if a cough lasts for more than a month or it is associated with fever or loss of appetite and weight then one must see a doctor at once. It may be tuberculosis.





For such colds and coughs, medicines are a waste of money. Some of the medicines cause harm also. At best one may use a tablet of paracetamol for the fever but even this is usually unnecessary.

Just water, food and rest will do.

With frequent colds, children may lose appetite. So special care is needed to ensure that they eat adequately.

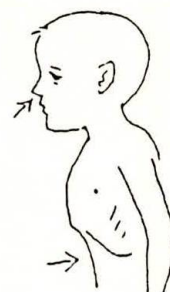
Once they are well they need an extra meal a day to 'catch up' their lost growth for a week atleast.



But sometimes this cold and cough become dangerous.

What are the signs of danger?

a) If the child is breathing much more rapidly (over 50 times a minute)



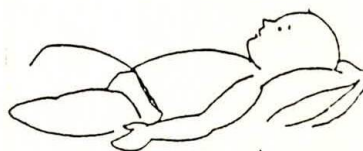
b) If the lower part of child's chest (the area between the two halves of the child's rib cage) goes in as the child breathes in, instead of expanding outwards as normal.

c) If the child is unable to drink anything.



d) If the cough or cold or fever persists for more than a week.

e) If the cough brings out thick yellow sputum or blood.



f) If there is high fever.

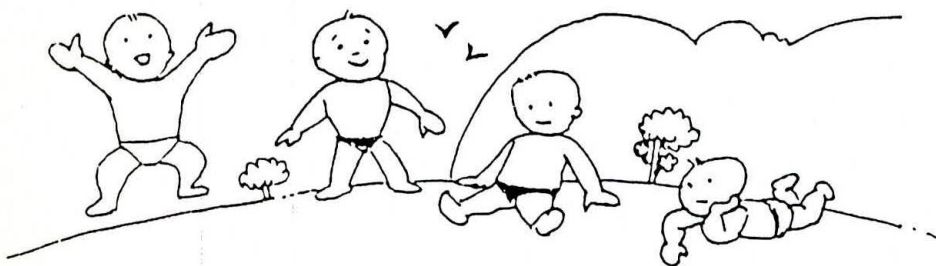
*If any of these signs are there, seek medical help at once!*

It may be a serious lung infection like pneumonia. The child will be prescribed medicines for this, which must be given to the child regularly.



### Review/Discussion

1. Medicines are not given to treat coughs and colds. But what treatment can be given?
2. How does one recognise pneumonia? How can it be prevented?
3. Think a bit about your house, your family and other families in your village. How many are assured of the above five preventive measures? What can be done to ensure this?
4. Find out from your health worker and doctor whether common drugs to treat pneumonia are available. How much do they cost?



And share this book with all parents

Let no more children get pneumonia or die of it.

