3

Growing up healthy

Junior Farmer Field and Life School – Facilitator's guide

Module 3: Growing up healthy

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Module 3: Growing up healthy

INTRODUCTION

Growing healthy crops and animals and understand how people should grow healthy is one of the most important learning activity for the JFFLS participants.

A healthy crop is stronger and has fewer problems with pests and diseases; it will also produce better fruits and vegetables. The same is the case for animals and participants will, in this section, learn different ways to take care of both their crops and their animals. Good plant and animal nutrition is key to healthy growth. In the same way, aspects such as hygiene, sanitation and good agricultural practices play an important role in health and nutrition.

Therefore, in this module the participants will understand how to take care of themselves – through healthy nutrition and good hygiene.

This module contains sample exercises for each of the learning activities, plus a number of sample energizers and cultural activities that can be used to keep the participants engaged and reinforce their learning. The provided activities should serve as samples to be modifies and applied as appropriate. The important thing is that all main building blocks of a typical JFFLS session are included in each learning session.

By the end of the Module the participants should:

- Understand how to start a plant nursery;
- Appreciate good agricultural practices;
- Know how to ensure that crops and livestock grow up healthy;
- Know how to use the AESA exercise for regular monitoring of crops and livestock;
- Know how to apply HESA to understand the social and health impact of risky behaviour;
- Be able to relate crop and livestock nutrition to human health and nutrition.

OBJECTIVES

A TYPICAL JFFLS SESSION (3–4 HOURS):

- **ENERGIZER AND FUN** (30 MIN)
- **IN THE LEARNING FIELD** (45 MIN)
- **AGRICULTURAL TOPIC** (45 MIN)
- **MAKING THE LINK WITH LIFE** (30 MIN)
- **CULTURAL ACTIVITIES (ART, DRAMA, SONG)** (30 MIN)
- **ASSESSING PROGRESS**
- **CLOSING ENERGIZER**

Exercises

↘ GETTING STARTED WITH "ENERGIZERS"

Some sample energizers that will also help to "break the ice" and make participants feel comfortable while at the same time introduce the module focus are provided below.

Energizer: Matching cards

OBJECTIVE:

To introduce and raise interest for the module topic.

STEPS:

The facilitator chooses a number of statements that relate to the module topic such as "baskets can protect chicks!", "Regular monitoring produce a healthy crop!" etc., and writes half of each phrase on a piece of paper or card. For example, they write "Baskets can" on one piece of paper and "Protect chicks" on another. (The number of pieces of paper should match the number of participants in the group). The folded pieces of paper are then put into a hat. Each participant takes a piece of paper from the hat and tries to find the member of the group with the matching half of the statement.

Energizer: Gun, rabbit, wall[1]

OBJECTIVES:

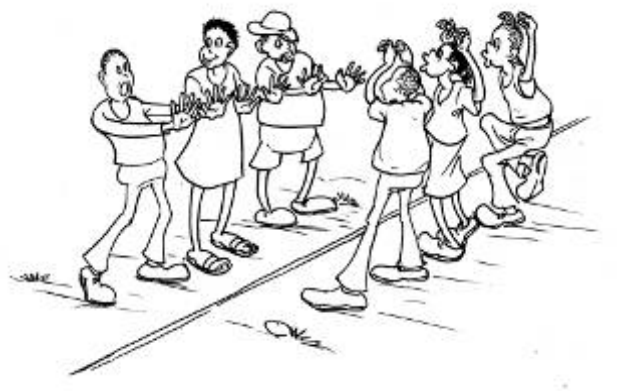
- To enhance understanding of strengths and weaknesses, and learn importance of identifying strengths of each individual to help one another overcome weaknesses;
- To recognise importance of group work and consensus, since all members of a team need to be going in the same direction;
- To understand that a group needs to be organised to function well.

STEPS:

1. Split the group into two.
2. The facilitator explains that there are three characters: a gun, a rabbit and a wall, each having its specific strengths and weaknesses. The gun can beat the rabbit since the rabbit can be shot. The wall beats the gun as it can stop the bullet, and the rabbit beats the wall as it can jump over it.
3. Each group has to decide whether it is a rabbit (by placing the hands on the head), a gun (by placing the hands like a gun) or a wall (by stretching the arms out wide).

[1] Adapted from Livestock Farmer Field Schools, Guidelines for Facilitation and Technical Manual (Groeneweg et. al., 2006).

4. The two groups form a line facing each other. The facilitator counts to three, then the groups show which they are by making the movements. The team with the most “winning” moves is declared the winner.



5. What can be learned from this exercise? Each creature has its strengths and weaknesses. Also, a group needs to be organised and must communicate well, and a good leader can bring the group together.
6. In addition, the group has to pull together and will lose out if one person does something different from the others.
7. Ask the participants to comment on what can be learned from the exercise (each creature has its strengths and weaknesses and that the group needs to be organised and communicate and reach a consensus to be able to win the game).

STARTING A NURSERY: FROM NURSERY BED TO THE FIELD

Many crops that we want to grow in the field need to be planted in nursery beds first, and then transplanted to the field after a few weeks. It is important for the participants to understand how to prepare a nursery bed, how to plant the seeds, take care of the seedlings, and how to transplant them to the learning field at the right time. Here are some sample activities that you may want to use.

exercise 1

WHY WE NEED NURSERY BEDS[2]

OBJECTIVE:
To understand the importance of nursery beds.

TIME:
About 1.5 hour

MATERIALS:
Large sheets of paper and markers.

STEPS:

1. Ask the participants the following questions, and write their responses on the flip charts:
   - Why do farmers often grow horticultural crops first in a nursery bed and then transplant them later into the main field?
   - How and where should you build your nursery bed?
2. Then take the participants to the place where you have decided to prepare the nursery bed.
3. Ask the participants the following questions:
   - What do the seedlings in the nursery bed need to be protected from?
   - How can we provide the needed protection?
   - How do we need to take care of the seedlings?
   - How can we build the nursery bed so that it helps protect and take good care of the seedlings?

exercise 2

CONSTRUCTING A NURSERY BED

The participants will now practice preparation of a nursery bed. Take them through the following steps, making sure that everybody participates in the work. Depending on the number of nursery beds that you are preparing, you may be able to divide the participants into smaller groups.

- **Select a good site:** An ideal location would be a place near the learning field (so that the nursery is often visited and well taken care of), with good and fertile soil, near a reliable source of water and where water does not collect or stagnate. Avoid placing the nursery beds where existing species of the same family have pest and disease problems.
- **Clear the site:** Remove stumps, roots, and stones in the area. Leaves and other non-wood debris can be separated and made into compost.
- **Layout of the beds:** Horizontal, if possible oriented east west (sun), one-meter width and half a meter between the beds.
-

OBJECTIVE:
To understand how to construct a nursery bed.

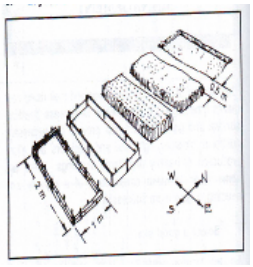
[2] Adapted based on personal communication with Jaap van de Pool.

TIME:
About 2 hours

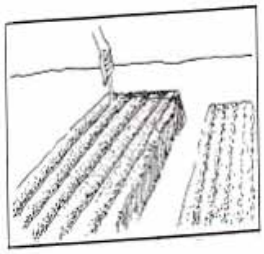
STEPS:

1. Mark out the boundary of nursery beds with string.
2. Dig the soil in the beds, break lumps of earth and remove remaining roots and rhizomes.
3. Loosen the soil and make a raised bed, narrow enough to allow for weeding without stepping on it (± 1 meter width).
4. Add compost and river sand, if needed, and mix well. Sand can help in loosening the soil for better drainage and easy uprooting of the seedlings.
5. Level the bed and if needed prepare borders. Make shallow furrows using a stick.
6. Sow the seeds (treated with protectant if necessary) in the furrows at recommended depth. Allow sufficient room for the seedlings to grow.
7. Cover the furrows thinly with soil no more than 2-3 times the thickness of the seeds.
8. Scatter wood ash all over the seedbed if ants and snails are a problem.
9. Use mulch like rice straw, grass, compost and partly decomposed forest litter to protect the seed and soil from heavy rains and weeds and to keep the soil constantly moist.
10. If needed, construct (low) shade structures.

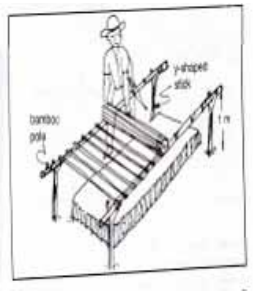
Orientation of the beds



Sowing of the seeds



Constructing shade



❮❯ exercise 3

TEST FOR SEED GERMINATION

This exercise shows the “Germination Power” of seeds and demonstrate that seeds will grow only when the embryo is healthy, when it has enough nutrients, and when enough water and oxygen are available.

OBJECTIVE:
To understand how seeds germinate.

TIME:
Half a day, and about a week of monitoring

MATERIALS:

- Soft paper (or other alternatives, like leaves);
- Seeds for different food/tree crops (enough seeds for each group of participants);

- Plastic bags;
- Clean water.

STEPS:

1. Divide the participants into groups of about 4-5 persons who live close to each other.
2. Have each groups count out 100 seeds from the different batches of seeds.
3. Ask them to prepare two layers of paper towel and carefully damp them with clean water until they are moist but not wet.
4. Ask the participants to put the 100 seeds on top of the towel in 10 rows of 10 seeds (the distance between the seeds should be around 2 cm).
5. Have them cover the seeds with the other layer of paper towel, moist the paper towel with water and roll the towel with the seeds into a loose type of sausage roll.
6. Ask the participants to place the roll into a plastic bag to keep the paper damp (the majority of seeds germinate better in the dark, so dark plastic is usually better).
7. Have them write the name of the group on the bag, the letter of the seed batch it contains, and the date the seeds were sown.
8. Select one member of each subgroup who will keep the bag at their place and make sure that it's stored in a dark place.
9. The host of the bag (together with other group members, if possibly) will then make daily observations of the seeds by opening the bag and rolling out the paper to observe the germination. He/she will note the number of seed that have germinated each day and remove them. Once the number is observed and noted (remove the germinated seeds) roll the towel up again and put it back into the plastic bag for other daily observations.

10. At the next JFFLS session ask the groups to report back their findings:
    - How much time did it take for the seed to germinate?
    - How many seeds germinated? Was the number low or high?
    - Why is it important to know the germination capacity for seeds?

facilitators' notes 1

SEED GERMINATION

Depending on the crop the germination process can be observed after 1,2 or more days.

Seeds germinate more quickly on paper towel than they do in the field. While the paper towel makes it easier to observe, it can also produce inaccurate estimates of germination periods.

The batch of seeds can be put in a jar or a pot of water in order to watch if some seeds sink to the bottom or not. When they float it can mean that they are not good and that they probably won't germinate. When they sink it can be a good indicator of how easily they will germinate. In this case, the seed exercise can also be used to compare the germination of floating seeds and the germination of seeds that sink, by having the groups prepare a roll of seeds from each sub-batch

exercise 4

TRANSPLANTING SEEDLINGS

Transplanting is stressful for the seedlings. If not done carefully, the seedlings may suffer and not continue to grow properly.

OBJECTIVE:
To know how to transplant seedlings.

TIME:
About 2 hours

MATERIALS:
Flipchart and markers.

STEPS:

1. Before going to the learning field, ask the participants the following questions, and list their answers on a flipchart:
   - What are the different steps in transplanting seedlings?
   - What are the most important things to do when you are transplanting seedlings?
   - What is the best time of the day to transplant seedlings (morning, mid-morning or evening) and why?
   - Why should the farmer only transplant strong and healthy seedlings?
   - Why is it important to transplant the seedlings at the right age, not too young and not too old?
   - What can a farmer do to reduce the stress of the seedlings after transplanting? (mulching)
2. Now go with the participants to the main field where the seedlings later on will have to be transplanted from the nursery bed(s). Ask the participants the following questions:
   - Is the field ready for the seedlings? If yes, why do you think so? If not, what still needs to be done to be able to start planting the seedlings?
3. Have the participants participate in transplanting the seedlings:
   - Discuss the different steps of transplanting the seedlings.
   - Water the nursery bed and demonstrate how to collect the seedlings from the nursery bed, without damaging the leaves and roots.
   - Ask all the participants to practice collecting a number of seedlings from the nursery bed.
   - Show how to transport the seedlings to the main field.
   - Ask the participants to collect all the uprooted seedlings from the nursery bed and to take them to the main field.
   - Discuss and show the participants how to plant the seedlings in the main field.
   - Ask the participants to plant the rest of the seedlings.
   - Ask the participants to water the transplanted seedling and if needed apply the mulch.
4. When you have finished, summarize all the steps of transplanting seedlings.

facilitators' notes 2

STEPS IN TRANSPLATING

Steps in transplanting seedlings	Important aspects
1. Preparing the main field.	Well prepared and fertilised soil, no weeds.
2. Water the nursery bed.	Sprinkle the water in a manner that you disturb the soil as little as possible.
3. Digging up the seedlings.	End of the day, select only the strong seedlings for transplanting, leave soil on the roots and be careful not to damage the roots.
4. Transporting the seedlings.	Short time, keep wet and in the shade. The uprooted seedlings should be
5. Planting the seedlings.	End of the day, careful not to break or bend the roots.
6. Watering the main field.	The seedlings should not suffer from water stress after transplanting.

HOW TO ENSURE GOOD AGRICULTURAL PRACTICES

In order to be able to grow a healthy crop, a number of good agricultural practices need to be undertaken and practiced. For example the soil needs to be tilled in a manner that ensures as little disturbance as possible to soil functions. The planting methods needs to ensure optimal spacing and crop rotation should be practiced in order to maintain the quality of the land in the long term. Integrated pest management can be helpful to ensure that unnecessary spraying of fields cause health hazards to humans and biodiversity. In this section some sample activities that you may want to use to cover the above topics are presented.

exercise 1

UNDERSTANDING METHODS OF LAND PREPARATION

OBJECTIVE:
To understand the different methods of land preparation.

TIME:
About 1 hour

MATERIALS:
Flipchart and markers.

STEPS:

1. Ask participants to explain what land preparation is.
2. Ask participants to explain why land preparation is important.
3. Discuss the different methods of land preparation (hand method, ox-cultivation, tractor, minimum tillage) giving advantages and disadvantages of each. In the discussion that follows, you may want to refer to the box below to make sure that certain key ideas come up.

facilitators' notes 1

MINIMUM TILLAGE

Reduced or zero tillage

Reduced tillage refers to practices that do not disturb the entire soil surface, but loosen only that part of the soil where the crops grow, or by no- or zero-tillage practices that leave the soil surface undisturbed.

In reduced or zero tillage systems, land preparation involves slashing of weeds or former crop residues. Crop seeds are sown into a small slot in the soil either placed in the soil through the mulch layer or spread (broadcast) over the mulch. Besides the small slots that are traced across the field, the rest of the field is not disturbed.

Leaving the soil undisturbed will keep the soil healthy: the diverse soil organisms will all co-exist and interact each species living and carrying out its functions and the "goodies" and the "baddies" will be in balance (equilibrium). Tillage usually disturbs this natural balance - reducing the good or beneficial soil organisms and giving others the opportunity to multiply and become a pest or source of disease to the crop e.g. nematodes, termites and grubs. It is interesting to note that if kept in balance even these potentially harmful organisms do not seriously harm the crop.

exercise 2

UNDERSTANDING SOIL EROSION

OBJECTIVE:

To understand what soil erosion is.

TIME:

About 1 hour

MATERIALS:

Flipchart and markers.

STEPS:

1. Begin by asking the participants what they think soil erosion means, what causes it and why it is not a good thing. Keep a list of their responses on flip charts and then break into a group discussion on the topic.
2. Then take the participants to observe a field suffering from erosion and ask the following questions:
   - What is the field like?
   - What is erosion?
   - Where can we observe erosion?
   - Why and how does erosion happen?
   - Is it a good thing or not? Why?
   - What do farmers do to fight erosion?
3. Use the key points below to summarise the exercise.

facilitators' notes 2

SOIL EROSION

Erosion happens when the soil start to disappear, as it is slowly eaten away. Soil erosion has one of the most negative impacts on agricultural, as well as having very bad effects on the environment. So, controlling it is very important!

Soil erosion is caused by natural activity:

- Normal or geological erosion
- Wind erosion
- Water erosion

Factors influencing soil erosion are:

- Rain
- Land gradient
- Soil structure (texture, organic matter, water seepage, permeability, etc.)
- High population density, destruction of forests and other ground cover, etc.

exercise 3

CAUSE AND PREVENTION OF SOIL EROSION

OBJECTIVES:

- To demonstrate how erosion occurs on a bare soil;
- To understand the importance of soil cover.

TIME:

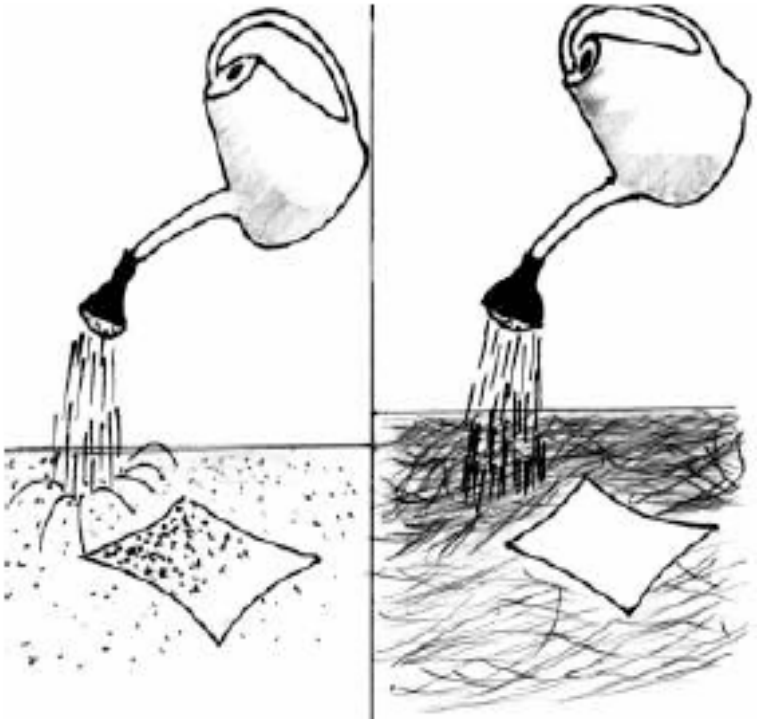
About 20 minutes

MATERIALS:

Two pieces of cloth or clean paper; a water can or old tin can with small holes on the bottom (to let the water pour out like rain).

STEPS:

1. Go with the group to a small land area that lacks plant coverage.
2. Place one of the pieces of cloth or paper on the soil. Water the cloth or paper intensely as if rain was falling.
3. Observe and discuss the number of soil spots you can see on the towel/paper, explaining that it looks like what happens when rain falls on uncovered soils.
4. Repeat the exercise with a new piece of cloth or paper in a place where the soil is covered by grass, weeds or dead foliage. The second piece of cloth or paper will have less land spots in comparison to the first.
5. Discuss the observations: what does this tell us about erosion and about the importance of keeping the soil covered?



exercise 4

OBSERVING PLANT SPACING

OBJECTIVE:

To reflect on plant spacing and row planting.

TIME:

About 1.5 hour

MATERIALS:

Flip chart paper and markers, measuring tape.

STEPS:

1. Organize a visit to a field with a stand of a mature crop, or preferably several crop stands, so that everyone can observe the space between the different plants in the field.
2. Ask the participants to observe the gap between the plants and try to imagine the way they were planted (in a row, in a bed, randomly). Have different participants measure the distance between plants of different types of crops (distances between rows and between each plant). Have them then to record their observations on a table, arranged according to the different crops in the field.
3. Ask the participants the following questions:
   - What does crop density mean?
   - Why is it important to respect certain distances between plants or seeds when planting a crop?
   - What advantages or disadvantages are there in sowing seeds in a line or randomly?
   - What do you think can happen to individual plants when they are placed to closely together?
4. Explain to the participants the ideal spacing and planting method for some of the most common crops in the area, including a cereal, a legume and a tuber crop. As you explain ask a few participants to help prepare a drawing on a large sheet of paper that visually shows the spacing for the various crops.
5. Considering that some seeds planted might never germinate, or some plants may die young due to pest or diseases, discuss different ways of ensuring a good spacing and density of the mature crop. For example by planting more seeds than necessary and then weed out some if they all survive, etc.

exercise 5

UNDERSTANDING CROP ROTATION

OBJECTIVE:

To understand the benefits of crop rotation.

TIME:

About 1 hour

MATERIALS:

Large sheets of paper and markers.

STEPS:

1. Ask the participants what they think the negative effects could be of growing the same crop in the same field many consecutive years. List the answers on the flipchart.
2. Review each item on the list and ask the participants how they think that crop rotation could help.
3. Discuss the following questions:
   - What pests and diseases attack only certain crops and which ones attack a range of crops?
   - Is it possible to identify groups of crops that are affected by the same pest and disease?
   - How can this help in identifying a suitable crop rotation practice?
   - How can crop rotation have an effect on the fertility of a soil? How can it have an effect on weeds?
   - Can you think of any of the main crop rotations practised in the area?
4. Divide the participants into small groups and ask each group to list all the different crop rotations they know that farmers in the area are using:
   - Ask the groups to discuss how these different crop rotations could help maintain a healthy field and crops.
   - Ask the small groups to present the results of their discussions.
   - Discuss the presentations and try to conclude on the best, most effective crop rotations that farmers practice in the area.

facilitators' notes 3

BENEFITS OF CROP ROTATION

Main principle of crop rotation

In crop rotation specific crops or groups of crops are grown on different piece of land each year. Groups are moved around in sequence, so they don't return to the same spot for at least three years.

Benefits of crop rotation

- **Pest and disease control:** soil pests and diseases tend to attack specific plant families, so by rotating crops the pests' life-cycles are broken.
- **Weed control:** some crops (e.g. potatoes and squashes) can suppress weeds, minimizing problems for following crops.
- **Soil fertility:** different crops have different soil requirements and benefits. Changing crops grown from one year to another minimizes soil deficiencies and allows the soil to replenish.
- Soil structure: alternating between deep-rooted and fibrous-rooted crops improves soil structure.

facilitators' notes 4

ROTATION FOR SOIL NUTRIENTS

Here is an example of how to rotate crops to keep the soil rich in nutrients. The idea is to divide your crops into four different types for four different seasonal rotations:

- **Leaves:** thrive on nitrogen; examples include lettuce, salad greens, chicory, spinach, broccoli, Brussels sprouts, cabbage, cauliflower, kale and kohlrabi.
- **Fruits:** need phosphorus; examples include squashes, cucumbers, melons, pumpkins, tomatoes, peppers, and eggplants.
- **Roots:** love potassium; examples include onions, shallots, garlic, scallions, leeks, carrots, beets, turnips, and radishes.
- **Soil builders and cleaners:** legumes are excellent for the soil because they store nitrogen from the air and release it into the soil; examples of cleaners include corn and potatoes, examples of builders include beans and peas.

For example, the first season of planting could be devoted to leafy plants, the next season to fruits, followed by the root plants and then legumes.

exercise 6

MANAGEMENT (IP UNDERSTANDING PRINCIPLES OF INTEGRATED PEST M)

Growing a healthy crop is a key in good farming. Healthy plants are stronger and can defend themselves better against pests and diseases. The different ways that we take care of our field have an effect on the health of our crops and can also be used to manage any pest problems.

Growing a healthy crop is the first principle of Integrated Pest Management (IPM). IPM is about pests, but it is much more than just pest control. IPM is not about eliminating all pests. In fact, some pests are needed to keep natural enemies away from the field. IPM is about reducing those pests that cause damage and yield loss.

IPM may often be focused on using pesticides as little as possible. But the basis of good crop management decisions is to have a better understanding of the crop ecosystem, including that of the pests, their natural enemies, and the surrounding environment. Monitoring of the crop is the first step into understanding ecosystems.

OBJECTIVE:

To understand the main principles of IPM.

TIME:

About 1 hour

MATERIALS:

Flip chart paper and markers, measuring tape.

STEPS:

1. Introduce the four principles of IPM:
   - Grow a healthy crop;
   - Understand and conserve defenders;

- Visit field regularly;
- Become an expert in managing your crops;

2. Ask the participants what they think each of these principles means.
3. Divide the participants in groups and ask each group to write down the different crop management practices that they think will have an effect on the health of a crop.
4. Ask one representative from each group to present their findings to the class.

PLANT NUTRITION

In this section participants will start to understand and appreciate the nutritional elements which are needed for healthy growing of plants and animals including people.

exercise 1

PLANT NUTRIENTS

OBJECTIVES:

- To introduce the importance and definition of plant nutrients;
- To realise the link between plant nutrition and human feeding.

TIME:

About 1 hour

MATERIALS:

Maize leafs from a poor and from a healthy soil.

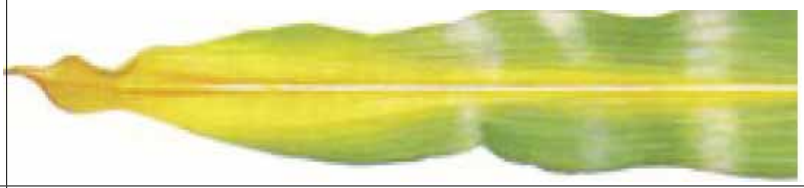
STEPS:

1. Ask the participants to discuss and list down the ingredients that are used in cooking that are little in amount but very necessary. This may include oil, salt, sugar, baking soda etc.
2. Let them explain why these ingredients, which are often just small portions of what they eat, are still important.
3. Show the participants a healthy and an unhealthy crop leaf collected from a fertile site versus a site of poor soil fertility in the surrounding area. The sites could be a general field and the other a special place e.g. close to the animal unit or next to where kitchen waste is deposited.
4. Ask them to guess the sites where the leaves were collected.
5. Let the participants take a walk through the field and look for the sites whether the samples were collected from.
6. In plenary discuss how plants look when they are sufficiently supplied by nutrients. This may include colour of leaves, sizes of plants, fruits. Refer to the chart below showing how different colours indicate specific nutrient gaps in the soil.
7. Observe the entire fields where the leaf samples were collected. Let them discuss what factors are essential for healthy growth of plants and reason for what could be contributing to the crops at one site doing better than that of another site?

facilitators' notes 1

NUTRIENT INDICATIONS ON PLANT LEAVES

Nutrients shortages as indicated by colour changes on leaves

Healthy with dark leaves and shiny.	
Phosphate shortage, reddish purplish especially on young plants.	
Potash deficiency appearing as firing with brownish color on edges up to the tip of leaves.	
Nitrogen hunger and the yellowish colour star from tip and moves along the middle line.	
Magnesium deficiency causing whitish strips and purplish colour in the back side.	
Drought causes leaves to be grey-greenish in colour, leaves roll up to size of pencil.	
Disease starts with small spots.	
Chemicals may sometimes burn the plants.	

exercise 2

EFFECTS OF GOOD AND POOR NUTRITION ON HARVESTS

OBJECTIVE:

To understand the effects that good or poor nutrition has on harvests.

TIME:

45 minutes

MATERIALS:

A selection of different maize cobs.

STEPS:

1. Ask the participants in advance to bring three cobs of maize each to the planned session.
2. Let each participant make a mark on their cobs to identify the ones they brought. The cobs should be different in appearance.
3. Ask them to work in sub groups to guess what could have caused the differences they have seen.
4. Group the cobs that are similar in the way grains are distributed on the kernel and try to evaluate what type of problems are most common.
5. Based on the observations and the notes below discuss what the effects of nutrient shortage have on crop performance.
6. Introduce the idea of composting and discuss the process of establishing a compost heap based on the notes further below.

facilitators' notes 2

NUTRIENT INDICATIONS ON MAIZE COBS

Effects of nutrient shortages on crop performance

Small ears are sign of low fertility. Boost yield by application of fertilizer.	
Well filled, each kernels weigh about 2/3llb.	
Potash shortage and so the grains are not well filled at the tips and loosely chaffy kernels.	
Phosphate shortage interfering with pollination and kernel fill. Ears often short, with poorly developed kernels.	
Shortage of nitrogen as the plant was growing. Kernel at tip did not fill because there was poor protein supply to form seeds.	
Green silk when plant is mature indicating there was too much nitrogen in relation to other nutrients.	
Dry weather slowed silking behind traselling. Kernels are not pollinated.	

facilitators' notes 3

BUILDING A COMPOST HEAP[3]

Composting is an excellent way to improve the fertility of the soil. A compost heap can be built up gradually by any farmer, provided that layers of organic waste, soil, fresh manure and green plant material are alternated. The key to good compost making is to collect as wide a range of suitable materials as possible. A micro-biological process causes the composting of this material into rich organic fertilizer. In composting, the presence of water and air is important. The compost heap should neither be too wet, nor too compact. The heap should be turned every few weeks to ensure equal maturing of the compost.

MATERIALS:

- Ingredients for the compost heap: manures, crop residues, grass, leaves, weeds, lime, rock phosphate, wood ash, etc;
- Wooden stakes, roughly 1.5 m tall and 4-5 cm diameter;
- Plastic twine;
- Branches for stakes;
- Plastic tarpaulin (if available).

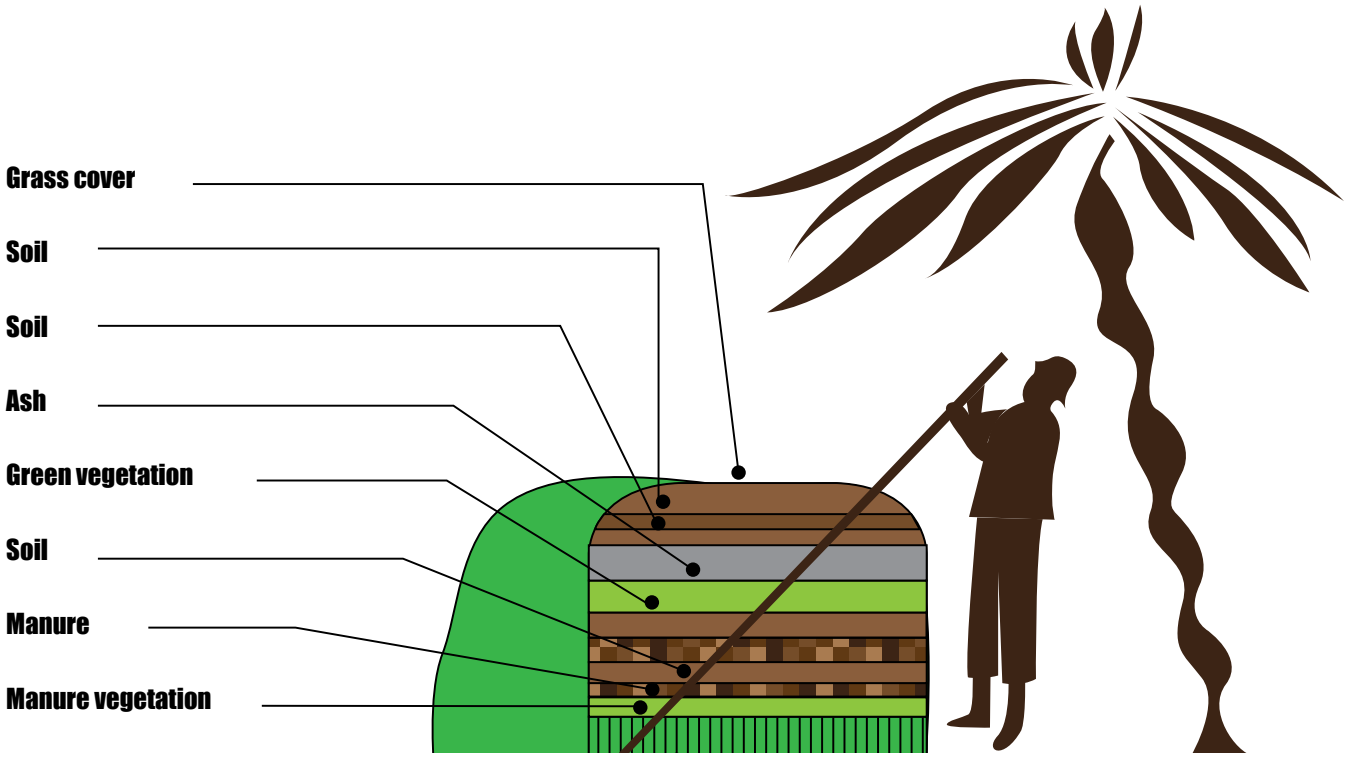
STEPS:

1. Try to build your own compost heap in the shade or near to a water supply if possible, using the guide below or through making a compost pit.
2. Identify and gather available materials and chop these plants materials up with a large knife to accelerate the breakdown process.
3. Collect animal dung (cow, chicken and pig dung can be used) ashes, by-products, feathers and rock phosphate.
4. Make a wooden cage of about 1.5 meters wide and high from the branches and the twine. Spaces between branches should be 2-3 cm.
5. First make a layer of coarse plant material such as stalks or twigs is needed to ensure good air circulation and drainage. Following that, organic material should be placed in layers (see drawings in the illustration).
6. Apply water to the material to be composted and mix in very thoroughly (as if mixing cement). When sufficiently moist place the material in a thin layer on the heap. Organic material should be placed in layers of 10 cm, manure only 2 and soil only 1 cm respectively. N.B.: Don't take the shortcut of placing dry materials on the heap and watering them. It never works!!!
7. After the layers are completed (at a height of about 1 meters), thrust a pole down to the bottom of the pile in 4 to 6 locations in order to create an air channel to the center of the pile. Cover the heap with sacks, grass or banana leaves.
8. Turn the compost heap every 2 to 3 weeks. In turning, the heap is completely taken apart. It is built up again on a base of coarse material. The drier and less decomposed parts such as the edges are placed in the centre of the new heap.
9. During the dry season: cover the heap with a thin layer of soil to reduce evaporation and minimize fly breeding. Where water is scarce, composts can also be built in pits to minimize water loss.
10. During the rainy season: turn the heap after every rainstorm until the heap is moist throughout.

[3] Adapted from Settle (2000), CABI/FAO (2000) and IFOAM (2002).

Cover the heap with a plastic sheet, grass or dry-mud so that the rains do not bring the temperature in the heap down.

11. Depending on the climate, it may take several months before the compost is fully matured. The compost can be used as soon as most of the original material is no longer recognisable and has turned into brown / blackish and crumbly substance.



ANIMAL FEED AND NUTRITION

Proper feeding is essential to ensure that animals receive adequate nutrients for maintenance of production and a healthy body condition. Good pasture land provides all the essential items for good nutrition of livestock. However, sometimes pastures are degraded or grazing is restricted to certain areas. Livestock might therefore be missing out on some valuable food items and supplementation thereby becomes necessary.

exercise 1

MAIN FEED GROUPS

OBJECTIVES:

- To become familiar with local examples of the five different food groups and the benefit of each;
- To realize the need to provide a balanced diet to animals, especially those that are sick, pregnant or injured.

TIME:

1 hour

MATERIALS:

Flip charts, markers, tape, pasture or area to collect feed samples.

STEPS:

1. Group the participants into groups of 4-5 members. Have each group go out and collect as many types of livestock food as they can find (different types of grasses, pods, leaves etc.), in a 20 minute time, and then come back to the learning site with the samples.
2. Each group then presents what they found to the others, describing the plant or food, where it grows and what benefit it provides to the livestock.
3. Ask the participants the following questions; “Why do some of these plants bring different benefits than others?”, “Why do some animals at certain times seek after certain plants?”, What would happen if we only gave animals one of these plants and never any other?”, “Are there some plants not included in the collected samples that normally are important for your animals?”
4. Discuss the need for a balanced diet, where animals eat a variety of foods including items from all the main food groups listed below including:
   - Proteins: body building foods.
   - Carbohydrates and fats: energy giving foods.
   - Minerals: for healthy bones, blood and milk production.
   - Vitamins: protective foods.
   - Water: essential for life.
5. Ask participants for examples among the plants collected that provide good sources of each of the various food groups. Also discuss the specific nutritional requirements of pregnant or milk giving females or sick animals.
6. Introduce the idea of conserving grass as hay based on the notes below.

facilitators' notes 1

CONSERVING GRASS AS HAY

What is hay?
Hay consists of grass, sorghum, maize stover, rice straws and other leafy feeds cut when green and dried before storage.

Procedure:

1. Cut the grass just before or during its flowering stage. Or when the leaves are rich enough (very green).

2. Spread the grass on the ground to dry. Leave the cut grass in the field to dry for at least 3 days. Protect the drying grass from rain or moist in order to avoid mould development. Turn the grass after 1-2 days.

3. When dry, collect the material and bale using a simple hand baler.

exercise 2

A BALANCED MEAL FOR YOUR CHICKEN

OBJECTIVES:

To understand what a balanced meal means and what it includes.

TIME:

40 minutes

MATERIALS:

Paper and marker pens.

STEPS:

1. The week before the activity, ask participants to bring: a small amount of something they would eat at home themselves and a small amount of what they feed to their chicken at home.
2. Ask the participants to suggest a meal and lay it out on the table. They should use the foodstuff they brought and may make cards for what is missing but that they regularly use.
3. Ask them to prepare a sample of meal for a chicken using the items that they brought.
4. Ask each group to present their findings.
5. Analyse to see which meal included all the necessary components for a healthy living.
6. Did they identify the five food types for humans (water, carbohydrate, fats and oils, protein, minerals salts and vitamins)?
7. Based on the notes below discuss the purpose of each food/feed type and relate this to the food types needed by chickens.
8. Discuss the sources and quantities of each of these feedstuff needed by chickens.

facilitators' notes 2

POULTRY FEEDING

Supplement feeding for more eggs, meat and disease control:

- **Energy foods:** crushed cereals or root crops.
- **Protein foods:** legumes, cowpea/cassava leaves, animal products; termites, insects, worms, fish or meat by-products.
- **Vitamines:** fruits, greens, grasses etc.
- **Minerals:** crushed egg-shells, bones etc.
- Provide **clean drinking water** at all times.

REGULAR MONITORING THROUGH CROP AGROECOSYSTEM ANALYSIS (AESA)

The AESA was introduced in an earlier module, but it is important to remember that the AESA needs to be done frequently so that the participants can really understand and manage the growth of their crops. As long as crops are present in the learning field, the participants should conduct an AESA once a week.

exercise 1

UNDERSTANDING FIELD ECOSYSTEMS

In order to protect crops against pest and diseases the participants first need to understand the "ecosystem" of the learning field. The ecosystem is all of the plants, animals and micro-organisms in a particular area and how they interact with each other.

OBJECTIVES:

- To study the field ecosystem and the role of natural enemies in controlling pests and diseases;
- To understand the meaning of an ecosystem and how to analyse it.

TIME:

1.5 hour

MATERIALS:

Large sheets of paper and markers, plastic bags, alcohol and glue.

STEPS:

1. Introduce the topic of protecting crop against pest and diseases.
2. Ask the participants to mention the four principles of IPM and discuss these four principles in relation to protecting the crop against pest and diseases.
3. Ask the participants what they think an "ecosystem" means.
4. Go with the participants to the learning field. Divide them in small groups and ask the groups to collect as many different types of organisms in the field (ecosystem) as they can, including plants, plants with diseases, insects, worms, spiders, flies etc.
5. Ask the groups to go to a shady spot. Add alcohol to the plastic bag and shake the bag so that the live animals die.
6. Discuss and separate with the participants the collected organisms by their function in the ecosystem. Ask the participants to place them in different levels: plants at the bottom, plant feeders at level 2, natural enemies at level 3, and decomposers at level 4. Glue them on a piece of paper. If uncertain of the function, label the organism as "uncertain".
7. Discuss in the group the following questions:
   - Are all the plants they found "weeds". Why or why not?
   - Are all insects "pests". Why or why not?
   - Are all pests present in the field a problem?
   - Is a pest insect a problem during all its development stages or only during one or two?
   - What are the different development stages of one of the selected insect?
   - How do the natural enemies (defenders) help the farmer in managing pests and diseases in the field?
8. Summarize the observations and discussion made in the field.

exercise 2

REGULAR MONITORING THROUGH CROP AESA

OBJECTIVE:

To practice how to carry out regular monitoring of crops through AESA.

TIME:

2 hours

MATERIALS:

Large sheets of paper and makers, measuring tape or stick.

STEPS:

1. Hold a "refresher discussion with the participants about AESA: What is it? Why do we do it? How should it be done?"
2. Go with the participants to the learning field and divide them in small groups of 4-5 persons in each.
3. Assign an area in the learning field for each group to study a selected plot size or number of plants (depending on the crop).
4. Ask the groups to make a list of important observations about their crops' development so far, and recommendations.
5. Ask each group to discuss the information they have written down and to propose management practices to solve any problems. For example, if many weeds have been observed, weeding might be proposed as a management suggestion.
6. Summarize the findings on one sheet of paper that can be used as a monitoring and recording sheet. Drawings should be simple and reflect field conditions/observations.
7. Ask each sub-group to present their findings. Make sure different people present their findings each time.
8. Discuss the group presentations and the suggested management options, and decide together on what immediate actions have to be taken – and who will take them.

facilitators' notes 1

EXAMPLE OF QUESTIONS FOR DISCUSSION DURING AESA

Probing to explain the dynamics in using integrated pest management approach:

questions for discussion at the seedling stage

- Comment on the overall health condition.
- What is not satisfactory with the colours of leaves, what could be the cause variation?
- What effect is the weather having on plant growth?
- What kind of damage are the pests doing at the present crop stage?
- What kind of pests do you see and how many are there?
- Is there danger of pests increasing by reproduction?
- Asses if the friendly insects are also reproducing?
- Is there any way to prevent these pests from increasing?
- What is the pest condition in other fields in the area that could influence your field?

- How many of them are there? Where do you think they might have come from?
- What do they eat and what did they eat before they were pests?
- Are there insects that are neither pest nor natural enemies?
- Are there decomposers that eat dead material in the soil?
- Are the pest and natural enemy populations increasing or decreasing compared to previous weeks?
- How does the condition of the field compare with the previous week?
- What do you expect will happen next week?
- Are there any specific pests to monitor more carefully?
- Do you think there is a need to apply insecticide? If no, is there an alternative?
- Have the plants recovered from pest damage during a previous stage?
- Is there any disease in the field? How can they be managed or controlled?
- Is the plant developing as expected (how many leaves, height, etc.)?
- Are there many weeds? When is the right time to do weeding?
- What is the management plan for next week?
- Were last week's decisions effective?

exercise 3

REGULAR MONITORING THOUGH LIVESTOCK AESA[4]

OBJECTIVE:

To understand how to carry out regular monitoring of livestock through AESA.

TIME:

1.5 hour

MATERIALS:

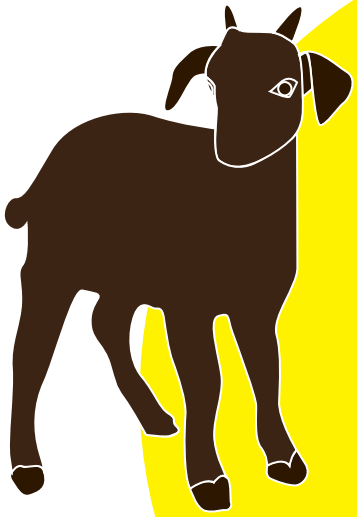
Pen/pencils, markers, flip charts.

STEPS:

1. The group is divided into smaller groups (usually the same groupings as for host teams). Each sub-group goes to a (or their) unit under study (i.e. a goat, a cow, a poultry unit, a landscape view point etc.) for 30 minutes to collect data according to the agreed Livestock AESA format, and then returns to the learning site.
2. Each sub-group then analyses the data collected and prepares the Livestock AESA format on a flip chart (allow 20–30 minutes). A major drawing in the middle of the sheet should be included illustrating the unit of study. In the case of many illiterate participants the AESA parameters should also be noted down in the form of drawings rather than text. All drawings should be simple and reflect the field conditions/observations.
3. Each sub-group presents its results in a plenary session and receives feedback from the other sub-groups. Make sure that the task of presenting rotates among the various sub-group members each occasion the exercise is done.
4. The results of the various sub-groups are then compared and the whole group comes up with a consensus that forms the basis for future management decisions. The facilitator can probe the discussion though questions such as; "What changes can be observed since the last AESA monitoring?", "What management implications do these observations imply?" etc.

[4] Adapted from Pastoralist Field Schools: Guidelines for Facilitation (FAO and VSF Belgium, 2009).

EXAMPLE OF A LIVESTOCK AESA FORMAT FOR GOAT MANAGEMENT



Pesa number _____
Sub-group name _____
Date _____
Time of observation _____

GENERAL INFORMATION
Weather _____
Conditions _____
Breed _____
Name _____
Birth _____
age _____
date _____

Weekly recording _____
Parameters _____
_____
Body weight _____
Body measurements _____
Daily _____
milk _____
yield _____
Feeding _____
routine _____

Recommendations

HYGIENE AND SANITATION

Diseases and poor nutrition can restrict the growth of plants and animals. With improved management of hygiene, sanitation and nutrition disease challenges can be kept at a minimum. Money that would have been spent on treatment can be retained for a different purpose. In this section participants will learn different ways to take care of the health of both their crops and their animals in order to improve food supply from the farm and realise the importance of hygiene and sanitation in the field.

exercise 1

POINTS OF CONTACT WITH PESTS ON LIVESTOCK

OBJECTIVE:

To discover the most common points of contact with pests on livestock.

TIME:

1 hour

MATERIALS:

Paper, pencils, bags to collect insects.

STEPS:

1. Arrange for the participants to visit a homestead of one of the group members who looks after a friendly animal (calf, lamb etc).
2. Ask the owners to restrain the animal so that the group can be comfortable around it.
3. Ask them to make a drawing of the animal they are handling.
4. Ask them to look for any strange thing / any insect that can be found on the animals body, taking a careful look at the ears, eyes, tail end, hooves, stomach, udder area etc.
5. Indicate on the drawing where any insect or stuff were located that could make the animal uncomfortable or even sick.

The drawing above show sites that could be having pests, dirt or injuries as observed by the participants.

exercise 2

HYGIENE AND SANITATION IN THE FIELD

OBJECTIVES:

To understand hygiene and sanitation in the crop field.

TIME:

2 hours

MATERIALS:

Flipchart and markers.

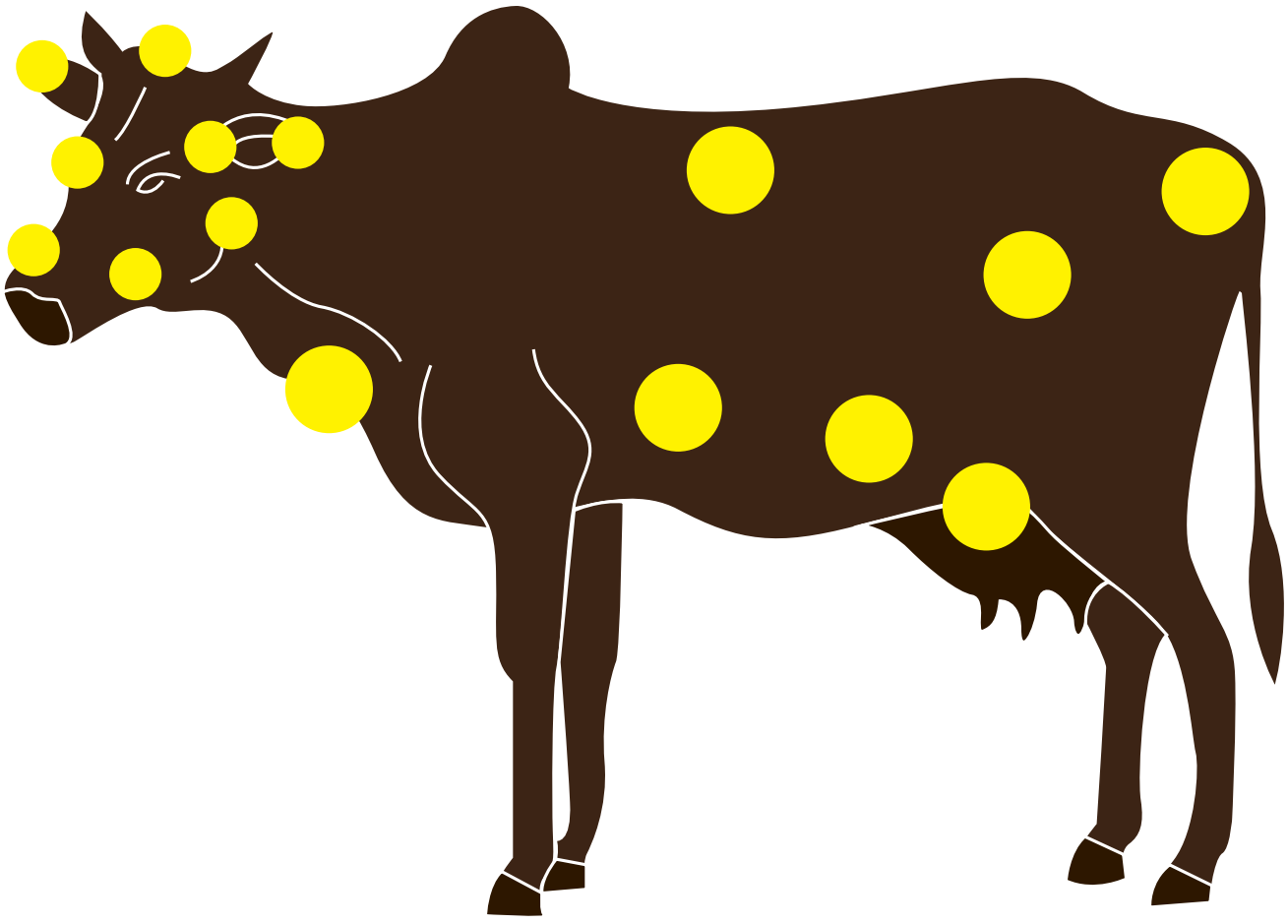
Note: this activity should be conducted in a nearby field where crops are already growing.

STEPS:

1. Ask the participants to walk through a field in a zig-zag pattern and have them compete on who will have the highest number of plant seeds or flowers attached themselves on their clothes and bodies.
2. Let them discuss why some of them had so many seeds and flowers attached to their clothes.
3. Find out if there is a difference in the paths they followed and whether

the plots were weeded or not?

4. Ask the participants what they intend to do with the stuff they remove from their clothes.
5. Explain and discuss the following aspects:
   - One has to be careful not spreading the seeds of weeds in the fields being farmed.
   - Sanitation is knowing what to do with risk and spread factors in the environment, i.e. sick plants, empty tins, plastic bags that may be habitats for pests and any such things that can spread a negative health effect. Encourage a discussion on each of the items.
   - Chemical control should only be used as a last option and that, for safety reasons, participants should not be allowed to spray chemical pesticides.
   - Other ideas may include creating border crops that trap and shield the main crop from certain pests, having a pit where sick plants/plant parts are buried/burnt, having special tools for handling the sick plots, paying attention to cleaning tools after using them in any particular field.
6. Ask one or two members of the group to make a summary of their findings.



HUMAN HEALTH AND NUTRITION

This section links the agricultural activities that the participants have undertaken in the learning field and in the classroom to life. The participants will begin to understand that their own health is even more important than the health of their crops or animals, and that one of the best ways for them to stay healthy is by eating healthy.

exercise 1

GETTING SICK, GETTING BETTER

OBJECTIVE:

To stimulate the participants to think about the diseases and sicknesses that they see in their family and community.

TIME:

2 hours

MATERIALS:

Flipchart and markers.

Note: You might want to ask a local nurse or doctor to participate in this session.

STEPS:

1. Ask the participants if they know the names of any human diseases that happen in their area.
2. Ask them what somebody looks like when suffering from the disease.
3. Write all of the sicknesses that they mention on the flipchart.
   Note: you may need to come up with some suggestions if the participants come up with only one or two sicknesses.
4. Divide the participants into groups and ask them to discuss the following questions:
   - When you get sick, what do you do to get better?
   - Do you know any cures for the sicknesses you have mentioned?
   - Do you know about HIV?
   - How can you prevent the diseases mentioned?
   - Where is the nearest clinic?
   - Who helps take care of you when you are sick?
5. Bring the groups together and discuss the issues in plenary.
6. Point out that it is important to try and get treatment when we are sick, and that we should try not to wait until we are very sick before going for help. Make the link between what the participants learned about controlling/preventing diseases and pests in the learning field.

exercise 2

FOOD AND HEALTH “MESSAGES” THAT WE GET EVERYDAY

OBJECTIVE:

To reflect on the food and health messages around us.

TIME:

1 hour

MATERIALS:
Flipchart and markers.

STEPS:

1. Ask the participants to think about different messages they receive from other people about healthy eating and drinking. You might want to give them some examples, such as:
   - My aunt gives me fish and spinach every week because it is good for me. But I hate spinach and fish.
   - My grandmother tells me that I should eat lots of fruit and vegetables every day. I wonder why.
2. When the participants have given five or six examples, you can begin to ask them what these messages mean.

exercise 3

GOOD NUTRITION PRACTICES

Food and nutrition are very important aspects in keeping our bodies healthy. Most people get sick because their bodies are not strong enough to fight off sickness. By eating the right types of foods and enough of them, your body can become strong. Therefore it is important for the participants to know the different types of healthy foods that can be found.

OBJECTIVE:
To understand the elements of good nutrition practice.

TIME:
2 hours

MATERIALS:
Flipchart and markers.

STEPS:

1. Explain to the participants that different types of food are needed by the body to be healthy and strong. Ask any of the participants if they know what the three food groups are. If not, explain to them that food is divided into three groups:
   - **Energy foods** such as rice, plantain, yam, sugar cane, cassava, breadfruit, palm oil, different types of bread, and others.
   - **Body building foods** such as fish, chicken, meat, eggs, peanuts, beans, cabbage, milk among others.
   - **Protective foods** such as oranges, pineapples, watermelon, apple, paw paw, potato greens, cassava leaf, vegetable oil, and tomatoes.
2. Explain that food has six nutrient groups that are responsible for keeping us healthy: carbohydrates, fats, proteins, minerals, vitamins, and water. We get sick if we do not eat the right type of food.
3. Ask the participants what they think the following terms mean:
   - **Balanced diet:** when the food and drink taken each day are in proper proportion. Not too much of any one item and not too little of the other;
   - **Nutrition:** when a person eats foods that are in line with what the body needs;
   - **Body building foods:** our bodies need protein to build muscle. Protein is found in meat,

fish, chicken, nuts and beans;

- **Energy foods:** foods that give us energy are typically starchy foods, called carbohydrates;
- **Protective foods:** fruits and vegetables provide our bodies with important vitamins and minerals to keep all our bodies strong. Vitamins help us our bodies to fight germs and other things that make us sick.

4. Ask the participants to name the types of food they eat every day. Then ask them to divide the foods into the three food groups on flip chart paper.
5. Ask the participants if the results seem to show a balanced diet.
6. Divide the participants into three groups – the "Energy Group", the "Body Building Group" and the "Protective Group". Ask each group to come up with two complete meals that they believe are balanced meals.
7. Have each group present its meals and explain why they are balanced.

AN INTRODUCTION TO A LIVELIHOODS ANALYSIS AND THE HUMAN ECOSYSTEM ANALYSIS (HESA)

In the JFFLS participants need to examine the problems that threaten their livelihoods, weigh available options and make decisions about what action they could take given their own assessment of resources and options. The issues to which the JFFLS approach are applied range from poverty, loss of land, pesticide use, family planning, alcoholism, gender based violence (GBV), gender equality and the attendance of children at school, to specific health problems such as malaria and HIV. The schools strengthen communities by supporting participants in their learning and analyses of how their behaviour exposes them to HIV or other risky behaviour.

The core process is the linking of ecology, group organization and participant-driven learning applied through the Human Ecosystem Analysis (HESA). In this socio-ecological approach, participants (15 years old and above) investigate various threats to their lives such as HIV and GBV. This analysis enables them to understand their own strengths, vulnerabilities and constraints[5]. Combined with a long-term outlook, participants should be more able and self-confident to address problems and the impact of their own decisions over time. They are also empowered to decide for themselves on how to protect themselves against poverty-related diseases such as HIV and/or other social threats. The ultimate goal is to enable them to recover and build their knowledge and confidence to become effective decision makers in their own lives, the lives of their families and in their community network.

The Human Ecosystem Analysis (HESA) in the JFFLS involves participants investigating threats in the same way they investigate pests during AESA. Instead of the crop and or livestock, the individual and/or household and/or community threats are studied. It is recommended to introduce HESA only

[5] See Farmers' Life School Manual (www.fao.org/hivaids/). The manual describes the 16-week course designed to help the agriculture sector, AIDS programmes and NGOS to facilitate farming communities to face their local concerns, build their resilience and thus reduce their vulnerability to HIV/AIDS.

when participants are 15 years old.

The HESA studies the impact of a threat within a livelihood framework (see table below). Participants will quickly understand impacts and the inter relations between the main assets. HESA leads participants to discover and analyse the way people live, their problems and decisions to eliminate risky behaviour and threats and reorganize their lives according to the systemic analysis and group discussions. The HESA process is used as a basis through which the group discussion is part of a decision making process. Boys and girls will also learn to understand the long term effects if preventive measures are not envisaged.

One key tool in the HESA is the problem analysis flow diagram. The tool can be applied to analyse the specific problems in order to find solutions:

- During the regular JFFLS activities in the field, where life skills can be discussed alongside agricultural skills;
- When socio-economic problems such as HIV, malaria, violence, alcoholism, migration of young people, etc. arise within the community.

The framework through which the analysis is done is based on the livelihood framework.

Livelihood assets refer to resources that people control or have access to and which serve as the basis of household livelihoods (human, social, natural, physical and financial assets). Analysing the impact of threats on people assets is central to identifying appropriate measures and strategies to improve their situation and reduce their vulnerability.

exercise 1

PRACTISING LIVELIHOODS ANALYSIS

OBJECTIVE:

To understand livelihoods assets within a household and practice livelihoods analysis.

TIME:

The exercise may take few days, as participants will have to discuss in their groups, obtain the consensus of the community ad household members and practice their study

MATERIALS:

Flipchart and markers, notebook.

STEPS:

1. Review existing asset base drawing the following template and ask 3-4 sub groups of participants to choose a household within their community to practice their livelihood analysis.
2. Ask the different groups to identify the assets available to the household to undertake farm, non-farm, household and community activities (see also the table below):
   - **Human assets**: sex and age of household head, average household size, skills and knowledge of household members, health of household members, and use of hired labour;
   - **Natural assets:** rainfed area, irrigated area, fallow, trees and livestock;
   - **Physical assets:** seed and fertilizer, farm tools and implements, post harvest equipment, other household assets (furniture and other household items, quality of house, and means of transport);
   - **Financial assets:** use of credit, remittances, savings;
   - **Social assets:** membership of groups and associations, leadership roles, participation in reciprocal labour groups.
3. At the end of the exercise ask the participants to present their analysis to the other groups and ask one or two members of the group to make a summary of their findings.

Characteristics	
Human assets	
Age, sex and marital status of HH head	
Number of people living in HH	
Skills, knowledge and educational levels of HH members	
Main threats (health, social, economic) facing the HH	
Natural assets	
Rainfed area cultivated (ha)	
Irrigated area (ha)	
Fallow (ha), length of fallow, reasons for fallow	
Fruit trees, woodlots etc	
Number of livestock and draught animals	
Number of livestock and draught animals	
Physical assets	
Source of seeds and fertilizer	
Inventory of farm tools and equipment	
Post harvest equipment and granaries	
Number of dwellings and construction materials	
Ownership of means of transport	
Other HH assets	
Financial assets	
Access to credit	
Remittances	
Savings	
Social assets	
Membership of groups	

facilitators' notes 1

THE LIVELIHOODS FRAMEWORK

The livelihood assets

- **Human capital:** skills, knowledge, ability to work and good health and the amount and quality of labour available;
- **Social capital:** membership in community and other groups, relationships of trust, dynamics in the household and community;
- **Natural capital:** land, forests, marine/wild resources, water;
- **Physical capital:** livestock, shelter, tools, materials, basic infrastructure and producer goods;
- **Financial capital:** income from employment or self-employment, credit, remittances from relatives abroad or in urban areas, or transfers from the state, liquid assets such as livestock and jewellery.

Source: DFID's sustainable livelihoods guidance sheets. 1999, www.livelihoods.org

exercise 2

PRACTISING HESA

OBJECTIVE:

To practice the HESA, analyse threats and identify protective measures to improve the situation.

TIME:

About 1.5 hour

MATERIALS:

Large paper and markers, small notebooks and pencils.

STEPS:

The participants conduct their analyses in small groups, identifying a problem or a threat in their lives and then identifying the impact on their livelihoods taking into account the 6 HESA categories listed below.

The HESA format

HESA topic: **General Information** Location: Subgroup: Date of HESA: Problem analysed:		
Impact		**Protective measures**
Health		
A **B** **C**		**A** **B** **C**
Economy		
A **B** **C**		**A** **B** **C**
Education		
A **B** **C**		**A** **B** **C**
Social relation		
A **B** **C**		**A** **B** **C**
Culture		
A **B** **C**		**A** **B** **C**
Conclusions:		
Recommendations:		

1. Ask the participants what are the main threats in their community. Make a list on the flipchart.
2. Ask the group to choose the threat they want to analyse.
3. Break into subgroups of about 5-6 persons each and ask each group to think about the impact of the problem analysed on the 6 HESA categories. Draw or write the 6 categories in a simplified manner.
4. Ask them also to make a list of the different impacts of the problem under the 6 categories under the HESA format.
5. Then ask the participants to come up with ideas for improving the situation under each livelihoods asset.
6. Ask each group to present its analysis to the other groups and make their recommendations.
7. Compare the different analyses and solutions and discuss them with the participants.

facilitators' notes 2

HESA AND MALARIA

For example if malaria is the problem analysed ask the group to identify the consequences of malaria on the their health, the health of the community at large, its impact on the economy of the family/ community (if my dad is sick with malaria, he stays in bed and he is not able to work, etc.) on their education (if I am sick…I don't go to school, etc.) on the environment and social relation. Then help them to find solutions…if we keep the area around the house clean and dry mosquitoes won't multiply, if I sleep under a mosquito net, I will not be beaten etc.
Facilitators may want to ask them to discuss the issue in the same way with their peers or their community.
When analyzing GBV, facilitators may introduce to the participants the various forms of violence according to the table below and ask them to identify one or more forms of violence they would like to analyse through the HESA exercise.

Key Points for the facilitator

1. Healthy eating.
2. Eating habits are linked to local foods.
3. Are there any food taboos for certain kinds of people?
4. Are certain types of food given only to men and boys? Girls and women?
5. Food taboos should not be encouraged.
6. Girls and women need good food, especially when they are pregnant or breastfeeding.
7. Everyone – boys and girls alike – needs nutritious food.

exercise 3

UNDERSTANDING THE KEY FACTS ABOUT HIV[6]

Understanding HIV and AIDS needs to be covered in each module. In this way the participants will know what HIV is and how they can protect themselves from it.

OBJECTIVES:
- To develop the participants interest in learning about HIV;
- To understand some key facts about HIV.

TIME:
About 1.5 hour

[6] Adapted from: http://www.healthlink.org.uk/projects/hiv/article03.html

AGREE DISAGREE DON'T KNOW

MATERIALS:

Three signposts labelled "Agree", "Disagree" and "Don't Know".

STEPS:

1. Prepare three signposts with the words "Agree," "Disagree" and "Don't Know" on them. Place the signposts in different parts of the classroom or learning field.
2. Tell the participants that you are going to say a number of things about HIV and they are to run to the signpost that corresponds to what they think.
3. Make the following statements, and let the participants run to the signposts. After each statement, ask participants to volunteer from their station to explain why they chose that station.
   - Being cool is important.
   - Having a loving and trusting relationship is important.
   - It's cool to say "no" to sex.
   - You should not have sex before marriage.
   - Sex is OK if you are getting something for it.
   - It's OK to have sex if you wear a condom.
   - Having lots of money is important.
   - Being healthy and happy is important.
   - If someone gets HIV or AIDS, they deserve it.
   - It's OK to have sex with someone who is much older.
   - Antibiotics can cure AIDS.
   - There is not cure for AIDS but there are things you can do to prevent it.
   - HIV can be spread during sex.
   - You can prevent HIV by not having sex at all or using a condom during sex.
   - HIV can be spread by sharing plates and cups with someone who has AIDS.
   - You can tell if someone has HIV by looking at them.
   - After a person gets HIV, they can live for many years without showing signs or getting sick.
   - Since everyone dies of AIDS, it is better not to know if you have it.
   - You can be cured of AIDS by having sex with a virgin.
   - Traditional healers have cured AIDS.
   - AIDS is a disease of immoral people, such as prostitutes.
4. Discuss in what ways HIV/AIDS affect participants and young people (see box).

The second part of this exercise will make participants think about what AIDS is.

5. Ask participants the questions below one at a time and give them time to respond and reflect on the questions before you fill in or explain the correct answer.
   - Do any of you know what AIDS is?
   - How does the AIDS virus attack the body and make it weak?
   - How do you know if you have AIDS?
6. Summarise the discussion and draw some general conclusions and recommendations.

facilitators' notes

EFFECTS OF HIV

HIV and AIDS can affect participants in a range of ways, such as:

- Having to cope with sick parents or guardians, which brings both practical and psychological pressures
- Having to cope with the death of parents and other loved ones
- Having to deal with the trauma and grief of bereavement and resulting psychological problems, such as depression, guilt, anger and fear – often with a lack of support
- Having to deal with neglect and loss of parental care, love and attention - leading to developmental problems
- Having to adjust to life with guardians/foster parents
- separation from siblings
- Facing life unsupported in a child-headed household
- Losing inheritance and home
- Being forced into survival as street participants
- Facing stigma, discrimination and social exclusion
- Experiencing a cycle of illness and malnutrition
- Becoming infected and living with HIV
- Inability to thrive or continue in school
- Severe economic hardship and lack of livelihood opportunities
- Gender discrimination
- Sexual abuse and exploitation

facilitators' notes 3

WHAT IS AIDS?

What is AIDS?
AIDS is a disease that is caused by a virus called HIV. The virus is very much like the very tiny pests that you have seen on crops. But the HIV virus is so tiny that you can't see it without a microscope. This virus attacks the body just like pests attack plants. It attacks the part of your body that defends your body from getting sick or weak.
(You may want to ask the participants to make a drawing of pests attacking plants, and the AIDS virus attacking a body, to reinforce the idea that AIDS is caused by micro-organisms).

How does the AIDS virus attack the body and make it weak?
Our body has lots of white cells in it. They are like little soldiers that protect our body from sickness. When these little soldiers are busy fighting a sickness – like a cold or a fever or a stomach ache – we may feel tired or sick. But once the soldiers have done their job we feel better.
The AIDS virus is very strong. It attacks the white cells – our little soldiers – and kills them. So we can no longer fight other diseases that come into our body.
(Again, you may want to ask the participants to make a drawing of the AIDS virus attacking the body, to make sure they understand the concept of a virus entering the body's system)
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How do you know if you have AIDS?

When the virus enters the body, you have the HIV infection – you are HIV positive. But you may not feel any difference at all. In fact, you can carry the virus in your body for five or ten years and not feel anything.

Once the virus has destroyed many of your white cells, you will start to show signs and symptoms of illness. Some of the signs and symptoms are:

- Unexplained weight loss;
- Fever for more than one month;
- Diarrhoea for more than one month;
- Sores on your private parts or mouth for more than one month;
- Coughing for more than one month;
- Lumps under your arm, on your neck or in your groin;
- Skin infections.

As you can see, many of these are also signs and symptoms of other diseases. So the only way to know if you have AIDS is to get a special HIV test.

CULTURAL ACTIVITIES

The following activities will help the participants to reflect on what they have done or learned by a creative outlet for expressing it such as singing, drawing, poetry, drama, Of course, you can also use cultural activities of your own choice or you may want to ask the participants if they have any activities of their own that they enjoy!

ACTIVITY 1 – Thinking about the future

STEPS:

1. Divide the participants into 4 groups.
2. Avail enough pencils, manila papers, masking tape and rubber.
3. Ask them to reflect on two questions: How do they want their families to be in the future? How do they want their community to be in future? And what do they think is needed in order to get there?
4. Ask them to present their ideas though drawing.
5. Let them make presentations.
6. Encourage them to note the key things they need to do so that they can realize the perceived future.

ACTIVITY 2 – Stand up against HIV

STEPS:

1. Have all the participants seated in the classroom or in the learning field. Tell them that you are going to say a lot of ways that HIV can be spread and that some of them are true and some of them are false. Instruct them to stand up if they think your statement is true. Here are the statements you can make:
   - Sex without a condom (T)
   - Shaking hands or holding hands
   - Hugging and kissing
   - Contact with semen (T)
   - Sleeping together without having sex
   - Visiting a person infected by the AIDS virus
   - Using the same hair brush or comb
   - Breastfeeding (T)
   - Using a common bathroom
   - Sharing the same plate or cup
   - Sharing needles, razors or knives for cutting skin (T)
   - Being bitten by a mosquito or any other insect
   - From mother to infant during delivery (T)
   - From mother to infant during pregnancy (T)
   - Sneezing
   - Contact with infected blood (T)
   - Using the same telephone
2. Divide the participants in groups and ask them to write a song or a poem about the ways they can and cannot get the HIV virus.
3. Ask the groups to present their song or poem.

ACTIVITY 3 – Charade with feelings

This activity is designed to help the participants to get to know their own feelings and how to express them.

TIME:

15 minutes

MATERIALS:

Small pieces of paper.

STEPS:

1. Write words that describe feelings separately on small pieces of paper (anger, sadness, joy, excitement etc.) and draw faces that express these feelings on the cards.
2. Let each child choose a feeling card and observe the feeling silently.
3. Tell them they must not tell the others what is written on the card but they should demonstrate the feeling to the rest of the group using only facial expressions or body language.
4. The other participants should guess what feeling is being demonstrated.
5. Dismiss the group, but remain in the room so that you are available for any participants who may have questions.

Note: When you are using this activity for the first time, try and have one of the more confident participants do the first demonstration. The others can use the first demonstration as a model for their own performance.

ASSESSING PROGRESS

exercise 1

MULTIPLE CHOICE TEST FOR EVALUATING KNOWLEDGE AND SKILLS[7]

This test of participants' knowledge provides reliable information in an entertaining manner without participants feeling pressured or threatened by the exercise.

OBJECTIVE:

To measure participants' knowledge and skills in issues related to any topic such as farming or human health issues.

Note: If the exercise is carried out twice (in the beginning of the JFFLS and at a later stage. i.e. after about a year) it is possible to evaluate the increase in knowledge among participants. In such case it is important that the pre- and post-test are of similar difficulty.

TIME:

About 2 hours for preparation and 1 hour for conducting the exercise.

MATERIALS:

Pieces of A4-size cardboard, marking pens, thread, thumb tacks, sticks, actual live or natural specimens.

STEPS:

1. Prepare questions related to the module topic. The questions should be such that response options can be given. Typical questions may include:
   - What is lacking in this plant nursery (shade, watering, weeding)?
   - What impact does this management option have on the soil (can create a hardpan, can substitute manure, improves the structure of the soil)?

   The questions should relate directly to a local problem. Where possible, the questions or alternatives should be made of materials collected from the farmers' fields, for instance leaves with nutrient deficiency symptoms or soil samples or be phrased so that they directly relate to a visible aspect on a farmers field.
2. Prepare the response forms as shown below.
3. Write all questions on separate pieces of cardboard mount the cardboard on sticks and finally set up the question post in the field. Use soil, plant and natural materials in the field to illustrate the questions.
4. During the exercise, the participants will walk around the course of questions and indicate their answers on the response format.
5. Collect the response forms and process the results to determine participants' performance
6. Discuss the results of the exercises in plenary and solicit comments on how to improve the exercise for future use.

[7] Adapted from Discovery-based Learning on Land and Water Management: Practical Guide for Farmer Field Schools (FAO and IIRR, 2006).

Example of a response form

Q	Name		
	A	B	C
1			
2			
3			
4			
5			
6			
7			
8			

Example of a question post

What effect does the mulch on this plot not have?

A) It provides nutrient to the soil

B) It reduces the temperature of the soil

C) It prevents soil moisture from being lost

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