



Module 14: Pruning and Harvesting Trees



Goal

Farmers will learn and practice pruning and harvesting methods that follow best practices to sustainably manage trees and harvest fruit, fodder, fuelwood, fertilizer and timber.

Learning Objective

1. Understand the benefits of pruning.
2. Learn pruning best practices for different types of trees to enhance tree health and increase yields.
3. Learn best practices for harvesting seeds and fruit.
4. Learn best practices for storage of seeds, fodder, and fruit.

Venue and Timing

This module should be given at the end of the dry season. The training should be held at a Forest Garden that has a variety of pruning needs and some mature, fruiting fruit trees.

Relevant Technical Manual Chapters

Before this training event, the facilitator should read, review, and thoroughly understand the following chapters and sections in the Technical Manual:

- Chapter 4: Seeds
- Chapter 11: Pruning, Harvesting, and Tree Management
- Chapter 12: Cut and Carry Livestock Management

Preparation

- Walk through the host farmer's field to identify and mark trees to prune.
- Ask participants to bring sharpened machetes.

Supplies

- Pruning tools: freshly sharpened machetes (one per 5 participants)

Total Time

3-4 hours

Handouts in Farmer's Workbook

- Pruning Best Practices
- Pruning Foliage
- Pruning for Fertilizer
- Seed Collection and Observation Chart

Module 14: Pruning and Harvesting Trees

Summary of Activities

Opener: Field visit (30 mins)

- Walk around the field and discuss characteristics of the most productive fruit trees

Activity 1: Why prune and train? (30 mins)

- Discuss benefits of pruning

Activity 2: Pruning and harvesting agroforestry trees (1 hour)

- Review tools needed for pruning
- Review best practices for pruning and harvesting fuel, fodder and fertilizer from agroforestry trees
- Farmers practice pruning agroforestry trees

Activity 3: Pruning fruit trees (1 hour)

- Facilitator demonstrates how to prune fruit trees
- Farmers practice pruning fruit trees

Activity 4: How to harvest and store fruit (30 mins)

- Discuss characteristics of quality fruit for the market
- Review best practices for harvesting and storing fruit

Activity 5: Collecting and Storing Tree Seeds (30 mins)

- Why collect and save seeds?
- Which seeds to collect?
- Discuss collecting and storing tree seeds

Take Home Activity 6: Prune your Forest Garden (15 mins)

- Prune agroforestry and fruit trees in your Forest Garden
- Follow-up

Opener: Field Visit

Description

Farmers visit the field to observe fruit trees and discuss which ones are more productive and why.

Instructions for Farmers

Walk around the field and discuss characteristics of the most productive fruit trees

Let us go to the field and look at the fruit trees. Some fruit trees produce more than others.

- Which fruit trees are most productive?
- Where are those trees located in the field?
- Why do some trees produce more fruit?
- Do you want fruit trees to grow as tall as possible?
- If the tree has lots of branches, will it produce more fruit?

Activity 1: Why Prune and Train?

Description

The facilitator leads a discussion on the benefits of pruning and training for improving the health and productivity of a tree.

Instructions for Farmers

1. Discuss benefits of pruning

After a tree is outplanted in the field it still requires care. Some species, like most fruit trees, require a lot of maintenance to keep them healthy and productive. Others, such as green wall species, require just a little annual maintenance. Pruning is an essential part of this maintenance for all trees planted for a purpose. Improper pruning can hurt the tree, but proper pruning will greatly enhance the tree's usefulness and health.

- How can pruning improve the health of the tree?
- How can pruning help the tree grow?
- Why is it important to prune a grafted tree?
- How can pruning improve the productivity of the tree?
- Why do you prune agroforestry trees? (create green wall, encourage straight shoots, reduce competition and prevent overshadowing, harvest fuelwood/fodder/fertilizer)
- Why do you prune fruit trees? (shaping when young, shaping when established, disease, sunlight and airflow)
- How can pruning hurt the tree or decrease productivity?
- What is training? Why do you train the branches of fruit trees?

Activity 2: How to Prune and Harvest Agroforestry Trees

Description

The facilitator shows the farmers the appropriate tools used for pruning and reviews how to prune agroforestry trees. Then farmers will practice pruning agroforestry trees in the field while the facilitator supervises.

Instructions for Farmers

1. Review tools needed for pruning

Having the right tool is important so that you can make cuts to the tree without damaging it.

- What tools do you need for pruning?
- When do you use the different tools?
- Why is it important to keep your tools sharp?
- Why is it important to keep your tools clean, especially when pruning away diseased branches?

2. Review best practices for pruning and harvesting fuel, fodder and fertilizer from agroforestry trees

- How and when should you prune your green wall?
- How should you prune your alley crops/contours? Which parts of the tree do you prune? At what angle do you cut?
- When should you prune your alley crops/contours? What time of year?
- How should you harvest fuelwood? Where do you cut? At what angle do you cut?
- When should you harvest fuelwood?
- How should you harvest fodder? Which parts of the tree do you harvest? Where do you cut? At what angle do you cut?
- When should you harvest fodder? What time of day?
- How can you store fodder?
- How should you harvest leaves/stems for green fertilizer? How do you use the tree for fertilizer?
- When should you harvest for green fertilizer?
- What are other ways you can harvest and use the leaves and stems from the trees?

3. Farmers practice pruning agroforestry trees

Form small groups of 3 or 4 people and come collect pruning tools. Your group will start by pruning agroforestry trees in the Forest Garden. I will walk around to inspect your work and answer questions.

Activity 3: How to Prune Fruit Trees

Description

The facilitator demonstrates how to prune fruit trees. Farmers form small groups and practice pruning. Small groups tell the facilitator how and where they will make cuts on the tree before they start to prune.

Instructions for Farmers

1. Facilitator demonstrates how to prune fruit trees

Now let us go to the field and I will discuss tips and best practices for pruning, and demonstrate how to prune a fruit tree. When you prune a tree, you start by looking at the tree and deciding which branches you want to cut.

- Which trees need pruning? Why?
- What types of pruning are there, and what times of year do you do each type?
- Which branches on the tree should be pruned? Why?
- Where on the tree do you cut?
- At what angle do you cut? Why do you cut at an angle?
- How do you prune larger branches?
- How often should you prune fruit trees when they are young? How often should you prune fruit trees when they are mature?
- How do you shape a young fruit tree?

2. Farmers practice pruning fruit trees

Now you will practice pruning fruit trees in the Forest Garden in the same small groups. Discuss with your group where and how you will prune the tree. Call me over to tell me your pruning plan before you start cutting the tree. I will walk around to inspect your work and answer questions.

Activity 4: How to Harvest and Store Fruit

Description

The facilitator reviews best practices for harvesting and storing fruit in order improve quality and price in the market.

Instructions for Farmers

1. Discuss characteristics of quality fruit for the market

When you go to the market, do you see some fruits that look nicer than others? Do those fruits sell better than the ones that don't look nice?

- What is considered good quality for the fruit you are growing?
- How does harvesting affect quality?
- How does storage affect quality?

2. Review best practices for harvesting and storing fruit

Using the proper techniques for harvesting and storing your fruit is important to make sure you get the best price in the market.

- When is the best time to harvest fruit from the tree?
- How ripe should the different fruits you grow be when harvesting them?
- How do you harvest?
- What tools do you use to harvest?
- What type of container do you use for storage?
- Where do you store the fruit?

Activity 5: Collecting and Storing Tree Seeds

Description

Farmers discuss the benefits of collecting and saving tree seeds to plant in their Forest Garden and the facilitator explains best practices for seed collection and storage.

Instructions for Farmers

1. Why collect and save seeds?

As part of the training program TREES provided you with many of the tree seeds you needed in your Forest Garden. In the future, you will need to collect and store seeds on your own in order to plant more agroforestry, timber and fruit trees in your Forest Garden because seeds are not always available for purchase in the market.

- What are benefits to collecting your own seed? (free, you know it is stored well, you can sell them)
- What are characteristics of trees that are good for seed? (good health, high-quality production, high-quantity production, good form, adapted to local environment, mature) Why save and store seeds? (trees don't always produce seeds when you need them)

2. Which seeds to collect?

You should collect seeds that are suited to the local environment and provide benefits to your Forest Garden.

- Which species do you want to plant in your Forest Gardens?
- Are seeds for those species available in the market?
- What time of year does that tree produce seed?
- When are most agroforestry tree seeds available?
- Are any farmers or groups currently selling tree seeds in the community?
- Who is buying seeds? What types of seeds are they buying?

3. Discuss best practices for collecting and saving seeds

Now that we have discussed which tree seeds to collect, let us review the best practices for collecting and storing those types of seeds.

- How can you increase genetic diversity in your stored seeds? (multiple mother trees, select trees throughout growing range, select trees growing among other healthy trees, select mother trees at least 100 meters apart)
- How do you know the seed is ready for collection? What tools do you need for seed collection? What are the benefits of collecting seeds from the ground? What are the benefits of collecting seeds from the tree?
- How do you extract the seeds from the pod?
- Does this type of seed remain viable for a long time? (orthodox or recalcitrant)
- Do you need to dry the seeds and how? How do you store the seeds?

Take Home Activity 6: Prune your Forest Garden

Description

Farmers prune the agroforestry and fruit trees in their Forest Garden, under the supervision of the lead farmer.

Prune agroforestry and fruit trees in your Forest Garden

When you go back to your farm, walk through your field and assess which trees need pruning. Make sure to properly sharpen your tools and decide where to cut before you start pruning. The lead farmer will visit you to supervise and help you with pruning.

Follow-up

The lead farmer will visit participants to answer questions and provide guidance on pruning.

Evaluation Checklist for Skills Learned in Module 14



At the end of the year you will be evaluated on the following practices that you learned and discussed over the course of the project. Those in bold are topics that we discussed or practiced today. In demonstrating that you have completed the project criteria, you will receive Master Forest Gardener Certification at the end of the year.

Year 4 Evaluation Criteria

- Green Wall
 - Fully surrounding the Forest Garden site
 - Gaps replanted
 - Well-managed
 - Dead fence surrounding green wall if still needed (for all projects where this is determined to be a requirement)
- Alley Cropping and/or Contour Planting
 - Optimum number planted
 - Gaps replanted
 - Well-managed
- **Fruit Trees**
 - **At least 4 species planted**
 - **At least 2 species grafted**
 - **Well-pruned**
- **Timber Trees**
 - **At least 2 species planted**
 - **Proper spacing between trees planted**
 - **Each tree is weeded and mulched**
- Compost
 - Three active piles
 - Well-managed
- Permagarden
 - Multiple species
 - Can discuss at least 4 IPM measure applied
 - Demonstrated use of the 4 S's
- Optimization
 - Optimum number of fruit trees planted
 - Optimum number of timber trees planted
 - Demonstrated use of guilds (beneficial plant associations/polyculture patches)
 - Demonstrated use and explanation of at least 5 IPM measures
 - Ground cover planted among fruit and timber trees

Module 14: Facilitator's Notes



The facilitator should use the following pages to note down any questions or findings from the group that should be kept for or addressed at a later time. Depending on the module this may include species selection by group, crops identified in seasonal calendars, or anything else that should be noted.