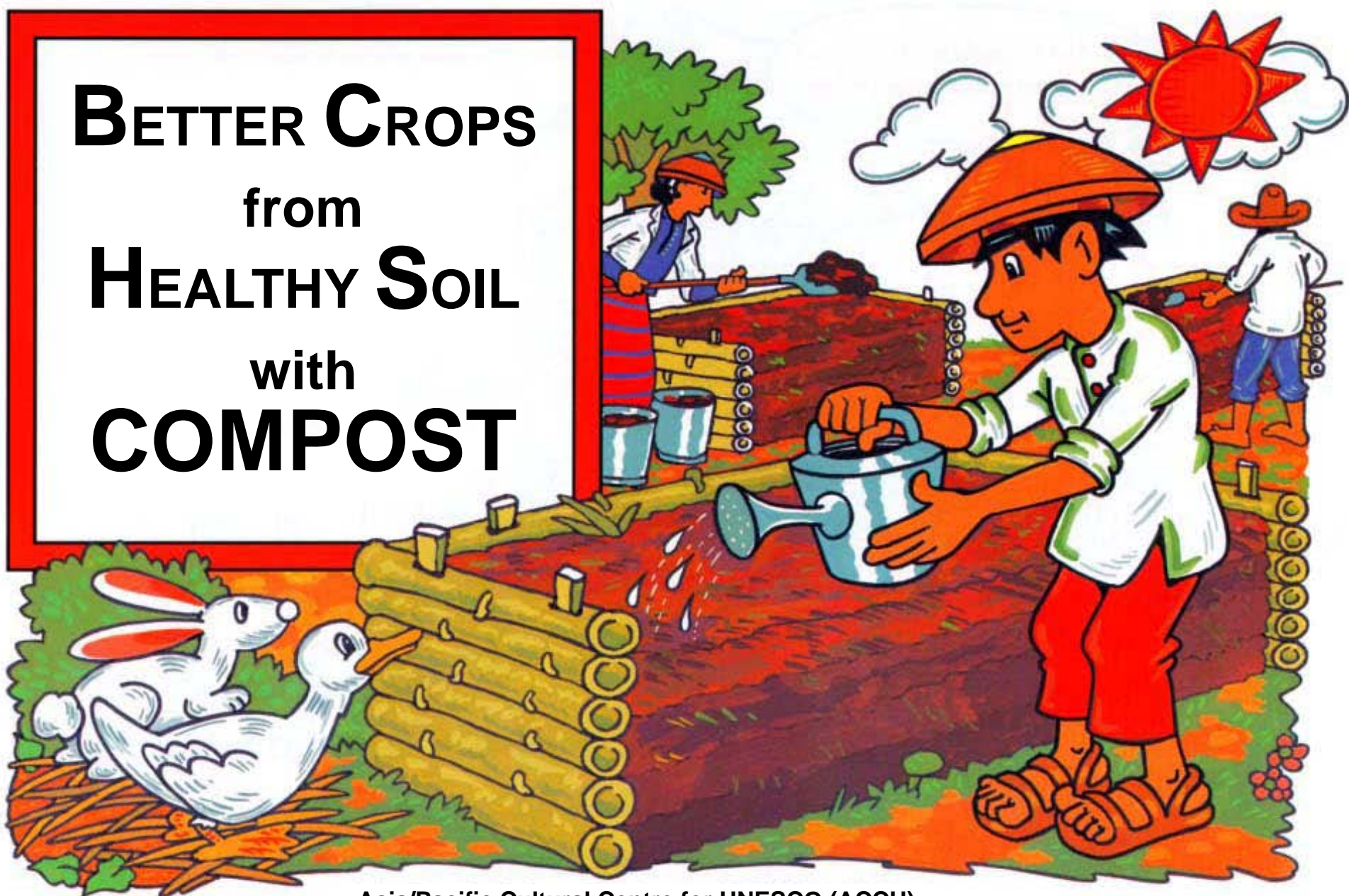
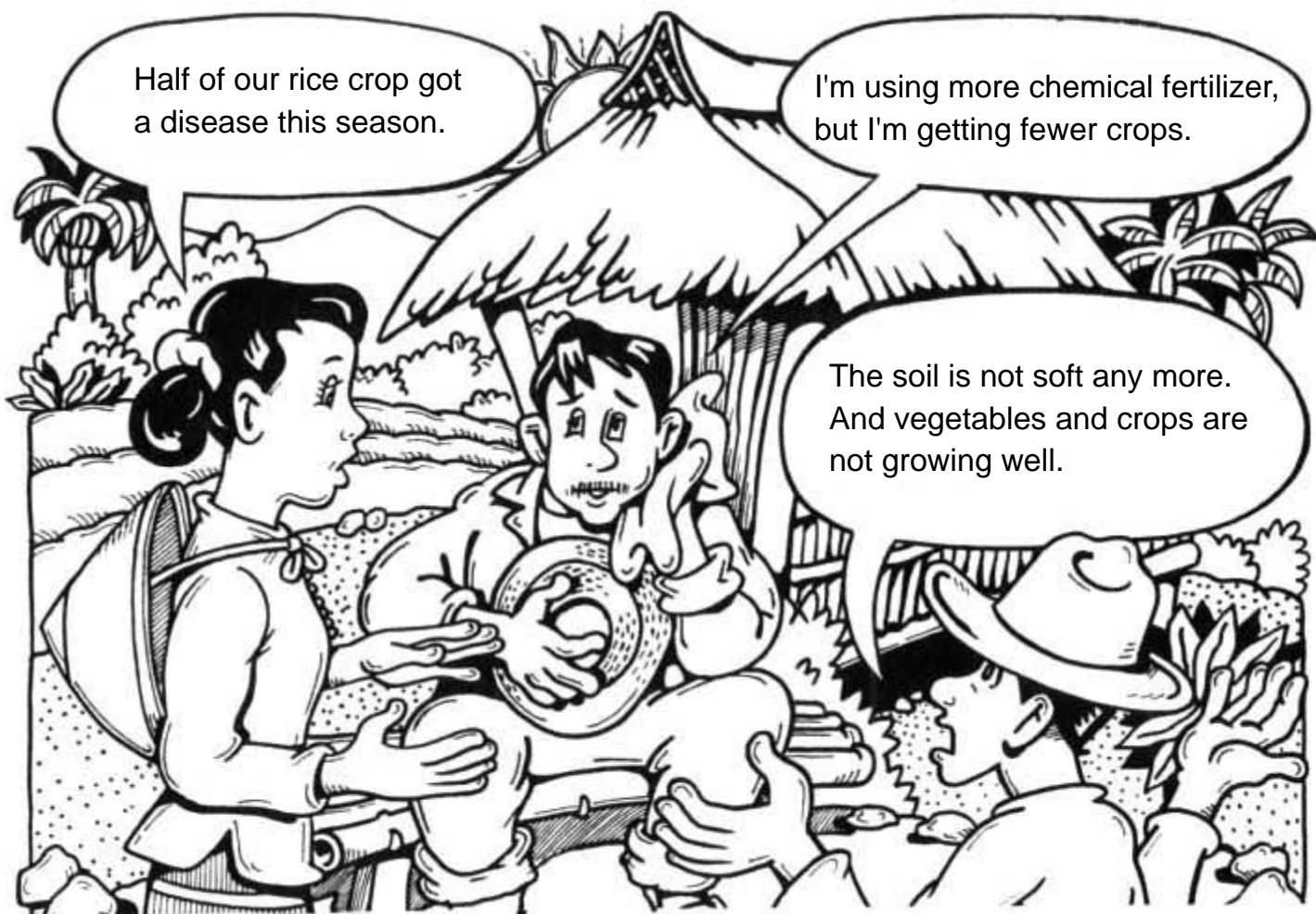


BETTER CROPS
from
HEALTHY SOIL
with
COMPOST



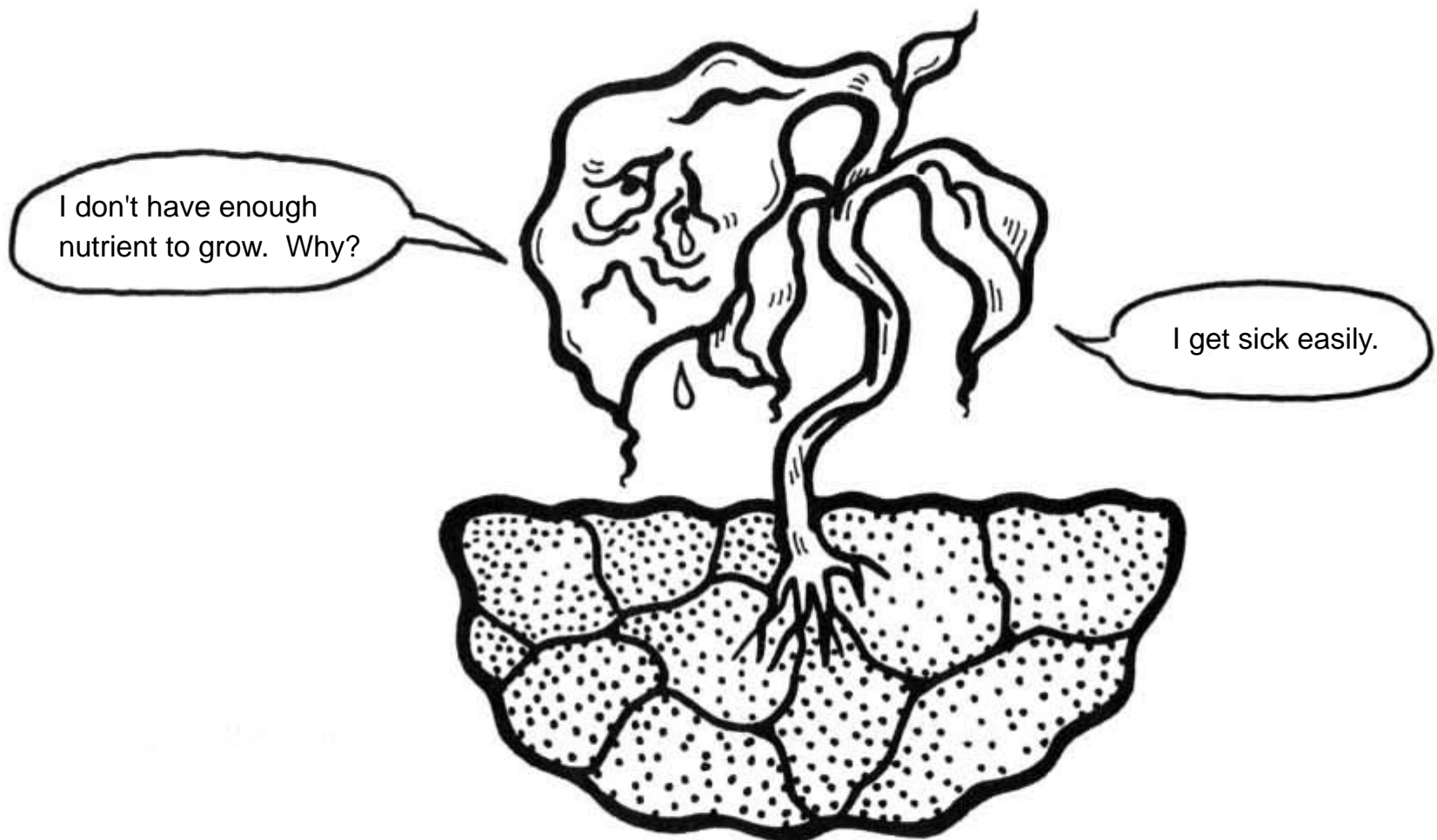
Have you ever faced these problems?



Is chemical fertilizer really good for the field?

Do you have these farming problems?

- Yield of crops and vegetables is declining.
- Crops and vegetables are susceptible to disease.
- Soil is hard to plough.
- More and more agricultural chemicals(fertilizer and pesticides) are needed year after year.
- Farm residues and animal manure are not utilized effectively.
- Others



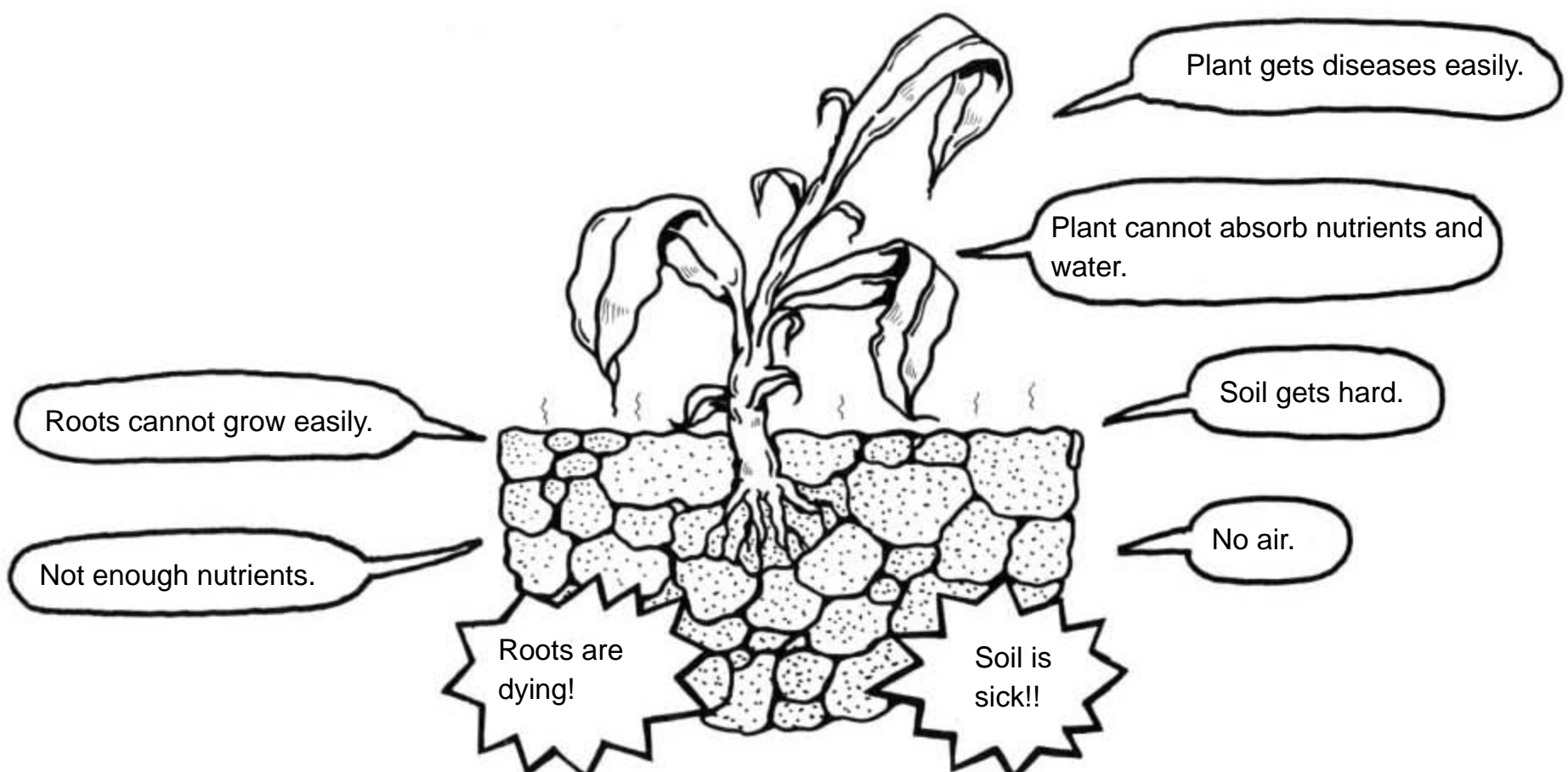
Is chemical fertilizer really good for the field?

Perhaps you are over-applying chemical fertilizer. . .

Chemical fertilizer gives temporary stimulation for immediate growth. But continuous use for a long period not only decreases the harvest, but also makes the land barren and weakens the plant's ability to reproduce.

Chemical fertilizer only provides nourishment for the plant. It does not provide nourishment for the soil.

If you overuse chemical fertilizer . . .



Is chemical fertilizer really good for the field?

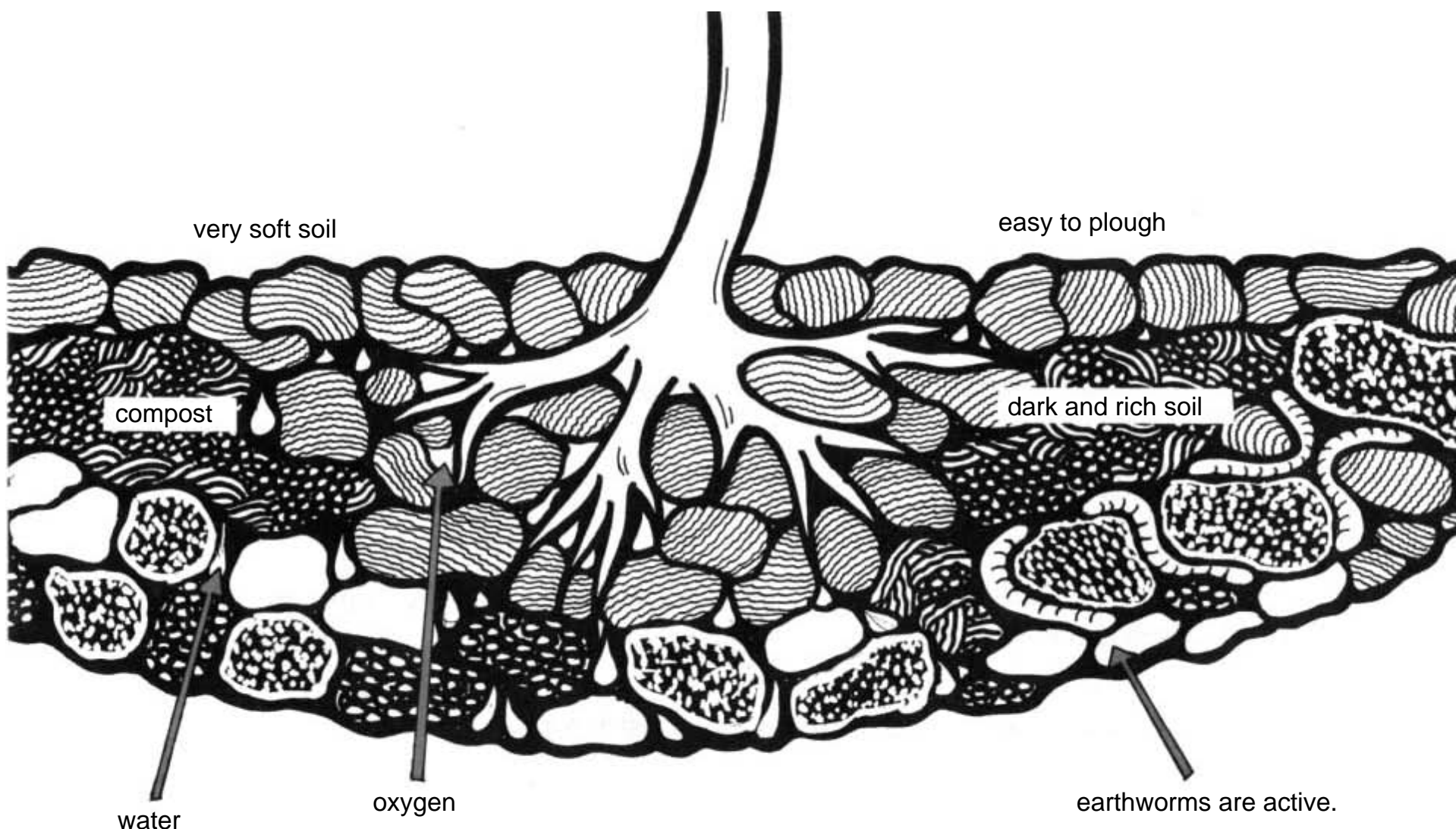
Healthy soil' is the key for crops to grow well.

To make crops and vegetables grow well, the soil needs to be rich in nutrients and water. That's because plants get nutrients and water for growth from the soil through their roots.

Healthy soil is formed of clods. Air and water flow between them. The texture of the soil is soft.

Many good bacteria are present and active in the soil. They suppress harmful bacteria that cause plants to develop diseases.

This is healthy soil!



What is 'healthy' soil for crops and vegetables?

Compost helps make the soil rich and healthy!

Overuse of chemical fertilizer damages the soil!

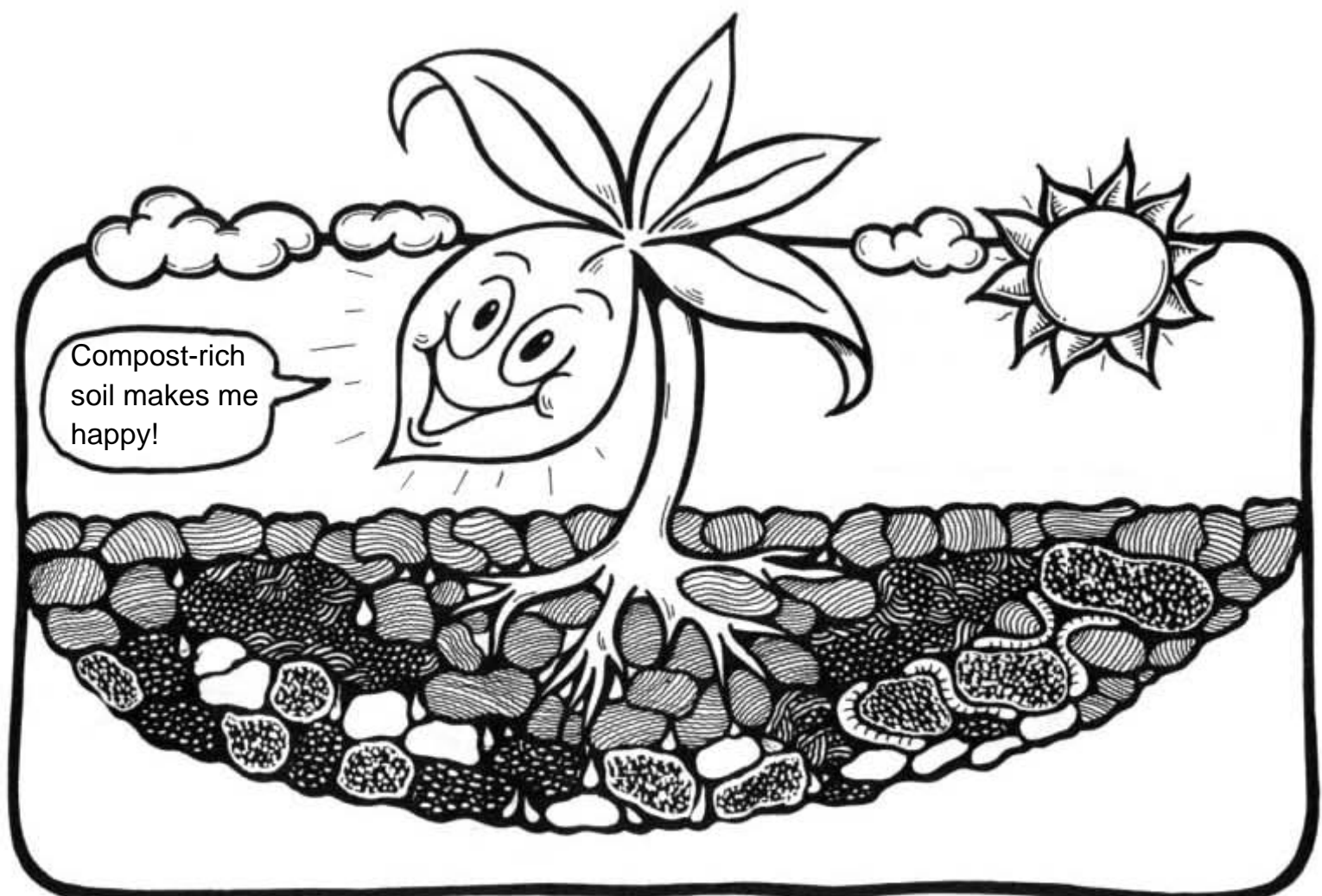
Compost rich soil carries a lot of air and water so that the roots can grow easily. And, since the soil is soft, it is easier to plough.

1. Physical Improvement of Soil

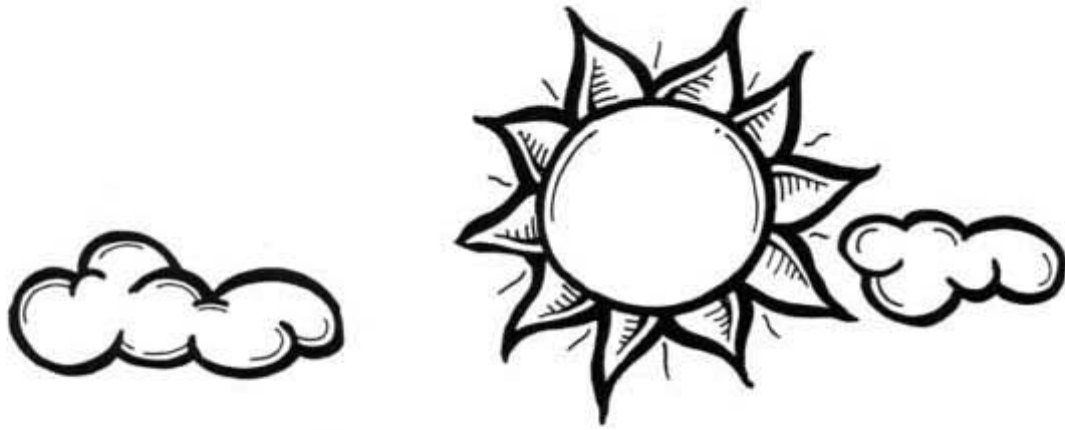
In the process of making compost, the high temperature destroys (1) seeds of weeds, (2) eggs of pests/insects, (3) pathogenic bacteria. Crops raised with compost are strong and resistant to disease, so it is not necessary to use much agricultural chemical."

2. Fertilizer

Compost enhances the interaction of bacteria in the soil, thus nourishing it. The resulting compost-rich soil will be balanced and suitable for growing rice and vegetables.

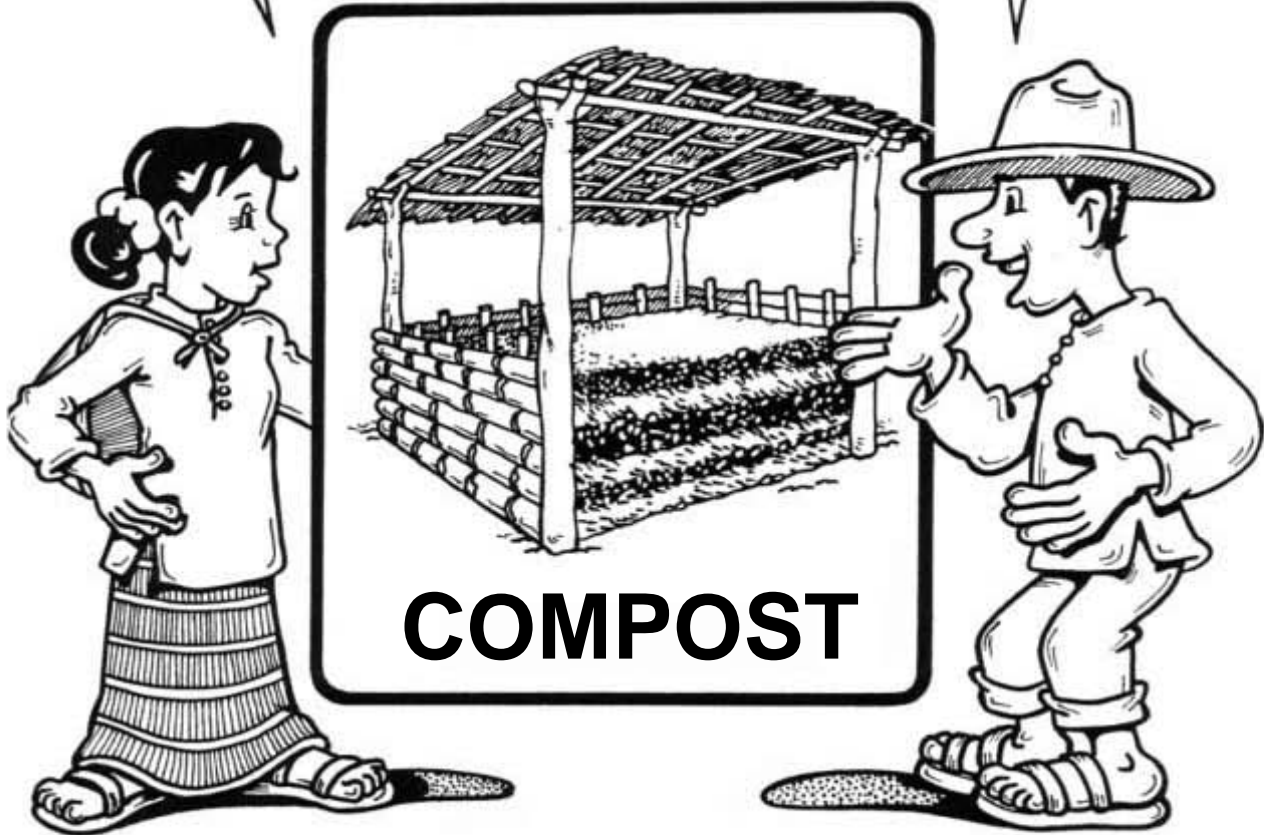


Why is compost good?



Wow! Tell me how to make compost.

You see, compost is a perfect fertilizer made of natural substances like farm residue, animal manure and kitchen waste materials, which have been through an ageing process. Making compost takes a little time and effort, but its effect is wonderful.



How can we make compost?

What is needed to make compost?

1. Farm residues after harvest:

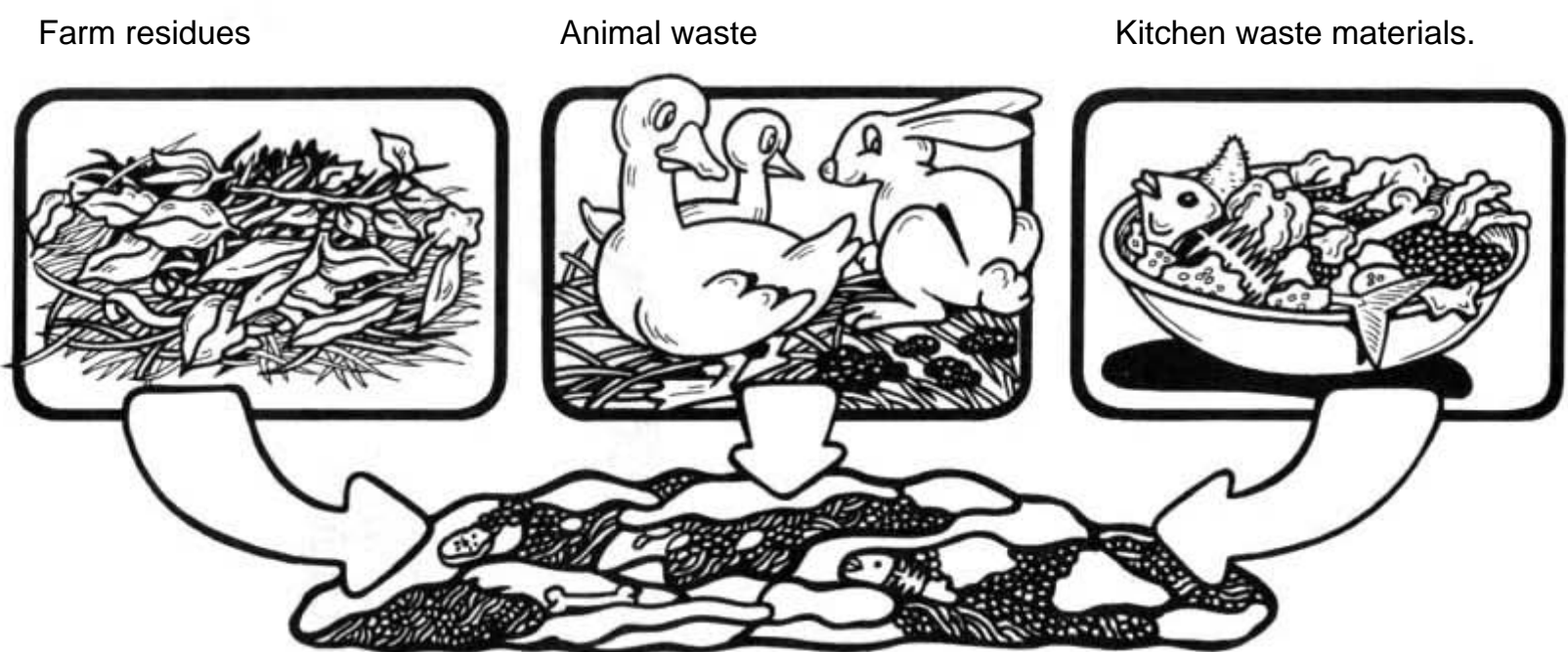
leaves, straw, dry stalks, legume plants, wide weed vegetable peels, etc.

2. Animal waste:

fresh animal manure (cow, chicken, pig, duck, rabbits, etc.)

3. Kitchen waste materials.

Residues can turn into good fertilizer for growing crops and vegetables.



How can we make compost?

Let's prepare compost.



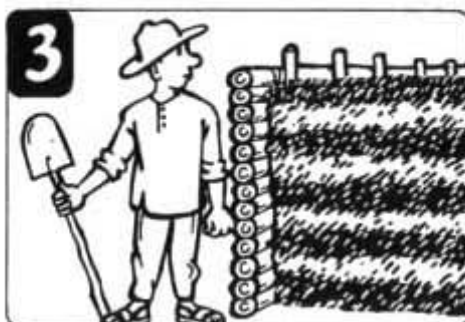
1

Make a pile of dry farm residue about 1 metre x 1 metre and 30-40 centimetres high.



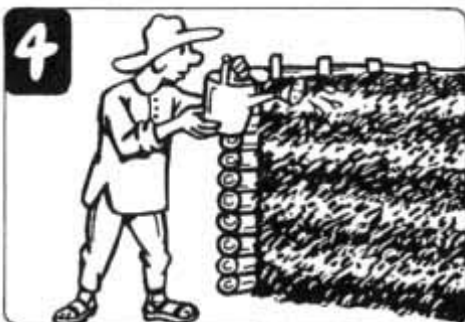
2

Cover the pile with fresh animal waste to about 1/3 to 1/2 the height of number 1 (10-20 centimetres high).



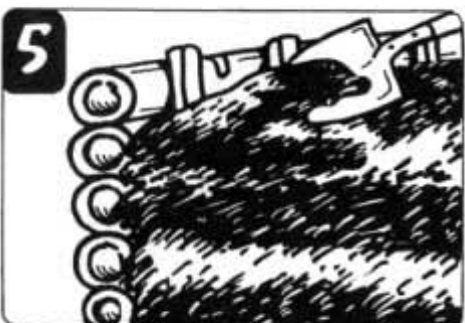
3

Repeat numbers 1 and 2 until the pile is 1 to 1.4 metres high (up to about your shoulder).



4

If the surface of the pile gets dry, water to keep it damp.



5

Spread soil (up to 2.5 centimetres thick) evenly on top of the pile to speed up the process of compost.

Keep the pile damp.



How to take care of compost

After about 2 weeks, the compost pile will become hot inside (60~70°C). Mix the compost well and if it is dry, water the pile to dampen it.

Make sure that the compost is exposed to fresh air by turning the material over from the top to the bottom every two weeks.

The smell of compost is strong at this time.



Well-matured compost: when is it ready for use?

- 1 Colour: Colour of compost will turn to dark brown or black.
- 2 Temperature: Temperature inside the compost will be about the same as outside temperature.
- 3 Texture: Compost will be soft and easy to spread.
- 4 Smell: Smell of compost will be better.
- 5 Volume: the height of pile will decrease.

Colour



mixed colour

dark brown to black

Texture



soft

How to apply compost

Before planting seeds or seedlings, spread well-matured compost on field. Then plough the soil.

For 10 hectares of land, 1-2 tons of compost -about 1 to 2 piles of the compost made- will be sufficient.

If you are not using chemical fertilizer, 3-4 tons of well-matured compost are needed.



Now you can make compost to fertilize your farm

The method of making compost explained here is a basic one.

Adaptations can be made to suit the resources you have or the characteristics of your local area. You can find out more from the agricultural expert in your village.

A Note about compost and chemical fertilizer:

Applying compost will minimize the use of chemical fertilizer. Moreover, compost decreases negative effects of chemical fertilizer.



Now you can also start making compost!

Important points about compost

- 1 It's best to make compost under shed to keep away from rain.
- 2 Preserve well-matured compost by covering it with sheet of plastic.
- 3 Application of immature compost can result in damage to crops.

GUIDE FOR UTILIZATION:

Objectives:

To enable learners to:

- (1) Understand the role of soil in growing crops.
- (2) Know about side-effects of using chemical fertilizer.
- (3) Understand importance and advantages of compost.
- (4) Learn how to make compost and be able to use it in the field.

Target Groups: Self-learning level neo-literates

Application:

1. Instructor discusses informally with learners about the problems they have in agriculture.
2. Instructor shows this booklet to learners and asks them to read it thoroughly.
The instructor may first read the captions, then the content.
3. Difficult terms in the content need to be explained.
4. Generate discussions among learners by posing some questions.
5. Other related materials (if any) should also be utilized for further understanding.

HAPPY LIFE WITH COMPOST



Issues for discussion ▪ ▪ ▪

- (1) How are your crops growing?
- (2) Have you faced similar problems raised in this booklet?
- (3) What kind of soil is suitable for farming?
- (4) What do you do with waste materials such as farm residues, animal manures, and kitchen waste materials.
- (5) Plan how to make compost.
- (6) Think about other methods to improve farming.

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Illustrated by Albert Gamos (Philippines)

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