The Swedish Cooperative Centre (SCC) was founded in 1958 by the Swedish cooperative movement. SCC is an international non-governmental and non-profit making organisation that offers support to self-help development initiatives to cooperatives, farmers’ organisations and informal groups. Its head office is in Stockholm, Sweden.

Through its Southern Africa offices, SCC has established the Regional Study Circle Resource Centre (RSCRC) to help provide capacity to its partners and other stakeholders.

In collaboration with one of its partners, Kasisi Agricultural Training Centre, this book on Agroforestry has been regionalised for use in sub-Saharan Africa.
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INTRODUCTION TO STUDY CIRCLES AND THE HANDBOOK

Objectives

1. To make all members of the group familiar with the handbook and the study circle concept.

2. To decide the responsibilities of the leader and the participants.

3. To set up rules for your study circle.

4. To decide upon a study plan (which chapters to study, in which order, whether to seek other study materials, invite resource persons or organise study visits, whether to set up demonstration plots, what material you need to bring to each session for the practical assignments, etc.)

1.1 How to use this manual

First of all you should discuss the purpose of going through this handbook. It is our hope that the information, discussions and practical exercises will help you to increase your knowledge on agroforestry and to improve your skills on how to farm successfully!

I -- How to learn in a Study Circle

We recommend that you study the handbook in a group because then you will be able to discuss and share ideas and experiences as you go on reading. If your group is eager to study and learn together you may call yourself a study circle. You may see this handbook as a support and guidance as you strive to increase your knowledge in agroforestry. Remember that the handbook should be seen as a complement to what you already know on how to farm in a sustainable manner. There are many sustainable methods and there are many ways of learning. This means that you may learn from this book, from inviting extension staff, from asking the person sitting next to you or from sharing the knowledge you have yourself. In particular we hope you will learn in a participatory manner and by doing. This means that everyone should take active part in the learning process by listening, discussing and by practicing. We hope that you will try out some or all of the techniques, not only in a demonstration plot but also in your own field.
It is a good idea to set up some rules to make the learning more effective. First of all, participants should join the group voluntarily and because of a mutual interest in the subject. We recommend that the study group has between 5 to 15 participants because if the number becomes too large it might be difficult for everyone to participate equally and to organise sessions and field trips. Make an effort to bring people with different experiences, ideas, knowledge and skills to enrich your study circle. This is easily done by inviting both men and women, youth and old, and people with different backgrounds. Of course you may also read the handbook on your own or in a smaller group but then you will miss the opportunity to discuss and learn from the experiences of others.

II – How to learn in a group guided by a leader

We strongly advise that you as a group elect a study leader. The study leader is not supposed to be a teacher, but he or she is to facilitate the learning process. This means that the leader should make sure that everyone can participate equally by motivating and encouraging all the participants to take part in the discussions and actions. The study leader does not have to be an expert on the subject, because the information is readily available in this handbook and elsewhere, but it is good if the leader is trained in leading study circles.

III – How to learn in an organised form

Together you should agree when and where to meet and for how long. Normally a session would take around two hours but this depends entirely on the group and how much you discuss and practice.

A study plan should preferably be made during the first session. The list of content can be used as a guide for what to study at every session, but the group is free to choose their own study plan and which chapters to study. One suggestion is to study the manual chapter by chapter. The text could be read out loud or the participants could be expected to have read the chapters before each session. It can be the responsibility of the leader to suggest questions to discuss, to explain assignments and to start up other exercises that the group has decided upon. Each chapter contains questions for the group to discuss, but the group is also free to discuss other questions that come up as you go on studying the topic.

IV – How to learn in a participatory manner

Exercises like filling in lists should be done so that all participants can follow the process; use flip charts if available and remember that a picture says more than thousands of words. Take time to look at the illustrations and be creative in the way you learn.

The group may also call upon experts, such as extension officers, to participate when some technical matters are being discussed.

Why learn?

Remember that this is your opportunity to assist others and to fill in the gaps of your own knowledge. The more you seek answers to your questions and the more you practice your skills, the more useful will be this study season.

1.2 First study circle session

Here are some steps that might help you in your first study circle meeting:

- Introduce all members of the group to each other.
- Go through what a study circle is and how it is run.

Discuss especially:

- What it means that all participants are equal and have mutual respect for each other.
- Why it is important to sit in a circle, facing each other.
- What is the role of the study leader? Point out that a leader is not a teacher but rather a participant of the group with special responsibilities of creating a good and friendly atmosphere, acceptance of all participants, motivation, active participation, cooperation and equal sharing of work and attention.
- Agree on other rules and responsibilities. Should you read through chapters before each session? What will happen when people are late or absent? How can you involve everyone in the planning and learning process? How will you encourage everyone to talk and share experiences? How will you make sure all participants take part in the talking and listening?
• Let everyone share their expectations for the study circle season on agroforestry. This could also be a good time to discuss what you think agroforestry means and why it concerns you. Discuss this issue two and two and then as a group!

• Go through the handbook together to familiarize everyone with the book. You may read chapter 2 if there is time but you can also look through the Table of Contents to get a general idea.

• Compare the content of the book with the expectations of the participants. Make necessary adjustments to the study plan in order to meet the participants’ wishes and needs.

Decide the number, dates and length of sessions. Identify resource persons. Some parts of the handbook may be complicated and need the service of an expert.

This question mark will highlight questions that will facilitate discussions.

WHY USE AGROFORESTRY?

Objectives

1. To understand agroforestry better.
2. To be motivated to use agroforestry techniques on your farm.

2.1 What is Agroforestry?

Agroforestry is a new word for a very old farming method. The word, and also the practical meaning, combine agro as in farming and forestry as in trees.

Very simply, agroforestry combines or integrates trees and shrubs with crops and/or animals in a farming system. In this it differs from forestry, which may have a large area covered with only eucalyptus or pine trees. And clearly it differs from conventional agriculture, which may have large areas covered with only maize or wheat. In agroforestry, trees or shrubs may be grown either at the same time as the crops or in rotation with the crops.

There is nothing new about growing trees and crops together. Our ancestors did this. Agroforestry began through the careful observation and sound common sense of our ancestors as they worked out the best ways of sustainably feeding themselves while keeping the soil constantly rich, productive and fertile, and benefiting from all those resources nature provided for free.

What may be really new in agroforestry is that now farmers do a lot of tree planting and caring of the trees, whereas traditionally the farmer mainly used existing trees.

Agroforestry is about using traditional knowledge and improving the methods and techniques that have been used over generations. It combines the best from traditional experiences and scientific experiments!

Agroforestry is a farming system. This means that the different parts of the farm are dependent on each other and that the parts co-operate. This means that crops, animals and trees support each other to produce the total yield on the farm. Think about how the parts of a bicycle co-operate to move the vehicle and what it is carrying.
One reason that agroforestry is such a successful farming system is that it imitates a natural ecosystem in which a great variety of living and non-living matter interact in a highly productive and sustainable fashion. Think about how the trees, plants and animals live and rot in a forest, and how this seems to go on and on and on... 

2.2 Ways that trees and shrubs can be integrated into the farm system

We will see examples of many of the uses for trees on the farm in the following chapters, but in the diagram below you may see most of the ways trees and shrubs can be integrated into a farm system.

Thinking about what trees can do, do you have any problems that trees can help solve?

2.3 Why practice agroforestry?

For the earth and future generations...

The goal of agroforestry is to maintain or increase the total yield on the farm in ways that are sustainable. This last word is very important.

What does “sustainable” mean?

One definition of “sustainable” is the capacity to remain productive while maintaining the resource base. This means that you could meet the needs of today while still thinking about the needs of tomorrow. In simple words, you would be able to meet the daily needs of your family, and when that time comes, be able to hand over a farm with plenty of resources.

Think of other ways to describe the word “sustainable”? Any words in your language that mean the same thing? Discuss why sustainable farming is important for your children?

Agroforestry looks to the future and to the generations of people that are yet to come. Agroforestry wants to preserve the earth for them as a beautiful, healthy, life-sustaining home. A proverb in Tanzania puts it this way: The land is not given to us by our ancestors. It is loaned to us by our descendants.

Take some time to think about the proverb. What does it mean? Do you have a similar saying where you live? Are people taking care of the earth in your area? Why or why not?

In many parts of the world the earth is not being well preserved. If you look around you, you will find forests disappearing and soil eroding. You will see that water and air are being polluted. These are all too common processes taking place around us. And the effect of this degradation is already being felt, especially by rural people. Perhaps you yourself have seen the soil becoming less fertile or have had problems finding firewood, fodder, poles, timber or fibre. Perhaps you have experienced silting and flooding of rivers.
Describe some cases of degradation of the environment in your area. What are some effects of this on your family?

So how can agroforestry improve this situation? You can say that good agroforestry methods should fit in with the social, economic and cultural life of the local people, and be for the good of all people. Its methods must fit the local environment including the climate, soil, streams and hills of the region.

In a sense agroforestry is a method to imitate the relationships in a forest but remember that the goal is to improve, diversify and secure your living conditions.

So how can trees help? As a farmer you probably know the importance of trees for the environment. By planting and caring for trees you are doing your neighbours and all creatures living on the earth a favour, those of today and those yet to be born. This favour we sometimes call an environmental service. As you continue reading this manual, you will see that by giving us that service you will at the same time help yourself, your family, your yields and farm.

For you and your farm…

Many trees are able to provide several services or products to the farm family. We call them multipurpose trees because they serve many purposes. An example of this is the Sesbania sesban tree. It can improve soil fertility, provide firewood, and yield nutritious food for the cattle.

Can you think of other benefits from trees? For instance, how can trees help you through a period of drought?

Trees produce in times of drought

If your area is prone to drought, trees may help you through dry periods. We know by now that growing drought-tolerant crops is not enough when rain is falling for long periods. Trees on the other hand survive most moderate droughts because trees have deep roots that tap water from very low levels. Many trees can therefore continue to grow even in the dry season without irrigation. Since they can continue to grow, they of course continue to produce food, fodder, and other products nearly all year. In many cases, their fruits mature at the height of the dry season when supplies of other foods are generally low.

If your harvest fails, the products from trees will provide you with nutritious fruits, nuts and roots, or money if you manage to sell tree products. Fruits are very nourishing for both humans and animals. Drought as we know affects not only us humans but also our livestock. Leaves and pods from trees can help your animals through periods of drought.

Trees bring nutrients to you, livestock and soil

Tree roots recycle nutrients at deep soil levels and make them available for utilisation by crops. The root system of maize cannot reach this deep and capture these nutrients.

Not only do the roots of trees reach down to deep water, they also take in nutrients from these deep layers and bring these nutrients up into their leaves and fruits. You may think of the tree as a nutrient pump,
pulling up nutrients not available to the shallow roots of grasses and vegetables.

**Trees save and provide money**

Trees on the farm can reduce the need to purchase external inputs such as manure. Trees can also increase the amount of income generated on the farm. The profit the farm family makes will therefore increase.

*Spreading manure to improve soil fertility.*

Tree products may either be sold directly or may supply material for value-added products such as handicrafts, oils, soap, jams, and juices. Trees also provide a new form of savings or investment for the farm family. This provides security for the future.

**Trees help you cope with HIV/AIDS**

Agroforestry can also significantly help to reduce the impact of HIV/AIDS on the farm family. Most people who die of HIV/AIDS die of malnutrition. In several ways, agroforestry will improve the family's diet. A well-balanced diet strengthens a person's immune system and therefore improves the person's ability to fight the HIV infection and to resist the other infections that accompany AIDS. Many trees have medicinal properties that help fight these AIDS-related infections. Furthermore, some agroforestry techniques provide labour-saving benefits and spread the labour out over time, especially helpful to a family whose work-force is weakened by AIDS.

*Looking over your area and your trees, would you say that you are using trees already? Have a general discussion and return to this question as you go on learning about the methods available in agroforestry.*

**How to get started…**

Growing trees is only one part of agroforestry. It is also important to know where to plant the trees and how to look after them so that they prosper. To help you know what to plant you need to answer four simple questions:

1. What do I want my trees for?
2. Which trees will do this?
3. How do I plant my trees?
4. How do I look after them?

Discuss these questions and get more ideas as you continue studying this handbook.

Here are some exercises you can do now or later in the study circle.

By drawing a map and listing the trees in your area you will get a better overview of how you already use and benefit from trees.

A. **Draw a map of your farm.**

- What crops do you grow?
- Do you have any trees on your farm?
- Are some of these trees growing in the natural woodlands?
- Why were they not cut down?
- What trees have you planted and where have you planted them?
- Any reasons for this particular place?
- How do you use the trees?
- What are the benefits from the trees? Be specific.

B. **Draw a map of your area.**

- Put together the farm maps into a big one over your area.
• Add houses, roads, fields, farms and trees in areas outside your farms. Make it as detailed as you want but make sure you include the trees.

• Why are these trees there?

• Save the map to add on purposes of the trees as you go on learning about agroforestry, and use it for planning your future tree plantings.

Make a tree table

This exercise might help you to structure the benefits of the trees in your area. List the trees, where they are found and why they are important to people, other animals, the environment and other plants in particular.

<table>
<thead>
<tr>
<th>Name of Tree</th>
<th>Where it is found</th>
<th>Importance to</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>People</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Animals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other plants</td>
</tr>
</tbody>
</table>

Be a tree

While filling in this table, do a role play where you ask each person in the group to think about a tree they know. The group can then interview the tree so that it tells them about who it is and why it is important. Have one person filling in the list as the tree explains. Include questions like:

• What is your name?

• Where did you come from?

• What conditions do you like to grow in?

• What do people get from you?

• How do animals benefit from you?

• How does the environment benefit from you?

• This person wants to cut you down. Give the person five reasons why you should not be cut down.

Homework

1. As you walk around in your area, think about where trees are grown and how you benefit from them. As you meet next time you might have more trees to add to the map or to the tree table.

2. This manual will use the scientific name of the tree. This is so because a dear child has many names, and a tree could probably have as many names as there are study circle groups. However, it is very important that you know which tree we are talking about. Find out the names of these trees in your local language. You will find a list of the trees on pages 83 and 84.