REPUBLIC OF UGANDA

MAAIF
Ministry of Agriculture,
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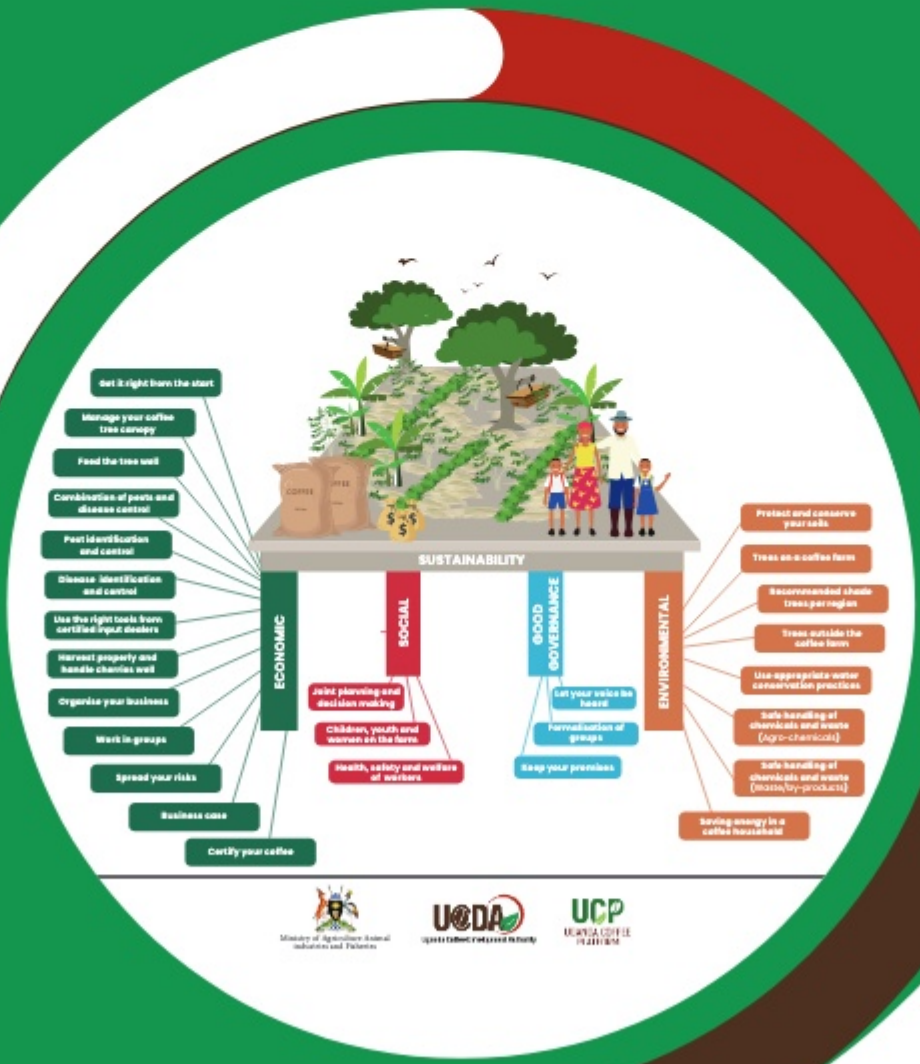
UCDA
Uganda Coffee Development Authority

The Uganda Sustainable Coffee Toolkit

FACILITATOR'S GUIDE



UCP
UGANDA COFFEE PLATFORM

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Foreword

The Uganda Sustainable Coffee Toolkit

Coffee is a strategic priority for Uganda. It supports the income of subsistence farmers and, on average, has generated approximately 17-20 % of total foreign exchange earnings over the past 30 years.

Coffee is grown in 126 of 146 districts of Uganda by 1.8 million households. Uganda, which is the birthplace of Robusta coffee, also produces high-quality Arabica coffee.

In terms of traded commodities, coffee is the largest contributor to exports. In the Financial Year 2021/22, Uganda exported 6.26 million 60kg bags of coffee valued at US$ 862 million.

The global agenda towards sustainability stresses the need to act now to ensure today's coffee farmers, and the next generations can continue to produce enough great coffee for the world to enjoy. As long as we are guided by similar standards, we can overcome challenges such as low profitability and climate change which are forcing some farmers to reconsider their coffee enterprises.

We are therefore delighted to recommend the Uganda Sustainable Coffee Toolkit which has been designed to support public and private coffee trainers and service providers to deliver high-quality training that emphasizes sustainable production practices.

The toolkit provides adaptable training materials for trainers to train according to the farmers' needs and aspirations. It will also support coffee farmers with knowledge to grow their businesses sustainably.

I take this opportunity to appreciate everyone who participated in the development of this toolkit including Café Africa, UCDA staff and Urithi Studio.

Dr. Emmanuel Iyamulemye Niyibigira
MANAGING DIRECTOR
UGAND COFFEE DEVELOPMENT AUTHORITY

1.0 About the Coffee Training Toolkit

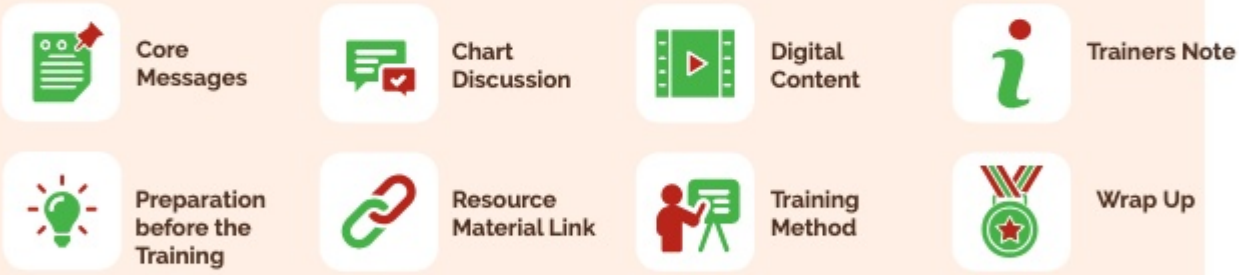
This is the Facilitator's Guide for the Sustainable Coffee Toolkit. The toolkit is designed to support public and private coffee trainers and service providers to deliver high quality trainings that emphasize sustainable production practices.

The Sustainable Coffee Toolkit aims to:

- Provide trainers with flexible, easy-to-use training materials that allow them to pick and choose topics based on their needs and aspirations.
- Support coffee farmers in making decisions that have positive effects on their farms and their productivity and enable them to grow their business in a sustainable manner.

The Sustainable Coffee Toolkit was developed by Cafe Africa, Uganda Coffee Development Authority (UCDA) and Urithi Studio. It aims to provide user-friendly, effective training tools so that extension workers and other trainers can start from the coffee farmer's needs and aspirations, and provide tailored and effective sustainable support, whether it is for new or more experienced farmers.

BECOMING FAMILIAR WITH THE ICONS



BECOMING FAMILIAR WITH THE Abbreviations

CSIP-Climate Smart Investment Pathway
CWDR-Coffee Wilt Disease Resistant
FAQ-Fair Average Quality
GAP-Good Agronomic Practices
IITA-International Institute of Tropical Agriculture
IPM -Integrated Pest Management
UCDA-Uganda Coffee Development Authority

2.0 How the Toolkit Materials Work Together

The Sustainable Coffee Toolkit consists of:

1. **The Sustainable Coffee Production Toolkit Facilitator's Guide:** This Facilitator's Guide is the guiding document for the sustainability training program. It includes:

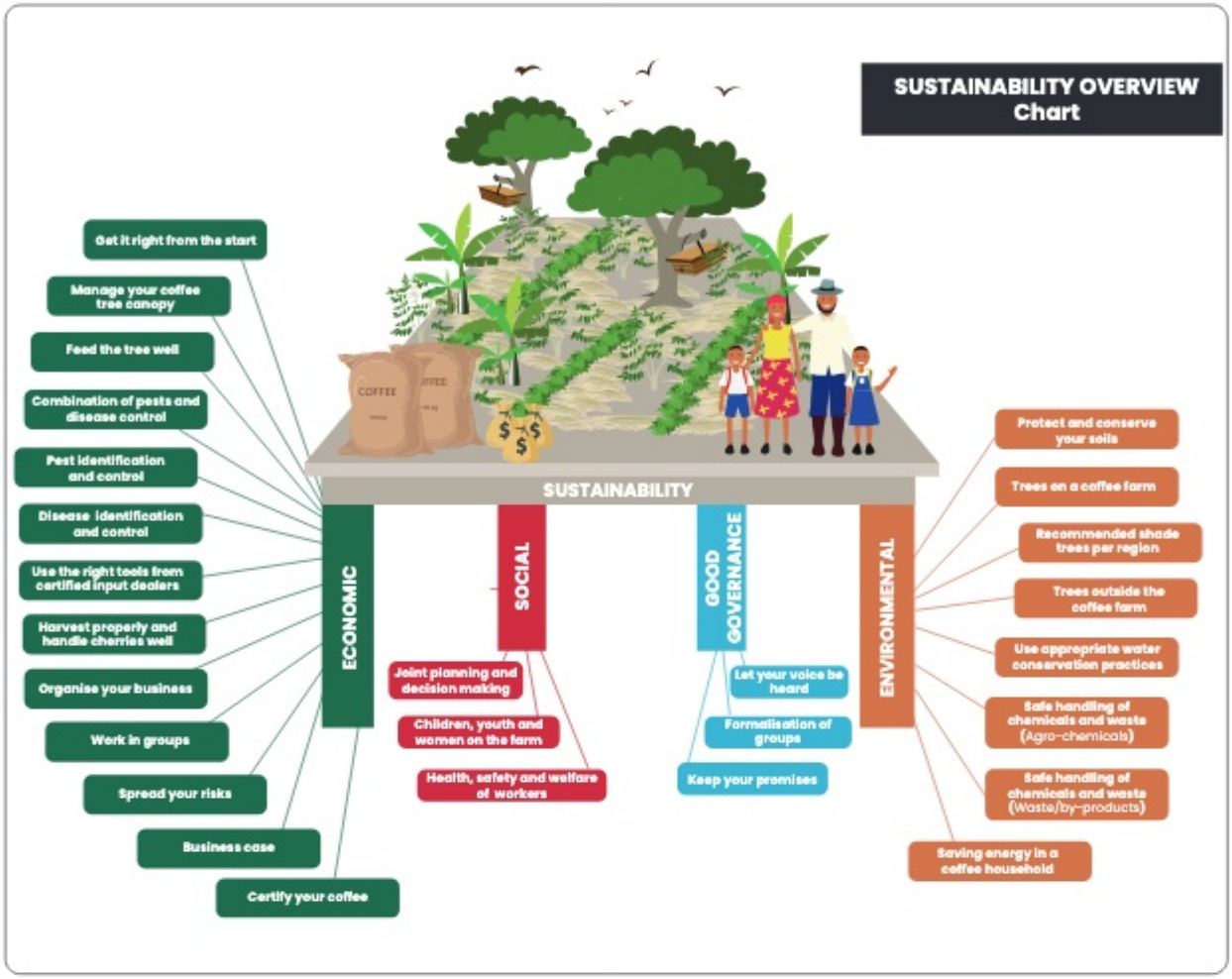
    - Suggestions and tools to explain to farmers what sustainable coffee production means and why it is important;
    - Suggestions and tools to train farmers on every aspect of sustainable coffee production; and
    - Coffee record keeping templates.

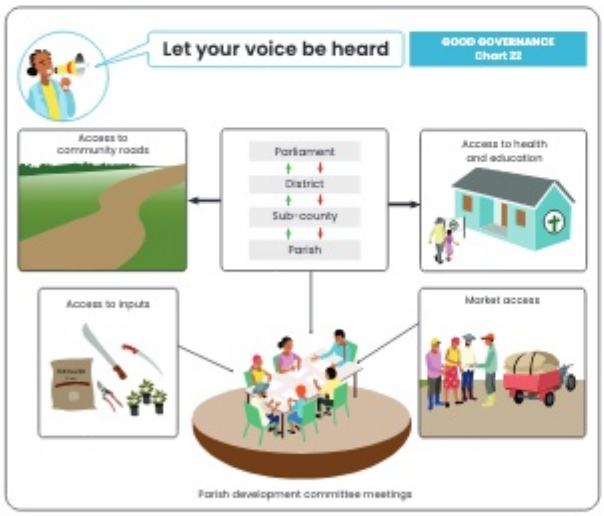
2. **The Uganda Coffee Sustainability Principles and Practices Chart:** This chart shows the Ugandan coffee value chain, and its four core sustainability principles summarized in narrative commitments. Facilitators should be familiar with this chart and may also want to carry it to the field with them to train.

3. **The Uganda Coffee Sustainability Principles and Practices Flipbooks.** The four flipbooks elaborate in more detail about each of the four core sustainability principles, as shown on the Uganda Coffee Sustainability Principles and Practices Chart. Facilitators will carry these flipbooks to the field for training. They are used to "zoom out", or give the bigger picture about sustainability for any chosen sub-topic related to sustainable coffee production.

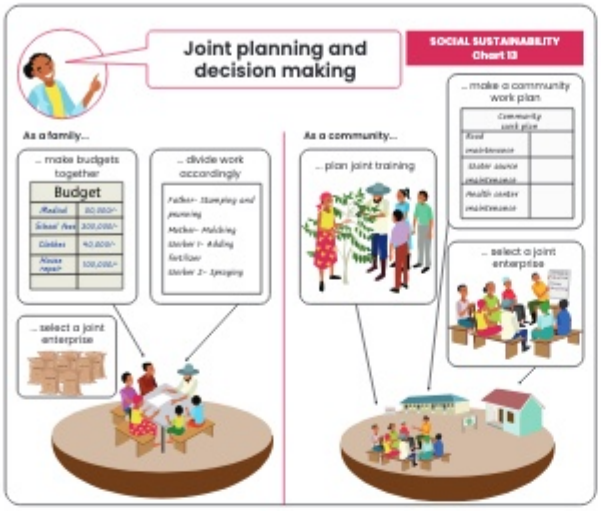
4. **The Sustainability Overview Chart** presents each of the four core sustainability principles and their underlying sub-topics. It is used to help the trainer engage participants to choose a sub-topic for training on any given day.

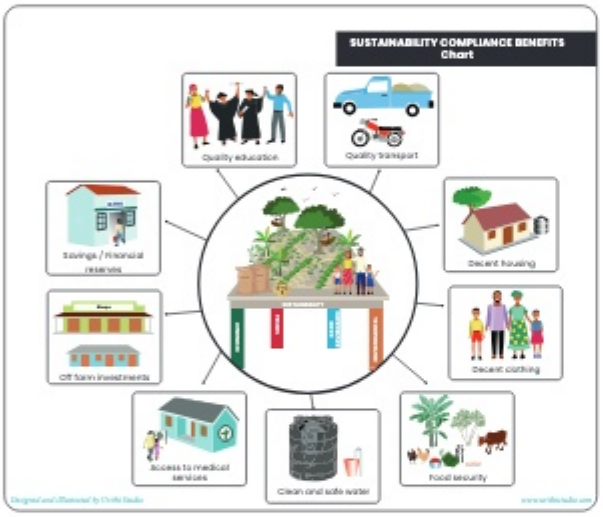
5. **Topical Sustainability Charts.** This is a set of 32 charts that present 26 specific sub-topics for sustainable coffee production. They form the core of the sustainability training program and are at the center of each of the 26 sessions contained in this guide. After choosing which sub-topic to learn about from the Sustainability Overview Chart, the trainer uses one (or more) of these topical charts to "zoom in" and conduct the training session.


SUSTAINABILITY OVERVIEW Chart
SUSTAINABILITY
ECONOMIC
SOCIAL
GOOD GOVERNANCE
ENVIRONMENTAL
Get it right from the start
Manage your coffee tree canopy
Feed the tree well
Combination of pests and disease control
Pest identification and control
Disease identification and control
Use the right tools from certified input dealers
Harvest properly and handle cherries well
Organise your business
Work in groups
Spread your risks
Business case
Certify your coffee
Joint planning and decision making
Children, youth and women on the farm
Health, safety and welfare of workers
Let your voice be heard
Formalisation of groups
Keep your promises
Protect and conserve your soils
Trees on a coffee farm
Recommended shade trees per region
Trees outside the coffee farm
Use appropriate water conservation practices
Safe handling of chemicals and waste (Agro-chemicals)
Safe handling of chemicals and waste (Waste/by-products)
Saving energy in a coffee household


Let your voice be heard
GOOD GOVERNANCE Chart 22
Access to community roads
Parliament
District
Sub-county
Parish
Access to health and education
Access to inputs
Market access
Parish development committee meetings


Protect and conserve your soils
ENVIRONMENTAL SUSTAINABILITY Chart 16b
Dig trenches
Apply manure
Add mulch
Plant cover crops e.g. beans, groundnuts
Plant shade trees





6. **The Sustainability Compliance Benefits Chart** presents the benefits that farmers will see if they comply with the sustainability practices discussed in each of the Topical Sustainability Charts. It is used as an inspiration or motivation to get farmers thinking about what dreams or aspirations they can reach if they follow the suggested sustainability principles and practices.

Trainer : Each of the above-mentioned tools can be found on UCDA's website, and downloaded, edited for your specific needs, and printed as needed.

Visit the following link to access the tools online:
https://www.ugandacoffee.go.ug/

The Sustainable Coffee Toolkit was also designed to work in conjunction with technical resource materials including:

- Arabica Coffee Handbook
- Robusta Coffee Handbook

Download both at: *https://ugandacoffee.go.ug/resource-center/manuals*

3.0 How to Train with this Sustainability Toolkit

Step 1: Do a diversity check!

- A sustainable training requires that different types of participants can be present and enjoy the benefits of the sessions.

- Do a diversity check before each training session!

Have you invited female farmers?
✓ *If yes, is at least 1 out of every 3 participants a woman?*

Have you invited youth farmers (18-35 years old)?
✓ *If yes, are at least 1 out of every 3 participants a youth?*

Have you chosen a training time that is convenient for women and girls (when they do not have duties at home, when they do not have to go to school, etc.)?
✓ *If you responded yes to all the above, you are ready to go ahead with the training!*

✗ *If you responded no to some of the questions above, you need to first make sure youth and women can participate in your training.*

Step 2: Prepare your training program

1. **Get to know the materials.** Start by studying each of the Toolkit materials, as outlined on pages 5-8 of this guide. Also be familiar with the Robusta or Arabica Coffee Production Handbook and where their contents link to this Toolkit. They are not part of the Toolkit, but they contain important background information that will help you to become more knowledgeable and more confident in your trainings.

2. **Get to know your participants**. Try to answer the following questions before you start the training:

   a. What type of coffee farmers are you training?
   b. What is their medium-term vision of the coffee farm? Are they growing the right coffee type and right varieties? Where do they want their farm to be in 5 years' time? And in 10 years' time?
   c. What is their current reality?
   d. What do they have, in terms of land, number of coffee trees, labor and money?
   e. What do they know and not know?
   f. What do they do practically to manage their coffee farm?
   g. What is the average production per tree?
   h. What do they see as their major challenges and opportunities?

The Levels of Coffee Farmers in Uganda

We distinguish three levels of coffee farming in Uganda: traditional, improved, and commercial. The table below lists some general characteristics of the three levels. In practice, the levels overlap on a sliding scale from low input-output to high input-output.

Practice	Traditional	Improved	Commercial
Plot layout and density	Trees scattered, low coffee tree density (100-200 trees/acre), haphazard shade tree distribution, overshading, haphazard intercropping	Coffee tree density 150-350 trees/acre, some gap-filling, overshading, irregular intercropping	Coffee tree density 350-450 trees/acre, regular tree layout, gap filling, up to 50% shade, regular intercrop layout
Varieties	Unknown, seedlings from own farm or Elite	Elite, new seedlings are modern CWDR clones	All seedlings from certified nurseries, and CWDR clones
Tree age	Majority of trees older than 20 years	Mix of old trees and younger trees	All trees less than 20 years
Tree shape	Many unproductive stems and suckers, tree stems taller than 3 meters	Some tree pruning taking place, stumping delayed	All trees have 2 - 3 stems, and are well pruned
Bearing heads	Bearing heads shorter than 30 cm	Average bearing heads between 30 and 60 cm	Average bearing heads longer than 60 cm
Fertility management	Some scattered mulching and manuring	Mulching and manuring around the tree	Mulching, manuring, and fertilizer application
Pest and disease management	Uprooting of diseased trees	Uprooting and burning of diseased trees and branches	Use of disinfected tools, Integrated Pest Management (IPM), and spraying when necessary
Yield per tree	Up to 1 kg *kiboko*/tree (= 0.5 kg FAQ)	Up to 2.5 kg *kiboko*/tree (= 1 – 1.5 kg FAQ)	Up to 5 kg *kiboko*/tree (= 2 – 2.5 kg FAQ)
Skills and training	No exposure or training in the last 5 years, no membership in farmer group or cooperative	Enrolled in training program, possibly member of a farmer group	Member of a farmer group or cooperative, enrolled in certification program

Stepwise Management of Mature Coffee

The stepwise Climate Smart Investment Pathway (CSIP) is a method of helping farmers apply recommended farming best practices at low cost. This method encourages incremental investments in recommended practices step-by-step. Farmers can implement recommended practices according to their resources and any other limiting factors until they reach the final level of investment, ideally resulting in increased productivity. The steps in the stepwise approach are shown below:

Step I	Step II	Step III	Step IV
2-3kg of dry cherries	**4-6kg of dry cherries**	**5-8kg of dry cherries**	**6-10kg of dry cherries**
• Weed control • De-suckering • Pruning	• Weed control • De-suckering • Pruning • Phased trenches • Manure application • Shade tree planting & management • Cultural control of pests and diseases	• Weed control • De-suckering • Pruning • Phased trenches • Manure application • Shade tree management • Cultural control of pests and diseases • Fertilizer application	• Weed control • De-suckering • Pruning • Phased trenches • Desilting • Manure application • Shade tree management • Cultural control of pests and diseases • Fertilizer application • Chemical control of pests and diseases • Mulching

Using Stepwise to Tailor Your Training

An example of how to tailor training to farmers according to their productivity level is shown below.

The majority of coffee farmers in Uganda are traditional, low-input, low-output coffee farmers. Their yield per tree is generally below 400 grams of FAQ coffee, or less than 1 kg of *kiboko* per tree. The training of this level of farmers focuses on the basics: get the trees and plot back in shape. The training content is primarily about stumping, pruning, gap-filling, mulching and manuring, intercropping, and cultural practices to minimize pests and diseases. This training should *double* their yield per tree to around 1 kg of FAQ and training should help make them move towards the improved level. This process may take one to two years to accomplish.

For improved farmers, the training focus is (alongside the basics) on soil fertility, soil and water conservation, mechanical pest and disease management, Post-Harvest Handling (PHH) and bulking and marketing in farmer groups. This again potentially *doubles* their yield per tree to over 2 kg of FAQ coffee and makes them commercial coffee farmers. This will take between one and two years of sustained efforts before the farmer has reached this level.

Once a farmer is at the commercial production stage, their training should focus on fine-tuning and optimizing production with IPM, the safe use of approved chemicals, certification, and managing farmer groups and cooperatives. Apart from some yield gain, (up to 3 kg of FAQ coffee per tree), commercial farmers are mainly being taught to sustain these high yields, improve bean quality, and get premium prices for their product, and generally manage their farms professionally to achieve their goals as a farmer and family business.

By tailoring the training to the level of coffee farmers you are dealing with, your training will be more relevant to the participants, and more likely to be successful.

3. **Develop your training program in consultation with your participants.**
   - Agree on the total number of trainings and time frame
   - Develop a logistical plan for each training group:
   - Where will the session be held (hall, farmer's field, tree nursery)?
   - How long can participants spare for each training session?
   - Inform your participants about the venue and starting time of the first session.

4. **Prepare to conduct sessions.**
   - Read this Facilitator's Guide to become familiar with each training session.
   - Consider where you can add your own information and training activities to specific sub-topic sessions.
   - Prepare to have training tools on hand for the sessions (charts, flipbooks, handbooks, videos, leaflets, handouts, seedlings, fertilizer, coffee beans, etc.).
   - Prepare to have training equipment on hand for the sessions (flipcharts, markers, projector, computer, forked hoe, secateurs, jik, etc.).
   - Consider how you are going to measure the effect of your training sessions.

Step 3: Facilitate a training session

Use the facilitation instructions starting on page 21 of this guide to see how to facilitate specific training sessions.

Trainings

1. **Make the training interactive and fun! For example:**
   - Let the participants interpret what they see on the charts or other visuals, rather than telling them immediately.
   - Build your training and explanation around questions, rather than lectures.
   - Make use of the knowledge and experiences of your participants.
   - Use breakout groups for the participants to discuss topics or ideas.
   - Use flipcharts to record important points or pending questions.
   - Alongside the charts, prepare slides or drawings to explain important points in more detail.
   - Where possible, use games and competitions to build knowledge.

2. **Make the session practical! For example:**
   - Let the participants provide practical examples from their own experience.
   - Where relevant and possible, let participants practice the recommended practice in a demonstration garden or the garden of one of the participants.
   - Invite specialist speakers relevant to the topic at hand, for example a nursery owner, a crop insurance officer, a trader or an inspector.

3. **Keep the session concise:**
   - Stick to the topic at hand; refer to another session for answering questions asked which fall outside the topic.
   - Aim for 1-hour sessions. People cannot concentrate for much longer.
   - If you need more time, do an energizer every 45 minutes and take longer breaks every 2 hours.

4. **Apply a positive attitude and language.**
   - Be respectful to your participants.
   - Use affirmative language, and correct discriminatory or negative remarks.
   - Make sure that all participants have a chance to contribute.
   - Emphasize opportunities and appeal to participants' aspirations, rather than pointing at faults and errors.

5. **Evaluate the training session at the end.**
   - Use the last 5-10 minutes to ask or test what the participants have learned, based on your learning questions prior to the session.
   - Make note of what went well, and of new ideas and insights that you got from the session.
   - Make note of things that did not go well, and what you can do better next time.
   - Make note of pending topics and questions, to be included in the next session or training.

Trainer : You might have gotten questions from farmers during the training, and you were not sure of the answer in the moment. Note down the questions and look up for answers to their questions later. For example, answers to some technical questions may be found in the Robusta and Arabica Coffee Handbooks. Start the next session by sharing the answers with your group.

4.0 When to train on which sustainability sub-topic?

The trainer should give the groups the choice about which sustainability sub-topic to learn about at every training session. The following list shows when sub-topic charts might be relevant to train during which months of the year, according to the coffee agricultural calendar. You can make suggestions based on this list if you like, but groups should ultimately have the autonomy to choose what they want to learn about. As the trainer, it is your responsibility to give them the option to choose and to respect their choice.

Suggestions for First Quarter Sub-Topics	**(January-March)**
Chart 1a and Chart 1b: Get It Right from the Start	December - May
Chart 7: Use the Right Tools from Certified Input Dealers	January - February
Chart 9: Organize Your Business	January
Chart 10: Work in Groups	January
Chart 11a: Spread Your Risks	January
Chart 11b: Business Case	January
Chart 12: Certify Your Coffee	January
Chart 13: Joint Planning and Decision Making	January
Chart 18: Trees Outside the Coffee Farm	January
Chart 21: Saving Energy in a Coffee Household	January
Chart 22: Let Your Voice Be Heard	January
Chart 23: Formalization of Groups	January
Chart 24: Keep Your Promises	January
Suggestions for Second Quarter Sub-Topics	**(April-June)**
Chart 3: Feed the Tree Well	March/April, September/October (Onset of the rainy season)
Chart 4: Combination of Pests and Disease Control	June
Chart 5a, 5b and 5c: Pest Identification and Control	June

Chart 6a and 6b: Disease Identification and Control	June
Chart 16a: Landscape Management	February/March, August/ September
Chart 16b: Protect and Conserve Your Soils	February/March, August/ September
Chart 19: Use Appropriate Water Conservation Practices	May, November
Suggestions for Third Quarter Sub-Topics	**(July-September)**
Chart 2: Manage Your Coffee Tree Canopy	August
Chart 8: Properly Harvest and Handle Cherries Well	September (this may vary by region)
Chart 14: Children, Youth and Women on the Farm	August
Chart 15: Health, Safety and Welfare of Workers	August
Chart 17a: Trees on a Coffee Farm	July
Chart 17b: Recommended Shade Trees in Coffee Per Region	July
Chart 20a: Safe Handling of Chemicals	July - August
Chart 20b: Safe Handling of Chemicals and Waste	Harvesting and Drying Season

Note: The trainer/facilitator should be flexible and align training topics to best suit the coffee calendar in a given coffee-growing region.

5.0 How to Facilitate the First Training Session

Trainer : The very first training session that you conduct with a farmer group should provide an overview about the four core sustainability principles in coffee production. Once participants have this understanding, they can start to dig into the more specific sub-topics that come within in each of the four core principles.

The Four Core Sustainability Production Principles of Coffee Production

Session Objectives

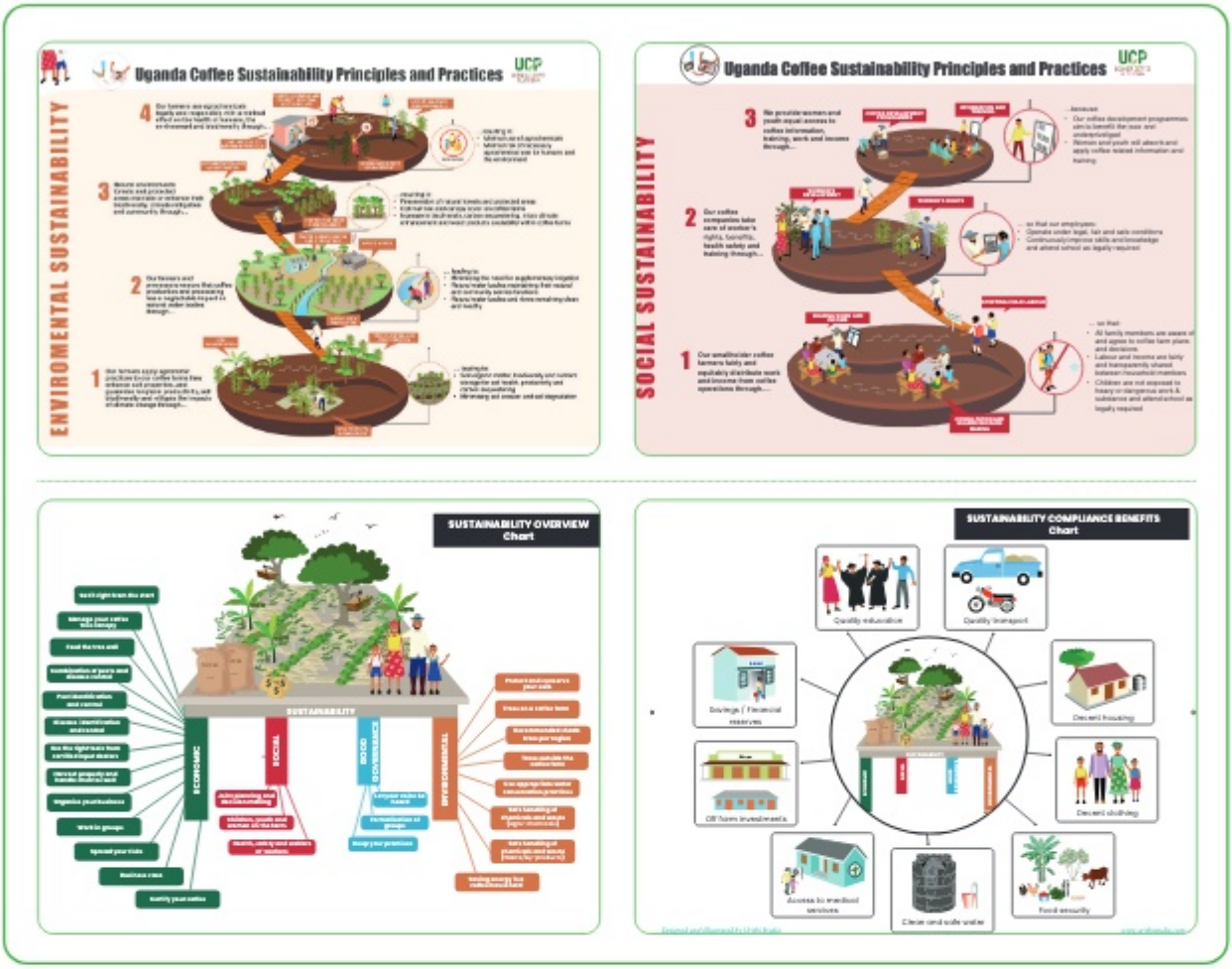
- To introduce the four sustainability principles in coffee production
- To appreciate that a farmer must follow all four sustainability principles to have a sustainable coffee farm
- To recognize the benefits the farmer can see if they follow the recommended sustainability principles and practices?

Learning Questions

- What does sustainability mean?
- What core principles should a coffee farmer follow to have a sustainable farm?
- What benefits can the farmer see if they follow the sustainability principles and practices?

Training Tools

- The Uganda Coffee Sustainability Principles and Practices Flipbooks
- The Sustainability Overview Chart
- The Sustainability Compliance Benefits Chart
- Flipchart and markers



1. Welcome participants to the first day of training on sustainable coffee production.

2. Introduce yourself including your name, your role, where you live/work and one interesting fact about you.

3. Ask each participant to introduce their name, where they live/work and one interesting fact about them.

4. Ask participants to stand up in a circle. Toss a ball to someone in the circle. Ask them to say a few words about what they think "sustainability" means. Then they should toss the ball to someone else who can share another idea about what "sustainability" means to them.

5. After several people have had a chance to answer, give one definition of "sustainability": **Sustainability** means making your business/farm productive, profitable, and pleasant for you, your family and the community and environment around you.

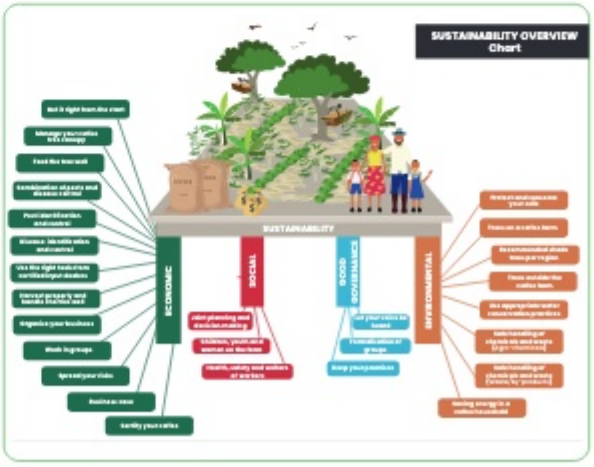
6. Explain that there are four core principles in sustainable coffee production. Use **The Uganda Coffee Sustainability Principles and Practices Flipbooks** to briefly explain each principle. A summary of each principle is also provided below.

Economic Sustainability	Environmental Sustainability	Social Sustainability	Good Governance
Farmers apply **agronomic practices** that foster sustainable production and productivity of their coffee trees and farm.	Farmers use **agronomic practices that enhance the soil** and guarantee long-term productivity and biodiversity and mitigate the impacts of climate change.	Farmers **fairly and equitably distribute work and income** from coffee operations.	The **coffee development agenda is planned together with and for the benefits of coffee value chain actors**, with special emphasis on poverty eradiation.
Farmers and processors **continuously improve their operations** based on the latest scientific insights.	Farmers and processors ensure they have a **low impact on natural water bodies**.	Coffee companies take care of **worker's rights, benefits, health safety and training**.	Coffee farmers, traders and processors conduct their business **lawfully and ethically**.
Farmers and processors **manage their businesses professionally** with record keeping and farm registration.	**Natural environments, forests and protected areas** maintain or enhance biodiversity and climate mitigation.	**Women and youth have equal access** to coffee information, training, work and income.	
Farmers and processors run their coffee businesses as a commercial enterprise through **risk management**.	Farmers **use agrochemicals legally and responsibly** with a minimal effect on health of humans and the environment.		
Farmers are members of **professional and trusted farmer organizations**.			

7. When participants have a basic understanding about sustainability and the four core principles of sustainable coffee production, introduce **The Sustainability Overview Chart**.

Example Chart Discussion Questions

1. What do you see on the chart?
2. What is on top of the table?
3. Why are the four sustainability principles the legs of the table?
4. What do you think the boxes are which come from the table legs?



Trainer Note: The table in this chart is a metaphor. A metaphor is an image that helps to explain a word or idea. Here, a table with four legs explains how the four pillars of sustainability are all needed for sustainable farming. When one leg of the table is missing, the table becomes unstable, or may fall over. It is the same with sustainability pillars. If you only practice social sustainability but not economic sustainability, your coffee business will fall like a table with missing legs.

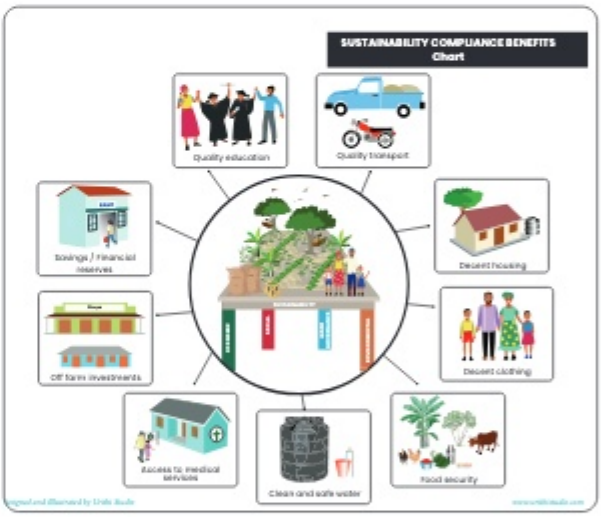
8. Ask participants to share some of the aspirations they have for their lives. Ask questions like:

   - What kind of life do you want for yourself and your family?
   - What are your motivations for farming coffee?
   - What benefits do you want coffee production to bring you?

9. After a brief discussion about their aspirations and motivations, show **the Sustainability Compliance Benefits Charts** and start a discussion about how what is on the chart is connected to sustainable coffee production.

Example Chart Discussion Questions

1. What do you see on the chart?
2. What do you think is the connection between these benefits and sustainable coffee production?
3. Do you think you can get all these benefits if you farm unsustainably? If so, how long would the benefits last if you farmed unsustainably?



10. If there is still training time left, facilitate a sub-topic session using the instructions on page 21.

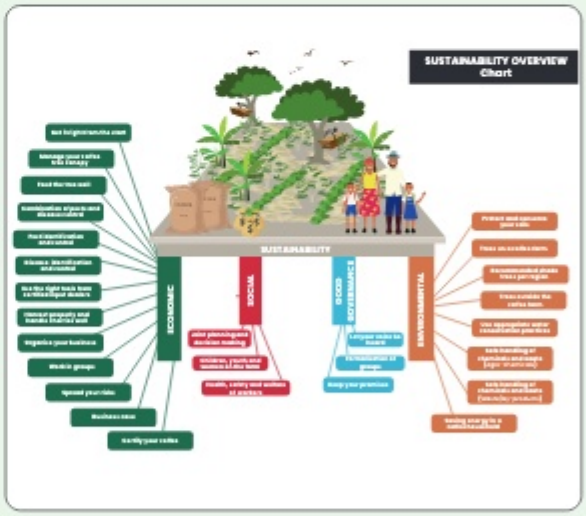
6.0 How to Facilitate Each Sub-Topic Training Session

Step 1: "Zoom Out" to Refresh on a Sustainability Principle

1. Use the **Uganda Coffee Sustainability Principles and Practices Flipbooks** to refresh participants about the four core sustainability principles.
2. Ask participants to choose which of the four core sustainability principles they want to focus on today.

Step 2: "Zoom In" to Choose a Specific Sustainability Sub-Topic

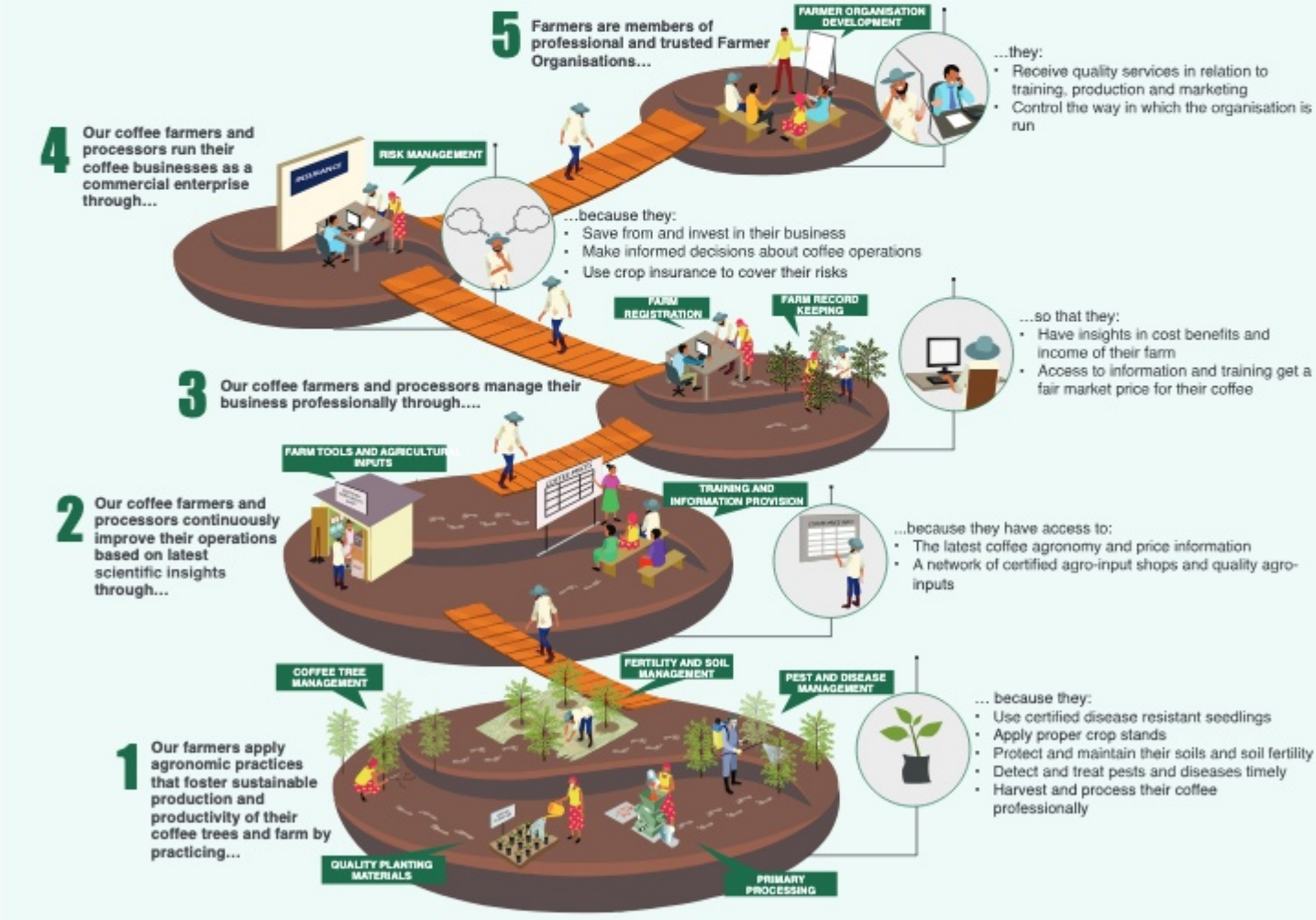
1. Show **The Sustainability Overview Chart.** Focus on the table leg that represents the core sustainability principle that participants want to learn more about.
2. Give a brief description of some sub-topics that are relevant to coffee production at that time of year for that principle. See page 15-16 to suggest a session that might be appropriate for training according to the coffee agricultural calendar.
3. Allow participants to vote on which session they want to learn about.



Step 3: "Zoom In" to Train on a Specific Sustainability Sub-Topic

1. Find the instructions for the selected session, on the following pages (pages 23-125) and follow the steps to conduct the sub-topic training.

Economic Sustainability Sub-Topics



Economic Sustainability Chart 1a: Get It Right from the Start

Session Objectives

- To recognize the features of a well-organized coffee farm
- To understand the importance of starting off right with a well-organized coffee farm

Learning Questions

- What features should well-organized coffee farms have?
- How should the space on coffee farms be organized?

Additional Training Tools

- Flipchart and markers

Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity

2. **The Environmental Sustainability Flipchart**
   - Soil management and conservation
   - Water conservation
   - Forest and biodiversity protection

3. **Uganda Training Materials for Coffee Production Training Manual**
   - 1.0 Establishment of a Coffee Farm
   - 2.0 Management of a Coffee Farm

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 1b – Get It Right from the Start
- Economic Sustainability Chart 11a – Spread Your Risks
- Economic Sustainability Chart 11b – Business Case
- Environmental Sustainability Chart 16a– Landscape Management

- Environmental Sustainability Chart 16b – Protect and Conserve Your Soils
- Environmental Sustainability Chart 17a – Trees on a Coffee Farm
- Environmental Sustainability Chart 17b – Recommended Shade Trees in Coffee per Region
- Environmental Sustainability Chart 18 – Trees Outside the Coffee Farm
- Environmental Sustainability Chart 19 – Use Appropriate Water Conservation Practices
- Environmental Sustainability Chart 21 – Saving Energy in a Coffee Household

Preparation Before the Training

Select a well-organized coffee garden for a site visit. It should have features like a sustainable water source, drying yard, access roads, shade trees, etc.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Chart 1a: Get it Right from the Start**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *What do you think it means to "get it right from the start"?*
- *Why is it important to "get it right from the start" for economic sustainability?*
- *Why is it important to "get it right from the start" for environmental sustainability?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Organize Your Coffee Farm	• Get it right from the start by organizing your coffee farm well before planting.	• Arabica Coffee Handbook, page 128 • Robusta Coffee Handbook, page 136

Topic	Core Messages	Links to Resources with More Technical Information
	• Create a sustainable water source like a rainwater harvest tank or dam or organize your garden near a body of water (river/lake).	
	• Create space for a drying yard where coffee cherries can be dried properly.	
	• Create access roads between the coffee trees for easier transportation and maintenance.	
	• Leave or plant shade trees around the perimeter of the coffee garden.	
	• Intercrop other trees like bananas within the coffee garden.	
	• Ensure you have adequate space to properly plant the coffee trees according to their variety (Robusta/Arabica).	
	• Build a storage for keeping agro-chemicals or buy a lockable metalic agrochemical box to store crop protection agents (CPAs)	
	• Build a storage for keeping dried coffee.	
	• Build adequate housing for workers (if relevant).	
	• Plan where you will have complementary enterprises like apiculture (beehives), a cow shed, etc.	

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Site Visit:** Visit a coffee garden that has been well-organized. It should have coffee trees planted at the correct spacing according to their variety, banana trees intercropped, shade trees on the perimeter, a sustainable water source like a rainwater harvesting tank/dam or river nearby, a locked agro-chemical storage, etc. Ask participants to identify all the features that this garden has that helped the farmer be successful. Participants can identify if their own coffee gardens are organized in a similar way, and if not, what they can do to reorganize and set themselves up for success.

2. **Debate:** Divide participants into two groups. The first group should think about what arguments people might make for just getting started with

coffee production as fast as possible, without a lot of thought to how the coffee garden is organized. The second group should think about what arguments people might make for advocating that a coffee garden should be well-planned and organized, even if it takes a longer time to finally start coffee production. After each side has had a chance to discuss their arguments in their group, hold a debate where each group argues their side. At the end of the debate, participants should vote for which side of the argument they agree with more and why.

3. **Story:** Tell a story about one farmer who thought carefully about how to organize his/her coffee garden. He/she delayed coffee production until he/she had thought through an appropriate coffee garden layout. What was hard about this approach in the short-term? What did this farmer learn about how taking the time to "get it right from the start" was beneficial to coffee production over the long-term? How did this farmer differ from his/her neighbors who started to plant their coffee randomly, without a well-planned out garden layout?

4. **Farm Layout Planning:** As individuals or in pairs, ask participants to draw a map of their ideal garden layout. They should include space for a drying yard, access roads, well-spaced coffee trees, a sustainable water source, any housing or buildings, shade trees, etc. They can draw their map on paper, or just with a stick in the dirt on the ground. After planning, a few participants can present their farm layout and explain why they organized it as they did.

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Take time to plan your coffee garden's layout before starting to plant. This helps ensure that you "get it right from the start" with a well-organized coffee garden that has everything you need for successful coffee production such as a sustainable water source, space for drying harvested cherries, access roads for easier transportation, and shade trees, among other features. Planning to "get it right from the start" will help your economic sustainability in the long-term, since a well-planned farm is more likely to be successful.

Economic Sustainability Chart 1b: Get It Right from the Start

Session Objectives

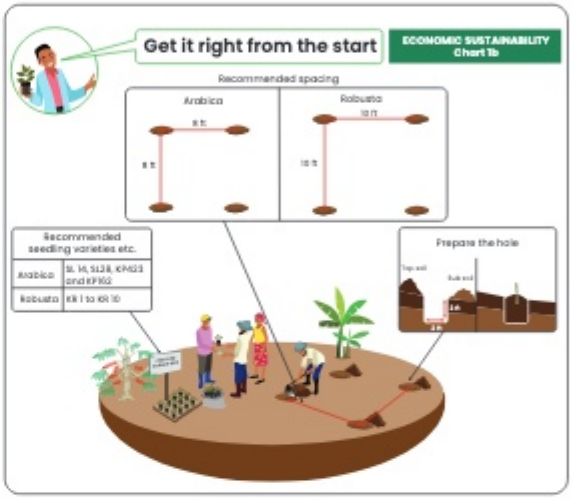
- To review good agronomic practices (GAP) related to seed selection, planting and spacing
- To explore how GAP contributes to coffee's economic sustainability

Learning Questions

- What good agronomic practices at planting should you use to make your coffee farm economically sustainable?

Additional Training Tools

- Planting demonstration materials: hoe, seedlings, pegs/measuring sticks/tape measure, etc.
- Flipchart and markers



Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 1.0 Establishment of a Coffee Farm

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 1a – Get It Right from the Start
- Environmental Sustainability Chart 17a – Trees on a Coffee Farm
- Environmental Sustainability Chart 17b – Recommended Shade Trees in Coffee per Region
- Environmental Sustainability Chart 18 – Trees Outside the Coffee Farm

Preparation Before the Training

- Select a farmer field for a planting and spacing demonstration.
- Invite a coffee nursery owner to speak to the group.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Chart 1b: Get it Right from the Start**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *How do you think farmers can "get it right from the start" with planting?*
- *How does proper planting help make the coffee farm economically sustainable over the long-term?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Seeds	• Use disease-resistant varieties i.e. Arabica (SL 14, SL28, KP423 and KP162) and Robusta (KR 1 to KR 10) • Buy seedlings from certified nurseries.	• Arabica Coffee Handbook, pages 5, 23 • Robusta Coffee Handbook, pages 6, 23
Planting	• Dig round holes before the planting season. • Keep the fertile topsoil separate from the subsoil. Distribute subsoil around the garden. • Refill holes 1 month before planting with manured soil. Pick some topsoil from around the hole to fill it up.	• Arabica Coffee Handbook, page 22 • Robusta Coffee Handbook, page 22
Spacing	• Arabica coffee: Plant in lines at a spacing of 8ft x 8ft (680 trees per acre). • Robusta coffee: Plant in lines at a spacing of 10ft x 10ft (450 trees per acre).	• Arabica Coffee Handbook, page 16 • Robusta Coffee Handbook, page 16

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Role Play Option 1:** A seller at a certified nursery convinces buyers to purchase disease-resistant varieties by explaining the benefits. Based on their specific soil and garden, different buyers choose the right variety for them.

2. **Role Play Option 2:** A farmer does not use good agricultural practices (GAP) and his farm is not economically sustainable after one season. Another neighbor farmer advises him/her to use (GAP) and how this will help the farm to be profitable and sustainable.

3. **Demonstration Option 1:** Bring samples of improved coffee seeds to show to farmers. Discuss the benefits of using each different type of improved seed. Help participants make the link between using improved seeds and economic sustainability.

4. **Demonstration Option 2:** Demonstrate proper spacing and planting of different coffee varieties. Invite farmers to practice as well. Relate proper spacing and planting to economic sustainability.

5. **Guest Speaker:** Invite a coffee nursery owner to explain the differences between coffee varieties: clonal and seed-based seedlings, and good and poor seedlings. He/she should explain how choosing good seedlings has an impact on economic sustainability.

6. **Story:** Tell a story about a coffee farmer who failed to use good agricultural practices. What happened to his/her farm?

7. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Use good agricultural practices like using improved seedlings, and correct planting and spacing so your coffee farm will be healthy and productive. This will help make it economically sustainable over the long-term.

Economic Sustainability Chart 2: Manage Your Coffee Tree Canopy

Session Objectives

- To review good agronomic practices (GAP) related to training/bending/ping, stumping, and pruning coffee trees
- To explore how managing the coffee canopy contributes to coffee's economic sustainability

Learning Questions

- What good agronomic practices should you use as the coffee grows to make your coffee farm economically sustainable?

Additional Training Tools

- Training/bending/ping/stumping/pruning demonstration materials: pegs, pruning saw, bow saw, secateurs, tool disinfectant (ethanol, Jik (bleach), methylated spirit, etc.)
- Flipchart and markers

Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity
   - Uganda Training Materials for Coffee Production Training Manual
   - 2.0 Management of a Coffee Farm

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Charts 5a + 5b +5c – Pest Identification and Control
- Economic Sustainability Charts 6a + 6b – Disease Identification and Control
- Economic Sustainability Chart 7 – Use the Right Tools from Certified Input Dealers

Preparation Before the Training

- Select a farmer field for a training/bending and stumping/pruning/ping demonstration.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Chart 2: Manage Your Coffee Tree Canopy**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *What is the importance of training/bending/ping our coffee trees?*
- *How does stumping/pruning promote economic sustainability of coffee?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Training/ Bending	• Train/bend coffee trees 5-6 months after planting or when the coffee tree is 60 cm (2ft) high. • Bend the coffee tree along the tree line in an east to west direction and peg it down at 45˚ to allow suckers to develop. • ping is done 4-6 months after planting and when the seedling has not exceeded 30-40 cm.	• Arabica Coffee Handbook, page 26; 36-37 • Robusta Coffee Handbook, pages 25-26; 36-37
Stumping/ Pruning	• Stump 7–9-year-old trees at 45˚, sloping away from the breather stem. • Remove the breather stem 1 year after stumping. • Prune at the end of the main crop harvest every year to remove broken, dead, unproductive, aged, diseased, and pest-damaged stems. • Disinfect farm tools after stumping/pruning.	• Arabica Coffee Handbook, pages 40-46 • Robusta Coffee Handbook, pages 42-48

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Analogy:** Discuss how coffee trees are like children – you cannot let them run wild without any guidance and expect them to learn good manners and become successful adults. Children need training and guidance when they

are young to ensure that they grow well and in the right direction. It is the same with coffee – trees should be trained/bent so that they grow in the right direction. Just like bad behaviors from children should be corrected so that only their good behaviors remain, so should infected or dead coffee branches be stumped/pruned so that only the healthy branches remain.

2. **Calculations:** Help participants better understand how GAP can help them increase their coffee production. Use the calculations in Annex 1 to demonstrate how increasingly more sophisticated GAPs pay off economically for the farmer.

3. **Demonstration Option 1:** Identify coffee trees that can be bent and demonstrate bending them correctly. Invite participants to practice after your demonstration.

4. **Demonstration Option 2:** Identify coffee trees that need to be either pruned or stumped and demonstrate doing these correctly. Invite participants to practice after your demonstration.

5. **Demonstration Option 3:** Demonstrate how to disinfect farm tools after stumping/pruning. Invite participants to practice after your demonstration.

6. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Digital Content (Optional)

Show the following video from Access Agriculture about stumping and pruning coffee trees.
https://www.accessagriculture.org/coffee-stumping-pruning

Digital Content (Optional)

Share the following videos (in both Luganda and English) about stumping.
Luganda (minute 4:22 - 9:24): *https://www.youtube.com/watch?v=pKeKSil58i8*
English (minute 4:12 - 9:00): *https://www.youtube.com/watch?v=ham6WigUAuo*

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Use good agricultural practices like training/ bending, stumping, and pruning so your coffee farm will be healthy and productive. This will help make it economically sustainable over the long-term.

Economic Sustainability Chart 3: Feed the Tree Well

Session Objectives

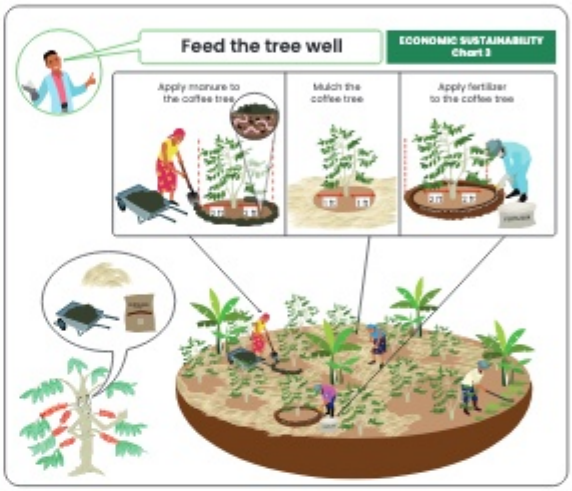
- To review good agronomic practices (GAP) like fertilizing, weeding, and mulching to ensure coffee trees get the nutrients they need
- To explore how these practices contribute to coffee's economic sustainability

Learning Questions

- What good agronomic practices should we do to ensure coffee trees get the nutrients they need so the coffee farm is economically sustainable?

Additional Training Tools

- Manure and mulching demonstration materials: shovel, "green" and "brown" materials, banana leaves, inorganic manure, mulching materials, etc.
- Flipchart and markers



Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 2.0 Management of a Coffee Farm

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 12 – Certify Your Coffee
- Environmental Sustainability Chart 16b – Protect and Conserve Your Soils
- Environmental Sustainability Chart 17a – Trees on a Coffee Farm
- Environmental Sustainability Chart 20b – Safe Handling of Chemicals and Waste

Preparation Before the Training

- Gather materials to demonstrate how to make organic "green" manure – see Annex 1.
- Bring inorganic fertilizer to demonstrate how to apply it in the coffee garden.
- Bring foliar fertilizer and spraying equipment to demonstrate how to apply it.
- Invite an extension worker to speak to the group about soil analysis.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Chart 3: Feed the Tree Well.** Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *What do you need to "feed" a coffee tree so that it grows well?*
- *Have you ever used organic fertilizer for coffee? How did you make it?*
- *Have you ever used inorganic fertilizer for coffee? How did you know which one to use?*
- *Have you ever used foliar fertilizer for coffee? How did you apply it?*
- *How do weeding and mulching help coffee trees get the right nutrients?*
- *Would our coffee farms be economically sustainable if we did not do these practices? Why or why not?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Organic (Green) Fertilizers	• Apply one basin of organic (green) fertilizer around each coffee plant to improve plant growth and yield. • Apply once a year at the beginning of the rains.	• Arabica Coffee Handbook, pages 57-61 • Robusta Coffee Handbook, pages 59-63
Inorganic (Chemical) Fertilizers	• Use suitable fertilizer blends at appropriate rates where necessary. • If possible, do a soil analysis to get a recommendation for the best inorganic (chemical) fertilizer to use.	• Arabica Coffee Handbook, pages 47-48; 62-66 • Robusta Coffee Handbook, pages 49-50; 64-68

Topic	Core Messages	Links to Resources with More Technical Information
Foliar Fertilizers	• Foliar fertilizers can be sprayed on coffee tree leaves to provide them with additional nutrients. • These are especially helpful when the weather is either too dry or too cold, when coffee trees are less able to absorb the nutrients in the soil. • Apply in the morning or evening, to prevent evaporation.	• Arabica Coffee Handbook, page 65 • Robusta Coffee Handbook, page 67
Weeding	• Weeding can be done by planting cover crops, mulching, hand picking, hoeing, slashing, or using motorized weeding equipment.	• Arabica Coffee Handbook, page 26 • Robusta Coffee Handbook, pages 27-28
Mulching	• Mulching is a form of weeding. • Use up to 6 inches of maize straw, bean trash, banana leaves, grasses or dead plant material as mulch around the tree trunk, but not touching it.	• Arabica Coffee Handbook, pages 26-27 • Robusta Coffee Handbook, pages 28-29

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Demonstration Option 1:** Demonstrate making organic "green" fertilizer using the instructions in Annex 1. Invite participants to take part in the demonstration.

2. **Demonstration Option 2:** Demonstrate applying both organic "green" fertilizer and inorganic fertilizer correctly. Invite participants to take part in the demonstration.

3. **Demonstration Option 3:** Demonstrate applying a foliar fertilizer correctly. Wear appropriate safety clothing and equipment and point these out. Invite participants to take part in the demonstration (if they have appropriate safety clothing and equipment).

4. **Demonstration Option 4:** Identify the correct mulching materials and demonstrate proper mulching methods. Invite participants to take part in the demonstration.

5. **Guest Speaker:** Invite an extension worker to demonstrate the steps involved

in soil analysis and how it helps farmers to identify the correct inorganic fertilizer for their specific soil.

6. **Group Discussion:** Start a group discussion about the pros and cons of using organic "green" fertilizer versus inorganic fertilizer. Which is healthier for the soil? Which yields the best results? Which is most cost-effective?

7. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Use good agricultural practices like fertilization, weeding and mulching so your coffee farm will be healthy and productive. This will help make it economically sustainable over the long-term.

Economic Sustainability Chart 4: Combination of Pests and Disease Control

Session Objectives

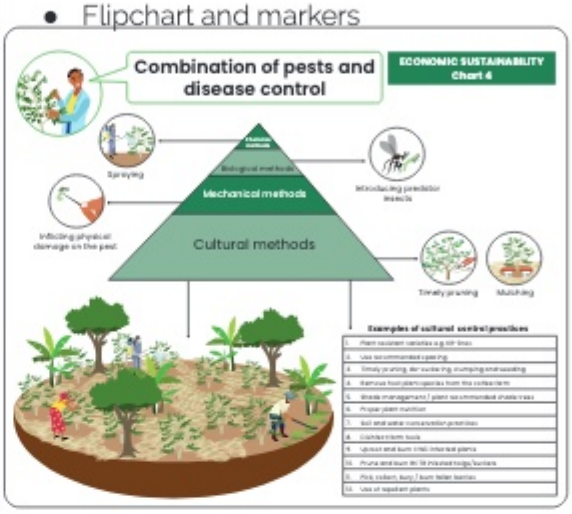
- To review four methods of pest and disease control
- To explore how pest and disease control contributes to coffee's economic sustainability

Learning Questions

- What are the four methods of pest and disease control?
- How can controlling pests and diseases help your coffee farm to be economically sustainable?

Additional Training Tools

- Flipchart and markers



Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity
   - Continuous quality, efficiency, and sustainability

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 2.0 Management of a Coffee Farm
   - 3.0 Main Insect Pests of Coffee
   - 4.0 Main Diseases of Coffee
   - 7.0 Environment and climate change
   - 8.0 Social responsibility

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 12 – Certify Your Coffee
- Environmental Sustainability Chart 20a + 20b – Safe Handling of Chemicals and Waste

Preparation Before the Training

- Select a farmer field for scouting pests and diseases.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they **remember.**
2. Show **Economic Sustainability Chart 4: Combination of Pests and Disease Control.** Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *Have you ever used any of these methods to control pests and diseases?*
- *Which methods are the most effective at controlling pests and diseases?*
- *Which methods are the cheapest/most expensive?*
- *Which methods are the best for the health of the environment?*
- *What can happen to our farm's profits if our coffee trees have pests and diseases and we do not treat them?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Methods of Pest and Disease Identification & Control	• **Cultural methods:** This includes planting resistant varieties, mulching, timely pruning and disinfecting farm tools, among others. • **Mechanical methods:** This includes inflicting physical damage to the pest. • **Biological methods:** This includes introducing predator insects for pests. • **Chemical methods:** This includes spraying insecticide. This should be the last option.	• Arabica Coffee Handbook, pages 26-27; 36-37; 71-82 • Robusta Coffee Handbook, pages 28-29; 36-39; 73-87

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Analogy:** Discuss how controlling coffee pests and diseases is like taking your sick child for treatment. You would not let your child just be sick and do nothing, right? In the same way, you should diagnose what is making your coffee trees sick and get the right treatment.

2. **Demonstration:** Go with participants to a coffee farm and inspect the trees for pests and diseases. After identifying any, point it out and discuss what is infecting the coffee tree, as well as recommended control methods.

3. **Story:** Tell a story about a farmer that goes to his/her coffee farm each day to scout for pests and diseases. He/she can quickly recognize when the coffee is being affected by a pest or disease and can control it before it destroys too many trees. Compare this to a story of a farmer who leaves his/her coffee to grow, without checking on it often. What happens when this farmer finally goes to the garden and finds that pests and diseases have affected his trees? How does this affect the economic sustainability of the farm?

4. **Group Discussion:** In small groups, discuss why chemical methods of pest and disease control should be the last option. What impact can chemicals have on the health of our soil and the animals in our gardens? How about our health as humans who consume coffee? What is the link between regular scouting and the ability to avoid using chemicals?

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Scout for pests and diseases in the coffee garden often and treat them as soon as you notice them. Keeping a close eye on your coffee farm will help it to be healthy and productive. This will help make it economically sustainable over the long-term.

Economic Sustainability Chart 5a + 5b + 5c: Pest Identification and Control

Session Objectives

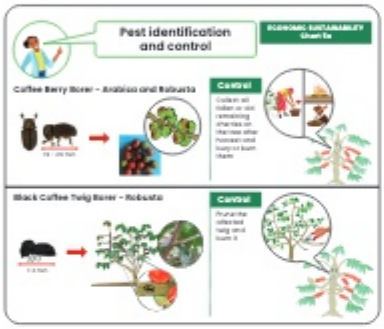
- To identify and control common coffee pests

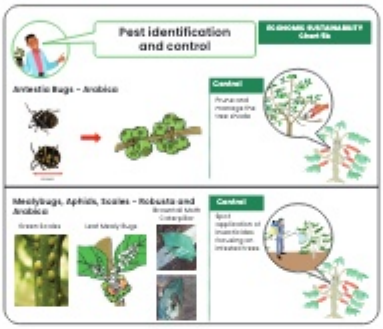
Learning Questions

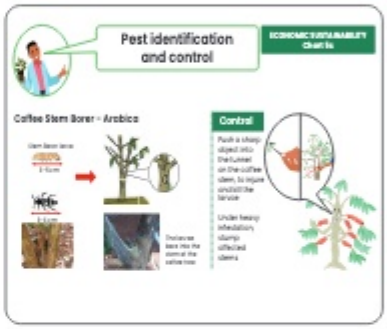
- What are the common coffee pests?
- How can you control common coffee pests?

Additional Training Tools

- Pest control materials (chemicals, sprayer, organic control materials)
- Flipchart and markers







Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity
   - Continuous quality, efficiency, and sustainability

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 2.0 Management of a Coffee Farm
   - 3.0 Main Insect Pests of Coffee
   - 7.0 Environment and climate change
   - 8.0 Social responsibility

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 12 – Certify Your Coffee
- Environmental Sustainability Chart 20a + 20b – Safe Handling of Chemicals and Waste

Preparation Before the Training

- Select a farmer field for scouting and treating pests.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Charts 5a, 5b and 5c: Pest Identification and Control**. Ask discussion questions about the charts and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on* the charts?
- Have you ever found these pests *in your coffee farm? What did you do?*
- *What would happen if you left these pests without treatment? How could they affect your coffee farm's economic sustainability?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Coffee Berry Borer	• Describe the coffee berry borer's appearance and how it affects the coffee tree. • The best control methods for the coffee berry borer are collecting all fallen or old remaining cherries on the tree after harvest and burying or burning them.	• Arabica Coffee Handbook, page 73 • Robusta Coffee Handbook, pages 76-78
Black Coffee Twig Borer (Robusta)	• Describe the black coffee twig borer's appearance and how it affects the coffee tree. • The best control methods for the black coffee twig borer are pruning the affected parts of the coffee tree and burning them.	• Robusta Coffee Handbook, pages 73-76
Antestia Bugs (Arabica)	• Describe the antestia bug's appearance and how it affects the coffee tree. • The best control methods for antestia bugs are pruning and managing shade trees.	• Arabica Coffee Handbook, pages 72-73
Mealybugs, Aphids and Scales	• Describe mealybugs', aphids', and scales' appearance and how they affect the coffee tree. • The best control method for aphids, scales and mealybugs is spot application of insecticides on infested trees.	• Arabica Coffee Handbook, pages 73-75 • Robusta Coffee Handbook, pages 78-79 • Uganda Training Materials for Coffee Production (Trainer's Guide), pages 32-33

Topic	Core Messages	Links to Resources with More Technical Information
Coffee Stem Borer (Arabica)	• Describe the coffee stem borer's appearance and how it affects the coffee tree. • The best control method is to push a sharp object into the tunnel on the coffee stem to injure and kill the coffee stem borer larvae. • Under heavy infestation, stump the affected stems (e.g., with a pruning saw).	• Arabica Coffee Handbook, pages 71-72

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Calculations:** Help participants estimate how much income they could lose if one of the pests shown on the charts affected 25% of their coffee trees. How about 50% or 75%? What is the potential impact of these pests on the economic sustainability of the farm if they are left alone to damage the coffee trees? What can be done to prevent this?

2. **Demonstration:** Go to a coffee farm to identify any of the pests shown on the charts, or any other coffee pests that you can find. Ask participants to identify the best control method or combination of control methods for the pest. As a group, experiment using the control method(s) to eliminate the pest.

3. **Case Study:** Tell a true story about a pest infestation that happened in Uganda which seriously affected the coffee sector. Explain some of the following to participants: Why did the infestation happen? How did it spread? How did farmers react to it? How many coffee trees were affected countrywide? How much was lost in revenue because of the infestation? How can a pest infestation be prevented or managed better in the future? Also ask what they remember about the pest infestation (if they were farming coffee in the affected area at the time).

4. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Scout for pests in the coffee garden often and treat them as soon as you notice them. Keeping a close eye on your coffee farm will help it to be healthy and productive. This will help make it economically sustainable over the long-term.

Economic Sustainability Chart 6a + 6b: Disease Identification and Control

Session Objectives

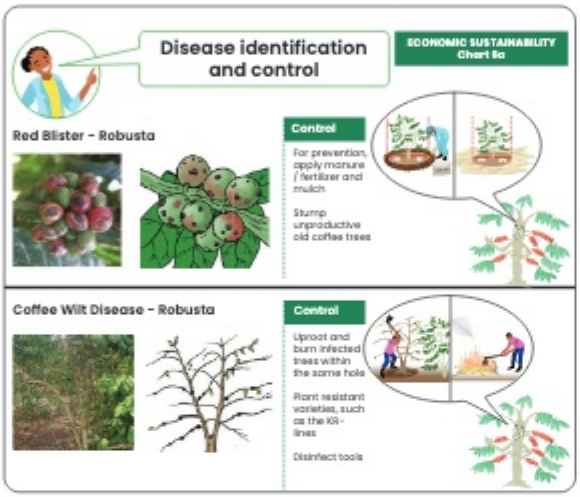
- To identify common coffee diseases and how to control them

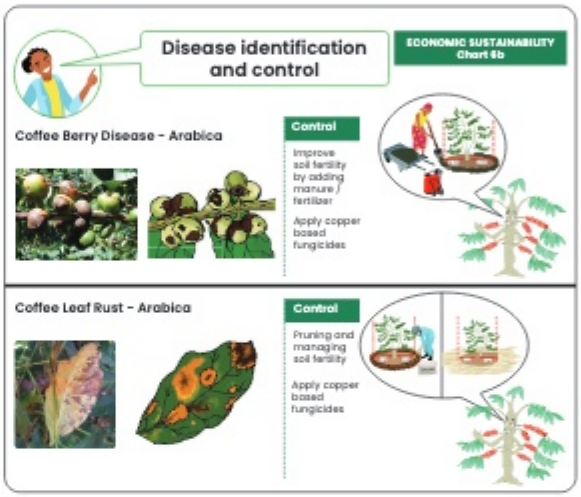
Learning Questions

- What are some of the common coffee diseases?
- How can the identified diseases be controlled?

Additional Training Tools

- Disease control materials (chemicals, sprayer, organic control materials)
- Flipchart and markers





Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity
   - Continuous quality, efficiency, and sustainability

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 2.0 Management of a Coffee Farm
   - 4.0 Main Diseases of Coffee
   - 7.0 Environment and climate change
   - 8.0 Social responsibility

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 1a + 1b – Get It Right from the Start
- Economic Sustainability Chart 2 – Manage Your Coffee Tree Canopy
- Economic Sustainability Chart 12 – Certify Your Coffee
- Environmental Sustainability Chart 20a + 20b – Safe Handling of Chemicals and Waste

Preparation Before the Training

- Select a farmer field for scouting and treating diseases.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Charts 6a and 6b: Disease Identification and Control**. Ask discussion questions about the charts and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *Have you ever found these diseases in your coffee farm? What did you do?*
- *What would happen if you left these diseases without treatment? How could they affect your coffee farm's economic sustainability?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Red Blister (Robusta)	• Describe red blister's appearance and how it affects the coffee tree. • Prevent red blister by improving soil fertility through applying manure/fertilizer, and by mulching. • Stump old unproductive coffee trees to control red blister	• Robusta Coffee Handbook, page 86
Coffee Wilt Disease (Robusta)	• Describe coffee wilt disease's appearance and how it affects the coffee tree. • The best control method for coffee wilt disease is to uproot and burn infected trees in the hole where you uprooted the tree. • To prevent Coffee Wilt Disease, plant resistant varieties such as the KR-lines and disinfect farm tools	• Robusta Coffee Handbook, pages 83-84
Coffee Berry Disease (Arabica)	• Describe the coffee berry disease's appearance and how it affects the coffee tree. • The best control methods for coffee berry disease are to improve soil fertility by adding manure/ fertilizer and applying copper-based fungicides.	• Arabica Coffee Handbook, pages 80-81

Topic	Core Messages	Links to Resources with More Technical Information
Coffee Leaf Rust (Arabica)	• Describe the coffee leaf rust's appearance and how it affects the coffee tree. • The best control methods for coffee leaf rust are pruning, managing soil fertilizer, and applying copper-based fungicides.	• Arabica Coffee Handbook, pages 79-80

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Calculations:** Help participants estimate how much income they could lose if one of the diseases shown on the charts affected 25% of their coffee trees. How about 50% or 75%? What is the potential impact of these diseases on the economic sustainability of the farm if they are left alone to damage the coffee trees? What can be done to prevent this?

2. **Demonstration:** Go to a coffee farm to identify any of the diseases shown on the charts, or any other coffee diseases that you can find. Ask participants to identify the best control method or combination of control methods for the diseases. As a group, experiment using the control method(s) to eliminate the disease.

3. **Case Study:** Tell a true story about a coffee disease outbreak that happened in Uganda which seriously affected the coffee sector. Explain some of the following to participants: Why did the disease outbreak happen? How did it spread? How did farmers react to it? How many coffee trees were affected countrywide? How much was lost in revenue because of the disease outbreak? How can a disease outbreak be prevented or managed better in the future? Also ask what they remember about the disease outbreak (if they were farming coffee in the affected area at the time).

4. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Scout for diseases in the coffee garden often and treat them as soon as you notice them. Keeping a close eye on your coffee farm will help it to be healthy and productive. This will help make it economically sustainable over the long-term.

Economic Sustainability Chart 7: Use the Right Tools from Certified Input Dealers

Session Objectives

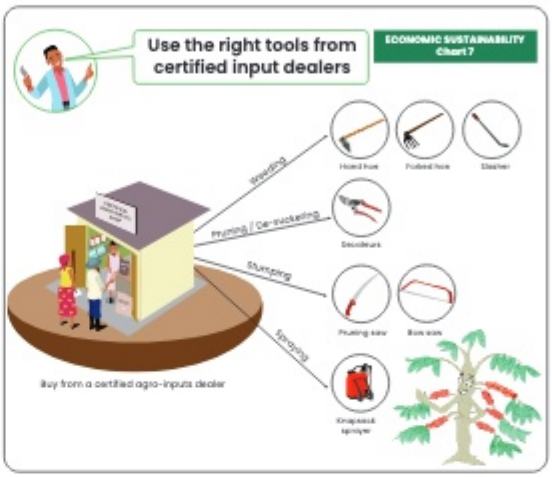
- To recognize the importance of buying tools from certified input dealers
- To make the connection between buying good quality tools and having an economically sustainable coffee farm

Learning Questions

- What tools do you need for coffee farming?
- Why should you buy tools from certified input dealers?

Additional Training Tools

- Flipchart and markers



Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity

2. **Continuous quality, efficiency, and sustainability**
3. **Uganda Training Materials for Coffee Production Training Manual**
   - 2.0 Management of a Coffee Farm
   - 7.0 Environment and climate change
   - 8.0 Social responsibility

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 3 – Feed the Tree Well
- Economic Sustainability Chart 5a, 5b and 5c – Pest Identification and Control
- Economic Sustainability Chart 6a and 6b – Disease Identification and Control

Preparation Before the Training

- Arrange a visit to a certified input dealer close to the training location.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Chart 7: Use the Right Tools from Certified Input Dealers**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *What tools do you need for each step of coffee production?*
- *Where do you normally buy tools and inputs from?*
- *Have you ever accidentally bought fake or poor-quality tools? What happened? How can doing this impact your coffee farm's economic sustainability?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Certified Agro-input Dealers	• For high-quality tools and inputs, buy from certified agro-input dealers. • Beware of counterfeits of pesticides, fertilizers, herbicides, and fungicides! • Always get a receipt. • Buying as a group will decrease the prices.	• Arabica Coffee Handbook, pages 66-67 • Robusta Coffee Handbook, pages 68-69
Weeding Tools	• Use a hand hoe (especially in young coffee upto two years), forked hoe and/or slasher to weed.	• Arabica Coffee Handbook, page 26 • Robusta Coffee Handbook, page 27
Pruning/ de-suckering and stumping	• Use a pruning saw, bow saw, and/or secateurs to stump/prune and de-sucker.	• Arabica Coffee Handbook, pages 36-37 • Robusta Coffee Handbook, pages 36-37
	• Use a knapsack sprayer to spray chemicals.	

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Analogy:** Discuss how buying good quality inputs/tools is like investing in quality sandals. You would not want to buy poor quality sandals that break after one day...so why would you do the same with tools used for coffee production? You will spend the same or more money over time buying several pairs of poor-quality sandals (or coffee production tools) that keep breaking as you would to just buy one pair of good quality sandals (or coffee production tools) that will last longer and will serve you better.

2. **Visit:** Arrange a visit to a certified input dealer close to the training location. Examine each genuine tool needed for coffee production such as weeding, pruning/de-suckering, stumping and spraying tools. Find out the price for each genuine, good-quality tool.

3. **Calculations:** After visiting the certified input dealer, add up the cost of buying poor-quality input tools that you must buy several times (because they will keep breaking) and compare that cost to buying the genuine tools from the certified input dealer just once. Discuss which scenario costs more money in the end.

4. **Role Play:** Farmers in one group can role play going to the shop to buy inputs. While they are there, they discuss how they can tell the input dealer is certified and the inputs are genuine. Farmers in another group can role play going to another shop and discussing how they can tell the input dealer is NOT certified and the inputs are NOT genuine.

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Use good quality, genuine farm tools and inputs. These will help you save money in the long-term (even if they are more expensive in the short-term) and will make sure that you have the right tools to get the best quality and profitability from your coffee garden.

Economic Sustainability Chart 8: Properly Harvest and Handle Cherries Well

Session Objectives

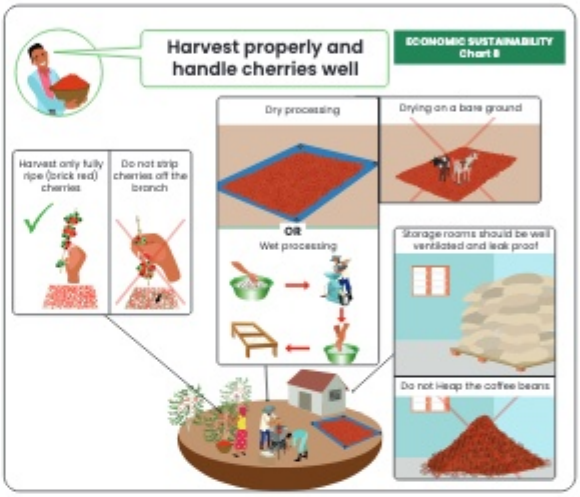
- To review good practices for harvesting and post-harvest handling coffee cherries
- To explore how good harvesting and post-harvest handling practices contribute to coffee's economic sustainability

Learning Questions

- How should coffee cherries be harvested?
- What are good practices for post-harvest handling coffee cherries?
- How can harvesting and post-harvest handling of cherries either increase or decrease their selling price?

Additional Training Tools

- Post-harvest handling materials needed to demonstrate both wet and dry processing
- Flipchart and markers



Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 5.0 Harvesting and Post-harvest Handling of Coffee

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 1a – Get It Right from the Start
- Economic Sustainability Chart 10 – Work in Groups
- Good Governance Chart 23 – Formalization of Groups
- Good Governance Chart 24 – Keep Your Promises
- Environmental Sustainability Chart 20b: Safe Handling of Chemicals and Waste

Preparation Before the Training

- Arrange a visit to a good coffee storage facility.
- Select a farmer field for a harvesting demonstration.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Chart 8: Properly Harvest and Handle Cherries Well**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *Why should not coffee cherries be harvested early before they are ripe?*
- *Why should you not strip cherries off the branch?*
- *How do you process your coffee cherries (wet or dry)? What methods do you follow to ensure the cherries' good quality?*
- *How do you store the coffee cherries? What methods do you follow to ensure the cherries are not damaged in storage?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Harvesting	• Pick cherries carefully, and only the red ones. • Do not pick green or overripe cherries. • Do not strip cherries off the branch.	• Arabica Coffee Handbook, pages 84-85 • Robusta Coffee Handbook, pages 89-91
Wet Processing	• Put freshly harvested cherries into sufficient water. Unfilled fruits and extraneous materials will float, and you can remove them. • Pulp cherries within 12 hours after harvesting using pulpers to separate pulp from parchment. • Keep freshly pulped coffee beans in a container for 12-24 hours to allow fermentation. • Wash the fermented coffee thoroughly to remove mucilage from the parchment. • Dry washed parchment on wire trays or tarpaulin.	• Arabica Coffee Handbook, pages 85-87 • Robusta Coffee Handbook, pages 91-92
Dry Processing	• Dry cherries (without removing the pulp) on a tarpaulin or concrete floor, but not on bare ground, immediately after harvesting.	• Arabica Coffee Handbook, pages 87-88 • Robusta Coffee Handbook, pages 92-93

Topic	Core Messages	Links to Resources with More Technical Information
Storage	• Store in a dry, airy place, not against walls or on the ground. • Do not heap wet coffee as it will develop moulds and lower the quality.	• Arabica Coffee Handbook, pages 88-89 • Robusta Coffee Handbook, pages 94-95

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Analogy:** Tell farmers to imagine that they are selling roasted bananas (*gonja*). They would not cook them halfway and expect their customers to buy it. They also would not leave it on the ground after roasting because it would get dirty, and customers would not buy it. It is the same with coffee – only pick the coffee when it is ripe (ready) and keep it well during picking (not directly on the ground) and storage (in a dry, airy place off the ground and away from walls) until it is ready to sell. You put a lot of effort into growing your coffee, so do not have poor practices at the end of the process which could lower the selling price!

2. **Role Play:** Two farmers are harvesting their coffee very badly. They are stripping the coffee cherries from the branch and harvesting ones that are not yet fully ripe. They are putting the cherries directly on the ground as they pick them. An extension worker is walking past and sees this happening. What do the farmers argue to defend the way they are doing things? What advice does the extension worker give the farmers to improve their harvesting and post-harvest handling?

3. **Demonstration Option 1:** Demonstrate the correct way for harvesting coffee cherries. Participants should also practice after watching the demonstration.

4. **Demonstration Option 2:** Demonstrate proper wet processing and then proper dry processing. Get participants involved in both activities so they better understand how to do it too.

5. **Visit:** Arrange a visit to a good coffee storage facility that is dry, airy and keeps the coffee stored away from walls and off the ground.

6. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Digital Content (Optional)

Show the following video from Access Agriculture about good practices for coffee picking and drying.
https://www.accessagriculture.org/coffee-picking-drying

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Handle your cherries well during harvest and post-harvest to ensure that you keep them high-quality so they can fetch the highest price. This will help your farm stay economically sustainable.

Economic Sustainability Chart 9: Organize Your Business

Session Objectives

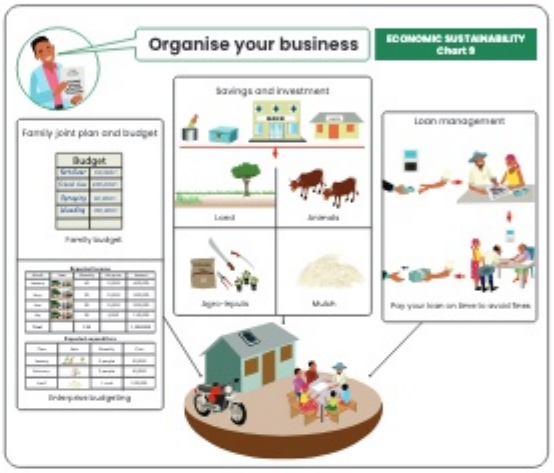
- To recognize the importance of planning and budgeting for economic sustainability
- To examine different saving and investment methods
- To understand how to have good loan management to avoid fees and penalties

Learning Questions

- Why is planning and budgeting for a farm business important?
- Why should families plan and budget together?
- What saving and investment options do coffee farmers have?
- How can you take out and repay a loan responsibly?
- How can defaulting on loans threaten your farm's economic sustainability?

Additional Training Tools

- Flipchart and markers



Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Planning, record keeping and certification

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 6.0 Coffee Farming as a Business

Other sub-topic charts linked to this sub-topic:

- Social Sustainability Chart 13 – Joint Planning and Decision Making
- Good Governance Chart 23 – Formalization of Groups
- Good Governance Chart 24 – Keep Your Promises

Preparation Before the Training

- Arrange a visit to a local bank branch or SAACO to explore saving and investment options.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Chart 9: Organize Your Business**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *What should be included in a budget?*
- *How can families plan and budget together?*
- *Where can coffee farmers save their money? What methods can they use for investment?*
- *Why is it important to pay back loans on time and in full? What can happen if you do not do this?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Planning and Budgeting	• A budget is a plan that shows how you intend to spend money for your business and your likely income sources. • People have so many needs and wants and yet the money available is limited. That is why we need to plan and budget. • It is advisable to write down upcoming farming activities and make a budget so you know how much money you will need over the next weeks and months. • Budgets should be made jointly by the entire family.	• Smart Farming – Think of Farming as a Business (GIZ Master Trainer Manual), pages 52-55
Borrowing and Loan Manage-ment	• Loan repayment must be planned for. • You can save with the bank, the SACCO or the VLSA. • Avoid saving at home because it is not as safe as saving in a financial institution.	• Arabica Coffee Handbook, page 105 • Robusta Coffee Handbook, page 112
Saving and Investing	• Saving is important for future investments and emergencies. Do not spend all your income at once, but instead think ahead and save some. • You can save money in a VSLA, a SACCO or a bank. • When saving in a group, you can reinvest that money to buy inputs or farm tools in bulk.	• Arabica Coffee Handbook, page 105 • Robusta Coffee Handbook, page 112

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Role Play:** One group role plays a family that only saves, but never invests. Another family only invests, but never saves. What are their different experiences? What are the consequences of these decisions? Why is it important to have a good mix of saving and investment?

2. **Group Discussion:** In groups, participants discuss their preferred methods for saving and investing. Which saving methods are most accessible? Which saving and investment methods are safest? Which investing methods have the best return on investment? What mix of saving and investment methods will they set a goal to have?

3. **Visit:** Arrange a visit to a local bank branch or SAACO. Ask a staff member to explain the possibilities for saving and lending. Ask participants to ask any questions they have for this saving/investment option.

4. **Practice (Budgeting Template):** Introduce the budgeting template in Annex 1. Go through the template together with participants using the story provided to fill out the budget. Then ask participants to try making their own budget for the next month using the same template.

5. **Story Option 1:** Tell a story about a farmer who took out a large loan and then struggled to pay it back on time and in full. What fees/penalties did the farmer receive? How much money did the farmer receive from the loan versus how much he/she ended up paying back by the end? How does this threaten his/her overall economic sustainability? What can we learn from this story?

6. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: To be economically sustainable, farms should plan for all activities and budget to ensure there is enough cash flow when money will be needed to purchase inputs. Loans should be taken responsibly and repaid on time, or else high fees and fines will be charged. Farms should also be careful to keep a good balance between savings (money available in case of emergency) and investing (money that can grow over time).

Economic Sustainability Chart 10: Work in Groups

Session Objectives

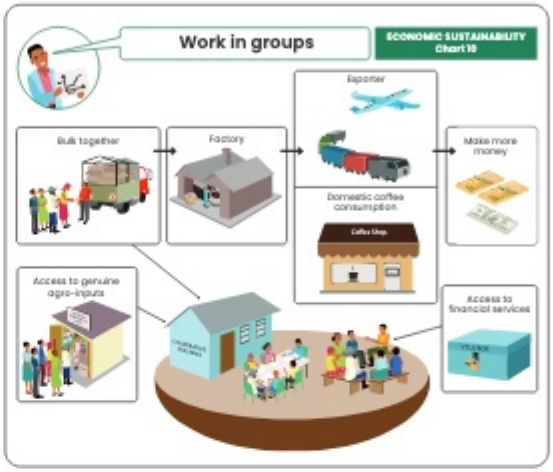
- To examine the benefits of working in groups
- To consider how working in groups can increase income and make individual coffee farmers more profitable and economically sustainable

Learning Questions

- What are the benefits of working in a group?
- What are the challenges of working in a group and how can these challenges be mitigated?

Additional Training Tools

- Flipchart and markers



Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Farmer organization development

2. **Uganda Training Materials for Coffee Production Training Manual**
   - Coffee Farming as a Business

Other sub-topic charts linked to this sub-topic:

- Social Sustainability Chart 13 – Joint Planning and Decision Making
- Good Governance Chart 22 – Let Your Voice Be Heard
- Good Governance Chart 23 – Formalization of Groups
- Good Governance Chart 24 – Keep Your Promises

Preparation Before the Training

- Ask a representative from a large coffee buyer who frequently buys in the area to speak to the group.
- Arrange a visit to a farmer cooperative nearby to discuss the benefits they get from working together.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Chart 10: Work in Groups**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *How do you think working in groups can help farmers make more money?*
- *How else do you think working in groups can help coffee production become easier?*
- *Have you ever bulked coffee in a group? What was your experience?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Bulking	• Bulking means your group can sell to larger buyers who are often willing to pay more for coffee that they receive in larger quantities. • Bulking also means that your group can provide a larger quantity of coffee to larger buyers. These buyers will be more likely to return to your group again and again, increasing your group's market.	• Smart Farming – Think of Farming as a Business (GIZ Master Trainer Manual), pages 52-55
Access to Genuine Agro-Inputs	• If you form a cooperative, you can buy quality tools and negotiate for lower prices, and demand for government services at parish level.	• Arabica Coffee Handbook, pages 98-99 • Robusta Coffee Handbook, pages 104-105
Access to Financial Services	• Registered groups have easier better to financial services like loans from banks and SACCOs. • Groups can also form their own VSLAs and SACCOs which can help farmers generate income (by charging interest to members who borrow) as well as providing farmers with an accessible borrowing facility in case they need it themselves.	• Arabica Coffee Handbook, page 105 • Robusta Coffee Handbook, page 112

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Calculations:** Help farmers calculate the difference between selling their coffee at a higher bulked price and a lower individual sale price. What is the difference in the unit price of the bulked and not bulked coffee? What is the difference in the total revenue/profit they can earn when bulking their coffee with other farmers and the total revenue/profit they can earn when selling it alone (based on each participant's average number of units produced and sold)?

2. **Role Play Option 1:** One group role plays a coffee farmer who works alone and sells to a middleman. The farmer tries to negotiate with the middleman, but he does not have enough volume to negotiate a good price. Another group role plays a farmer cooperative that bulks their coffee and sells together to a larger coffee trading company. They get a better price by doing this because they are able to negotiate since their volume is high and their quality is good. Groups present their role plays to each other, then discuss what can be learned from them.

3. **Role Play Option 2:** A farmer group is working together, but they have a disagreement. The different personalities in the group make it difficult to work together sometimes. What does the group do to overcome this challenge and keep working together?

4. **Demonstration:** Text "Robusta" or "Arabica" to 7197. Pass the phone around so each participant can see how this can help farmers get market information.

5. **Guest Speaker:** Ask a representative from a large coffee buyer who frequently buys in the area to speak to the group. The coffee buyer should explain why large buyers like to work with farmer groups/cooperatives who have bulked their coffee. The buyer can give an indication of the different prices offered depending on the amount bulked.

6. **Visit:** Arrange a visit to a farmer cooperative nearby. Ask the cooperative members to explain their experiences of working together, especially the benefits of bulking and collective marketing. Also, ask them to share some of the challenges of working in a group and what they have done to overcome these challenges.

7. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Digital Content (Optional)

Show the following video from Access Agriculture about coffee farmers who organized themselves into groups and reaped many benefits.
https://www.accessagriculture.org/coffee-group-organisation

Show the following video from Money and Markets Uganda about the success of the Ankole Coffee Producers' Cooperative.
https://www.youtube.com/watch?v=m0ZnUHzX-Ew

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Working together can help increase your bargaining power and help you fetch a better price for your coffee. Getting a higher price will help you stay economically sustainable.

Economic Sustainability Chart 11a: Spread Your Risks + Chart 11b: Business Case

Session Objectives

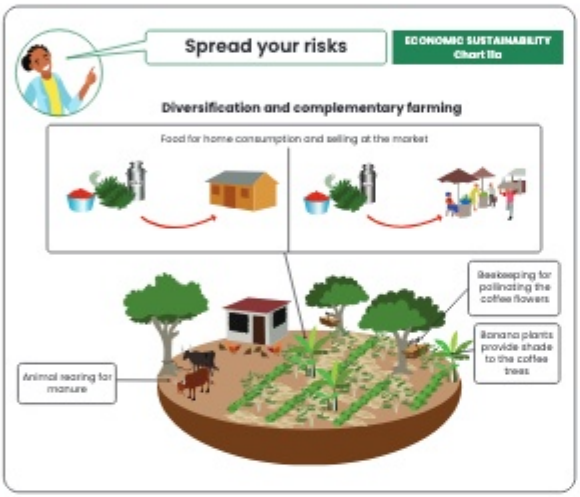
- To recognize the importance of complementing coffee farming with other farming activities
- To explore different options for having a diversified farm

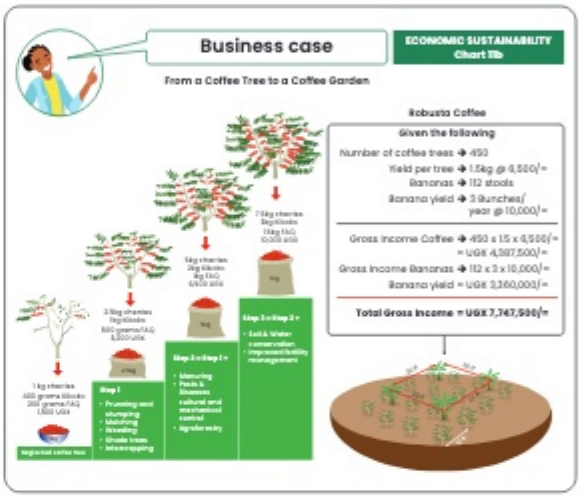
Learning Questions

- Why is diversification and complementary farming important for economic sustainability of the farm?

Additional Training Tools

- Flipchart and markers





Resource Material Links

1. **This session links to:**
   - The Economic Sustainability Flipchart
   - Finance and risk management

2. **Uganda Training Materials for Coffee Production Training Manual**
   - Coffee Farming as a Business

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 1a – Get It Right from the Start
- Environmental Sustainability Chart 17a – Trees on a Coffee Farm
- Environmental Sustainability Chart 18 – Trees Outside the Coffee Farm

Preparation Before the Training

- Arrange a visit to a coffee farm that has complementary or diverse farming activities.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Chart 11a: Spread Your Risks**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

What do you see on the chart?
What does it mean to "spread your risks"? How can you do this?
What are some "complementary" activities for coffee farming?
How can you diversify the activities on your coffee farm?

What can happen to you economically if you only do coffee farming and your coffee yield is less than expected for some reason?

3. Show **Economic Sustainability Chart 11b: Business Case**. Ask discussion questions about the chart and emphasize the core messages

Example Chart Discussion Questions

- *What do you see on the chart?*
- *What do the calculations on this chart mean?*
- *What does this chart tell you about the importance of diversifying your coffee farm with a crop like banana?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Complementary Activities	• Complementary activities help you diversify your income streams, so you are not reliant only on coffee farming. This helps spread your risk so if you have a poor coffee harvest, you have other ways of making money	• Arabica Coffee Handbook, page 105 • Robusta Coffee Handbook, page 112
Ideas for Income Generating Activities	• Do beekeeping (apiculture). • Grow cover crops (such as lablab, groundnuts, beans). • Plant agronomic trees. • Next to the coffee plot you can plant fruit trees to grow fruit for home consumption or selling. • Keep livestock and farm poultry for milk, eggs and meat for home consumption and sale.	• Arabica Coffee Handbook, page 105 • Robusta Coffee Handbook, page 112

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Brainstorming:** In groups, brainstorm a list of enterprises that are complementary to coffee farming – meaning the enterprises "complement" or "complete" each other by supporting each other in a two-way process. For example, beekeeping is complementary because the bees can pollinate the coffee, which helps the coffee be productive. The coffee flowers provide food for the bees so they can make honey (which the farmer can also sell). Brainstorm other non-complementary enterprises as well which can also help the farmer diversify the sources of income for the farm.

2. **Calculations:** In groups, participants should decide on at least two enterprises other than coffee that they would want to implement on their farms. They should discuss how these enterprises will help them spread their financial risk, so their income is not reliant only on coffee. They should consider why they are choosing these other enterprises and the expected income they think they can make from them over a certain period. After discussing, groups can share their plan with the whole group.

3. **Calculations:** Walk participants through the calculations on Chart 11b: Business Case. Help them see the monetary difference between farming coffee alone and farming coffee alongside bananas.

4. **Group Discussion:** Lead a discussion about how keeping records helps a farmer manage risk. Ensure that participants clearly understand that records are necessary for helping a farmer determine whether an enterprise is profitable or not. If the enterprise is NOT profitable, the farmer can stop doing that enterprise and manage the risk that it could negatively affect other enterprises on the farm. If the enterprise IS profitable, the farmer can focus on it and even scale it up.

5. **Role Play:** One group can role play being a farming family who ONLY farms coffee. What happens if a flood, drought, pest, or disease affects their crop one season? What happens to the business? What happens to the children's school fees? What happens to the family's food security? Another group can role play being a farming family who has several farming enterprises in addition to coffee. How are they able to manage when their coffee crop is partially destroyed one season?

6. **Visit:** Arrange a visit to a coffee farm that has complementary or diverse farming activities. Ask the farmer to explain how and why they have these extra activities and what the benefits are.

7. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Spread your risk by engaging in several enterprises aside from coffee. If you do this, your farm will still be economically sustainable even if you experience a poor coffee harvest occasionally.

Economic Sustainability Chart 12: Certify Your Coffee

Session Objectives

- To understand the requirements for different coffee certifications
- To recognize the benefits of certifying your coffee

Learning Questions

- What does it mean to have certified coffee?
- What are the benefits of certifying your coffee?
- Why do customers want to buy coffee with different certifications?

Additional Training Tools

- Flipchart and markers

Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Planning, record keeping and certification

2. **Uganda Training Materials for Coffee Production Training Manual**
   - All chapters

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 3 – Feed the Tree Well
- Economic Sustainability Chart 4 – Combination of Pests and Disease Control
- Economic Sustainability Chart 5a, 5b, 5c – Pest Identification and Control
- Economic Sustainability Chart 6a, 6b – Disease Identification and Control
- Economic Sustainability Chart 9 – Organize Your Business
- Economic Sustainability Chart 10 – Work in Groups
- Social Sustainability Chart 14 – Children, Youth and Women on the Farm
- Social Sustainability Chart 15 – Health, Safety and Welfare of Workers
- Environmental Sustainability Chart 20a + 20b – Safe Handling of Chemicals and Waste

Preparation Before the Training

- Ask a farmer who has been certified as either Fairtrade or Rainforest Alliance to speak to the group.
- Arrange a visit to a location where farmers (or farmer cooperatives) can get certified as either Fairtrade or Rainforest Alliance.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Economic Sustainability Chart 12: Certify Your Coffee**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- What do you see on the chart?
- Which of these coffee certifications have you heard about before? Do you know the requirements for different certifications?
- Why do you think certified coffee fetches a higher price?

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Traceability	• Traceability is being able to track the journey of coffee along each step of the supply chain, from where it is grown and picked to where it is processed. • Traceability helps assure customers that the coffee was produced ethically and sustainably. • Consumers are willing to pay more for coffee that is farmed using traceable and sustainable practices.	• Arabica Coffee Handbook, page 105 • Robusta Coffee Handbook, page 112
Types of Certifiers	• Buyers and exporters might want organic, certified coffee. As member of a cooperative, you can get certified to meet their demand. • You can get organically certified by the following (among others): • Fairtrade • Rainforest Alliance	• Arabica Coffee Handbook, pages 117-123 • Robusta Coffee Handbook, pages 124-131

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Group Discussion Option 1:** Lead a discussion about why some customers prefer to buy certified coffee. Why do some customers care about the ethics involved in how coffee travels along the value chain to end up in their coffee cup? Why are they willing to pay more for certified coffee? How can certifications also benefit farmers and everyone along the value chain? How can it help coffee production to be fairer and more ethical?

2. **Group Discussion Option 2:** Lead a discussion about how coffee certification requirements can be good for the health of people, the conservation of the planet and the rights of workers in the coffee industry. What requirements do organic certifications have that help ensure coffee is safe for people to consume? What requirements do organic certifications have which push farmers to be environmentally sustainable and considerate of the health of the planet? What requirements do some certifications have which push coffee producers to treat their workers fairly?

3. **Role Play:** One group can pretend to be a farmer cooperative that have bulked coffee for sale. They do not have a Fairtrade certification. Another farmer cooperative in the same village also has coffee for sale, but they do have a Fairtrade certification. A big buyer comes to the village, but only wants to buy Fairtrade certified coffee. What happens?

4. **Analysis:** Review the requirements for a Fairtrade and/or a Rainforest Alliance certification. Ask each farmer to determine if they are currently satisfying each requirement. If they are not, start a discussion about what they can do to satisfy each requirement so they can qualify for the certification.

5. **Guest Speaker:** Ask a farmer who has been certified as either Fairtrade or Rainforest Alliance to speak to the group. What did he/she need to do to get certified? What are the benefits of being certified?

6. **Visit:** If there is a place close to the training venue where farmers (or farmer cooperatives) can get certified as either Fairtrade or Rainforest Alliance, arrange a visit to go there. Ask the staff there to explain how the farmers can get certified and answer any farmer questions.

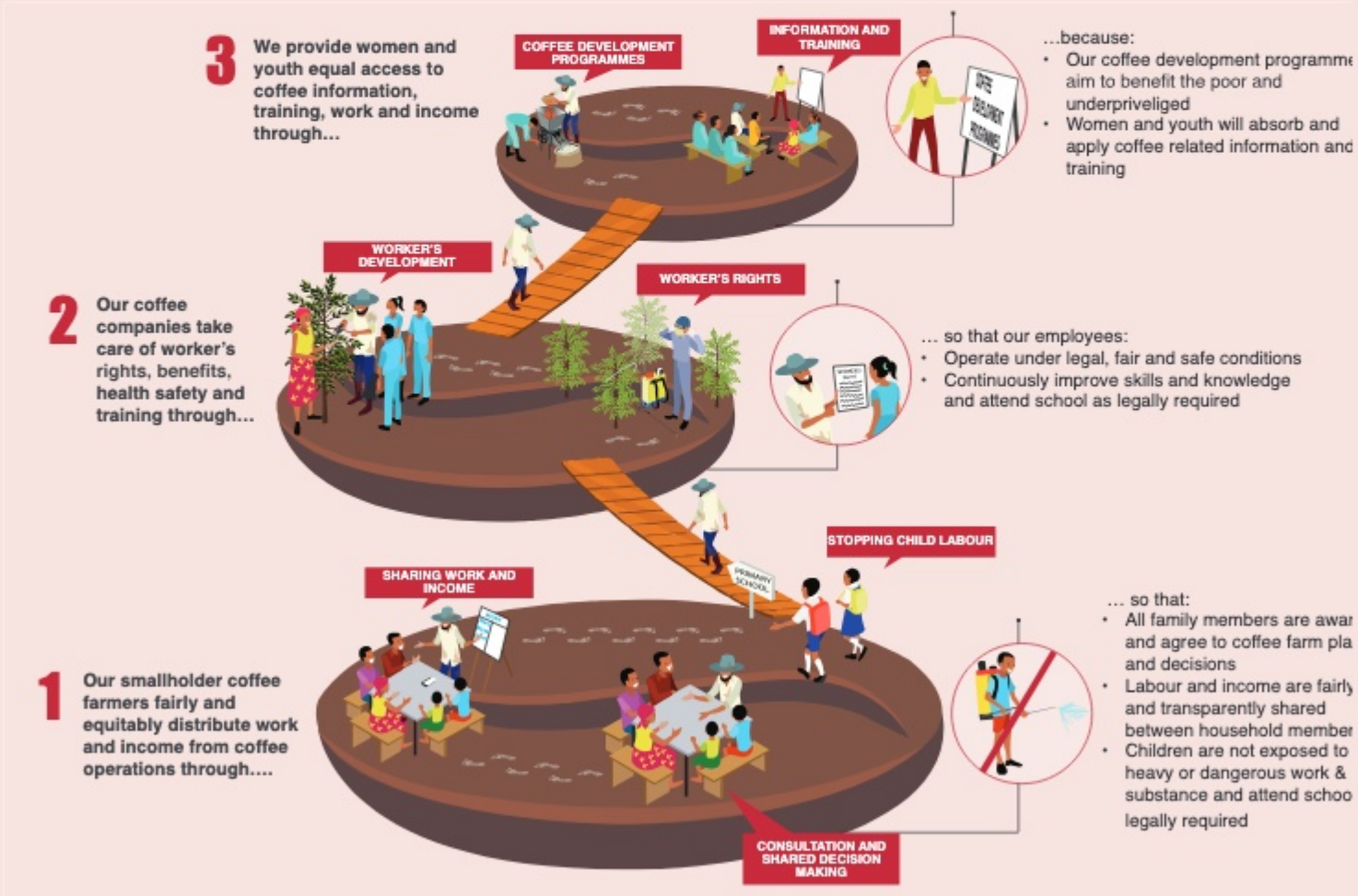
7. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Certifying your coffee can help you fetch a higher price because customers are willing to pay more for coffee that is certified organic and/or coffee that has been certified for its fairness, sustainability and good ethics throughout production.

Social Sustainability Sub-Topics



Social Sustainability Chart 13: Joint Planning and Decision Making

Session Objectives

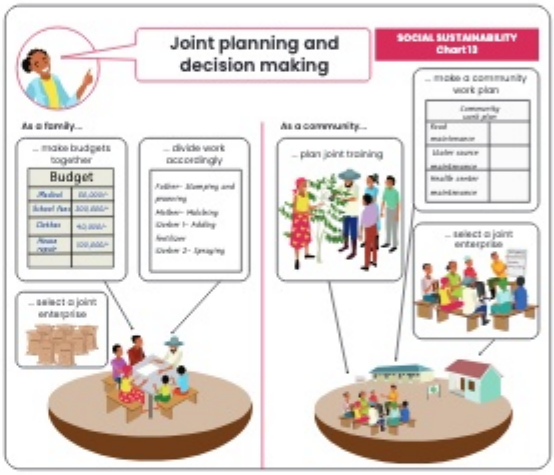
- To review the importance of planning and budgeting together as a family
- To consider how dividing labor can increase profits and strengthen relationships
- To explore how communities can work together to improve their individual farms

Learning Questions

- Why should families share the labor on the coffee farm?
- Why should all members of the family be involved in planning and budgeting for the coffee farm?
- What are the social and economic benefits of working together as a community?

Additional Training Tools

- Flipchart and markers



Resource Material Links

This session links to:

1. **The Social Sustainability Flipchart**
   - Smallholder farming families

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 6.0 Coffee Farming as a Business
   - 8.0 Social Responsibility

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 9 – Organize Your Business
- Economic Sustainability Chart 10 – Work in Groups
- Social Sustainability Chart 14 – Children, Youth and Women on the Farm
- Good Governance Chart 22: Let Your Voice Be Heard

Preparation Before the Training

- Ask a family who works and makes decisions together to speak about their experience.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Social Sustainability Chart 13: Joint Planning and Decision Making**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *Why should families plan and budget together?*
- *What are the benefits of sharing responsibilities and labor on the coffee farm?*
- Why should communities work together on coffee farming?
- What economic and social benefits can come from working together as a family and as a community?

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Joint Decision Making	• Joint decision-making leads to more successful businesses. • Everyone in the family should have an equal say in what type of business(es) will be undertaken. • Everyone should have a chance to attend training. • Everyone should be involved in decisions on budgeting and investing. • Work should be divided so that everyone works together, and no single person must shoulder all or most of the labor.	• Arabica Coffee Handbook, page 105 • Robusta Coffee Handbook, page 113

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Analogy:** Discuss how making decisions as a family is like playing a football match with the whole team. Why leave half of the team sitting on the bench when they have talent, just because they are young or a woman? Use all the talent there is, and you will be able to defend better and score more goals. Teamwork leads to victory on the football pitch and in the coffee garden!

2. **Group Discussion:** Lead a discussion where farmers must individually consider who in their family does the labor on the farm. Is labor split evenly? Who does

more or less? Why? How can the whole farm benefit when labor is split more evenly between family members? What other responsibilities do women have in the home that they must make time for in addition to working on the farm? How can the men take on more work to help make the labor division more equal?

3. **Guest Speaker:** Ask a family who works and makes decisions together to speak about their experience. How does working together and sharing decisions make them more successful – both economically and in terms of their relationships with each other? Ask them to explain why they decided to work in this way and how other farming families can follow their lead.

4. **Story Option 1:** Tell a story about a farming family where the wife does most of the labor on the coffee farm. She wakes up very early to sweep the compound, prepare tea and get the children ready for school. She works all day on the coffee farm, taking a break only to make lunch and wash clothes. In the evening she makes dinner and gets the children ready for bed. She also must clean the dishes and tidy the house. She finally sleeps late and gets up early to do it all over again. How can her family help her? How will coffee production improve when she gets more help? How will her health and the health of the family improve if she gets more help?

5. **Story Option 2:** Tell a story about a family that plans and budgets together and another family that does not. What advantages does the family that plans together have? What challenges does the family that does not plan together have? What can we learn from this story?

6. **Group Planning:** As a group, make a plan to work together on each other's farms to do high-labor activities like planting, mulching, fertilizing, and harvesting.

7. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Dividing labor and decision making within the family helps the coffee farm to be both economically and socially sustainable. Working together as a community can also strengthen community relationships and benefit everyone.

Social Sustainability Chart 14: Children, Youth and Women on the Farm

Session Objectives

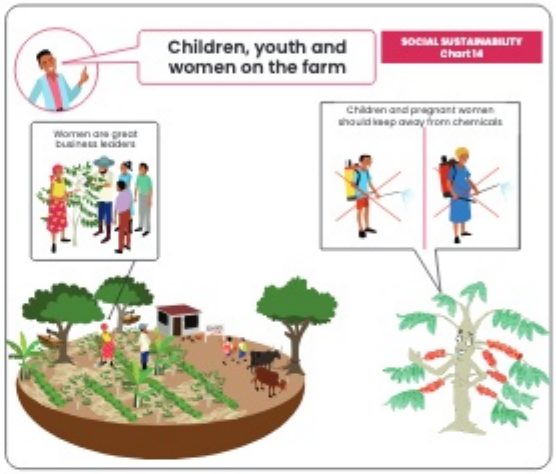
- To understand what children and pregnant women should and should not do on the farm
- To recognize that women and youth should be included in farm leadership and decision-making

Learning Questions

- Why should not children and pregnant women spray chemicals?
- Why should children go to school and limit their work on the farm?
- Why should women and youth be included in farm decision-making and leadership?

Additional Training Tools

- Flipchart and markers



Resource Material Links

This session links to:

1. **The Social Sustainability Flipchart**
   - Smallholder farming families
   - Youth and gender equity

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 8.0 Social Responsibility

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 12 – Certify Your Coffee
- Social Sustainability Chart 15 – Health, Safety and Welfare of Workers
- Environmental Sustainability Chart 20a – Safe Handling of Chemicals and Waste

Preparation Before the Training

- Invite a female leader of a nearby farmer cooperative to speak to the group about her experience as a female leader in business.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Social Sustainability Chart 14: Children, Youth and Women on the Farm**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- What do you see on the chart?
- Why should not children and pregnant women spray chemicals?
- Should children go to school, or should they work full-time on the farm? Why?
- What are the qualities that many women have that make them great business leaders?

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Children	• Children should go to school and should not work full-time on the farm. • Children can do light work on the farm, but only during their school holidays and/or on weekends.	• Arabica Coffee Handbook, page 115 • Robusta Coffee Handbook, page 123
Chemicals	• Children and pregnant women should not spray chemicals. • When spraying chemicals, make sure to wear protective gear!	• Arabica Coffee Handbook, pages 115-116 • Robusta Coffee Handbook, pages 123-124
Leadership	• Women are great business leaders. • Women and youth's voices should be listened to. Including them in decision-making and the operation of the farm has great benefits for everyone and will make the business more successful.	• Arabica Coffee Handbook, pages 114-115 • Robusta Coffee Handbook, pages 122-123

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. Group Discussion: What is the benefit of including youth in agriculture? Do they have knowledge about technology that older farmers do not have? Do they have new, fresh ideas for innovation that older farmers do not have? What discourages youth from engaging in coffee farming and what can we do to help get them more involved so we can benefit from their knowledge and ideas?

2. **Group Work:** Form groups of 3-4. Make sure at least one youth and/or woman is present in each group. Tell each group that they have 200,000 UGX to invest in this year. They should discuss what they would choose to do with the investment money, taking care to include the women and youth in the discussion and decision. Each group can present their investment plan to the whole group and discuss what it felt like to plan together and listen to everyone's opinions.

3. **Guest Speaker:** Invite a female leader of a nearby farmer cooperative to speak to the group about her experience as a female leader in business. She should describe what she thinks makes her a good leader as well as what qualities many women share that make them effective leaders in business. She can also discuss the challenges of being a female leader in business.

4. **Story:** Tell a story about a farming family where the children work all day on the farm and do not go to school. What are they missing as children? What happens to them later in life? Do they have the education they need to be informed farmers or to get other skilled jobs? Then tell a story about a farming family where the children go to school. They only help on the farm on the weekends and during school holidays. How are they benefitting from this? Why should child labor be avoided?

5. **Group Discussion:** What is the connection between child labor and coffee certifications? Can a farmer be certified if there is child labor used on his/her farm? Why do you think customers care about preventing child labor in the coffee industry?

6. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Involving youth in coffee farming is beneficial because they have new ideas, fresh perspectives, and lots of energy. Recognizing that many women are excellent, trustworthy leaders can also help coffee production because they can contribute to smart, wise decisions. Children should be allowed to be children and should not be engaged in full-time labor on the farm. Instead, they should go to school and only help on the farm on the weekends and during school holidays. These practices will help the coffee farm to be socially sustainable.

Social Sustainability Chart 15: Health, Safety and Welfare of Workers

Session Objectives

- To consider how workers on the farm should be treated with dignity

Learning Questions

- What measures should be in place on the farm to ensure workers stay safe?
- What are some ways that farmers can ensure workers are treated fairly and with dignity?
- In what capacity should children work on the farm?

Additional Training Tools

- Flipchart and markers

Resource Material Links

This session links to:

1. **The Social Sustainability Flipchart**
   - Youth and gender equity

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 8.0 Social Responsibility

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 12 – Certify Your Coffee
- Social Sustainability Chart 13 – Joint Planning and Decision Making
- Social Sustainability Chart 14 – Children, Youth and Women on the Farm

Preparation Before the Training

- None

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Social Sustainability Chart 15: Health, Safety and Welfare of Workers**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- What do you see on the chart?
- Why should workers be provided with protective gear for spraying and with appropriate tools for working?
- Why should workers be provided with decent housing and be paid on time?
- How does treating workers fairly and with dignity help improve the economic and social sustainability of the farm?
- Why should not children be engaged in child labor on the coffee farm? What are the economic and social disadvantages of this?

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Working Conditions	• Treat workers well. Make sure they have enough water, food, rest, and a decent and safe place to stay. • Make sure workers are safe. For example, ensure they have proper protection when working with chemicals and appropriate tools to do their work.	• Arabica Coffee Handbook, page 115 • Robusta Coffee Handbook, page 123
Training	• Train and coach workers; for example, give them training before they work with dangerous tools or use chemicals.	• Arabica Coffee Handbook, pages 114-115 • Robusta Coffee Handbook, pages 122-123
Payment	• Make sure you pay workers fairly and on time. Everyone deserves to be treated with respect for their labor, and when you establish a positive working relationship, you will be able to count on your workers.	• Arabica Coffee Handbook, page 115 • Robusta Coffee Handbook, page 123

Topic	Core Messages	Links to Resources with More Technical Information
Child Labor	• Avoid child labor. • Children should not work full-time on the farm. They should go to school. • Children should not carry heavy weights or spray chemicals.	• Arabica Coffee Handbook, page 115 • Robusta Coffee Handbook, page 123

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Brainstorming:** As a group, make a list of good practices regarding hiring workers. What promises should the coffee farmer make to the worker? What benefits (days off, frequent breaks, housing accommodation, food) should be included in the agreement in addition to pay? What safety equipment, tools and training should the farmer provide to the workers to keep them safe and ensure they are able to do their work well?

2. **Role Play Option 1:** Divide participants into groups of 3 or 4. Read the following story starter: "Moses and Assia run a coffee farm. They have 3 workers they hire for harvesting. They train them on correct harvesting. When the time for payment comes.." Let groups decide how the rest of the story goes and act it out in a role play. Let each group perform their role play in front of the whole group. Discuss whether the workers in each role play are treated fairly and with dignity. If not, discuss what can be done to fix that.

3. **Role Play Option 2:** One group can role play a farmer who does NOT provide training to her workers before hiring them to harvest her coffee cherries. As a result, the workers strip the coffee branches, harvest unripe cherries, and contaminate the harvested cherries with dirt. This causes a huge profit loss to the farmer. Another group can role play a farmer who DOES provide training on good harvesting practices to her workers. She monitors them during harvesting and corrects them when they make mistakes. She gets a good price for her cherries.

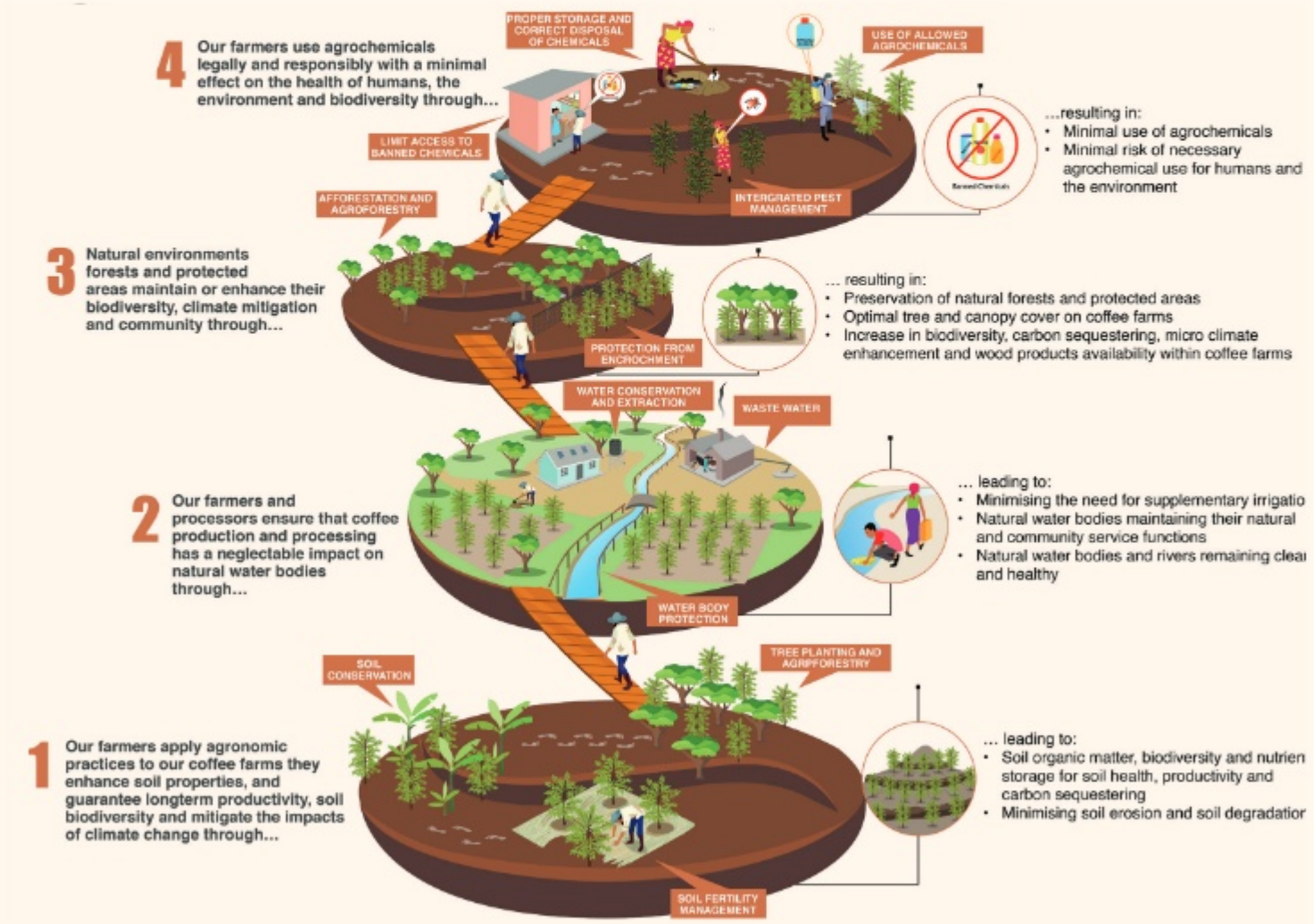
4. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: It is important to treat workers fairly and with dignity. This will help make sure that workers are happy to work for you and will strive to do a good job. As a result, you will be providing decent jobs to others (which helps improve your community) and the workers will be helping you improve your coffee production.

Environmental Sustainability Sub-Topics



Environmental Sustainability Chart 16a: Landscape Management

Session Objectives

- To recognize how to plan the landscape and what human activities are suitable in relation to the natural landscape
- To recognize options for mitigating environmental risks and disasters like landslides and floods
- To recognize the importance of protecting natural resources like rivers, lakes, and trees
- To consider how to work together to manage the landscape

Learning Questions

- What is the most suitable site for planting trees on a landscape (related to the control of landslides)?
- What distance should be left between a water body and cultivated areas?
- Why should we protect and conserve the land around our coffee gardens?

Additional Training Tools

- Flipchart and markers

Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity

2. **The Environmental Sustainability Flipchart**
   - Soil management and conservation

3. **Uganda Training Materials for Coffee Production Training Manual**
   - 1.0 Establishment of a Coffee Farm
   - 2.0 Management of a Coffee Farm
   - 6.0 Coffee Farming as a Business
   - 7.0 Environment and climate change

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 1a – Get it Right from the Start
- Environmental Sustainability Chart 16b – Protect and Conserve Your Soils
- Environmental Sustainability Chart 17a – Trees on a Coffee Farm
- Environmental Sustainability Chart 17b – Recommended Shade Trees in Coffee per Region
- Environmental Sustainability Chart 18 – Trees Outside the Coffee Farm
- Good Governance Chart 22 – Let Your Voice Be Heard

Preparation Before the Training

- Invite an extension worker or environmental specialist to speak to the group about the importance of managing the landscape around their coffee farms to mitigate the impact of climate change.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Environmental Sustainability Chart 16a: Landscape Management.** Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *Wh*at do you see on the chart?
- Is your coffee farm ever affected by landslides or flooding? What can be done to prevent these from happening?
- What is the connection between protecting/planting trees and preventing landslides?
- What is the connection between protecting riverbanks and lake shores and preventing flooding?
- Does your *community ever discuss how to manage the landscape to prevent landslides and flooding? If not, do you think it should?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Climate Change	1. Climate change is caused by the rapid warming of Earth's atmosphere. 2. This rapid warming causes erratic weather patterns in Uganda which often mean there is either too little or too much rainfall. 3. When there is too much rainfall, it can cause flooding and landslides. • Flooding is especially common in areas where natural vegetation around rivers/lakes has been depleted or where homes and farms were built too close to their banks/shores. • Landslides are common in areas with steep slopes, where the soil structure is weak due to over-cultivation, poor farming practices like farming down the slope, and deforestation.	• Arabica Coffee Handbook, pages 107-111 • Robusta Coffee Handbook, page 115-118
Landscape Manage-ment to Mitigate the Effects of Climate Change	1. Plant trees. • Trees help keep the soil firmly in place when it rains too much. This helps to prevent landslides. • Trees planted at the top of hilltops are especially important for preventing landslides. 2. Do not settle on steep slopes. • Settlements on steep slopes are more vulnerable to landslides. 3. Protect the space close to riverbanks and lake shores by creating buffer zones. Do not cultivate or build: • within 100 meters from the highest water mark of major rivers; • within 30 meters from the highest water mark of minor rivers; • within 200 meters from the lowest water mark of major lakes; or • within 100 meters from the lowest water mark of minor lakes. 4. These buffer zones help to prevent flooding and prevent pesticide and fertilizer residues from washing into the water body. 5. Plant grass strips along riverbanks to prevent flooding or siltation. • This vegetation can also help to purify the water source by extracting toxins from the water.	• The National Environment (Wetlands, River Banks And Lake Shores Management) Regulations, No. 3/2000, Sections 29 and 30, and Sixth and Seventh Schedules, https://nema.go.ug/sites/all/themes/nema/docs/wetlands_riverbanks.pdf

Topic	Core Messages	Links to Resources with More Technical Information
Work Together to Plan the Landscape	• Meet as a community to plan how to protect and manage the landscape to decrease the risk of flooding and landslide. • It is important for communities to plan and agree together. If all farmers manage their own plots in their own individual ways, the landscape can suffer. • Communities should agree about how to manage the landscape and community resources in a sustainable way and then follow through with those agreements.	

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Experience Sharing:** Lead a discussion about participants' experiences with landslides or flooding in the community. Ask questions like: When was there last a landslide/flood in our community? Were there any warning signs before it happened? Why did it happen? Who was affected by it? What can we do differently in the future to prevent landslides and flooding from happening?

2. **Debate:** Divide participants into two groups. The first group should think about what arguments people might make for growing their coffee close to riverbanks and settling on slopes. The second group should think about what arguments people might make for advocating that the space close to riverbanks should NOT be cultivated and that people should avoid settling on steep slopes. After each side has had a chance to discuss their arguments in their group, hold a debate where each group argues their side. At the end of the debate, participants should vote for which side of the argument they agree with more and why.

3. **Guest Speaker:** Ask an extension worker or environmental specialist to talk to the group about what can happen if the landscape around their coffee farms is not managed well. They should make the link between deforestation, poor soil management, settling on slopes, and not protecting the space close to rivers/lakes/wetlands with the risk of landslides and flooding.

4. **Role Play:** Groups of 5-6 should pretend to be at a community meeting and should role play what they would discuss and agree to about landscape management. They should particularly discuss the practical measures they can take as a community to mitigate the impact of climate change. After practicing, each group can present their role plays to the whole group.

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Manage the land around your coffee farm and in your community to mitigate the impact of climate change and prevent landslides and flooding. Plant trees, especially at the top of hills; let natural vegetation grow around rivers and lakes to create a buffer zone and avoid farming or building close to them; and do not settle on steep slopes. Managing a healthy landscape will make the community safer and more prosperous over the long-term.

Environmental Sustainability Chart 16b: Protect and Conserve Your Soils

Session Objectives

- To identify good practices that protect and conserve the soil
- To recognize the connection between healthy soils and healthy coffee trees

Learning Questions

- What practices can help protect and conserve the soils?
- Why should we protect and conserve the soils in our coffee garden?

Additional Training Tools

- Demonstration materials needed for: applying manure, digging trenches, mulching, and planting cover crops
- Flipchart and markers

Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Sustainable production practices for long-term productivity

2. **The Environmental Sustainability Flipchart**
   - Soil management and conservation

3. **Uganda Training Materials for Coffee Production Training Manual**
   - 2.0 Management of a Coffee Farm
   - 6.0 Coffee Farming as a Business
   - 7.0 Environment and climate change

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 1a – Get it Right from the Start
- Economic Sustainability Chart 3 – Feed the Tree Well
- Environmental Sustainability Chart 16a – Landscape Management
- Environmental Sustainability Chart 17a – Trees on a Coffee Farm
- Environmental Sustainability Chart 17b – Recommended Shade Trees in Coffee per Region
- Environmental Sustainability Chart 18 – Trees Outside the Coffee Farm
- Environmental Sustainability Chart 19 – Use Appropriate Water Conservation Practices

Preparation Before the Training

- Select a farmer field for a manure application, trench digging, mulching and/or cover crop planting demonstration.
- Invite an extension worker or environmental specialist to speak to the group about the negative impact of burning in the coffee garden.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Environmental Sustainability Chart 16b: Protect and Conserve Your Soils**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *How does manure help protect and conserve the soils?*
- *How does digging trenches help protect and conserve the soils?*
- *How does mulching help protect and conserve the soils?*
- *How does planting shade trees and cover crops protect and conserves the soils?*
- *Why should you not burn in the garden?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Climate Change	1. Without soil protection, coffee trees cannot grow. You protect the soil by: • Mulching • Planting shade trees • Planting cover crops like beans and groundnuts • Adding manure • Avoiding water run-off by digging trenches	• Arabica Coffee Handbook, pages 32-35; 117 • Robusta Coffee Handbook, pages 33-35; 124

Topic	Core Messages	Links to Resources with More Technical Information
	2. Do not burn in the garden. • Burning is a harmful practice because it damages the nutrients available in the soil. This can negatively affect coffee trees because the soil cannot provide them with the nutrients they need. • Burned soil is also more likely to erode. • Instead, take any plant waste outside of the garden for burning. Never use burning to clear a new field for planting.	

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Analogy:** Discuss how you can think of the soil as a nutritious meal for your children. If you do not feed your children nutritious meals, they will not grow and become strong. It is the same for your coffee trees and the soil!

2. **Group Discussion:** Lead a discussion about the connection between 1) mulching, digging trenches, planting cover crops, planting trees, applying manure and 2) preventing soil erosion. What has been happening to the weather in Uganda in recent years (heavy rains) which causes soil erosion? How does soil erosion negatively affect coffee trees?

3. **Demonstration:** Go to a demonstration garden and demonstrate each of the following practices: 1) mulching, 2) planting or identifying cover crops, 3) applying manure in the right places and quantities, and 4) digging trenches in the right places at the right depth and width.

4. **Guest Speaker:** Ask an extension worker or environmental specialist to talk to the group about the negative impact of burning on the soil. The speaker should highlight the reasons why farmers burn, as well as how burning negatively affects coffee production and the environment. The speaker can make the link between burning, soil erosion and climate change (heavy rains erode more soil, especially when it is already damaged by burning).

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Digital Content (Optional)

Show the following video from the World Bank about climate smart coffee farming practices in Uganda.
https://www.youtube.com/watch?v=zBMrBl3fkNU

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Protect and conserve the soils on your coffee farm by mulching, applying manure, planting cover crops, planting trees and digging trenches to avoid water run-off. Never burn in the coffee garden as this damages the soil. Following these soil conservation practices will not only help make your coffee trees more productive, but it is good for the environment because it prevents soil erosion.

Environmental Sustainability Chart 17a: Trees on a Coffee Farm and Chart 17b: Recommended Shade Trees in Coffee Per Region

Session Objectives

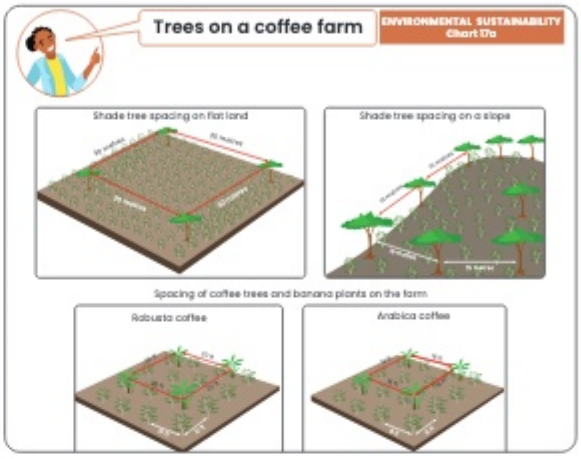
- To recognize the correct spacing of shade trees
- To identify the importance of having non-coffee trees on the coffee farm
- To identify the recommended shade trees in each region of Uganda

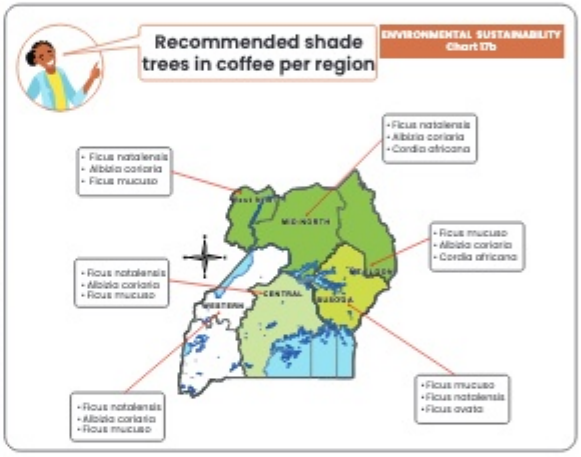
Learning Questions

- What is the correct spacing of shade trees on flat land and on sloped land?
- What is the correct spacing of banana trees amongst Arabica and Robusta?
- How do non-coffee trees contribute to soil and water conservation on the coffee farm?
- What are the recommended shade trees in our region of Uganda?

Additional Training Tools

- Flipchart and markers





Resource Material Links

This session links to:

1. **The Environmental Sustainability Flipchart**
   - Soil management and conservation

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 2.0 Management of a Coffee Farm
   - 7.0 Environment and Climate Change

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 1a – Get It Right from the Start
- Economic Sustainability Chart 3 – Feed the Tree Well
- Economic Sustainability Chart 11b – Business Case
- Environmental Sustainability Chart 16a– Landscape Management
- Environmental Sustainability Chart 16b – Protect and Conserve Your Soils

Preparation Before the Training

- Invite a nursery owner to speak to the group about shade tree seedlings.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Environmental Sustainability Chart 17a: Trees on a Coffee Farm**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *Why should you plant shade trees on the coffee farm?*
- *How do non-coffee trees protect the soil and conserve water on the coffee farm?*

3. Show **Environmental Sustainability Chart 17b: Recommended Shade Trees in Coffee Per Region**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *Which shade trees are recommended in our region?*
- *Have you ever planted these trees? Why do you think you should plant them on your coffee farm?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Shade Trees and Cover Crops	1. Plant cover crops such as *Mucuna*, *Phaseolus* beans, lablab, and groundnuts. 2. Plant grass at the edges of the gardens and terraces/contour bands. 3. Plant banana trees: • 16 X 16 feet apart in Arabica • 20 x 20 feet apart in Robusta 4. Plant other shade trees: • 30 meters apart on flat land • 15 meters apart on a slope	• Arabica Coffee Handbook, pages 17-20; 34-35 • Robusta Coffee Handbook, pages 17-20; 35

Topic	Core Messages	Links to Resources with More Technical Information
Recommended Trees Per Region	Recommended shade trees are: **1. Busoga sub-region:** Mugaire (*Ficus natalensis*), Mukunyu (*Ficus mucuso*), and Kookowe (*Ficus ovata*) **2. Mt. Elgon region:** Chichikiri (*Cordia Africana*), Kumulukhu (*Albizia coriaria*), and Mukuyu (*Ficus mucuso*) **3. Central and Western regions:** Mutooma (*Ficus natalensis*), Musisa (*Albizia coriaria*), Mukunyu (*Ficus mucuso*) **4. West Nile region:** Mutuba (*Ficus natalensis*), Oyo (*Albizia coriaria*), Uwi (*Ficus mucuso*) **5. Mid-northern sub-region** Annar (*Ficus natalensis*), Litek (*Albizia coriaria*), Akoiyi (*Cordia africana*)	• Arabica Coffee Handbook, page 18-20 • Robusta Coffee Handbook, page 19-20

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Analogy:** Think about how you feel on a hot day. Are you happy to work outside under the sun without a hat? Are you happy to wait for a taxi outside under the hot sun, or do you prefer to stand under a tree's shade while you wait? Coffee is the same way – it prefers to have shade from the sun. It does not want to be under the hot sun all day, every day. Planting shade trees can give your coffee the right environment that it needs to grow and be healthy.

2. **Demonstration:** Demonstrate the correct spacing for shade trees on both sloped and flat land. After demonstrating, participants should also practice measuring the correct spacing between shade trees on a coffee farm.

3. **Guest Speaker:** Invite a nursery owner to speak to the group about the shade tree seedlings they have available. The owner should present the price of each type of seedling, its benefits as a shade tree for coffee and other uses for the tree (income-generating, food, etc.)

4. **Group Discussion:** In groups, discuss which shade trees participants would want to have on their coffee farm and why. They should consider if the shade tree can provide them with extra income, if the tree will repel coffee pests, or if the tree will protect the coffee from the sun, wind, and heavy rain. After discussing, small groups can share back their recommendations with the whole group.

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Planting shade trees on the coffee farm increases the coffee trees' productivity, and it is also good for the environment. Trees help prevent soil erosion and are important in the fight against climate change. Shade trees like bananas can also provide an extra income to farmers or supply food for home consumption.

Environmental Sustainability Chart 18: Trees Outside the Coffee Farm

Session Objectives

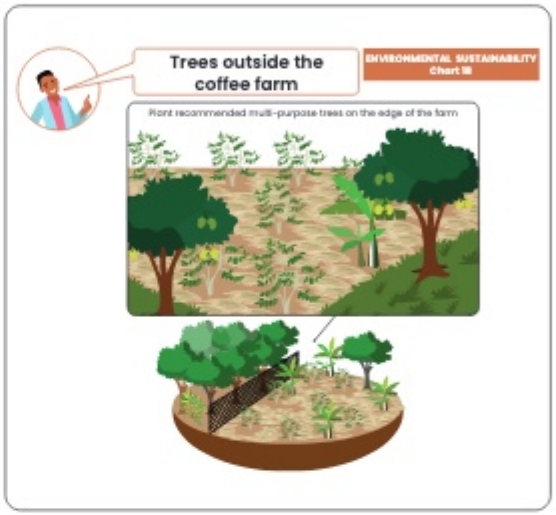
- To appreciate that it is important to protect trees and forests
- To recognize the connection between protecting trees and fighting climate change

Learning Questions

- Why should we plant and protect non-coffee trees at the edges of the coffee farm?
- How does climate change affect coffee production?
- How do trees help us fight climate change?

Additional Training Tools

- Flipchart and markers



Resource Material Links

This session links to:

1. **The Environmental Sustainability Flipchart**
   - Soil management and conservation
   - Forest and biodiversity protection

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 6.0 Coffee Farming as a Business
   - 7.0 Environment and Climate Change

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 1a – Get It Right from the Start
- Economic Sustainability Chart 3 – Feed the Tree Well
- Environmental Sustainability Chart 16a– Landscape Management
- Environmental Sustainability Chart 16b – Protect and Conserve Your Soils
- Environmental Sustainability Chart 17a – Trees on a Coffee Farm
- Environmental Sustainability Chart 17b – Recommended Shade Trees in Coffee per Region

Preparation Before the Training

- Ask an extension worker to speak to the group about climate change.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Environmental Sustainability Chart 18: Trees Outside the Coffee Farm**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *Do you have fruit trees on your coffee farm? Which ones?*
- *Why should we keep fruit trees and other trees at the edges of the coffee farm?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Protect Forests	• Protect natural forests; do not encroach on these areas. Natural forests are very important in our battle against climate change. • Do not hunt endangered animals, especially those found in national parks and reserves. All animals are important to the biodiversity of Uganda, and all contribute to a balanced, healthy ecosystem.	
Fruit Trees	• Plant fruit trees along farm boundaries and on woodlots as production forests for long-term income and biodiversity reservoirs.	
Trees with other Economic Value	• You can also plant other trees like eucalyptus for firewood, building and selling.	• Arabica Coffee Handbook, page • Robusta Coffee, pages 15-20 Handbook, pages 16-20

Topic	Core Messages	Links to Resources with More Technical Information
Climate Change	1. Climate change is caused by the rapid warming of Earth's atmosphere. 2. This rapid warming causes erratic weather patterns in Uganda which often mean there is either too little or too much rainfall. Drought and flooding caused by climate change can negatively affect coffee production. 3. Planting trees can help to combat climate change. • Trees encourage rain to fall, which is important for preventing dry spells. • Tree roots also help keep the soil in place so it can retain more moisture during dry spells. • Trees also help to keep the soil firmly in place when it rains too much. Cover crops also help to keep the soil in place. • Trees outside the coffee farm can protect the coffee trees from heavy winds and rains, which could damage them.	• Arabica Coffee Handbook, pages 107-111 • Robusta Coffee Handbook, page 115-118

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Analogy:** Think of the trees on the edges of the coffee farm like soldiers protecting a castle. When winds and rains come (like an army advancing on a castle), the trees are soldiers which protect the coffee farm from them. The trees' roots help keep the soil around the coffee farm firmly in place and stop the soil from eroding and washing away during heavy rains. They also help break the wind which can also blow (erode) soil away. We must protect these soldiers which protect the soils on our farms. Do not cut down the trees around the coffee garden – instead, plant even more!

2. **Debate:** Divide participants into two groups. The first group should think about what arguments people might make for cutting down trees and encroaching on protected forest land to do their agriculture and get firewood. The second group should think about what arguments people might make for advocating that trees and forests should be protected and people should NOT encroach on protected forest land. After each side has had a chance to discuss their arguments in their group, hold a debate where each group

argues their side. At the end of the debate, participants should vote for which side of the argument they agree with more and why.

3. **Group Discussion:** In groups, discuss which trees participants would want to have around their coffee garden and why. They should consider if the tree can provide them with extra income or food, if the tree will protect the coffee garden from the sun, wind, and heavy rain, etc. After discussing, small groups can share back their recommendations with the whole group.

4. **Guest Speaker:** Ask an extension worker to speak to the group about climate change. Why is it happening? How is it affecting Uganda, especially farmers? How can planting trees help to fight climate change?

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Planting trees outside the coffee farm increases the coffee garden's productivity, and it is also good for the environment. Trees help prevent soil erosion and are important in the fight against climate change. Fruit trees can also provide an extra income to farmers or supply food for home consumption.

Environmental Sustainability Chart 19: Use Appropriate Water Conservation Practices

Session Objectives

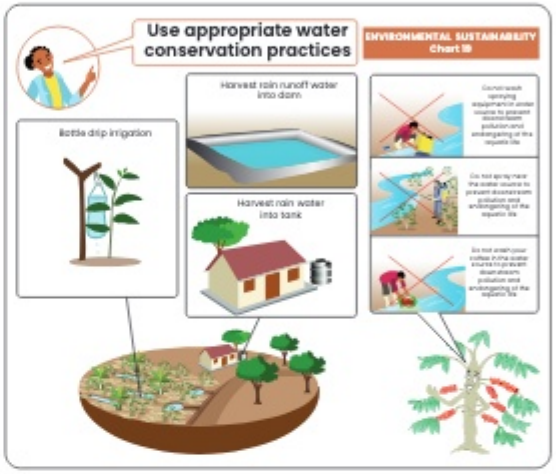
- To identify methods for conserving water
- To learn about how to protect the water in the environment throughout all stages of coffee production

Learning Questions

- What are methods for conserving water?
- What practices with water should you NOT do during coffee production?

Additional Training Tools

- Spraying equipment cleaning demonstration materials: sprayer, water, bucket, etc.
- Bottle drip irrigation demonstration materials: Plastic bottle, wooden or bamboo stake, rope/string/banana fiber
- Flipchart and markers



Resource Material Links

This session links to:

1. **The Environmental Sustainability Flipchart**
   - Water conservation

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 2.0 Management of a Coffee Farm
   - 7.0 Environment and Climate Change

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 1a – Get It Right from the Start
- Environmental Sustainability Chart 16b – Protect and Conserve Your Soils
- Environmental Sustainability Chart 20a + 20b – Safe Handling of Chemicals and Waste

Preparation Before the Training

- Arrange a visit to a farm that uses drip (or any other kind of irrigation).

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Environmental Sustainability Chart 19: Use Appropriate Water Conservation Practices**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *Why is bottle drip irrigation the best irrigation method for conserving water?*
- *Why should we harvest rainwater?*
- *What practices should you NOT do with water during coffee production?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Water Saving	**Water saving:** • Harvest water from the roof (rainwater) in a tank, or funnel runoff rainwater into a dam. • This water can be used for home consumption or for irrigation of the coffee trees.	• Arabica Coffee Handbook, pages 32-34 • Robusta Coffee Handbook, pages 33-35
Irrigation	**Plan for how you will irrigate your coffee trees while preparing your garden and before planting. Consider:** • Where you have a reliable source of water (or where you can build one like a rainwater dam or tank) • How you will distribute (irrigate) the water to the coffee trees **An affordable and efficient method of irrigation is the bottle drip irrigation method.** • This only requires a wooden stake, a plastic bottle, and a piece of rope/string/banana fiber for each coffee tree. **Mulching and digging trenches also help to conserve water in your garden.**	• Arabica Coffee Handbook, pages 20-21; 24-25; 28-32 • Robusta Coffee Handbook, pages 20-21; 24-25; 29-33

Topic	Core Messages	Links to Resources with More Technical Information
Water Conservation	**Water conservation:** • Conserve natural water bodies (lakes, rivers). • Collect and treat effluent (wastewater), and do not mix this with drinking water sources. • Wash your coffee in a container away from a water source. Do not wash your coffee in the river. • Do not spray chemicals close to a water source (like a river).	• Arabica Coffee Handbook, pages 32-34; 115-116 • Robusta Coffee Handbook, pages 33-35; 123-124
Climate Change and Water Conservation	• Climate change in Uganda often causes droughts. This means farmers must now consider how they can irrigate their coffee gardens, since the rains cannot be relied upon to provide their coffee trees with all the water they will need.	• Arabica Coffee Handbook, pages 107-111 • Robusta Coffee Handbook, page 115-118

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Calculations:** Help participants calculate about how much water one coffee tree needs during a season, then tell farmers to mully by the number of trees on their individual farm. Start a discussion about what methods farmers can use to ensure that their trees get adequate water.

2. **Debate:** Divide participants into two groups. The first group should think about what arguments people might make for washing their coffee and their spraying equipment in the river. For example, they might argue that since the water washes away any residue from their village's water source, it is OK and not their problem. The second group should think about what arguments people might make for advocating that coffee and spraying equipment not be washed in the river. For example, they might argue that this can affect the health of the people downstream from them, and it is their responsibility to care for others who use the river as a water source as well. After each side has had a chance to discuss their arguments in their group, hold a debate where each group argues their side. At the end of the debate, participants should vote for which side of the argument they agree with more and why.

3. **Demonstration Option 1:** Demonstrate how to properly wash spraying equipment. Ensure that this is done far from any water sources.

4. **Demonstration Option 2:** Demonstrate how to make a bottle drip irrigation and where to place it next to a coffee tree.

5. **Visit:** Arrange a visit to a farm that uses bottle drip (or any other kind of irrigation). Speak with the farmer about the costs involved with the irrigation method and what he/she did to get it set up. Ask the farmer to talk about the benefits of irrigation, both for coffee production and for the environment.

6. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Digital Content (Optional)

Show the following videos from the IITA about how climate change is affecting coffee production in Uganda.
https://www.youtube.com/watch?v=5bwTQoLiZG8

https://www.youtube.com/watch?v=iEAOdDSSVN8

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Conserving water is good for the environment as well as for your coffee garden. Coffee needs adequate water to grow so it is important to undertake methods like irrigation and saving rainwater runoff to ensure you have a steady supply of water. In addition, protect natural water sources from chemicals by cleaning your spraying equipment and washing your coffee far away from water sources.

Environmental Sustainability Chart 20a: Safe Handling of Chemicals and Waste

Session Objectives

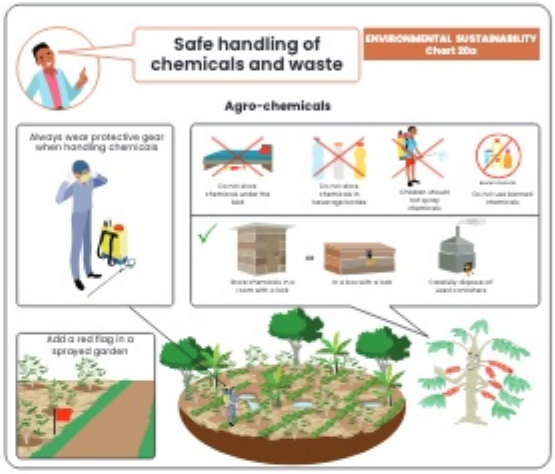
- To recognize how to handle chemicals safely
- To identify how to store chemicals safely

Learning Questions

- What protective gear do you need when spraying chemicals?
- Where should you store chemicals?
- How should you dispose of chemicals?
- Which chemicals should you NOT use because they are banned?

Additional Training Tools

- Protective gear demonstration: long sleeve trousers and shirt, mask, goggles, hat, closed shoes, gloves, etc.
- Flipchart and markers



Resource Material Links

This session links to:

1. **The Environmental Sustainability Flipchart**
   - Agrochemicals

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 3.0 Main Insects Pests of Coffee
   - 4.0 Main Diseases of Coffee
   - 7.0 Environment and Climate Change
   - 8.0 Social Responsibility

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 4 – Combination of Pests and Disease Control
- Economic Sustainability Charts 5a + 5b + 5c – Pest Identification and Control
- Economic Sustainability Charts 6a + 6b – Disease Identification and Control
- Social Sustainability Chart 14 – Children, Youth and Women on the Farm
- Social Sustainability Chart 15 – Health, Safety and Welfare of Workers
- Environmental Sustainability Chart 19 – Use Appropriate Water Conservation Practices
- Environmental Sustainability Chart 20b: Safe Handling of Chemicals and Waste

Preparation Before the Training

- Ask a farmer who uses organic pest and disease control methods to speak to the group.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Environmental Sustainability Chart 20a: Safe Handling of Chemicals and Waste**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *What protective gear does the person have on for spraying?*
- *How should you store chemicals?*
- *Do you know of any banned chemicals? Why should you NOT use these?*
- *What does a red flag in the garden mean?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Protective Gear	Wear protective clothing and provide protective gear for your workers as well. This includes: • A facemask that covers the nose and mouth • Eye goggles • A tight head cap • Gloves • Long-sleeve shirt • Long trousers • Close-toed shoes like gumboots (not sandals or bare foot)	• Arabica Coffee Handbook, pages 115-116 • Robusta Coffee Handbook, pages 123-124
Minimize the Use of Chemicals	**Minimize the use of chemical pesticides by practicing integrated pest management (IPM).** • Use IPM alternatives like pruning or alternative organic treatments for pests and diseases. **Minimize the use of chemical herbicides by clearing land by hand and weeding frequently. This is healthier for your soils.**	• Arabica Coffee Handbook, pages 71-82 • Robusta Coffee Handbook, pages 73-87

Topic	Core Messages	Links to Resources with More Technical Information
Chemical Application	• Strictly follow the instructions when using chemicals. • Do NOT let children or pregnant women handle or apply chemicals. Ensure that they are not nearby while you are spraying. • Do NOT use banned chemicals such as Endosulfan, Paraquat, Actellic Super, Ambush, etc. • Use Personal Protective Equipment (PPE) while applying agrochemicals. • DO NOT spray against the wind or on a very windy day. This can cause the spray to blow back at you. Spray in the direction the wind is blowing. • After spraying a field, place a red flag to show that it has been sprayed. This can signal to the community to keep away from it (especially children and animals).	• Arabica Coffee Handbook, pages 115-116 • Robusta Coffee Handbook, page 123-124
Chemical Storage and Disposal	• Do NOT store chemicals in the open. Keep them in a locked store or box, away from food and people. • Do NOT store chemicals in beverage bottles. Someone could accidentally drink the chemical if it looks like something nice to drink. • Carefully dispose of used containers which held chemicals.	• Arabica Coffee Handbook, pages 115-116 • Robusta Coffee Handbook, page 123-124

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Group Discussion:** Lead a discussion about the other options that farmers have other than using chemicals. Discuss any prevention methods (intercropping, weeding, etc.) that can be used to keep pests and diseases away. Also discuss any organic treatment methods (organic sprays, etc.) that can be used instead of chemicals. Use this opportunity to drive home the point that chemicals should be the last resort and never the first measure taken.

2. **Guest Speaker:** Ask a farmer who uses organic pest and disease control methods to speak to the group. Why did he/she decide to farm organic coffee? How can other farmers do the same? What are the challenges and what are the opportunities?

3. **Demonstration:** Demonstrate which protective clothing and gear is needed for spraying. Discuss: 1) when it is safe to spray chemicals (when it is not windy), 2) who should NOT spray chemicals or be around while spraying is happening (children and pregnant women), 3) how to dispose of old chemical containers (put holes in them so they can never be used again and bury them, or burn them in a furnace) and 4) how to clean the sprayer safely (away from water sources like rivers).

4. **Case Study:** Review the case studies of some banned chemicals in Annex 2. Discuss the reasons why governments decide to ban chemicals. Discuss the reasons that some farmers still use banned chemicals. Discuss alternatives that farmers have so they do not use banned herbicides and pesticides.

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Use chemicals sparingly and only after all other options for pest and disease control have been exhausted. Chemicals can be harmful to human and animal health, as well as harmful to the water and soil in the environment. Take serious safety precautions when using chemicals including wearing protective gear.

Environmental Sustainability Chart 20b: Safe Handling of Chemicals and Waste

Session Objective:

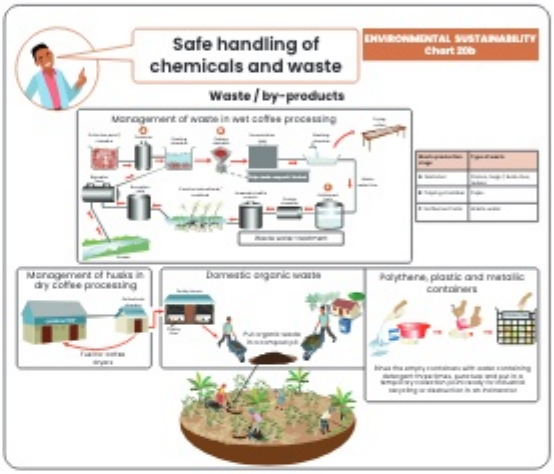
- To recognize how to handle waste from coffee production safely and responsibly

Learning Questions:

- How can waste generated at different stages of wet coffee processing be safely and responsibly managed?
- How can husks be safely and responsibly managed in dry coffee processing?
- How can you dispose of domestic organic waste so that it benefits your farming activities?
- How should you dispose of plastic and metal waste?
- Why is safe and ethical waste disposal important for the environment and human/animal health?

Additional Training Tools:

- Materials needed for demonstrating proper disposal of chemical containers (empty chemical bottles, sharp objects for puncturing them, water, detergent, basin, incinerator, only if possible)
- Flipchart and markers



Resource Material Links:

This session links to:

1. **The Environmental Sustainability Chart**
   - Water conservation
   - Agrochemicals

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 2.0 Management of a Coffee Farm
   - 5.0 Harvesting and Post-harvest Handling of Coffee
   - 6.0 Coffee Farming as a Business
   - 7.0 Environment and Climate Change

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 3 – Feed the Tree Well
- Economic Sustainability Charts 8 – Properly Harvest and Handle Cherries Well
- Environmental Sustainability Chart 19 – Use Appropriate Water Conservation Practices
- Environmental Sustainability Chart 20a – Safe Handling of Chemicals and Waste

Preparation Before the Training:

- If possible, identify a wet and/or dry coffee processing facility for a site visit with participants. It should have the waste management facilities as shown on Chart 20b.
- Identify farmers in the group who are willing to speak about how they recycle organic waste on their coffee farms.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show Environmental Sustainability Chart 20b: Safe Handling of Chemicals and Waste. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions:

- *What do you see on the chart?*
- *What are the appropriate ways of handling various waste generated at the different stages of wet coffee processing?*
- *How should you dispose of used polythene, plastic and metal containers?*
- *How can you manage husks when dry processing coffee?*
- *How can you dispose of domestic organic waste?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Management of waste in wet coffee processing	• **Waste water:** Waste water from wet coffee processing must be properly treated before it is released into the environment or recycled. • Farmers can create a simple water treatment system to ensure the waste water from their coffee does not pollute the environment. • **Pulp:** Pulp should be disposed of in a designated place, and either composited and applied to the coffee garden to improve soil fertility, or used to make biochar. • **Twigs/branches, and leaves:** Separate the organic foreign material removed from the cherry, composit it, and apply it to your coffee garden.	• Arabica Coffee Handbook, pages 115-116 • Robusta Coffee Handbook, pages 123-124

Topic	Core Messages	Links to Resources with More Technical Information
Management of coffee husks in dry coffee processing	• In dry coffee processing, the husks should be collected in a husk chamber to avoid pollution of the environment. From the husk chamber, these husks can then be used as: fuel in the coffee drying chambers; mulch for coffee trees; added to a compost pit/pile to be used as fertilizer for coffee or other plants; or as poultry litter.	• Arabica Coffee Handbook, pages 58-60 • Robusta Coffee Handbook, pages 60-62
Management of domestic organic waste	• Separate organic from inorganic waste so that you can make compost from the organic waste to improve your soil. • Compost is organic matter from plant and farmyard remains that decomposes and is recycled as fertilizer.	• Arabica Coffee Handbook, pages 58-60
Management of used plastic and metal	• Rinse all empty chemical containers at least 3 times with water mixed with a detergent and puncture them to prevent re-use. • Keep all plastic and metal waste safely until the time for safe disposal, such as through incineration. • Keep non-chemical bottles for re-use on the coffee farm such as for bottle irrigation.	• Arabica Coffee Handbook, pages 32; 115-117 • Robusta Coffee Handbook, pages 33; 123-124

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Group Discussion:** Lead a discussion about the negative impact of simply dumping waste water from wet coffee processing directly into the environment (such as dumping it directly into water sources or the ground). Discuss why waste water treatment is a necessary step for conserving the enviornment and being sustainable coffee farmers.

2. **Site Visit:** If possible, take participants for a visit to a wet and/or dry coffee processing facility. Discuss each of the major waste generation stages, identify the waste generated at each of the stages, and how to manage the various waste. In addition, discuss how farmers can create their own waste management system on their farms at the lowest cost.

3. **Guest Speakers:** Ask farmers in the group who have successfully recycled organic waste from their coffee farms to share ther experiences. They may share about the compost pit/piles they have created, the complementary farming activities they have undertaken which use coffee byproducts like husks or pulp, or any other method they have used to recycle organic coffee waste in a sustainable manner.

4. **Demonstration:** Demonstrate how to properly dispose of used chemical containers by washing them with detergent three times, puncturing them and keeping them for collection or incineration. Discuss the importance of careful disposal of such containers and what negative consequences could happen if appropriate care is not taken.

5. **Story:** Tell and/or engage a participant to share a story (either real or invented) about a farmer who did not manage waste responsibly. What happened to the water and soil around this farmer's coffee farm? What happened to the health of his/her family and neighbors? Ask participants to identify what the farmer did wrong and what s/he should have done differently.

6. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Waste from coffee production must be carefully managed to protect the health and sustainability of the environment, and the people and animals that live there. Waste from wet and/or dry coffee prococessing should not be dumped directly into the enviroment – it must be appropriately disposed of. Organic waste can be used in complementary farming activities like poultry rearing and plant fertilization, rather than dumped as unuseful waste. Plastic and metal containers must be carefully disposed of to prevent soil and water pollution, and health hazards to humans.

Environmental Sustainability Chart 21: Saving Energy in a Coffee Household

Session Objectives

- To learn about innovations which save energy
- To recognize the importance of saving energy and protecting trees

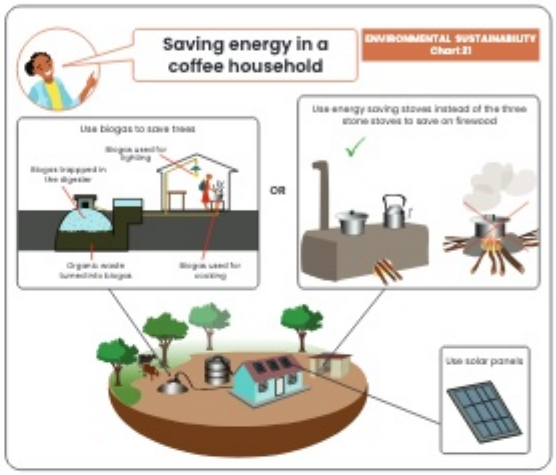
Learning Questions

- What are some cooking/lighting innovations which save energy?
- Why should we use these innovations so that we cut fewer trees to use for firewood?

Additional Training Tools

- Energy Saving Stove Demonstration

  Materials: Mud, banana stalks, shovel, water, grasses, cooking pots, etc.
- Flipchart and markers



Resource Material Links

This session links to:

1. **The Environmental Sustainability Flipchart**
   - Soil management and conservation
   - Forest and biodiversity protection

2. **Uganda Training Materials for Coffee Production Training Manual**
   - 7.0 Environment and Climate Change

Other sub-topic charts linked to this sub-topic:

- Environmental Sustainability Chart 18 – Trees Outside the Coffee Farm
- Environmental Sustainability Chart 17a – Trees on a Coffee Farm
- Environmental Sustainability Chart 17b – Recommended Shade Trees in Coffee per Region

Preparation Before the Training

- None

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Environmental Sustainability Chart 21: Saving Energy in a Coffee Household**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *Do you think you could build a bio-gas digestor or an energy saving stove?*
- *Why do you think solar energy is called "clean energy"?*
- *Why should we save energy?*
- *What is the connection between cutting trees to use for energy and climate change? How does climate change affect coffee production?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Climate Change Mitigation	• It is important to mitigate climate change effects because climate change negatively affects coffee production. • One big impact you can have in mitigating climate change is by using less firewood and cutting fewer trees.	• Arabica Coffee Handbook, pages 107-111 • Robusta Coffee Handbook, pages 115-118
Biogas	• Organic waste can be turned into biogas. The biogas is then trapped in a digester. • This can be used for lighting and cooking a stove.	• IRENA (2017). 'Biogas for domestic cooking: Technology brief', International Renewable Energy Agency, Available at: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Dec/IRENA_Biogas_for_domestic_cooking_2017.pdf

Topic	Core Messages	Links to Resources with More Technical Information
Stoves	• If possible, avoid the use of three stone stoves (which use a lot of firewood/charcoal). • Instead, use energy saving stoves because they are more efficient and require less firewood.	• Ministry of Energy and Mineral Development and GIZ. (2008). 'Construction Manual for Household Rocket Stoves', Available at: https://energypedia.info/images/9/93/GTZ-HOUSEHOLD_Stoves_Construction_Manual_June_2008.pdf
Solar Energy	• Use solar panels for power. This is a clean energy option that helps to mitigate climate change.	• Arabica Coffee Handbook, page 21 • Robusta Coffee Handbook, page 21 • Uganda Training Materials for Coffee Production (Trainer's Guide), page 62

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Calculations:** Help participants calculate about how many trees the average family uses for firewood each year. Mully that by the number of families in the village. Mulle that by 100 years. About how many trees will be cut down for firewood in our village after 100 years? What bad effects come from cutting down trees? What can we do to mitigate these bad effects? Help farmers recognize that planting trees, using clean energy like solar instead of firewood, and using more energy-efficient methods like energy-efficient stoves can help prevent so many trees from being cut down.

2. **Demonstration:** Demonstrate how to build an energy efficient stove.

3. **Story:** Read the story about cutting down trees and its connection to climate change provided in Annex 2. Ask each of the discussion questions throughout the story.

4. **Experience Sharing:** Ask a few participants to share their experiences with deforestation. How have they seen it affect Uganda's climate over the past few decades? How has this impacted coffee production? What are Ugandan families doing to stop deforestation?

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Digital Content (Optional)

Show the following video from CCTV about the damaging effects of charcoal use and some potential alternatives for energy.
https://www.youtube.com/watch?v=zzUOirYO2IM

Show the following video from Send a Cow to show an easy and affordable way to make an energy-efficient stove.
https://www.youtube.com/watch?v=ifpOiCV53FU

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Farmers should take efforts to save energy, especially to use less firewood and charcoal. Saving energy is good for the environment and can help battle the effects of climate change.

Good Governance Sub-Topics

Good Governance Chart 22: Let Your Voice Be Heard

Session Objectives

- To learn how farmers can use their voices to advocate for their community

Learning Questions

- Why should farmers attend community planning meetings?
- Are farmers stronger together or apart when advocating for services?

Additional Training Tools

- Flipchart and markers

Resource Material Links

This session links to:

1. **The Good Governance Flipchart**
   - Coffee Development Agenda

Other sub-topic charts linked to this sub-topic:

- Good Governance Chart 23 – Formalization of Groups

Preparation Before the Training

- Ask a community leader to talk to farmers about how they can get involved in making positive changes in the community.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Good Governance Chart 22: Let Your Voice Be Heard**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *What do you think it means to "use your voice" or "let your voice be heard"?*
- *What are the benefits of attending community planning meetings?*
- *Why should farmers speak up together about issues that concern them?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Participate in Community Planning Meetings	• Participate in village and parish planning processes to demand for government services such as training, access to inputs, seedlings, etc. for your area. • Send representatives of cooperatives to planning meetings to ensure the allocated funds/inputs reach the farmers. • Work together as a group to lobby local government to provide your community with access to health, education, and infrastructure like roads.	• Arabica Coffee Handbook, pages 98-99 • Robusta Coffee Handbook, pages 104-105
Get Market Access	1. Work together as a group to access markets, especially markets the require larger, bulked quantities. 2. Get market information so you know the right price for coffee. • Send an SMS to 7197 that reads "Robusta" or "Arabica" to get market information. • E-mail UCDA to get daily market prices. • Beware of middlemen as they might give you a lower price and take a profit.	• Arabica Coffee Handbook, page 102-104 • Robusta Coffee Handbook, pages 109-111

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Group Discussion:** Work with participants to make a list of things in the community that affect farmers that they would want to advocate to change. These could include things like improving the community's roads for easier transportation of their coffee, or improving the community's health facilities, among many other issues.

2. **Role Play Option 1:** Groups of 5-6 should pretend to be at a community meeting and should role play how they will use their voices at the next community planning meeting to discuss issues that affect farmers and advocate for things they want or need from the community/government. After practicing, each group can present their role plays to the whole group.

3. **Role Play Option 2:** One role play group shows the experience of a farmer group who goes to an input supplier to negotiate for better prices on bulk supplies. This group succeeds in getting a lower price after some negotiation. The other role play group shows what happens when individual buyers approach an input supplier and the more expensive price they get, plus the high cost of transporting their inputs alone.

4. **Guest Speaker:** Ask a community leader to talk to farmers about how they can get involved in making positive changes in the community. The leader can advise the farmers about how they can get involved to advocate for their interests and the betterment of their community.

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Use your voice to advocate for good governance in your community. Coffee farmers can come together as a group to demand for better services and more accountability from both local and national government. Your voices are stronger together – make sure you use them!

Good Governance Chart 23: Formalization of Groups

Session Objectives

- To recognize the importance of formally registering a farmer group
- To recognize the importance of creating a group constitution for a farmer group and consider what bylaws should be included in the group's constitution

Learning Questions

- Why should farmer groups be formally registered?
- Why is it important to have a group constitution that everyone agrees on?
- What are some important bylaws to include in the group constitution?

Additional Training Tools

- Flipchart and markers

Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Farmer organization development

2. **The Good Governance Flipchart**
   - Coffee Development Agenda
   - Lawful and ethical conduct

3. **Uganda Training Materials for Coffee Production Training Manual**
   - 6.0 Coffee Farming as a Business

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 10 – Work in Groups
- Good Governance Chart 22 – Let Your Voice Be Heard
- Good Governance Chart 24 – Keep Your Promises

Preparation Before the Training

- Ask a few representatives of a farmer organization/group/cooperative nearby to speak to the group about their experiences of working in a group.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Good Governance Chart 23: Formalization of Groups**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *What is a constitution?*
- *What are some examples of bylaws that might be in a farmer group's constitution?*
- *Why should everyone in the group agree to sign the constitution?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Registering a Farmer Group	• Working in a group gives you more bargaining power or market power, especially when you sell your crops in bulk and when you buy inputs in bulk together. It can also give you better access to financial services. • Groups should register their group with local government offices. This means that your group is formally and legally recognized. This recognition can open more opportunities to the group. It gives the group more legitimacy and trustworthiness.	
Creating a Group Constitution	• A constitution is a document that includes the basic rules or principles that a group of people agree to abide by. • Countries have constitutions to determine the law of the land, but farmer groups should also have constitutions to spell out what rules all members agree to abide by, and how members plan to operate and work together. • All members should agree to adhere to the group constitution. They can show that they are willing to adhere by signing the group constitution.	• Arabica Coffee Handbook, page 102-104 • Robusta Coffee Handbook, pages 109-111

Training Methods

Choose some of the training methods below to explore more about the topic.

1. **Brainstorming:** Participants can get into small groups and brainstorm some of the bylaws they would want to have in their group constitution if they were to form a farmer group. After small groups brainstorm, they can share their ideas with the whole group.

2. **Role Play:** A farmer group does not have a group constitution or any bylaws for operating. Participants should create role plays to show what can happen in a group that does not have any rules. How does having no rules affect the productivity of the group? How does having no rules affect relationships and disagreements within the group? Groups should present their role plays to each other, then start a discussion about the importance of having a group constitution with bylaws for operating.

3. **Guest Speaker:** Ask a few representatives of a farmer organization/group/cooperative nearby to speak to the group. They should share their experience making a group constitution and some of the bylaws in their constitution. They should also share any stories about how the group constitution helped them settle any disagreements that arose in their group.

4. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: Create a group constitution with bylaws for good group governance. This helps members know what is expected of them and keeps them accountable to follow the group's rules. Without a constitution, groups will be lawless and difficult to manage.

Good Governance Chart 24: Keep Your Promises

Session Objectives

- To recognize the importance of keeping promises made to groups and organizations joined

Learning Questions

- Why should you honor all contracts and agreements you make with others?

Additional Training Tools

- Flipchart and markers

Resource Material Links

This session links to:

1. **The Economic Sustainability Flipchart**
   - Farmer organization development
2. **The Good Governance Flipchart**
   - Lawful and ethical conduct
3. **Uganda Training Materials for Coffee Production Training Manual**
   - 8.0 Social Responsibility

Other sub-topic charts linked to this sub-topic:

- Economic Sustainability Chart 10 – Work in Groups
- Social Sustainability Chart 13 – Joint Planning and Decision Making
- Social Sustainability Chart 15 – Health, Safety and Welfare of Workers
- Good Governance Chart 22 – Let Your Voice Be Heard
- Good Governance Chart 23 – Formalization of Groups

Preparation Before the Training

- Ask a coffee buyer in the area to speak to the group about the importance of keeping their promises to their customers.

Chart Discussion

1. If you have trained on any sub-topics before, ask participants to explain what they remember.
2. Show **Good Governance Chart 24: Keep Your Promises**. Ask discussion questions about the chart and emphasize the core messages.

Example Chart Discussion Questions

- *What do you see on the chart?*
- *What do you think it means to "keep your promises"?*
- *Why should you honor all contracts and agreements you sign? What can happen if you do not?*
- *How are farmer groups/cooperatives/VSLAs/SACCOs strengthened when everyone keeps their promises?*

Core Messages

Topic	Core Messages	Links to Resources with More Technical Information
Honor your Agree-ments and Contracts	1. Stick to the agreements in the contracts you make with: • Buyers • Workers • Other farmers in your farmer group or cooperative 2. Make sure there is trust in the relationship, so that you can count on people, and other people can count on you.	
Taxes	• Pay your dues and taxes.	

Training Methods

Choose some of the training methods below to explore more about the sub-topic.

1. **Analogy:** Discuss how keeping your promises is like ordering and eating *muchomo* for 5,000 UGX and then the restaurant tells you that you have pay 10,000 UGX. Would you be happy to pay this? Or it is like if you order *muchomo* for 5,000 UGX and eat it and then only pay the restaurant 2,500 UGX. Do you think this is OK to do? It is the same with paying workers, delivering to buyers, and contributing to

your farmer group. Pay what you promised and deliver what you promised. Keep your promises so that everyone feels like the interaction was fair.

2. **Role Play:** One group should role play the experience of a coffee farmer who keeps all his/her promises to workers, family members, buyers, traders, supplies, etc. What is his/her experience? What benefits does he/she get from keeping promises? Another group can role play the experience of a coffee farmer who does NOT keep promises to others. What challenges does this farmer face? What are the negative effects of not keeping promises? Groups present their role plays to each other and then discuss the importance of keeping promises.

3. **Group Discussion:** Lead a discussion about some of the reasons farmers do NOT keep their promises to others. What can be done to prevent this from happening? It may require the farmer to have honest conversations with others about what he/she can and cannot deliver by a certain time. It may require the farmer to plan ahead to ensure he/she meets all promised commitments. Brainstorm some solutions for common challenges that farmers have with keeping their promises.

4. **Guest Speaker:** Ask a coffee buyer in the area to speak to the group about the importance of keeping their promises to their customers. The coffee buyer should share an experience with a farmer/farmer group that delivered what they said they would deliver on time, in the right quantity and of the right quality. They should also share an experience of a farmer/farmer group that did not deliver what they had promised. What was the impact of these different experiences on the buyer? What can farmers/farmer groups do to keep their promises to coffee buyers/customers?

5. **Question and Answer:** Ask if there are any questions. Answer any questions participants still have.

Wrap Up

1. Ask participants how this session's sub-topic links to other sub-topics they have learned about before.
2. Ask participants to share one thing they learned and one thing they want to learn more about this sub-topic.
3. Share the sustainability key message to wrap up the main idea of this sub-topic:

Sustainability Key Message: It is much easier to operate in a society that has trust and respect than one that does not. Coffee farmers should honor all contracts and agreements made with others – this will gain them a good reputation as people who can be trusted, and it will likely cause others to honor their agreements with them as well.

Annex 1: Additional Information to Support the Training Methods for the Economic Sustainability Sub-Topics

Chart 2: Manage Your Coffee Tree Canopy

Activity 1: Calculations

Agronomic Practice	Green coffee (grams) per tree	Value (UGX) per tree (@6,000 UGX/ kg)
Local variety, no pruning, no manuring	200-400	1,250 – 2,500
Local variety, pruning	300 - 600	1,500 – 3,000
Local variety, stumping, pruning, weeding, manuring	400 - 800	2,500 – 4,000
Improved varieties, stumping, pruning, weeding, manuring	500 - 1000	3,000 – 6,000
Improved varieties, stumping, pruning, weeding, manuring, fertilizing, mechanical pest & disease control	750 - 1500	4,000 – 9,000
Improved varieties, stumping, pruning, weeding, manuring, fertilizing, spraying	1,000 – 2,000	6,000 – 12,000

Chart 3: Feed the Tree Well

Activity 1: Demonstrate How to Make Organic "Green" Manure

Materials:

- "Brown" plant materials like dead leaves, chopped maize stalks, wood chips, nut shells, hay, shredded paper, maize cobs, straw, etc.
- "Green" plant materials like grasses, flowers, fresh leaves and weeds, vegetable and fruit kitchen scraps, coffee and tea grounds, eggshells, etc.
- Soil
- Buckets with water
- Garden hoes and spades
- Gloves and gum boots (optional)

Instructions:

1. **Step 1:** Organize a large quantity of both "brown" and "green" materials, animal dung, and soil
   - "Brown" materials are: Dead leaves, chopped maize stalks, wood chips, nut shells, hay, shredded paper, maize cobs, straw, etc.
   - "Green" materials are: Grasses, flowers, fresh leaves and weeds, vegetable and fruit kitchen scraps, coffee and tea grounds, eggshells, etc.
   - Animal dung can come from cows, pigs, goats, chickens, or sheep

2. **Step 2:** Use garden hoes and spades to dig a pit that is about one meter by one meter.
3. **Step 3:** Put a thin layer of brown materials in the bottom of the pit.
4. **Step 4:** Put a thin layer of soil on top and sprinkle with water.
5. **Step 5:** Add about 15-20cm of "brown" materials" to the pit.
6. **Step 6:** Add a layer of animal manure to the pit (optional).
7. **Step 7:** Add about 5-8cm of "green" materials to the pit.
8. **Step 8:** Sprinkle soil on top and water generously.
9. **Step 9:** Repeat this layering of brown materials, manure, green materials, soil and water until the pit is full.
10. **Step 10:** Cover the pile with banana leaves. This will prevent the compost from drying out and allow some rain in to keep the pile moist.
11. **Step 11:** Turn the compost pile every week and keep it moist (but not wet/soggy). The compost will be ready in about three months.

Chart 9: Organize Your Business

Activity 4: Practice 1 (Budgeting Template)

Example Story: The Maganjo family runs a small-scale coffee farm. They want to estimate their farm-related costs for the next few months. They estimate the amount they will need for each aspect of coffee production including:

- To purchase inorganic fertilizer
- To purchase a new pruning saw and new secateurs
- To create a rainwater harvesting and bottle drip irrigation system
- To hire labor for harvesting
- To transport their coffee to market

They also estimate the amount of income they will receive from both their 1-acre coffee garden, from selling some banana bunches, and selling some honey from their apiculture project.

Use the budgeting template on the next page to help participants fill out a sample budget, based on the Maganjo family's story. Then ask participants to create a budget for themselves based on their own coffee farm.

Budgeting Template

MONTH:

YEAR:

NAME:

Date	Expense	Income	What?
../../....	..... UGX	..... UGX	Example: Secateurs
TOTAL	**TOTAL EXPENSES**	**TOTAL INCOME**	**PROFIT/LOSS**
	.... UGX	.... UGX	.... UGX

Annex 2: Additional Information to Support the Training Methods for the Environmental Sustainability Sub-Topics

Chart 20a: Safe Handling of Chemicals

Activity 4: Case Studies

Banned Chemicals

1. **Endosulfan (Pesticide)**
   Uses: Endosulfan used to be sprayed extensively on coffee and other crops because it was highly effective at killing many pests such as aphids, beetles, and worms.

   Negative Health Effects: Endosulfan is toxic to humans. People who have been highly exposed to endosulfan (via field spraying) can die. People, especially children, who consume foods with endosulfan can have reproductive and developmental damage. It can also affect the central nervous system, causing convulsions and renal failure.

   Negative Environment Effects: Endosulfan is also toxic to other mammals, causing death if they ingest the chemical. In addition, it is toxic to honeybees. This can have a negative impact on the environment as honeybees are important pollinators.

   Current Use Status: Endosulfan has been banned by more than 80 countries as of 2012.

2. **Paraquat (Herbicide)**
   Uses: Paraquat is used as an herbicide to kill unwanted plants, like weeds, in the garden.

   Negative Health Effects: Inhaling Paraquat (during spraying) can cause poisoning leading to lung damage. It can also cause a severe rash if it comes in direct contact with the skin. If Paraquat is ingested in large amounts, it can cause heart, kidney, and liver failure, causing death.

   Negative Environmental Effects: Paraquat can cause soil and water pollution, causing serious damage to animals and organisms in the environment.

   Current Use Status: Paraquat has been banned in some countries in Europe because of its high toxicity.

Chart 21: Saving Energy in a Coffee Household

Activity 3: Story

The Story of Buteba Village

Buteba is a small village with about 200 families all living in the valley and on the slopes of a surrounding mountainous area. Over time as the population has grown, some families have constructed houses higher up on the slopes to avoid the congestion down below in the valley.

Question for discussion: What are the dangers of living and farming on the slopes of a mountainous area?

The main economic activity in Buteba is farming. Whereas other income generating activities such as grocery shops, markets, transport, dairy, and fishing take place in this village as well, they happen on a limited scale. Farming is what supports the livelihoods of 90 percent of the population in Buteba village, especially coffee farming.

But farming requires land – a lot of land – if a farmer is to successfully cultivate their crops and enjoy plentiful harvests. Land, however, is one asset in very short supply in Buteba. Each family is settled on a small piece of land on which they each carry out their farming activities.

Question for discussion: What is land segmentation? What disadvantages does it pose, especially in a mountainous area?

Due to the limited land available in the valley, over the years many families have moved up the slopes in search of space for expanding their farming activities. They cut down the trees on the slopes of the mountain and worked their way upwards, clearing and burning any bushes so they could plant their crops. They also cut trees for firewood and charcoal, which they need to cook their food and heat their water. But cutting down the trees has exposed the soils to the harsh weather that Buteba has been experiencing in recent years.

Question for discussion: How do you think cutting down trees will affect the people of Buteba village?

In addition, the farming families in Buteba have no knowledge about how to safely cultivate crops on the slopes of a mountain, so they plant in much the same way they usually plant on flat land. They do not dig trenches or terraces to hold back running water when the heavy rains come each season. Instead, they plant crops straight down the slope.

Question for discussion: What risk does the population of Buteba face with these poor farming practices and deforestation?

When it rains, water runs straight down the mountain, through the eroded soils, without any trees, trenches or terracing to stop it. This has caused huge chunks of soil to detach from the mountainside and cause landslides which bury homesteads and destroy the village's minimal infrastructure. The runoff has also polluted the only available water resource in the village, Lake Buteba, which is in the valley. This lake, from which the population draws water for drinking, cooking, and washing, among other purposes, has supplied water to all the families in Buteba for generations.

But today, the lake is under threat of drying up because of the raised bed, which is a result of the siltation from the landslides. The water is so polluted, families and animals are falling sick from consuming it. Even the fishermen, whose source of livelihood is the lake, are complaining about the dwindling fish supply in the waters.

What was once a vibrant community living off the efforts of their farming activities, is now a population faced with a looming food crisis and under constant threat of destruction and death from landslides.

REPUBLIC OF UGANDA

MAAIF
Ministry of Agriculture,
Animal Industry and Fisheries

UCDA
Uganda Coffee Development Authority

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