

JUNIOUR FARMER FIELD & LIFE SCHOOL TRAINING MODULE

FACILITATOR'S FIELD TRAINING GUIDE



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Table of Contents

ACKNOWLEDGEMENT.....	2
PREFACE.....	3
LIST OF ACRONYM.....	5
SECTION 1	
General	
Introduction.....	6
SECTION 2	
Introduction to	
Facilitator.....	7
SECTION 3	
Training Course	
Preparation.....	10
SECTION 4	
Learning Module 1:	
Preparation.....	11
Learning Module 2:	
Planning.....	18
Learning Module3:	
Growing up healthy.....	33
Learning Module 4:	
Diversity.....	44
Learning Module 5:	
Protection.....	54
Learning Module 6:	
Water for Life.....	71
Learning Module 7:	
Threats and	
Loss.....	80
References.....	86

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May God bless you All.

BAHA NGUMA
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PREFACE

Junior Farmer Field and Life Schools were created to respond to the growing number of children orphaned by AIDS. JFFLS are designed to empower orphans and other vulnerable children who live in communities where HIV/AIDS has had a strong impact. The Food and Agriculture Organization of the United Nations (FAO), the World Food Programme (WFP) and other partners have piloted JFFLS in several sub-Saharan African countries.

The JFFLS approach and curriculum are based on three pillars: an experimental learning field, special topics in agriculture, and life skills.

The three pillars

1. Field Learning Topics
2. Special Agricultural Topics
3. Life Skills Topics

Experimental Learning Field. The field should be used as a place for experimental learning where children begin to understand food security and nutrition and are also exposed to the complexity of proper gardening. The field should be used to learn about and grow:

- staples to meet basic food needs, and a nutritional garden for healthy growth;
- long-term crops, such as cassava, pineapple and sweet potatoes, to introduce planning for the future and investing;
- local vegetables and medicinal plants to address health care;
- agro forestry to provide fuel wood and to maintain soil fertility and erosion control.

Special Agriculture Topics. Field learning should always be accompanied by special topics and good agricultural practices such as integrated pest management and intercropping. The topics should have a practical application. They should also include traditional and modern agricultural practices for the entire cycle of agricultural activities: preparation, sowing and transplanting, weeding, irrigation, pest control, use and conservation of available resources, use and processing of food crops, harvesting, storage and marketing skills. Again, innovation and creativity should be promoted to find solutions to any constraints, such as low-input

agricultural production activities and labour-saving technologies and practices. Conservation agriculture is introduced in the first Module and community members should be invited to teach local agricultural production skills that have not been passed down because of the early death of parents.

Life Skills. It is very important that each module also include a life skills component that corresponds to the learning field activities and agricultural cycle. In this way, the children can make the “magic link” between how they take care of their fields and how they take care of themselves. For example:

- **Planning** – the children undertake initial agricultural planning and explore their own aspirations.
- **Growing up healthy** – the children explore what it takes to grow a healthy crop, and how good hygiene and nutrition can help them grow up healthy.
- **Diversity** – the children explore how diversity in food production helps support food security, and how gender equity and respect for diversity help strengthen the community.
- **Protection** – the children learn how to protect their crops from pests and disease, and learn how to protect themselves from threats such as HIV, violence and exploitation.

LIST OF ACRONYMS

AESA	-	Agro-Ecosystem Analysis
AEZ	-	Agro-Ecological Zone
AIDS	-	Acquired Immune Deficiency Syndrome
FAO	-	Food and Agricultural Organisation
FFS	-	Farmer Field Schools
GOSS	-	Government of Southern Sudan
HIV	-	Human Immunodeficiency Virus
IDP	-	Internally Displaced Person
IPM	-	Integrated Pest Management
JFFLS		Juniour Farmer Field and Life School
KES	-	Kenya Shillings
LC	-	Local Leader
NGO	-	Non Governmental Organization
OVC	-	Orphaned and Vulnerable Farmers
PEV	-	Post Election Violence
PTD	-	Participatory Technology Development
TOT	-	Training of Trainers
WHO	-	World Health Organization

SECTION 1

GENERAL INTRODUCTION

1.1 The content of the training module

This Guideline is a TOOL KIT providing JFFLS implementation guidelines alongside relevant exercises, energizers and practical activities for the facilitators.

1.2 Terms of reference

The consultant was selected for the Training of Facilitators in Kiptgum, Northern Uganda because of 1) his experience in **Participatory Extension Training**, vast **FFS/JFFLS TOT facilitation** background, JFFLS implementation, monitoring and evaluation in Kenya, 2) his outstanding **experience in working with small holder farmers in addressing issues of food insecurity** for various Institutions and NGOs and 3) his **experience in training curriculum/module development** taking advantage of his strong background and specialty in horticulture.

1.3 Purpose of the consultancy/Training

The purpose of the consultancy was to conduct and administer a training of trainer workshop on the principles, practices, and approaches for running a successful Junior Farmer Field and Life School. The consultancy was intended to introduce the concept of Junior Farmer Field and Life School to the State Ministry of Agriculture and Education respectively, AVSI Supervisor as well as Local Community Leaders and build their capacity to successfully run a Junior Farmer Field and Life School.

1.4 Role of the Consultant:

The consultant was expected to play the following roles:

1. Development of an JFFLS implementation guide
2. Provide exposure training on the FFS approach
3. Run Training of Facilitators course for 30 people
4. Document the proceedings of the workshop.

SECTION 2

2.1 INTRODUCTION TO FACILITATOR

This manual has been developed to support facilitators in their work with children aged 12-18 years who are actively involved in a Junior Farmer Field and Life School (JFFLS) in their community.

How to use this Manual

This manual contains nine learning modules, each one corresponding to a stage of the agricultural/ life cycle. The modules are as follows:

- Preparation
- Planning
- Growing up Healthy
- Diversity
- Protection
- Water for life
- Threats and loss

Each module provides an overview of the stage of the agricultural/life cycle, describing the different activities and concepts that facilitators should consider when working with the children. It then provides some sample activities for each of the three pillars, as well as some “energizers” and cultural activities that can be used to energize the children at the beginning of each session and help them relax and reinforce or reflect on their learning at the end of each session. Each module ends with an “evaluation” activity to get a learners’ feedback on what worked well in that module, and what could be improved.

The sample activities form the “backbone” of the curriculum. Facilitators can arrange and adapt them as they like. They can also substitute or add other activities that they feel would be appropriate.

The most important thing is that the three pillars are taken up in each session, and that the children “learn by doing”.

Keep in Mind.....

- ✓ **That JFFLS activities respond to the needs and interests of both boys and girls**

As you develop your curriculum and begin your training activities, you should be sensitive to the different needs and interests of boys and girls that may come up while attending the JFFLS. Here is a list of some of things that you can do to promote an equal learning environment for boys and girls. This list is by no means comprehensive; you can come up with many other ways.

- Watch to see who is participating in the discussions. Are girls speaking? Are boys? If not, how can you ensure they feel comfortable to talk? You can break down large mixed groups into smaller mixed groups or separate groups of boys and girls (depending on the situation and topic) so the discussion might flow more freely. You can then bring everyone back to a larger group for an overall discussion.
- Encourage boys and girls to change roles during their role play activities.
- Ensure girls and boys share tasks in the learning field.
- While exploring an agricultural technique, ask the children who usually does this activity in their community – men or women? Ask them why they think this is the case. Ask them if girls can do boys' work and boys can do girls' work. Get them to think broadly and question why or why not. Encourage them to exploration and exchange ideas.
- Promote respect and encourage participants to listen to all of the boys and girls and to value their input (whether they are right or wrong).
- Never show differential treatment towards boys and girls when you are working with them. Show that you believe that each one is as capable as the next and can do whatever task is at hand.
- Ask the children with whom you are working for their ideas on how the learning environment can be equal for the boys and girls participating. Give them a chance to share their ideas too.

✓ **Assessing participants' learning is important**

It is important to assess how children are learning so that the JFFLS sessions can be modified if you find that children need more attention on certain issues. Remember: assessing is not about judging children right or wrong or better or worse than other children. All children learn in different ways and at different paces. They may also have interests that motivate them to do well in particular activities.

There are many ways to assess children's learning. Schools use one way – by grading students. However, there are so many creative ways of assessing a child's learning that build self-confidence and motivates him or her to learn further. For example, if the children have been working on honey production or mushroom cultivation, you could set up a cooperative game where the children have to work in teams and work through a problem. They can come back to the larger group to present their work. This will give you a chance to evaluate what they have learned as well as identify gaps that need more attention. Or you may want to invite the children to draw something that represents their learning. For example, if you ask them to draw the agricultural season, then you can ask them specific questions about what you see in their drawing. This gives them a chance to tell you more about what they know. You can ask them to draw a picture of what they think represents "gender equality".

Using the drawing, you can ask questions to get the children talking more about it. You can then assess the status of the child's skill base and growth.

Many individual JFFLS activities have an assessment component already built in: the children demonstrate (and facilitators observe) through drawing, demonstration, role play, or other activities that they can perform the skill described in the activity's learning objective. If not all children demonstrate that they have adequately mastered a certain skill, facilitators can add supplementary activities to strengthen the children's skills.

SECTION 3

3.1 TRAINING COURSE PREPARATION

1. Trainers should visit villages and schools from which JFFLS participants will be selected.
 - i. Use baseline surveys and discussions to explore problem areas.
 - ii. Ask communities to express their perceptions of the problems facing agricultural production and their children.
 - iii. Observe existing husbandry practices of farmers.
 - iv. Probe farmers and interested children to learn more about their attitudes and present knowledge of principles of vegetable growing techniques
2. Visit Researchers, Education, Health, Extension Officers and Research Institutions to learn more about the problems of the vegetable farmer & children and any other suggestions for solutions. Find out what assistance they can offer during the short course and the project.
3. Contact the communities on participant selection

Selection should be based on the following criteria: -

- Participants should be children whose parents or guardians grow either perennial or annual crops
 - Participants should have interest in learning how to improve agricultural production through principles of vegetable growing techniques.
 - Participants should be willing to share the information they obtain during the training with others in the community
 - Participants should be vulnerable children
 - Participants should be from schools which own or land on which they intend to practice these techniques.
 - Participants should be IDPs or returnees
4. Arrange for a tour of a farm which uses principles of vegetable growing practices
 5. Arrange for visual aids
 - Vegetable growing charts and posters
 - Slide films and photos, Videos
 - Flip chart stand and marker pens
 - Tape measure
 - Pangas
 - Polybags
 - Farm yard manure

SECTION 4: MODULES

Learning Module

1: Preparation

Objectives:

By the end of this module participants should be able to:

- Know each other and make friends
- List and discuss their expectations in attending JFFLS
- Understand life cycles of animals, crops and human beings
- Setting the stage for JFFLS implementation

Introduction

You are about to start the JFFLS programme and the first few months will be very important in setting the stage for the whole learning process to follow.

You will need to choose an appropriate place for holding the JFFLS sessions, ideally a place with good shade and enough space to hold meetings with easy access to water that is close to the school and to the learning field. You will also need to have access to a learning field, as well as make sure, where necessary, that a feeding programme is in place.

During the first JFFLS sessions, you and the participants should get to know each other and be introduced to the learning field. The group should also discuss what they expect to learn and what they will be doing in order to make their fields and their lives healthy and productive.

This module contains sample exercises for each of the learning activities, plus a number of sample energizers and cultural activities that you can use to keep the participants engaged and reinforce their learning. Remember: these are only samples. Feel free to modify them, or to add others that you feel are useful. The important thing is that you use all five types of activities in the box above and then assess progress at the end of each session.

A typical JFFLS session (3-4 hours)

Energizer and fun (30 min)

In the learning field (45 min)

Special agricultural topic (45 min)

Making the link with life (30 min)

Cultural activities (art, drama, song) (30 min)

Assessing progress

Getting Started with “Energizers”

There are a number of exercises that you can use to help begin breaking the ice and give the boys and girls the chance to get to know you and each other better. Even if they come from the same community they may not know each other very well. Some of them may feel isolated in the community and be quite shy. Some of the participants may have little or no formal education, or they may be used to very large classroom settings where they don't have much opportunity to participate. And active participation is a key to the JFFLS approach!

To break the ice, it is good to start every JFFLS session with an “energizer”. Energizers help “wake up” the children, and they also give them the chance to use up some energy through play so that they can focus on other issues afterward that require concentration. Energizers should be used to open every JFFLS session. Or, if in the middle of a session you see that the girls and boys are not paying attention, you can use an energizer to bring back their attention (this can be something as simple as having them all stand up together and stretch). Some sample energizers that will also help to “break the ice” are given in the boxes below.

Topic 1: Setting the learning mood

Exercise: Developing group norms and rules

Objective

- To get to know each other and be introduced to the idea of teamwork

At the start of the JFFLS learning process will be extremely important in creating a friendly atmosphere so that the participants are excited about learning and in order to develop a feeling of mutual trust is between participants, you and other facilitators and resource people.

Duration: about 1 hour

Materials: large sheets of paper and markers

Steps:_

1. Briefly revise the expectations and JFFLS activities mentioned and discussed in the previous exercise (nine-dot game).
2. If necessary, discuss the expectation in more details using the following guiding questions:
 - What do you expect to learn during the JFFLS?
 - What do you want to learn during the JFFLS?
 - Are you interested to learn more about agriculture?
 - About what kind of crops or animals do you want to learn more about?

- Do you want to learn more about health, nutrition or about setting up a small business?
3. Ask the Participants what kind of rules and regulations the JFFLS should follow to create a successful environment for participants to work and learn together. List all the rules and regulations mentioned on a large sheet of paper – for example: be on time; participate fully; respect each other’s opinion; listen to each other; speak one by one; no fighting. If necessary probe the discussion by using the following guiding questions:
 - Do you like to learn through practice?
 - Are you used to work in groups?
 - What does it mean to work and learn in groups?
 - What do you think is important when you have to work in a group?
 - What kind of different tasks have to be fulfilled to be able to work effectively in a group?
 - What kind of roles and regulations need to be respected when working in a group?
 4. Add any missing ones to the list.
 5. Ask the participants if they are prepared to commit themselves to participate fully in all JFFLS sessions, prepared to work in small groups, to learn through practice and to respect the prepared list of rules and regulations of the JFFLS.
 6. Summarize the discussions.

Exercise: Understanding the children’s fears and expectations

Objective

- **To understand what is expected to make the JFFLS a success**

Children coming together in the groups have different expectations and may have certain fears that might affect their learning while involved in various activities within the group. It is prudent for the facilitator to recognize their expectations right from start and try to see whether they go along with the objectives of the program.

DURATION: 30 Minutes

MATERIALS: Flip chart, marker pen and score cards

STEPS:

1. Ask the children to write down 1 expectation for being in the group in their cards.
2. Each of them should hand over their cards to the facilitator for posting in the flip chart.

3. Facilitator should then ask one of them to read them through
4. Facilitator should then assure the children that their expectations shall be addressed more so by relating them with the program objectives. A consensus has to be reached.

Topic 2: Establishing the field learning site

Exercise: Getting to know the learning field and experimentation

Objectives

- Prepare the participants to learn through discovery based exercises
- Enhance understanding through comparative trials
- Participants to understand the field conditions

An important place of the JFFLS is the learning field. This is where the participants will learn agricultural practices and management skills. One important principle of JFFLS is to learn through experiments. Participants will try to discover themselves the best way of growing a certain crop, dealing with erosion problems or other agricultural issues. In this exercise participants will be introduced to the objectives and the different kind of activities they will undertake in the learning field.

Duration: about 2 hours

Materials: large sheets of paper and markers

Steps:

1. Introduce the topic of a learning field. Ask the participants why the JFFLS has a learning field and what they think they will do in the learning field during the JFFLS sessions.
2. Explain that the learning field will be used to learn different agricultural practices and management skills through hands-on practice. Make sure they understand that agricultural production is not the main objective.
3. Explain to the participants that they are allowed to make mistakes in the learning. since learning from mistakes is a very effective way of learning. Therefore participants should be able to make mistakes as long as they are not done on purpose.
4. Go with the participants to the identified learning field and observe the area. Ask them what they would like to grow there and why.
5. Explain that they first need to prepare a plan on what, where, when and how they would like to cultivate in the learning field and that the plan should include some small experiments with different cultivation practices.
6. Ask the participants why they should include some experiments in the plan.

7. Explain that there are many ways of growing a crop depending on the conditions of the field and the skills of the farmer. Each farmer should find out the best way of cultivating based on his/her circumstances. The best way to do this is by testing different ways of cultivation on small pieces of land.
8. Explain that during the coming weeks they will start planning the different activities they would like to do in the learning field through a number of exercises.

Exercise: Identifying a good learning site

Objective

- Make participants understand the characteristics of a good learning site

Duration: 30 minutes

Materials: flip chart, marker pens, masking tapes

Steps:

1. Divide the participants into convenient subgroups
2. Ask them to discuss in their small groups the factors they will consider when identifying a learning site for their group
3. Ask them to write in their flip charts after agreeing in the small groups.
4. Invite them for plenary presentations
5. Summarize the key characteristics for a good learning site

Key points for facilitator- factors considered in identifying learning site and characteristics of a good learning site

1. The site should be relevant for the enterprise
2. The site should be easy to access
3. Closeness to school/secure place
4. Should have enough space for learning
5. Experimental sites should not be too far from one another
6. Soils should be suitable and well drained
7. The terrain of land should be gentle sloping
8. Where children are willing to participate
9. The host should have willingly given out the land or there should be a written agreement if its rented
10. Should be closer to a good source of water

Topic 3: Understanding the stages of a crop's life

Exercise: the stages of a crop's life

Objectives

- To understand the different development stages of crops
- To understand the different needs of crops during each stage so that they can grow healthy

As with all living things, crops also go through a number of development stages in their life. During each stage their needs are different and it is important to know these needs if the crops are to grow healthy.

Duration: 1.5 hours

Materials and preparation: Flip chart paper, markers and examples of plants (crop) in different stages collected by the facilitator before the session.

Steps:

1. Explain to the participants that plants, like every living thing, develop through a number of stages.
2. Ask the participants what they think the different development stages are for one crop, for example maize, that they would like to grow in the learning field.
3. Repeat step 2 for one or two other crops the participants would like to grow in the learning field.
4. Introduce the four different stages normally used in books; initial stage, crop development stage, mid-season stage and late season stage. Explain the different stages and show the participants examples of the different stages.
5. Ask the participants to mention the different things a plant/crop needs to grow healthy. List them down on a large sheet of paper and, if needed, use the following guiding questions:
 - Is there a crop stage when the crop needs less water?
 - Is there a stage when the crop cannot do with less water?
 - Are there crop stages when the crop needs special protection measures?
 - Do the fertilization needs differ for each crop stage?
6. Discuss with the participants one by one the plant/crop needs mentioned.
7. Divide the participants in small groups and ask each group to select one crop and to discuss in the group how the different crop needs differ from one crop stage to the next. Ask each group to write their notes on a piece of paper.
8. Ask each group to present the outcome of their discussions.
9. Summarize the discussions

Topic 4: Preparing a crop calendar

Exercise: Calendar analysis

Objectives

- To understand the life cycle of different plants
- To organize the stages of the cycle into a yearly calendar

It is important that the participants understand the life cycle of the different plants they will be growing and to then organize the different stages of the cycle into a yearly agricultural calendar.

Duration: 1 hour

Materials: Flip chart, masking tape, marker pens

Steps:

1. Draw a big circle with 12 equal parts
2. Ask the children what those 12 equal parts could be analogous to
3. Once they have given their inputs tell them that the 12 parts could represent months in a year
4. Ask them how many seasons they experience in a year and let them tell you which months they fall into.
5. Ask them to discuss and agree which crops are grown in which seasons and why
6. Ask the participants to describe the life cycle of these crops, i.e. during which months these crops grow (when is it planted and harvested?).
7. Divide the participants into groups, with two groups for each crop that you are working with. Encourage the participants to complete the table through questions such as:
 - "When do we plant this crop?"
 - "When do we harvest this crop?"
 - "What agricultural activities are involved in each phase/step and when?"

Learning Module 2: Planning

Objective

By the end of the Module the participants should be able to:

- Understand the importance of good planning in agriculture.
- Be introduced to the concept of AESA.
- Understand how to ensure good agricultural practices.
- Understand the importance of family planning.
- Identify learning enterprises.

Objective

An important aspect of planning in agriculture is analyzing field & soil conditions, choosing which crops to grow or which type of livestock to keep and ensuring the good agricultural practices. The JFFLS participants will start by discussing why they want to grow certain

crops. For most of them, the reason will be to have food on the table. Therefore it will be important for them to understand the importance of a healthy and balanced diet all year long. They will also begin to understand how to plant their crops, ideal crop spacing, and the quality of the soil and the power of seeds.

Introduction

There are other reasons for growing crops, such as for example grow crops to sell on the market to get some income. The participants should realize understand early on that growing crops and raising animals are ways to make money. This is one of the “links to life” that will be explored in this module.

In this module, the participants will first discuss analyzing field & soil conditions, then identifying the type of enterprise to implement. They will also be introduced to principles of experimentation and AESA format. They will visit the JFFLS learning field to check out the conditions there. Finally, in order to relate the field conditions to their own lives participants will begin to learn how to plan their lives by discussing family planning, analyzing their daily activities and discussing decision making.

A typical JFFLS session (3-4 hours)

Energizer and fun (30 min)
In the learning field (45 min)
Making the link with life (30 min)
Cultural activities (art, drama, song)
(30 min)Assessing progress

Energizer

Gun, rabbit, wall

Objectives: Understand that a group needs to be organized to function well.

Duration: 10–15 minutes.

How it works:

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).
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 organized 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 organized and communicate and reach a consensus to be able to win the game).

Topic 1: Analyzing field conditions

Objectives:

- To understand the importance of field conditions for growing crops
- To be able to analyze some field conditions

The conditions of a field i.e. the kind of soil, its fertility, availability of water, the weather patterns etc. makes a big difference in the way that a crop develops. Therefore it is important to understand these different field conditions in order to decide what

kinds of crops will grow best in a given area. It is also important to understand what kind of agricultural practices will help to produce a healthy crop. In this topic, the participants will first discuss the resource inventory, characteristics they need in a field to be able to grow a healthy crop and measure land gradient. They will also visit the JFFLS learning field to check out the conditions there.

Some of the technical topics you may want to cover are:

- Resource inventory
- The characteristics of an agricultural field
- How to analyze a field
- Land gradients

Of course, add any topics that you feel are necessary. Just remember to let the participants learn by doing, and always try to have a corresponding life-skills activity!

Exercise: Resource inventory

Duration: 2 Hours

Materials: Flip charts, Marker pens, Cards.

Steps:

1. Open the discussions by asking the participants to identify various resources they interact with during their day to day farm operation. Record responses on the flip chart.
2. After a short while, once the facilitator realizes the participants are in the right direction, divide the participants into two groups
3. Ask one group to make a map of individual farm with enough detail to show the boundaries of the participant's farm, homestead, show the location of each crop and livestock enterprises, rivers or streams, trees, and other farm structures including buildings.
4. Ask the other group to make a map of the community. This map should include the other local resources that are not directly on individual farm e.g. trees, forest, water point etc. The purpose of this step is to summarize the resources that can be obtained in your local community and which resources cannot.
5. The facilitator should ensure most of the useful resources are identified and mapped on the model with the participation of everybody.

Facilitator should use her/his best judgment at all time to ensure the participants discuss the subject freely and cover all the essential areas

Exercise: How to analyze field characteristics

Duration: about 1 hour

Materials: learning field, large sheets of paper and markers

1. Go with the participants to the field that has been selected for the JFFLS learning field. Divide the participants into small groups.
2. Ask each groups to analyze the field, using the list of important characteristics that they have developed above, to identify what they are seeing.
3. Bring the participants back together at the edge of the field and ask the groups to present the results of their field assessment.
4. Discuss the presentations. Ask the participants if it was difficult to assess some of the field characteristics of the learning field (for example, the soil characteristics).
5. Ask the participants to think of the results of their analysis and if they can see what kind of problems they might have when they start cultivating the crops they would like to grow in the learning field. Use the questions below to stimulate discussion.
6. Summarize the discussion and observations made in the field.

Topic 2: Analyzing soil conditions

Objectives:

- To learn simple tests to determine the condition of the soil
- To understand concepts of soil color, texture, fertility and structure and what they mean for growing healthy crops

When you begin to plant your field, you will need to understand the conditions of the soil and whether they are good for producing healthy plants. You will also need to learn how to analyze the soil to see if it is good quality for growing your crops.

Here are some samples activities that you may want to use

Exercise: Understanding the soil

Soils in different fields or locations can be very different, in terms of color, type of particles it contains (texture) and the way that it holds together (structure). Knowing your soil is of high importance when growing crops since it has big implications on the fertility of the land and the ability of the soil to retain water.

In this exercise you will learn to understand your soil in your area better.

Duration: One hour

Materials: Shovels, paper, pens

Steps:

1. Hold a group discussion on the idea of “soil fertility” and explain that this means the ability of the soil to give plants the nutrients and water they need as well as the right type of “bed” for the roots to develop.
2. In groups of 4-6 persons, walk to a piece of land; a cultivated field, grazing land or forest area.
3. Dig up one square block of soil for each subgroup, about two hands wide. Try not to disturb or break the block.
4. Ask each group to examine and describe their block of soil in terms of :
 - Soil color: What soil color do they see? Why is color important? Does the top soil have a different color than the rest of the soil, in such case why?
 - Soil texture: What kind of particles are the soil made up of? How big are they?
 - Soil texture: Brake of pieces of the block with your hands and study the shape and feeling of the pieces. Examine if the soil has a loose structure or if the particles are bound hard to each other. Look for channels and canals in the soil where water and air can pass through and look how the roots move in the soil?
5. Discuss the following concluding questions:
 - Is the examined soil a good soil for growing crops in, why or why not?
 - If there was a hard layer of soil, how do you think this would affect the way the roots develop?

- How would you want your ideal soil to look like?

Exercise: What is the soil made up of?

If you look closely at the soil, you can see that it is made up of many different kinds of particles. Some of them are soft, some are hard. Some are light colored and some are darker. Some are powdery and some are stickier. This is called the “composition” of the soil. Most soils are a mixture of clay, silt and sand and organic matter (decomposed crop residues). The soil composition helps understand the kind of nutrients that the soil has to give to the crops. It also helps understand how well it will be able to hold water for the crops and how well it will be able to support the roots of crops as they grow. In this exercise we will look at three soils and examine what they are made up of.

Duration: 2 hour

Materials: 3 glasses, 3 soil samples, water, something to stir with

Steps:

1. Divide the participants into three sub-groups.
2. Ask each group to collect about two handfuls of soil; each group from one of the following three fields, from a valley, from top of a hill or from the side of a slope.
3. Ask the groups to look at, and touch the samples, making a guess of what the soil is made up of.
4. Each group fill 1/3 of a glass with their soil sample. Thereafter, ask them to fill the rest of the glass with water and stir the mixture well.
5. Let the mixture rest for 5 minutes, and then stir it well once again. Put it down and do not touch it for two hours.
6. After two hours look at the soil in the glasses. The soil has now dropped to the bottom of the glass and the water is clear. Several layers of soil have formed. The biggest particles, will be furthest down and the smallest particles higher up. At the bottom of the glass you will have a layer of sand, above that you will find a layer of

silt and at the top there will be a layer of clay. If the water is not clear it is because there are still clay particles in the water. If waiting for a long time these particles would also settle down in the top layer. On top of the water you find pieces of leaves and roots floating.

7. Ask the participants to describe the different layers in their glass, the thickness of the layer, what kind of particles, is there any material floating on the surface etc. Which soil sample do they think would be the best soil for growing a crop and why?

Topic 3: Identifying enterprises

Objectives:

- To understand how to choose the best crops to grow, or which livestock to keep.
- To understand how to begin planning agricultural activities

When the participants plan their field, they need to think about many different things at the same time: what they would like to produce, the type of land and soil they have, the kinds of seeds and tools that will be available to them, how much time they will have (and when) to tend to their field, how many others will be in the field to help out, etc.

Exercise: Selecting your crops

Duration: 1.5 hours

Materials: flip chart paper and markers

Steps:

1. Ask the participants to list down the type of crops grown in the community
2. Ask the participants why they grow the crops.
3. Ask them to identify the different elements of a balanced daily diet (cereals, vegetables, meat, and fruit).
4. Divide the participants in small groups and ask the groups to discuss what crops they should grow and what animals they should keep in order to produce a balanced diet all year. Ask each group to list the different crops and animals on a large sheet of paper, along with the months when those crops would be eaten.
5. Ask the groups to present their list.
6. Discuss the presentations and identify the periods of the year when it will be difficult to produce one or more elements of a balanced diet.

7. Make a list of all the crops and animals that the participants presented and then ask them which of the crops they would like to grow in the learning field.
8. Discuss the following guiding questions:
 - How long can you store the produce of the different crops after harvesting?
 - How much do you need to grow to have enough food for yourself all year round?

Exercise: Selecting your livestock

Duration: 1.5 hours

Materials: flipchart and markers

Steps:

1. Introduce the topic of livestock as part of the farming system.
2. Ask the participants what kinds of livestock/animals are kept by farmers in the area. Draw them down on a large sheet of paper. If needed, add the missing ones.
3. Discuss the different kinds of animals and ask the participants to indicate which of those animals the most common ones are.
4. Divide the participants in small groups and ask each group to select one of the most common kinds of livestock. Ask each group to discuss the advantages and disadvantages of keeping that particular animal and to present this on a large sheet of paper.
5. Ask the groups to present the results of their discussions.
6. Discuss the presentations of the small groups.
7. Ask the participants:
 - What do they think is the most suitable type of livestock to be kept by participants such as themselves?
 - What are the advantages of integrating livestock with crop production?
 - Do you need a lot of space for keeping livestock?
 - What do you need to do to protect livestock?
 - What kind of feeding arrangements are needed for keeping livestock?
8. Discuss the possibilities of keeping some (small) livestock with the JFFLS in order for the participants to learn to take care of (small) livestock

Exercise: Planning your agricultural activities

Duration: about 2 hours

Materials: flip chart paper and markers

Steps:

1. Discuss in the group the following questions and keep a list of their answers on the paper:

- ✓ *What size is the field?*
- ✓ *What is the best time to plant seeds, given the climate and the market?*
- ✓ *What other factors are important in deciding what seeds to plant and when to plant them?*
- ✓ *What crops do you think we should plant?*

2. Move together with the group to the learning field and divide the participants into sub-groups of 4-5 persons.

3. Ask them to develop a plan that gives step-by-step ideas of what they have to do in order to produce a crop in the field. If the following aspects don't come up by themselves probe the discussion related to: crop selection, land clearing, land preparation, ploughing, seed bed establishment, manure/fertilizer application, weeding, watering, pest & disease control, harvesting etc.

4. Bring the participants back together and have them present their plans. Conclude the session by asking the following questions:

- ✓ *Was it easy or difficult to make a plan?*
- ✓ *What basic steps do we need to follow?*
- ✓ *Is it a good idea to make a plan? Why or why not?*

Topic 4: Introduction to Experimentation and “Agro-Ecological System Analysis” (AESAs)

Objectives:

- To introduce concept of learning by comparison
- To introduce the concept of AESAs.

Learning in JFFLS is through comparison studies and so when planning field activities, the participants need to define the kind of comparative studies they will have and a process for how to regularly analyze the situation in their fields. AESAs is a very effectively tool for doing this, as well as for sharing knowledge. AESAs provides a structure for how to observe, analyze and discuss the field situation so that they can make the right decisions about how to manage the crops they are growing. It involves regular observations of crops during their various stages of growth in order to make decisions on solving problems that may arise. It also promotes “learning through discovery”. The basic aspects observed and analyzed in AESAs include:

- Plant health at different phases of their growth
- Pests and predators
- Soil and water conditions
- Weather conditions

Exercise: Principles of experimentation

Duration: One and a half hours.

Materials: Five buckets (three of the same size, two of different sizes), 30 stones, flip charts and markers.

Steps

1. Ask for three volunteers and explain that these people represent three things you want to compare. Explain to the group that the objective is to find out who is the best at throwing stones into a bucket. Each person is given 10 stones and the one who gets the most stones in the bucket will be the winner.
2. Ask the rest of the group to vote on who do they think is going to win.
3. Place the three different sized buckets, one in front of each volunteer so that they are all the same distance from the buckets, and give them each 10 stones. Ask them to throw as many stones as they can into their bucket. Count the number of stones in each bucket. Give participants the ‘results’ and ask them who they think is the winner. Then ask: “Was this a fair competition?” Of course it wasn’t fair, because it is much easier to get the stones into the biggest bucket. Ask how the game can be

made fairer. It can be made fairer to provide a uniform situation i.e. everybody has the same size bucket.

4. Play the game again, give the results and ask again who the winner is. This time the results seem fair – but now ask the participants whether they think the same person will win if they play more times? Play the game once or twice more – enough times to show that people don't always have the same scores. This demonstrates the importance of repeating treatments to make sure your results are reliable. Work out the average score for each person and then declare the winner.
5. Ask the three volunteers to pick the bucket and stones of their choice and explain how they made that choice. People are not always objective and may be biased without knowing. This can influence the results; therefore it is important to give the treatments and the location of the experiment an equal chance of being chosen .
6. Ask some of the participants who did not play the game: "Did they vote for the right person?" Ask if it was difficult to guess who would win, since they had never seen these people throwing stones before. Then ask the same participants: "Do they consider themselves better or worse at throwing stones?" Everybody must have an idea on how to scale themselves or maybe a good friend. If you have someone participating in the game of which you know his/her capacity of throwing stones you have a point of reference (also called control) to value the scores of the others.
7. Explain that to set up a good experiment you need to think about: the objective, uniformity, replication, randomization and common practice/control to make sure you have a good quality experiment. Every field comparative experiment should consider these elements.

Exercise: Understanding field ecosystems

Duration: 1 hour

Materials: A ball of wool or string, cards, masking tape, marker pens.

Steps

1. The facilitator should prepare the exercise by taking the same number of cards as there are participants and writing the name of a component of the ecosystem on each card (e.g. cow, grass, water, etc.).
2. The participants form a circle and pick one card each. Each participant fixes the card on his/her body so all can see it.
3. The participant who picked the card showing 'cow' stands in the middle of the circle holding the ball of wool or string.

4. The participant who represents the cow says: "I am a cow and I relate to X because of Y" (e.g. "I relate to grass because I eat it and it gives me energy"). The 'cow', keeping hold of the end of the string, then throws the ball to the person with the 'grass' card.
5. The person receiving the ball does the same and this is repeated until all participants are connected. Each card or person can be visited more than once.
6. The participants are asked why they are connected, what they can learn from the exercise and if they can group together the cards/components in the ecosystem (e.g. living and non-living, producers and consumers, etc.).
7. The facilitator then introduces the concept of ecosystem

Exercise: Introducing the AESA format

Duration: 1 Hour

Materials: Pen/pencils, markers, flip charts.

Steps

1. The facilitator reminds the group about the defined focal activity of the JFFLS and planned comparative trials.
2. Ask the participants what needs to be observed and what kind of information needs to be collected to measure performance e.g.
3. Based on this information, the AESA format is developed by the group asking participants what they need to know to enable appropriate management decisions to be taken.
4. The parameters identified should be categorized into those that need to be captured only once e.g. date of planting (General information), and those that need periodic updating e.g. height of the crop (agronomic parameters).
5. An AESA format is then developed on a flipchart including the defined information and including a drawing of the study subject.

Typical Format of Crop AESA Sheet

NAME OF FFS:		
<i>AESA NO:</i> <i>GROUP NO:</i> <i>PLOT NO:</i> <i>PROBLEM ADDRESSED:</i>		<i>DATE:</i> <i>WEEK NO:</i>
GENERAL INFORMATION		PARAMETERS
<i>Variety:</i> <i>Date planted:</i> <i>Age of crop:</i> <i>Spacing:</i> <i>Fertilizer:</i> <i>Weather:</i> <i>Time of observation:</i> <i>Plant population:</i> <i>Germination %:</i>		<i>Length of leaves:</i> <i>Width of leaves:</i> <i>No of leaves:</i> <i>No of diseased leaves:</i> <i>No of dead leaves:</i> <i>Length of plant:</i> <i>No of pods:</i>
INSECT PEST	PLANT DRAWING	NATURAL ENEMIES
<i>Pest observed:</i>		<i>Natural enemies observed:</i>
OBSERVATIONS		RECOMMENDATIONS
<i>Soil moisture:</i> <i>Diseases:</i> <i>Insect pests:</i> <i>Plant health:</i> <i>Deficiency:</i> <i>Weeds:</i> <i>Predators:</i>		<i>What management practices should be applied?</i>

Topic 5: Understanding the Importance of Planning and Team Work

This is a “link to life”, linked to the agricultural planning activities that the participants have undertaken in the learning field and in the classroom. Here participants will begin to learn how to plan their life by analysing their daily activities, and by sharing activities, too. They will also begin to understand the different activities that men/boys and women/girls do how the division of household labour often means that women and girls have more work to do for the well being of the household than men. This will therefore strengthen their sense of team work.

Exercise: Understanding family planning

Duration: about 1 hour

Materials: flip chart paper and markers

Just as crops need enough room to grow healthy, people also need enough “space” to become healthy adults? It is important that the participants make this “link to life” so that they begin to think about family planning.

1. Refer to the earlier exercise where the space required for a crop to spread its leaves and roots was discussed. Ask what connections can be drawn to humans and the space that people require.
2. Ask the participants to give examples of what happens when people don't have enough space, for example in their house or when competing for natural resources or water.
3. Divide the participants into two groups. One group is the “large family” and the other group is the “small family”.
4. Ask each group to take a piece of large paper and draw a line down the middle of it. One side will be the advantages of having a large or small family and the other side will be the disadvantages.
5. Ask them to make the longest lists they can of the advantages and disadvantages.
6. Have the two groups present their lists in front of everyone.
7. Discuss the following questions:
 - What are the main advantages to having a large family? A small family?
 - What are the main disadvantages to having a large family? A small family?
 - Which kind of family would you like to have (take a “hand up” vote)?
8. Summarize the presentations and have a discussion about the results.

To end the exercise, remind the participants that they can decide how large they want their family to be – in the same way that they can decide how many plants to grow in their field.

Learning Module 3: Growing Up Healthy

Objective:

Growing healthy crops and animals is one of the most important things that the participants will need to learn. 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 well care of both their crops and their animals.

Introduction

Of course, the participants' own health - the link to life - is extremely important as well. This module will therefore introduce exercises to help participants understand how to take care of themselves – through healthy nutrition and good hygiene practices.

A typical JFFLS session (3-4 hours)

Energizer and fun (30 min)

In the learning field (45 min)

Special agricultural topic (45 min)

Making the link with life (30 min)

Cultural activities (art, drama, song) (30 min)

Assessing progress

Energizer 2: Rat, snake, lion

Remove shoes.

We are going to go for a walk in the forest. Whenever I say rat, jump up on a chair and scream (all practice). Whenever I say snake, throw back your arms, draw in your breath in horror (all practice).

Whenever I say lion, crouch down, cover your head and groan (all practice).

Make up a story. Here is an example:

"One day I was walking through the beautiful forest. The birds were singing. The wind was rustling in the leaves. Nature was so peaceful and friendly. Then suddenly on the path in front I saw - a *snake*. It was gliding along stealthily. I wondered what it was doing. Then I saw it was stalking a *rat*. The *snake* was getting close and closer, and I thought it would catch its prey, when there was a noise ahead. And there, coming through the bushes, was a *lion*. The *rat* heard the *lion* and ran away. The disappointed *snake* gave up and wriggled away. The *lion* saw the *snake* and made off back into the forest. And I resumed peaceful walk through the beautiful forest."

Tips. Judge the capacity of the group. Some may not find it easy to jump on a chair. It may be best to take shoes off. Do not mention the animals too many times or participants will collapse exhausted.

Topic 1: How to ensure Good Agricultural practices

Objectives:

- To understand the importance of good agricultural practices
- To ensure regular monitoring of field conditions

In order to be able to grow a healthy crop, a number of good agricultural practices need to be undertaken and practiced.

Some of the technical topics you may want to cover are:

- Introduction to minimum tillage
- Understanding soil erosion
- Crop spacing
- Seed germination
- Crop rotation
- Introduction to integrated pest management

Topic 2: Starting a nursery: from nursery bed to the field

Objectives:

- To understand the importance of nursery beds
- To know how to construct a nursery bed
- To know how to transplant seedlings

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.

Exercise: Why we need nursery beds

Duration: about one hour and 30 minutes

Materials: large sheets of paper and markers

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: Constructing a nursery bed

Duration: about 2 hours

Materials: none

The participants will now practice building 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.

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 (\pm 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.

Exercise: Understanding methods of land preparation

Duration: about one hour

Materials: Flipchart and markers

8. Ask participants to explain what land preparation is
9. Ask participants to explain why land preparation is important
10. 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.

Exercise: Test for seed germination

Duration: Half a day, and around a week of monitoring.

Materials:

1. Soft paper (or other alternatives, like leaves)
2. Seeds for different food/tree crops (enough seeds for each group of participants)
3. Plastic bags
4. Clean water

Steps:

- ✓ Divide the participants into groups of about 4-5 persons who live close to each other.
- ✓ Have each groups count out 100 seeds from the different batches of seeds.
- ✓ Ask them to prepare two layers of paper towel and carefully damp them with clean water until they are moist but not wet.

- ✓ 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).
- ✓ 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.
- ✓ 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).
- ✓ 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.
- ✓ Select one member of each subgroup who will keep the bag at their place and make sure that its stored in a dark place.
- ✓ 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.
- ✓ 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?

Exercise: Understanding principles of IPM

Duration: 1 hour

Materials: flipchart paper and markers

Steps:

1. Introduce the four principles of Integrated Pest Management:
 - ✓ 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.

Topic 3: Hygiene and Sanitation

Exercise: Hygiene and sanitation in the field

Duration: 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 children 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 flower attached themselves on their clothes and bodies
2. Let them discuss why some of them had the most number of things attached to their clothes.
3. Find if there is a difference to the paths they followed, whether the plots were weed or not?
4. Ask the participants what they intend to do with the stuff they will remove from their clothes.
5. As much as possible the decisions emphasize not spreading the seeds of weeds in the fields currently being farmed.
6. It will be emphasized that sanitation is knowing what to do with those factors in the environment, the sick plants, empty tins, plastic bags that may be habitats for pests and any such things that can spread a negative health effect
7. Encourage a discussion on each of the items on the list. Make sure to emphasize that *chemical control should only be used as a last option and that*, for safety reasons, participants should not be allowed to spray chemical pesticides.
8. Ask one or two members of the group to present their findings.
9. 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 crop.

Topic 4: Nutrition

Objectives

Participants will learn about the special food elements which are needed for healthy and growing plants and animals including people.

Duration: 1 hour

Materials: none

1. To introduce the importance and definition of nutrients develop an analogy between plant feeding and food preparing good food.
 - 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.
 - Let them explain why these ingredients which are often just small portions of what they eat are very useful.
2. Show the participants a healthy and an unhealthy leaf collected from a fertile and a site of poor soil fertility.
3. Ask them to discuss guessing the sites where the leaves were collected.
4. Let the participants take a walk through the field and look for the sites whether the exhibits were collected from.
5. In plenary discuss characteristics of plants supplied by nutrients sufficiently. This may include color of leaves, sizes of plants , fruits,
 - Refer to the chart on below showing different color that indicates specific nutrient gaps in the soil.
6. Let them observe the entire field where the best looking leaves of grass/maize and the unhealthy one were picked. The sites could be a general field and the other is a special place e.g. close to the cattle boma/animal unit/next to where kitchen waste is thrown.
7. Let them discuss what factors essential for healthy growth of plants could be contributing to the grass/maize at one site doing better than that at the other site?

Topic 5: Regular monitoring through Agro Ecosystem analysis for Integrated Pest Management – Introduction to HESA

Objectives:

- To understand the meaning of an ecosystem and how to analyze it
- To understand the importance of hygiene and sanitation in the field as a way of preventing pests and disease
- To understand the principles of Integrated Pest Management

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.

Here are some sample activities that you can use to introduce the participants to the topic of Integrated Pest Management

Exercise: Growing a healthy crop with IPM

Duration: 1 hour

Materials: flipchart paper and markers

Steps:

5. Introduce the four principles of Integrated Pest Management:
 - ✓ Grow a healthy crop

- ✓ Understand and conserve defenders
 - ✓ Visit field regularly
 - ✓ Become an expert in managing your crops
6. Ask the participants what they think each of these principles means.
 7. 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.
 8. Ask one representative from each group to present their findings to the class.

Exercise: – An introduction to “HESA”: From analyzing our crops to analyzing our lives

The participants have begun to learn how to conduct an AESA, which helps them to analyze their fields and make sure they are healthy and productive. It is also important that they learn how to analyze their lives to make sure they are healthy and productive themselves. For this a similar tool to AESA can be used. It is called the "Human Ecosystem Analysis" – or HESA. Through this analysis, the participants learn by critical thinking and by analyzing real life situations in their own setting. They learn from different experiences of others. By understanding life situations, they also learn to make plans to improve their life situations and even eliminate their risky behaviors.

Duration: about 1.5 hours

Materials: large paper and markers, small notebooks and pencils

Steps:

The participants conduct their analyses in groups, identifying problems or challenges in their lives and then identifying factors that could help them to resolve these problems. The factors are divided into six categories: Economy, Health, Culture, Education, Social Relations and Environment. Each factor has a “supporting” side and a “non-supporting” side.

1. Ask the participants what are the biggest problems in their life. Make a list on the flipchart.
2. Ask the group to decide on one problem that they want to conduct the HESA exercise on.
3. Break into subgroups of about 5-6 persons each and ask each group to think about the problem in terms of the six factors: Economy, Health, Culture, Education, Social Relations and Environment. Ask them also to make a list of the

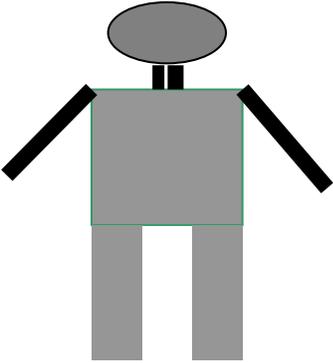
supporting factors and the non-supporting factors that make the problem worse or better (see format below).

4. After they have completed their lists, ask the participants to select one or two most important supporting and non-supporting factors.
5. Then ask the participants to come up with some ideas for improving the situation or making the problem better. In particular, ask them, "What can I do to help?"
6. Ask each group to present its analysis in front of the class.
7. Compare the different analyses and solutions and discuss them with the participants.

The HESA analysis format.

HESA topic:

General Information
 Location:
 Subgroup:
 Date of HESA:
 Problems background:

Supporting factors		Non-supporting factors
ECONOMY		<ul style="list-style-type: none"> • A • B • C
HEALTH		<ul style="list-style-type: none"> • A • B • C
EDUCATION		<ul style="list-style-type: none"> • A • B • C
SOCIAL RELATION		<ul style="list-style-type: none"> • A • B • C
ENVIRONMENT		<ul style="list-style-type: none"> • A • B • C
CULTURE		<ul style="list-style-type: none"> • A • B • C
		<ul style="list-style-type: none"> •
		<ul style="list-style-type: none"> • A • B • C
		<ul style="list-style-type: none"> • A • B • C
		<ul style="list-style-type: none"> •

Conclusions:

Recommendations:

Learning Module 4: Diversity

Objective:

By the end of the Module participants should be able to understand what diversity is, why diversity is important and the different types of diversity.

Introduction

The concept of diversity will be explored from different angles in this module.

In JFFLS field activities will gradually become more complex with a bigger variety of crops and activities undertaken. After learning about basic agricultural practices, combinations of various practices will be introduced. For example you may end up with a number of different crops growing in the same field, all at different stages, some that you are just planning while others you are harvesting. This is an example of diversity, which is important for various reasons:

- Combining different types of plants help in giving different nutrients to the soil so that it can continue being fertile and healthy.
- People, too, need a diversified diet, based on nutritious and balanced meals; they also need to have different ingredients in order to be healthy.

Diversity in the field can be a complex thing. How do best we combine different crops without doing damage or creating conflict? For this good planning is needed: we need to understand what is possible to combine together and what is not.

Diversity in life, involves much more than just a varied diet. One of the most significant aspects of diversity that we will be exploring in this section is “gender issues” – the differences between men and women, and boys and girls. Men and women complement each other with different qualities and ways of thinking. These differences are equally important and should be recognized and appreciated. By understanding and appreciating diversity, we can contribute to a better life.

This module contains sample activities for each of the learning activities, plus a number of sample energizers and cultural activities that you can use to keep the participants engaged and reinforce their learning. Remember: they are only samples. Feel free to

A typical JFFLS session (3-4 hours)

Energizer and fun (30 min)

In the learning field (45 min)

Special agricultural topic (45 min)

Making the link with life (30 min)

Cultural activities (art, drama, song) (30 min)

Assessing progress

modify them, or to add others that you feel are useful. The important thing is that you use all five types of activities in the box above and then assess progress at the end of each session.

Sample energizer

It is good to start every JFFLS session with something to “wake up” everyone. It also gives young people the chance to use up some energy through play so that they can focus on other issues afterward that. Energizers should be used to open every JFFLS session. Or, if in the middle of a session you see that the girls and boys are not paying attention, you can use an energizer to bring back their attention.

Energizer

Three truths and a lie

Time: 15 minutes

Materials and preparation: small pieces of paper for each child

How it works:

1. Give each child a piece of paper and tell everyone on the paper to write their name.
2. Then tell the participants to write three true things about themselves and one lie.
3. Tell the participants to walk around and form a pair with one other child.
4. When they have formed pairs, they show their paper to each other and try to guess which of the four “facts” a lie is.

Diversity in thinking

Energizer: A penny for your thoughts

Facilitator chooses a subject relevant to the session e.g. goats

1. Participants will stand in two rows and face each other. They will work as a pair with the person standing at opposite side
2. Each will be given a card and pencil to write.
3. Person on Side A= Writes *any question* they have in mind.
4. Person on Side B= Writes a sentence starting with the word **Because**
5. Facilitator asks each pair to read aloud the question and the response.
6. The group will evaluate and see how many questions and answer were sensible.

Topic 1: Understanding diversity

Objective:

- To understand and appreciate the meaning of diversity
- To understand the different types of crops that can be grown in the learning field and why crop diversity is important
-

The JFLS will gradually take on more diverse activities, and in the field a variety of different crops will be grown, especially horticultural crops. It is thus important for participants to understand why diversity is important, and how to make the best choices for the learning field.

Exercise: Understanding what is diversity and its importance

Duration: about 30 minutes

Materials: Flip charts and markers

Steps:

1. Ask the participants the following questions, and write their responses on the flip charts and brainstorm about it:
 - *What do you understand by the term diversity?*
 - What examples of diversity in your life and community can you think of?
 - *Why is diversity important?*

Exercise: Growing different crops

Duration: about one hour and 30 minutes

Materials: large sheets of paper and markers

Steps:

1. Ask the participants the following questions, and write their responses on the flip charts:

- ✓ *Name all the different crops that are grown in your community.*
- ✓ *Why would farmers want to cultivate a variety of crops instead of just one crop?*
- ✓ *What horticulture crops do you know of?*
- ✓ *Why is it important to have a garden with many different crops growing in?*

2. You may want to continue this discussion in the learning field by asking the participants to observe the field and then answer the following questions:

- ✓ *Is this place good for horticulture crops?*
- ✓ *What do we need to do in order to prepare the land?*
- ✓ *Which are the crops that we want to plant? Why?*

Exercise: Keeping different livestock to enhance diversity

Duration: about one hour and 30 minutes

Materials: large sheets of paper and markers

Steps:

1. Divide the participants into 2 groups:
2. Ask them to name all the different small livestock that can be kept in their homes
3. *Ask them why farmers would keep different small livestock instead of just one animal type?*
4. *Ask group 1 to discuss the importance of keeping rabbits and outline steps in feeding the rabbits.*
5. *Ask group 2 to list the steps in building a house for rabbits and discuss the best ways of weaning the rabbits.*
6. *Summarize the lesson using the points below*

Exercise: Understanding the need for income generating activities

Duration: 1 hour

Materials: flip chart, marker pens, masking tape

Steps:

- 1. Divide the participants into 4 groups.*
- 2. Ask them to brainstorm on the different ways of making money while still in the JFFLS group.*
- 3. Let them also discuss which one they would want to do as individuals at home.*
- 4. Let them enumerate the advantages and disadvantages of the business they choose.*
- 5. Ensure that they will limit themselves into thinking of small livestock keeping, vegetable growing, groceries, value addition etc*

Topic 2: Understanding diversity in agricultural production techniques

Introduction

Communities are faced with a myriad of problems hindering optimal agricultural production. It is important to note that the farmers do not have an equal array of options to go round these problems. It is important therefore to introduce the aspect of diversity in agricultural technologies so that the farmer always has alternate ways of solving one problem. However it must be observed too that this calls for thorough analysis of these diverse technologies through certain criteria for the farmer to settle down on one.

Objective

- Participants will understand the importance of diversity of agricultural techniques**

Duration: 2 hours

Materials:

Steps

Multi storey garden

1. Mix the top soil (or forest soil) with compost at the ratio of 1:3 respectively; the compost improves soil fertility and water-holding capacity. Put a little mixture of top soil and compost at the bottom of the container to stabilize the base.

2. Place the tin with open ends at the centre of the container. Fill in the tin with pebbles to improve aeration and drainage and avoid compaction of the soil in the container.
3. Fill in the mixture of top soil and compost in between the tin and the container avoiding soil from getting in to the pebbles up to the level of the tin. Pull up the tin adding more pebbles, filling in the soil and unfolding the container up to the brim or the desired height.
4. Plant vegetable seedlings on the sides all around and on top of the container.
5. Manage the container garden by watering through the pebbles daily, and manage pests and disease using integrated pest management techniques.

Staircase garden

1. Ask the participants to bring about 10 empty gunny bags
2. Ask them to bring pegs of varying lengths in the quantities shown:- 1.2 meters 4 to 6, 1 meter 8 to 12, 0.8 m 16 to 24, 0.6 meter 32 to 48
3. Make a circle of diameter 2 ft and enclose it with the gunny bags to a level of 1.2 meters. Add subsoil into it to half then fill up the rest with a mixture of farm yard manure and top soil
4. Measure 2 ft round this first inner circle and enclose it with the gunny bags to a height of 1 meter. Add subsoil into it to half then fill it up the rest with a mixture of farm yard manure and top soil
5. Measure 2 ft round the second inner circle and enclose it with the gunny bags to a height of 0.8 meter. Add subsoil into it to half then fill it up the rest with a mixture of farm yard manure and top soil
6. Measure 2 ft round the third inner circle and enclose it with the gunny bags to a height of 0.6 meter. Add subsoil into it to half then fill it up the rest with a mixture of farm yard manure and top soil
7. Ask the participants to plant different vegetables on the stair case garden now formed.

The two cases offer an opportunity for planting of a variety of crops in these gardens. Each stair case for instance can have a different crop type.

Exercise: Wild and medicinal plants around us

Duration: about three hours

Materials: none

Steps:

1. Ask the participants (or the facilitator might do this in case the participants do not know anybody) to invite one or more people from the community whom they think might know much about wild foods or medicinal plants.
2. Have the resource person/s talk about the different wild foods that can be found and then take the participants on a “guided tour” of the community to show them the different kinds of wild and medicinal plants that can be found.
3. Tell the participants to keep a list of the different plants they see, where they are found, and their different uses.
4. Ask the participants to name the different plants they saw on their guided tour.
5. Divide the participants into groups, one group per plant.
6. Ask the groups to prepare a “fact sheet” on their wild or medicinal plant. Make sure they include information, such as: name of plant; where it can be found; how and when it grows; what it can be used for; how to prepare it and any risks.
7. Have each group present its fact sheet in front of all the participants.

If applicable the exercise can be complemented by a practical session to demonstrate preparation of the food or treatments.

Topic 4: Diversity in what we eat

Objectives:

- **To understand the benefits of eating a variety of foods**
- **To learn different ways to bring variety into our diet**

This is a “link to life” Where the participants will relate what they have learned about diversity to their daily life and in particular their food habits. The participants have learned that a diversity of crops helps to keep their crops and their field healthy. In the same way, diversity in their diet will keep their own bodies healthy. A balanced diet provides the correct amounts of food energy and nutrients needed during the day to cover the dietary requirements. A balanced diet must be composed of a variety of

different foods from different food groups so that it contains all the needed macronutrients and micronutrients. There are many ways to combine foods to ensure healthy, balanced diets are there are also ways to share meals so that all family members have enough to cover their dietary needs.

Exercise: What we should eat each day

Duration: 1 hour

Material: large sheets of paper and markers

Steps:

1. Divide the participants into four groups: the “Breakfast Group”, the “Lunch Group”, the “Dinner Group” and the “Snack Group.” Ask each group to make a list of the things they normally eat during those meal times, and how often they actually eat it.
2. Have each group present its findings.
3. Review each list with the participants, asking them whether they think the list provides a balanced and healthy diet. If so, why? If not, what should be added or eliminated?

This exercise can be repeated throughout the JFFLS session. In this way, by the end of the cycle, the participants will have a new recipe book that they can distribute through the community!

Topic 5: Men, women, girls, boys – who does what?

Objectives:

- **To understand and appreciate the different roles that men, women, girls and boys play in their communities.**

Here is another “link to life”. The participants have learned about crop diversity. They have also learned about diversity in the foods that they eat. Another form of diversity is to begin to understand and appreciated the different roles that various gender groups play in their communities and how these roles are often determined by whether one is a man, woman, girl or boy. The participants will in this section begin to analyze the different “gender” roles and experiment with understanding how the “other half” lives. This understanding might call for making changes to some of the existing roles and rules if they find them un-fair or not useful.

Below are some sample exercises that can help the boys and girls begin to understand “gender roles”.

Exercise: Who does what?

Duration: two hours

Materials: flip chart paper and colored markers

Steps:

1. Divide the participants into small groups, girls and boys in separate groups..
2. Ask each group to list at least five responsibilities that they have that they think are based on the fact that they are a boy or a girl.
3. Once they have listed the responsibilities, have them answer the following questions on the flip chart paper:
 - a. Why do you think that only boys (or girls) are responsible for this task?
 - b. Do you think it is fair or unfair? Why?
 - c. Do you think that boys (or girls) could also handle this responsibility? Why or why not?
4. Ask one member of each group to present the group’s findings.
5. After the presentations, lead a general discussion about the different roles that boys and girls play, and encourage the participants to speak out and refer to their personal situation or experience.
6. If there is time, you may want to ask each participant to choose one of the activities from the “other half” that he or she would desire to do, or would not like to do, and have them explain their choice.

Exercise: When I grow up.....

Duration: two hours

Materials: flip chart paper and colored markers

Steps:

1. Divide the class into groups of two, each group having a boy and a girl.
2. Tell each group that they will be making three drawings on their paper to answer and illustrate the theme “When I grow up”.
 - ✓ One drawing of what they would want to be if they were a woman.
 - ✓ One drawing of what they would want to be if they were a man.
 - ✓ The final drawing should be of what they want to be regardless of whether they are a woman or a man.
3. Explain to each group that they have to agree on what they want to be for each of the three drawings.

4. Ask each group to present and explain the drawings they have made. Make a list of the Male, Female and Gender-neutral responses they have given.
5. Hold a discussion with the class in which you ask the following questions:
 - ✓ Do all of the drawings of men have to be done by men? If so why? If not, why not?
 - ✓ Do all the drawing of women have to be done by women? If so why? If not, why not?
 - ✓ If you were the opposite sex, which drawing would you like to be the most? Why?
 - ✓ If you were the opposite sex, which drawing would you like to be the least? Why?

Learning Module 5: Protection

Objective

By the end of the Module the participants should be able to:

- Identify and explain the different ways of protecting soil, field, crop, animals and humans.
- Describe different methods of protection.
- Relate protection of crops and animals to human health.

Introduction

Protecting soils, crops and animals from threats such as erosions, pests, diseases etc is a constant concern in agriculture, but the idea of “protection” goes much further than that. For example in agriculture our fields must be protected, the soil must be protected, and our sources of water must be protected as well. Beyond the learning field, the animals we raise must be protected and, perhaps most important, we must protect ourselves. The “3 Hs” -- **H**ealth of humans, **H**ealth of animals and **H**ealth of plants –are all vital to the well-being of the participants and their communities. Similarly biodiversity and natural resources must also be protected.

This module contains sample activities for each of the learning activities, plus a number of sample energizers and cultural activities that you can use to keep the participants engaged and reinforce their learning. Remember: they are only samples. Feel free to modify them, or to add others that you feel are useful. The important thing is that you use all five types of activities in the box above and then assess progress at the end of each session.

Sample energizers

Sample energizer: Natural enemies, Pests and Diseases

Time: 15 Minutes

Objectives: Recall names of natural enemies, pests and diseases.

Materials: Chairs

A typical JFFLS session (3-4 hours)

Energizer and fun (30 min)

In the learning field (45 min)

Special agricultural topic (45 min)

Making the link with life (30 min)

Cultural activities (art, drama, song) (30 min)

Assessing progress

How it works:

1. Ask the participants to arrange their chairs in a circle formation.
2. When they are settled, give the following directions:
 - When the name of a natural enemy is mentioned, everybody should sit at attention.
 - When the name of a pest is called out, everybody should change seats.
 - When the name of a disease is said, everybody should stand at attention, their faces showing an expression of shock.
3. Execute actions quickly. Eliminate participants who are not able to do the actions at the count of three.

Topic 1: Protecting the soil

Objectives:

- To understand the importance of soil protection
- To identify the different methods and practices of soil protection

Large and intensive rains often produce high amounts of runoff. Runoff causes erosion as soil particles are detached and transported by the moving water. There are different ways that farmers can try to control runoff and erosion for example physical measures such as terraces, buns, barriers etc. and farming practices such as agro-forestry, minimal tillage etc.

Exercise: Umbrella!¹

Duration: 15 minutes

Materials:

- An umbrella, a hat and a pair of sunglasses

Steps

1. Put on the sunglasses and ask the participants why they think people wear these.
2. Take off the sunglasses and put on the hat. If the hat is unknown to them put the common headgear or scarf.

3. Ask why they are wearing the headgear.
4. Pick one of the umbrellas and put it up. Ask why we use umbrellas (both sun and rain).
5. What if we use a small umbrella? And what when we use a big one?
6. Discuss the following questions:
 - What is the umbrella referring to?
 - What do you think the items (hat and umbrellas) symbolize?
 - Why is it important that the soil is protected from rain and sun?
 - What roles do trees have that is similar to umbrellas.

Exercise: Protecting the soil and water runoff by soil cover²

This exercise will show the participants the impact of intense rainfall on the soil and demonstrate the need to protect the soil by soil cover to reduce erosion.

Duration: 1 hour

Materials:

- Two wooden boxes; about 30 cm wide, 40 cm long and 10 cm high with one end 2 cm lower than the other to provide an outlet over which the runoff can flow.
- Enough air-dry soil to fill the two boxes to 8 cm depth
- A 5-litre watering can with a coarse sprinkler head
- Two bowls
- Chopped crop residues or grass to cover 1 box completely.

Steps

1. Remove stones and roots from the soil, and fill the boxes to 8 cm depth so that the soil at the lower end is level with the outlet.
2. Add a layer of chopped crop residue or grass of about 0.5 cm thickness over the soil surface in one box.
3. Place the boxes at an angle of about 25% with the lower sill of the boxes in the down hill direction (to simulate sloping land) and place a bowl beneath each outlet.

4. Simulate a heavy rainstorm by holding the watering can about 2 meters above the box and water the box as uniformly as possible.
5. Ask the participants to record the amount and the colour of the runoff water that accumulates in the bowl.
6. As soon as the runoff has ceased, excavate the soil at the downhill end of the box, and note the depth to which water has penetrated.
7. Repeat the procedure (5. to 7.) on the soil box (without chopped crop residues) to simulate contour bunds & tied-ridges by tracing contour lines & grids with your finger.
8. Hold a discussing around the following questions:
 - In which box did water infiltrate the most, why?
 - How much water is stored in the soil?
 - What causes erosion?
 - Why is erosion a problem?
 - What is the influence of vegetation on erosion?
 - What is the relation between speed of the runoff water and infiltration of water in the soil?
 - What signs of erosion have you seen? (i.e. rills, gullies, tree roots have become exposed, shallow top soil).
 - Is erosion an individual problem for each individual farmer or for all the farmers involved?
 - What do you think can be done to reduce erosion in the learning field (cover crops, intercropping, control barriers, contour ridges, infiltration pits, trash or stone lines, etc).

Exercise: Banana breakdown³

Objective: The aim of the Banana Breakdown is for children to witness the decomposition of an easily composted material. Decomposition is performed mostly by bacteria. This activity will help the children to understand the conditions bacteria need to do their work. Like us, bacteria are living organisms that need food, air and water to live. Banana peel is readily compostable. In general such food scraps decompose readily as they contain high nitrogen levels. When disposed of in a landfill, food scraps are among the first materials to decompose anaerobically, generating methane, which then contributes to global warming. If you have an existing compost bin, use this as a

resource. Look inside and make observations. Fork through to see how different it looks underneath the top layer.

Materials: 5 equal pieces of banana peel (each about one-inch square), 5 small see through containers, Cling film, Sellotape, Water, Moist garden soil, Banana breakdown record sheets

Steps:

1. Set up the five trials
 - Trial 1 – Water - place the peel in a container, cover with water
 - Trial 2 – Soil – place the peel in a container, cover with moist garden soil
 - Trial 3 – Sun - place the peel in a container and put in a sunny spot
 - Trail 4 – without air - wrap the peel with cling film and tape closed, place in a container and seal.
 - Trail 5 – in the dark - place the peel in a container and put in a dark cupboard
2. At the end of one week, observe all the jars.
 - Has the color changed?
 - Has the texture changed?
 - What else has changed?
3. Record your observations on the Banana Breakdown Records Chart.
4. At the end of the second week, repeat the observations.
5. Record your observations.
 - Decide with the children which, if any, trials to continue.
 - What conclusions can you draw about the needs of bacteria?
6. Questions / Discussion
 - Did the peels change in the same way?
 - Which changed the most?
 - What do you think caused it to decay the most?
 - Is the school compost bin in the best place?

Topic 2: Protecting the agricultural field

Objectives:

- To understand the importance of protecting the agricultural field
- To identify different ways of protecting plants and animals
- To describe different methods of field protection

The learning field provides the cornerstone of the JFFLS approach and is an important parts of the participants lives. They therefore need to learn to protect it. In this module, the participants will learn to build a fence around their garden among other ways of

protection. It is very important to work with the community leaders and the Primary School Director and ask for their help in making sure the learning field is protected properly. If they are convinced of the importance of the project, the protection of the field/garden will be successful and problems like robberies and animal intrusion will be more easily avoided. If security problems appear related to the JFFLS learning field, ask for a meeting with the community leaders to discuss the matter and request their help in dealing with the issue.

Exercise: Building Fences

Duration: 1st session about one hour, and 2nd session about half a day

Materials: flipchart and markers, paper and pencils

Note: *Before conducting the 2nd session of this activity, you will probably need to talk with village leaders or committee members to make sure you have all the material needed to build the fence. Make sure that you use materials that you can find locally and that can be replaced and repaired easily.*

Steps:

1st session

1. Take the participants for a walk around the community and ask them to observe the different kinds of fences and enclosures that they see.
2. Ask them to interview some of the farmers that they come across during their walk. Some of the questions they may ask the farmers are:
 - *Why did you choose that kind of fence?*
 - *What are the advantages and disadvantages of the fence you have?*
 - *What materials did you use to build the fence?*
 - *How did you build it?*
 - *How long did it take to build?*
 - *Are you happy with the fence?*
 - *Would you prefer to have a different kind of fence? Why or why not?*
3. After the walk and the interviews, find a shady place to sit with down and hold a general discussion about what they have learned.
4. Discuss the JFFLS learning field and agree on what types of fences might be most suitable for protecting this field. Make a plan for how to find the materials that

you will need to build a fence for the JFFLS field and if possible ask the participants to bring material for the fence from their home for the next session.

2nd session

5. For building the fences divide the participants into groups, making sure to mix their age and gender. Each group will have different responsibilities. For example, one group may be in charge of cutting wood to make stakes, another group may be in charge of weeding etc. However, *make sure that all of the boys and girls get to do each of the tasks involved but remember that the younger ones may not be as strong for certain things. Also keep in mind the weight and the health of the participants when asking them to do different tasks.*
6. It is now time to build the fence!

Topic 3: Protecting the crop

Objectives:

- To understand the importance of protecting the crop
- To identify different ways of protecting crops
- To reflect on the use and benefit of IPM practices.

Crops have to be protected from pests, diseases and weeds. This topic will help the participants to understand how pests can pose a problem to plants in the field and how this can be mitigated by IPM practices. If the participants are able to appreciate the importance and the value of maintaining the plant life always in health, they will do so also in relation to the necessity of maintaining the value of human life always healthy.

Exercise: Protecting crops against field pest and IPM practices

Duration: 1 hour

Materials:

- Flipchart, markers

Steps

1. In plenary facilitate a brainstorming around the issue of pests in the crop field. If needed use the following guiding questions to probe the discussion:

- Have you seen crops being destroyed by pests? Which pests and what kind of damage did they do?
 - In what kind of field, or on what types of crops are pests a bigger problem than others?
 - What do you or the farmers around you do to avoid losing their crops to pests?
2. Review the earlier lesson on IPM practices by discussing the following questions:
 - What is IPM and is it a good method, if so why?
 - Which are the 4 principles of the IPM? *Ask the participants to draw these principles.*
 - Which are the 5 different methods to check pests and diseases according IPM? *Ask the participants to draw these methods.*
 - What are the predators (or natural enemies) and give 2 examples of how could we attract them (or at least avoid destroying them)?
 3. Ask the participants to draw and discuss links between IPM and human health care?

Exercise: Understanding weeds and weed control methods⁴

Farmers should be encouraged to differentiate the management practice according to the type of weeds and labor availability. This exercise aims to assist participants in identifying weeds, assess the threats of different weeds and recognize appropriate weed control practices.

Duration: 2 hours

Materials: pen, paper, hoe

Steps:

1. start the session with a discussion about weeds:
 - How can weeds that provide much leafy material and woody materials be used beneficially?

⁴

- Which weeds need to be controlled more carefully - those that stand erect, those that climb up the crop and/or those that grow tall rapidly - and why?
 - How does rooting of certain weeds affect the crops? Are there any benefits of deep-rooting weedy species?
 - Why are some plants such as Striga so harmful to the crop? Are there some crops that hinder growth of certain weeds?
2. Divide the participants in small groups of about 5 persons each.
 3. All groups gather on a cropped field and then walk in small groups in different directions
 4. Each group observes weed characteristics in the identified site(presence, abundance, height, etc.); the Facilitator should refer to the discussion questions above and below before farmers go off in groups so that he/she can prompt.
 5. The small groups come back to compare the samples and discuss
 6. Each group presents its results in a plenary.
 7. Facilitate a discussion using the questions below.
 - What is the weed status in the plot?
 - What are the dominant weeds? (Record local names)
 - Are there weeds you discovered for the first time?
 - How would you classify the weeds, which weeds are difficult to control and why?
 - Is it worthwhile to weed? What are the costs and benefits?
 - How do you control weeds in your fields?
 - What do you use for weeding?
 - Is the method effective?

Topic 4: Protecting our small livestock

Objectives:

- To appreciate the importance of protecting the animals
- To appreciate different methods of protecting the animals
- To understand how different types of housing might affect the health of small animals

Livestock has to be protected against pests, diseases, predators and harsh weather conditions. Often housing or shelters for small livestock are not well prepared and as a result often small, overcrowded, poorly ventilated and unhygienic. This can result in

high mortality rates in young stock due to disease, trampling by larger animals, or exposure to adverse weather conditions.

In this exercise the participants will discuss what can be done to protect their small livestock, and chickens.

Exercise: Protecting small livestock through good housing⁵

Duration: 1.5 hours

Steps

1. Divide the group into subgroups and ask them to walk through the community, noting as they walk the different approaches that are being used for providing shelter or housing for young stock.
2. The groups should be encouraged to talk to the owners of the animals so as to find out why different approaches to shelter/housing have been used and what the advantages and disadvantages associated with them are. They should also be encouraged to identify opportunities for improvements using locally available materials. Encourage the participants to make drawings in their notebooks of the various housing types observed.
3. The subgroups then return to the host farm and discuss; “What did they observe?”, “Did all the shelter/housing options seen meet the basic requirements of the young stock?”, “What simple improvements could be made to the shelter/housing in terms of construction or management?”.

Exercise: Protecting chickens against pest and diseases

Duration: about two hours

Material: flipchart paper and markers

Steps

1. Introduce the topic of protecting small livestock.

2. Ask the participants what they think can be done to protect small livestock against pests and diseases. List all the protection measurements on a large sheet of paper. If needed add missing measurements to the list.
3. Discuss the different protection measures that can be taken.
4. With the participants visit a flock of chickens and ask the participants to examine the animals to see if they look healthy or not.
5. If some of the animals are sick, discuss what should be done to prevent other animals from getting sick as well. If all animals are healthy, discuss what should be done to keep them healthy.
6. Make sure to include the following topics during your discussions:
 - ✓ the importance of housing animals
 - ✓ the importance of the hygiene of animal housing
 - ✓ tools used in managing animals.
 - ✓ the importance of feed in having animals grow up healthy – do not forget to link to human and plant health and hygiene
7. Ask the owner of small animals what he or she does to protect the animals against pests and diseases.
8. Summarize all measurements discussed to protect small livestock against pests and diseases

Topic 5: Protecting biodiversity

Objectives:

- **To define bio-diversity and natural resources**
- **To identify the different types of natural resources in the community**
- **To list the reasons by natural resources are important**
- **To suggest ways of protecting the natural resources in the community**

A very important problem that we face is the decline of biodiversity and natural resources. For the health of our planet and future generations it is important that we protect our biodiversity and natural resources in the world, starting from our own environment. The participants will need to understand and to appreciate the variety of life forms around them, and how each form brings something good to their environment. They will also need to begin to understand some of the practices that are

harmful to their environment, as well as good practices that they should adopt to protect the natural resources around them.

Exercise: What is biodiversity?

Duration: about one hour

Material: flipchart paper and markers

Steps

1. Ask the participants what they think the word biodiversity means and what natural resources are. List the definitions down on a large sheet of paper.
2. Introduce the topic of the need to protect biodiversity and natural resources
3. Ask the participants why it is important to protect biodiversity and natural resources. List the reasons given on a large sheet of paper.
4. Divide the participants in small groups and ask each group to discuss what threatens biodiversity and natural resources and what they could do to protect biodiversity and natural resources.
5. Ask the groups to present the results of their discussions.
6. Discuss the results of the presentations.
7. Discuss the following questions:
 - How do we benefit from our natural resources?
 - What do we all collect from our natural resources?
 - Have certain species disappeared during the last few years in the area?
 - Have kind of natural resources have disappeared over the years from this area?
8. What happened? Should this be stopped? How can we stop this?
9. Summarize the importance of protecting biodiversity and natural resources and what farmers can do or should not do in order to protect biodiversity and natural resources in their own area.

Exercise: Controlled burning

A major problem that happens in and around the fields are the uncontrolled fires that destroy so much valuable vegetation -- and even animals --each year. Often these fires are the result of uncontrolled burning of agricultural fields. Children frequently help

their parents in burning their field. In this exercise, the participants will understand why it is important to control the burning of fields.

Duration: about one hour

Material: flipchart paper and markers

Steps

1. Introduce the topic of controlled burning. Discuss the topic of controlled burning in relation to protecting biodiversity and natural resources.
2. Explain to the participants that a part of the fertility of a field is concentrated in the vegetation and that after a field is burned, that fertility will not return to the soil and will be lost for the crops the farmer would like to grow. Ask the participants why farmers still choose to burn vegetation. List the reasons on a large sheet of paper.
3. Discuss all reasons given by the participants and ask them how farmers could deal with all these reasons for burning without burning the field.
4. Go with the participants to the learning field. Ask them what the farmer should consider first when he/she still would like to burn the field as part of land preparation.
5. Ask and discuss what can be done to minimize the risk of fire spreading outside the boundaries of the field.
6. Ask the participants to show, without actually burning, what needs to be done to burn the field in a controlled way.
7. Summarize what needs to be done to burn the field in a controlled way.

Exercise: What is disease?

Duration: 1 hour

Materials:

- Flipchart, markers

Note: If possible invite a doctor or a local nurse to come and attend the session and speak to the participants about diseases.

Steps

1. In plenary facilitate a brainstorming around the following questions:
 - What is a disease?
 - What different diseases occur in your community?
 - How do people fall sick? How do you call “microbes” in the local language?
 - How can we help sick people?
 - How can we protect ourselves from diseases?
 - Refer to the earlier lessons on nutrition and ask participants to draw parallels between nutrition, food habits and diseases.

Topic 6: Understanding and protecting ourselves from HIV/AIDS

Objectives:

- To understand what HIV/AIDS means
- To understand how HIV/AIDS can be contracted and its effects
- To be familiar with different ways of protecting oneself from HIV/AIDS

It is critical for young people to understand how to protect themselves from diseases, and in particular HIV/AIDS. HIV/AIDS is one of the most sensitive topics, but it is essential that participants understand the facts about it, as well as the skills they need in order to protect themselves from becoming infected.

Exercise: HIV Ball quiz

This is an energetic activity that quickly covers all the basic facts about HIV and AIDS.

Duration: about one hour and 30 minutes

Material: ball, large open space (preferably outdoors), paper and markers.

Steps

1. Invite participants to stand in a circle.
2. The first participant throws the ball to another participant. That person must catch the ball and throw it to another person and so on.
3. If a person cannot control the ball (can't catch the ball or throw it nicely to somebody else), he or she must answer a question regarding HIV and AIDS (see example

questions below). If he/she answers correctly, then the game continues. If not, then that person comes out of the game.

4. The game lasts until all questions have been asked or only one person is left.
5. After the game is finished, sit together with participants and go over each question again. Explain each HIV/AIDS fact carefully and encourage participants to ask questions.
6. Ask participants to compare the spread and prevention of HIV with the spread and prevention of crop and livestock diseases.
7. Encourage participants to illustrate on paper or record through song and dance each of the HIV/AIDS facts. If they cannot illustrate or record all of the facts because of time limitations, encourage them to do as many as possible.

Game questions

1. True/False: You can get HIV the first time you have sex. (Answer: True)
2. What does AIDS stand for? (Answer: Acquired Immune Deficiency Syndrome)
3. True/False: Once you have HIV, you will always have HIV. (Answer: True)
4. What part of the body does HIV attack? (Answer: The immune system)
5. True/False: HIV can be spread by shaking hands. (Answer: False)
6. What does it mean to be faithful? (Answer: To only have only one sexual partner at a time.)
7. True/False: A person with HIV can live longer if he or she eats well and does exercise. (Answer: True)
8. What is the period called, immediately after infection, when a person might have HIV but can still test negative? (Answer: Window Period)
9. Which part of the world is most affected by HIV? (Answer: Africa)
10. What is the only 100% safe way to protect you from HIV? (Answer: Abstinence, and being careful of sharing needles, razor blades and other sharp objects).
11. True/False: You can tell by looking at a person that he/she is HIV positive. (Answer: False)
12. True/False: Mosquitoes can transmit HIV. (Answer: False)
13. What are two of the six fluids that transmit HIV? (Answer: Blood, semen, vaginal fluid, pus, and blister fluid)
14. What are another two of the fluids that can transmit HIV?

15. True/False: Condoms reduce the risk of transmitting HIV. (Answer: True)
16. True/False: HIV positive mothers can pass HIV to their babies. (Answer: True)
17. What does HIV stand for? (Answer: Human Immune-deficiency Virus)
18. True/False: HIV and AIDS are the same thing. (Answer: False. HIV is the virus that causes AIDS.)
19. True/False: A sexually transmitted infection, or STI, increases a person's risk of getting HIV. (Answer: True)

Exercise: Reducing HIV vulnerability – the stepping stone game

This activity helps participants to understand the obstacles that keep people from protecting themselves from HIV even when they know all the facts, and to learn how to overcome these obstacles.

Duration: about two hours

Material: several sheets of paper cut into “stones” and “crocodiles,” marker or crayon, a long piece of string (if you are doing the activity outdoors, you can mark a line in the ground).

Steps

1. Begin the activity by asking learners: “Even if we have all the knowledge about HIV, do we always have the skills to make healthy choices?” Listen to their responses. Explain that we often know a lot about HIV and the risk of sexual activity. However, we don't necessarily put that knowledge into practice. Ask them, “Why is this?” Discuss some of the responses.
2. Explain that HIV prevention is more than just sharing information. It includes life skills, learning to make correct decisions and knowing how to act on those decisions in the best (and safest) way possible. If we can stop risky sexual behaviors, we can prevent many new HIV infections.
3. Tell participants to think of a “Healthy Life” as the opposite side of a valley or river. (Lay down the piece of string or make a mark in the sand.) Explain that this side of the river represents the “Present Situation” or “Problems in the Community.”
4. In the river, there are stones and there are crocodiles – just like in life, there are things that can help us get to a positive, healthy and happy future, and things that can make it difficult for us. These stepping stones represent all the skills a person needs

to lead a positive, healthy lifestyle. Without those skills or support, people may make poor or unhealthy decisions – which can lead to HIV infection.

5. Tell the participants to stand on one side of the river. Ask them: “You know that you want a healthy future, but what are some things that can help you to have that?” (Examples: positive friends’ support, after-school activities, goal setting, positive attitude) Have participants write each idea on a piece of paper, or “Stepping Stone.”
6. Then ask the children: “What are some of the things that can prevent us from making good decisions and having a healthy life?” Discuss present issues/problems that concern them. (Examples: peer pressure, drugs, unemployment) Have participants write each idea on a separate piece of paper, or “Crocodile.”
7. Ask the children: “What can happen to young people if they do not use their knowledge to attain a healthy, safe lifestyle? (Examples: Pregnancy, STI and HIV infection, drop out of school) Explain that these things are like a river – if young people don’t have all the things that are listed on the “Stepping Stones,” they risk making decisions that will lead to pregnancy or HIV infection.
8. Ask the children: “What do they need to overcome these issues/problems?” In other words, how do we build a bridge from the “Present Situation” to the other side, “Healthy Life”? Write each idea on a piece of paper and add these to the other “Stepping Stones” you already created.
9. Ask the participants to cross the river by walking across the stepping stones, while avoiding the crocodiles. Point out how easy it is to cross the river when all of the “Stepping Stones” are in place.
10. Take away a few of the stepping stones and ask participants to try to cross the river again. Point out that even if a few “Stepping Stones” are missing, a person will have a harder time crossing the river.
11. Ask the participants to compare the “Stepping Stones” and “Crocodiles” they face in life with the way they identify crop “defenders” and “enemies” in the field.
12. End the activity by encouraging the learners to illustrate on paper the present issues and problems, crocodiles and stepping stones in their own lives.
13. Ask for some of the participants to volunteer to explain their illustrations.
14. After their explanations, lead a group discussion on the kinds of issues and problems that participants may face. Ask them for suggestions on how to cope with these problems.

Learning Module 6: Water for Life

Objective

Managing water in a field is very important for growing a healthy crop. Too little or too much water makes a big difference in the way a crop develops. When growing a crop outside of the rainy season, a farmer has to find ways to supply water to the crop.

Introduction

Therefore it is critical that the participants understand the water cycle, and the best ways of collecting, using and conserving water.

Water is also essential in our own daily lives. We need it to drink, to prepare food and to wash. The participants need to understand the importance of clean water for preventing disease and for their own personal hygiene.

Sample energizers

It is good to start every JFFLS session with something to “wake up” everyone. It also gives young people the chance to use up some energy through play so that they can focus on other issues after that. Energizers should be used to open every JFFLS session. Or, if in the middle of a session you see that the girls and boys are not paying attention, you can use an energizer to bring back their attention.

Sample Energizer: Find someone wearing

Time: 10 minutes

Materials and preparation: Nothing

How it works:

1. Ask the participants to walk around the room in a relaxed way. After a short while, shout out “Find someone....” and name an article of clothing that more than one of the participants have. The participants should then rush to one of the participants who have that article of clothing.

A typical JFFLS session (3-4 hours)

1. Energizer and fun (30 min)
2. In the learning field (45 min)
3. Special agricultural topic (45 min)
4. Making the link with life (30 min)
5. Cultural activities (art, drama, song) (30 min)
6. Assessing progress

2. Repeat this exercise several times.

Sample Energizer: What has changed?

Time: 15 minutes

Materials and preparation: Nothing

How it works:

1. Have the participants to form pairs. Ask them to observe each other very carefully and try to memorize the appearance of the other child.
2. Ask one of the participants in each pair to turn his/her back from the other child, so that the other child can change three things in her/his appearance – for example, rolling up sleeves, removing glasses, moving a bracelet to the other arm.
3. Ask the other child to turn back around and try to see what the other child in her/his pair changed.
4. Have the participants switch roles.

Topic 1: The water cycle

Every human, plant and animal depends on water for survival. Water can not be created, nor destroyed. It can only be transformed into different forms. Let's explore the Earth's water cycle – what exactly is it?

The **water cycle** is a process that is constantly recycling the Earth's supply of water. It's controlled by the sun, which produces energy in the form of heat. This heat energy causes the water in the lakes, rivers, dams and puddles, to warm up and evaporate to the air. Below are the steps in the water cycle described:

1. When the sun heats up water in the lakes or rivers the water turns into vapour or steam (like when you boil water in a pot) and the water leaves the river or lake and goes into the air. This process is called **evaporation**.
2. Plants also give off water vapor (like when people sweat) and this is called **transpiration**. When plants loose more water than they can take up with their roots the leaves start wilting.
3. The water that evaporates or transpires rises into the cooler air, collects, and forms clouds. There, the water vapor molecules cool down and change back into

liquid water. This is called **condensation**. You can see condensation if you pour a glass of cold water on a hot day and watch what happens. Water drops form on the outside of the glass. This water is water in the air that condensed.

4. As more and more water vapor cools into the clouds, the water droplets that form the clouds become larger and larger. These droplets get so big that the clouds can no longer hold them up and the droplets fall from the sky. **Precipitation** is the term for the falling, condensed water molecules, which come down as rain.
5. When water falls to the earth, it enters into the soil because of the force of gravity, called **infiltration**. Or the water flows over the land and into bodies of water, such as rivers and lakes. Some of the water that falls in high elevations such as hills becomes **run-off water**, which is water that runs over the ground to lower ground and forms rivers, lakes and valleys. Sometimes this water collects nutrients from the soil it runs over, making the valley good for plant growth.
6. The water will eventually seep through layers of the earth's surface, while impurities filter out, down to the ground water reserves. Or it may be held by the soil particles or taken up and used by plants and animals upon reaching the earth surface.
7. Then, the water is heated by the sun and is lost through transpiration from the plants or evaporation directly from the earth's surface, and the whole cycle begins again.

Exercise: Understanding water sources within our environments

Objective

- Participants will identify the different water resources within their environments

Duration: 1 Hour

Materials: marker pens, flip charts, masking tapes

Steps

1. Divide the participants into convenient groups
2. Ask them to draw in a community map the different water resources within their community. Are there any problems with these resources?
3. Are there any differences in quality of these water?
4. Ask them what happens when we don't take good care of these resources?
5. Also ask them to list the different methods they can use to harvest and store water for domestic use and irrigation
6. Allow them to do a market place presentation

7. Summarize the discussion highlighting the water resources available and elaborate on water harvesting.

Exercise: Coping with drought

Objective

- **Make participants think and discuss coping mechanisms they can use during drought periods**

This exercise will explore ideas of what can be done to cope with drought and water shortage in the community. The “low-hanging fruit” activities can be used to discuss and plan new activities of any kind.

Duration: about two hours

Material: paper, card, pens or markers

Steps:

1. Hold a discussion in the group on the causes and effects of drought and water shortage in the community. Encourage the participants to tell stories their experiences related to water problems.
2. Ask the participants to draw a tree that has high branches and low branches. Explain to them that the purpose of this activity is to identify activities and services to cope with drought and water shortage. Some are easier, and some are harder.
3. Explain the idea of low hanging fruit: ‘low hanging’ fruit is the easiest fruit to pick from the tree and links with the idea that some services and activities would be easier to introduce and carry out. Fruit that is hanging higher on the tree is harder to pick.
4. Ask the girls and boys to draw new activities or services that they think should be introduced to cope with drought and water shortage on separate cards. Encourage them to think of activities related to livestock, crops and humans.
5. Then have them place the cards on the tree according to whether they think they are ‘low’ or ‘high’ hanging fruit.
6. Ask the participants to discuss ways of beginning these activities and things that might get in the way of carrying them out. Tell them that they can move the fruit higher or lower if during their discussions they change their opinion about how easy or difficult it will be.
7. Ask one of the participants to present a summary of the tree and encourage others to ask questions and make any comments or suggestions. Follow up the activity by

leading discussions – either in this JFFLS session or future sessions – on irrigation, mulching and shade, and water harvesting.

Topic 2: Moisture in the soil and irrigation

Objectives:

- To understand how the soil takes up and holds water
- To understand what irrigation is and different ways of irrigating crops
- To understand what mulching is why it is important for crops, and how to apply it to the field.

As mentioned earlier, managing water in a field is very important for growing a healthy crop. When there is too little rain, a farmer has to find ways to supply water to the crop, this is called irrigation. It is important for participants to understand different ways of irrigation practiced in the area. They also need to understand how quickly the soil absorbs water (soil infiltration rate) and how much water the soil can hold (water holding capacity). Knowing these two things will help them to irrigate their field in the best possible way.

If we can reduce the amount of water that evaporates from the surface of the soil, there will be more water available in the soil to help the crop grow. Especially when water is limited, mulching could be a valuable tool to manage crop water. It is important for the participants to understand the importance of using crop residues and mulch to reduce moisture losses that happen through evaporation.

Exercise: Appreciating different irrigation methods

Objective

- To understand what irrigation is and learn different ways of irrigating crops

Duration: 1 hour

Materials: 2 watering cans, two 20 liter jerican, growing plants, water, jembes

Steps

1. Divide the participants into 4 groups
2. Let them walk into the learning field
3. Ask each group to identify a crop they want to irrigate
4. Those with watering cans will fill up the can and water the crop while the other are watching.

5. The other two groups will make two small perforations at the bottom of the jericans to allow water to drip through and another one on the top.
6. Dig up holes close to some identified plants ensuring they don't mess up with the root system to allow the jericans to fit in closer to the plants. Allow them to water the plants through this system
7. Ask the participants to answer the following questions
 - Why should we water the plants?
 - What are the advantages and disadvantages of these two methods of irrigation?
 - When is each method appropriate?
8. Summarize the lesson by elaborating the basket of irrigation options that the participants can employ in their areas.

Exercise: Mulching and shade to reduce evaporation

Objective

- Participants will discover the importance of crop residues and mulch to reduce water losses through evaporation.

Duration: 2 hours the first day, 1 hours 3 days later and 1 hour a week later

Materials: sticks, 20 liter bucket, mulch or crop residues to cover 1.5 m²

Steps:

1. Introduce the topic of using mulch to reduce evaporation as a tool in crop water management. Ask the participants if they know what mulch is. (Mulch is a protective cover that is usually made up of organic matter such as leaves, straw or peat. It is placed around plants to keep moisture in, to keep roots from freezing, and to prevent weeds from growing.)
2. Select a cultivated field on flat ground, without crops and with a convenient water source nearby. Mark out two plots of 1.5 x 1.5 meters, 5 m apart from each other.
3. Flatten the top-layer of the soil in the plots and remove stones, weeds or residues.
4. Gently apply 25 litres of water to each of the two plots.
5. Cover one of the plots with a 5 cm layer of mulch. Leave the other plot uncovered.
6. Return three days later and examine the soil moisture in the two plots. Try to disturb the soil surface as little as possible while checking the soil moisture and replace all mulch on the treated plot.

7. Return one week later, check the soil moisture in the two plots and make a final evaluation of the benefits of mulching
8. Discuss the following questions:
 - What are the benefits of mulching?
 - Is mulching a feasible option on your farm?
 - Under what conditions is mulching useful?
 - What kind of materials can we use as mulch? What should we not use?
 -

Topic 3: Clean water for health

Objectives:

- To appreciate how to clean water
- To understand why personal hygiene is important
- To understand the different ways to use water for personal hygiene

This is the “link with life”. Water is essential for our own growth and health, and it is important to understand what clean water is and the need of clean water for personal hygiene and to prevent disease.

Exercise: Cleaning water using Moringa seed

Objective

- Participants learn how to clean dirty water using local available materials

Duration: 1 hour

Materials:

Steps

1. Ask the participants to collect ripe seeds. Remove the seed coat with the wings, to leave just the white kernel.
2. Let them grind the kernels to a fine powder.
3. Ask them to mix this powder with a little *clean* water and stir it, or shake it in a bottle, fast for about 5 minutes. The water looks like sticky lime juice.
4. Ask them to stir this liquid into the dirty water you want to clean. Let them stir slowly in one direction - only about 20-60 times a minute.

Caution the participants not to stir faster since the water will not clean if they do so.

1. Ask them to leave the water to stand for two hours and the dirt should all have fallen to the bottom.
2. Let them pour the clean water off carefully and throw the dirt at the bottom away.

NB

The amount of seed needed depends on how dirty the water is, so it is necessary to experiment with different quantities to find out the right amount of seed for your water. Only a few seeds are needed for each bucket of water.

Exercise: The reasons and methods of hand washing

Objective

- **Understand the importance of hand washing**

Duration: one hour

Material: soap, wood ash, leaves, a bucket of clean and transparent water, a basin

Steps:

How clean are my clean hands?

1. Ask participants who think that they have clean hands to come forward.
2. Ask these participants to line up and wash their hands in a common basin with water.
3. Fill a transparent glass with this water and another glass with water that has not been used for hand washing.
4. Let the participants analyze the difference. What are their observations and conclusions?

The effect of soap!

5. To experience the effect of soap, ask some participants to wet their hands with water and dry them on a white cloth.
6. Ask other participants to wash their hands firmly with soap and rinse the soap off thoroughly and then dry their hands on a second white cloth.
7. Ask the two groups to compare their cloths to decide the difference made by washing with soap.
8. Ask which alternatives can be used if soap is not available or too expensive.

Discussion

9. Ask the participants to explain why it is important to use the correct method of washing both hands with an agent or rubbing, and clean running water.
10. Ask the participants in which situation hand washing is extra important. If the don't mention the following situations bring them up for discussion; after toilet

use, before preparing food, before eating food, and after cleaning up babies' or infant faces and cleaning their bottoms. Then explain that good habits, but not crucial in blocking transmission of diarrhea, are washing when getting up, after eating, and after coming home from work or school.

Learning Module 7: Threats and loss

Objective

Loss is a part of life and occurs in the lives of both children and adults. Grief (or how we cope after a loss) can be more traumatic and severe for an adolescent than an adult. The outcome of grief is less predictable and may be more emotionally crippling because the young person is in the process of building a foundation for emotional growth and developing coping strategies.

Introduction

In the same way plants and animals are also often affected by threats or losses, for example by pests and diseases. Often the young plants or animals are affected harder by such threats. Learning strategies to help people cope with losses both in agriculture and in their every day human life is an important aspect in the JFFLS.

Topic 1: Protecting our plants against pests

Objectives:

- To understand the threat that pests pose in agriculture.
- To reflect on the use and benefit of IPM practices.

This topic will help the participants to understand how pests can pose a problem to plants in the field and how this threat can be mitigated by IPM practices. If the participants are able to appreciate the importance and the value of maintaining the plant life always in health, they will do so also in relation to the necessity of maintaining the value of human life always healthy. This understanding could be valuable related to the prevention against different diseases, infections and in particular HIV/AIDS.

A typical JFFLS session (3-4 hours)

- Energizer and fun (30 min)
- In the learning field (45 min)
- Special agricultural topic (45 min)
- Making the link with life (30 min)
- Cultural activities (art, drama, song) (30 min)
- Assessing progress

Exercise: Threats by field pest and IPM practices

Objective

- To understand the threats that pest pose in agriculture

Duration: 1 hour

Materials:

- Flipchart, markers

Steps

4. In plenary facilitate a brainstorming around the issue of pests in the crop field. If needed use the following guiding questions to probe the discussion:
 - Have you seen crops being destroyed by pests? Which pests and what kind of damage did they do?
 - In what kind of field, or on what types of crops are pests a bigger problem than others?
 - What do you or the farmers around you do to avoid losing their crops to pests?
5. Review the earlier lesson on IPM practices by discussing the following questions:
 - What is IPM and is it a good method, if so why?
 - Which are the 4 principles of the IPM? *Ask the participants to draw these principles.*
 - Which are the 5 different methods to check pests and diseases according IPM? *Ask the participants to draw these methods.*
 - What are the predators (or natural enemies) and give 2 examples of how could we attract them (or at least avoid destroying them)?
6. Ask the participants to draw and discuss links between IPM and human health care?

Topic 2: Loss after harvesting

Exercise: Preventing loss after harvesting

Objectives:

- To reflect on the losses that can occur after harvesting.
- To realize the need for measures to protect the harvest

Duration: 1 hour

Materials:

- Flipchart, markers

Steps

1. Discuss the existence of different types of loss after harvesting and ask the participants when and why these losses occur?
2. Discuss how we could avoid the different types of losses listed.
3. Move with the children to a local homestead that has a good example of a granary in place. Ask the participants to look at the granary and discuss the following questions:
 - What is the function of this structure?
 - What are you trying to avoid when we build improved structures like these?
 - How can a good granary help you and your household?
 - What are the characteristics of a good granary?
 - What do you need to think about before putting the harvest in the granary, in order to make sure the harvest conserve well?

Topic 3: Seed selection and grain storage

Objectives:

- To learn about how to select and keep seeds, grains and beans.

Exercise: Seed selection and storage

Duration: 1 hour

Materials:

- Paper and markers, agricultural tools.

Steps

1. In plenary discuss the reasons around why people keep and conserve seeds.
2. Introduce the topic of seeds selection and storage for the next year and explain some key points.
3. Move with the participants to a field planted with a grain crop, for example maize, and discuss the following issues;
 - What should one think about when selecting seeds?
 - In this field which seeds would you select for keeping and why?
 - How and when should you select the seeds?
4. Back in the learning site divide the participants in groups of 4-5 persons and ask the groups to discuss and write down / draw their ideas related to
 - Which storage method people use to protect grains, edible crops, beans and seeds against pests?
5. Have each group present their findings in plenary.
6. Summarize the presented methods and introduce other missing ones.

Exercise: Understanding different grain storage methods

Objective

- Participants know the different methods used in seed storage

Duration: 1 hour

Materials: Flip chart, marker pens, masking tape

Steps

1. Divide the participants into 4 groups
2. Give each group a flip chart and marker pens
3. Ask each group to identify one seed storage method that is completely different from any other group.
4. Ask them to describe and list down the merits and demerits of each method on the flip charts.
5. Allow them to present in the plenary
6. Summarize the lesson using the key points.

Topic 4: Helping each other to cope with stress

Objectives:

- To learn how to support a friend in crisis by empathic listening

It is important to help each other in time of need and crisis such as after a major loss in life. Sometimes it might be enough to just be there for somebody else and listen to their story. The exercise below will build skills in “empathic listening”. By being able and willing to listen with empathy you provide the support your friend is in need of. Empathic listening is a way of listening and responding to another person that improves mutual understanding and trust.

Exercise: How to cope with stress

Objective

- Assist participants learn different ways of coping with stress

Duration: 1 hour

Materials

Steps

1. The facilitator tells the participants a story about a God fearing family where one of the children was caught red handed stealing a radio from the neighbor's farm.
2. This situation put both parents and the boy who stole in a very stressful situation.
3. Ask the participants how they could assist this stressed boy who had stolen.
4. You may take the discussion further by asking the following questions:
 - What could have made the boy steal?
 - What would you do to reduce stress on this boy?
 - What advise would you give to the boy?
 - What advise would they give to the parents
5. Ask them to post their advice onto flip charts.
6. Summarize the discussion

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