

LEARNING

AgriCultures

Insights from sustainable small-scale farming



MODULE 1

Sustainable small-scale farming

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This publication forms part of the **Learning AgriCultures** series for educators, providing insights on sustainable small-scale agriculture.



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Please note:
This module is the first edition. We welcome comments and suggestions for improvement.

Foreword to Learning AgriCultures series

Why Learning AgriCultures?

Over the years, the readers of ILEIA's magazines, as well as our international partner network, have asked for support material explaining the principles behind sustainable small-scale farming. With 25 years of publishing practical cases from around the world, ILEIA has a wealth of material for exploring this subject. The Learning AgriCultures series is our response to this request. As sustainability is a concept that translates differently according to the specific local conditions, this series does not intend to offer solutions to all the problems. Its objective instead is to stimulate a learning culture about small-scale farming sustainability. Through probing questions, and a variety of educational resources, we hope that this material helps feed into discussions and reflection on the important contributions of small-scale farming, and what sustainability means in students' particular contexts. The series is not intended as a field guide and does not focus on technical details about farming methods. It does however suggest further references for digging deeper into technical questions.

Who is it for?

Learning AgriCultures is a learning resource particularly useful for educators seeking support material for explaining about sustainable agriculture in their courses, at a university or college level, in special NGO training courses or elsewhere. Courses where this series could be useful include agriculture, rural development, environmental studies, research & extension, agricultural policy-making, for students primarily but not exclusively working in developing countries.

What is in it and how can it be used?

The Learning AgriCultures series of seven modules is dedicated to understanding small-scale (family) farming and how it can become more sustainable. Each module has three learning blocks, looking at its theme from the perspective of: 1) the farm, 2) issues in the wider context affecting farming, and lastly 3) sustainability approach and governance issues. These learning blocks are followed by a section of educational support material. Educators can choose from practical cases (mostly drawn from 25 years of articles in ILEIA's archive), exercises, games, photos, videos, farmer visit checklist as well as further references (free books and websites) to supplement their courses. A glossary of difficult terms, drawings and diagrams help explain concepts throughout. Through suggested questions, practical examples from around the world, and different kinds of resource material, educators can make their own lesson plans choosing that which is relevant to their own regional context.

Learning AgriCultures: Insights from sustainable small-scale farming

- Module 1** • Sustainable small-scale farming
- Module 2** • Soil and water systems
- Module 3** • Cropping systems
- Module 4** • Livestock systems
- Module 5** • Labour and energy in farming
- Module 6** • Markets and finance for small-scale farmers
- Module 7** • Knowledge for small-scale farming





Summary of this module

Most farmers in the world have small-scale farms. About 1.4 billion people depend on small-scale farming for their livelihoods. Most farm in rural areas, yet a growing number are urban farmers – producing a large proportion of the vegetables, meat and dairy products consumed in the cities where they live. All of these farmers grow a large percentage of the food consumed in their region. In fact, many crops are grown mainly by small farmers. And some of these farmers are among the most efficient producers, outdoing all others.

There is huge variety of small-scale farmers - a family living in the Andean highlands farms in a different way from a family in the Sahel, in the delta regions of Bangladesh, or in more temperate areas of the North. In spite of the tremendous diversity, small-scale farmers share some common characteristics, such as being family-based, having a smaller size, and being engaged in a diversity of activities. They have an important role in food production and in keeping rural areas and communities vibrant.

Yet, in many areas, most of the rural poor are small-scale farmers. For various reasons, these farmers are not able to sustain their families by growing staples for their subsistence needs alone. They may need to increase their cash income from their farms, or seek a variety of income sources, with some members of the family moving elsewhere to work.

Certain trends around the world work against the survival and sustainability of small-scale farming. Support systems are not necessarily loaded in favour of small-scale farmers. Pricing support, the issuing of land concessions, research, marketing systems are often biased towards large agribusinesses. In addition, natural resource systems are under pressure and climate change adds to variability. These trends amplify the already risky and unpredictable conditions under which small-scale farmers operate.

Module 1 is the introduction for the Learning AgriCultures series. Subsequent modules provide a more in-depth and practical focus on different aspects of sustainable small-scale farming. This module can alternatively be used as a stand-alone short course, to provide an overview of small farm sustainability.

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Guide to educators

PURPOSES OF MODULE 1



Figure 1: Educators, the target group of Learning AgriCultures

For educators:

- to have different resources to support teaching about sustainability issues and small-scale farming.

For students:

- to reflect on the situation of small-scale farmers in their region and around the world; and
- to learn about sustainability issues and small-scale farming.

How to teach Module 1

Based on review, about 48 hours will be needed to teach this entire module, including conducting an interview with farmers. Educators will need to decide for themselves whether to use the entire module or parts of it when making their lesson plans.

The total time required and duration of each lesson will vary depending on the level of students, the knowledge of the educator, and how many of the educational resources as well as assignments you choose to include in the course. An important component is to visit and interview a farmer – for students to understand the practical realities of farming systems.

What is in the module

This module is the first one in the Learning AgriCultures series. Module 1 includes three Learning Blocks, and section with Educational Resources. The three Learning Blocks follow the basic structure and approach of all modules in Learning AgriCultures. The blocks build up information on the module's theme according to: The farm → The wider context → Sustainability and Governance of the theme. This module differs slightly from the subsequent modules in that the last sub-section of each learning block offers some deeper Background Information on the block's topics. The learning blocks are followed by a final section with support materials for educators to make lessons more insightful and practical.

Specifically, the content of this module is as follows:

LEARNING BLOCK 1:

Small-scale farmers and their farms

This block provides an analysis of farms as systems that are composed of different sub-systems and factors of production. It concludes with background material on the unique characteristics of small-scale farming.

LEARNING BLOCK 2:

Small-scale farming in the wider context

In this block, the wider context of the farm is highlighted, focusing on ecological, socio-cultural, economic and political aspects. Attention is given to important large-scale trends (“drivers of change”) that affect farmers around the world to different extents.

LEARNING BLOCK 3:

Sustainability and governance of small-scale farming

By taking a systems approach to farming, the issue of sustainability becomes easier to understand. In the third block, ideas for improving the sustainability of small-scale farming are introduced as well as a look at governance issues. In the background material, a brief overview is given of different kinds of sustainability approaches from around the world.

EDUCATIONAL RESOURCES:

This section consists of different kinds of support material for educators to stimulate deeper insights and discussions in-class or as assignments. Throughout the main texts, boxes of suggested questions are indicated by the symbol found in Figure 2; and links to resources (see list below) are indicated by Figure 3.

- **Cases and articles:** Stories of four small-scale farmers from around the world are provided, as well as suggestions for further reading and assignments based on articles from ileia’s magazine archive. The four stories offer contrasting examples to better visualise the theoretical information.
- **Games:** for in-class, to help deepen understanding of soil and water systems;
- **Videos:** for in-class, to complement the teachings with visual examples from around the world;
- **Farmer interview:** suggested visit with a small-scale farmer, checklist and further on-farm exercises for students; and
- **Further references:** suggestions for free books and guides, and interesting websites with links to a number of other resources.



Figure 2: Symbol to indicate link to suggested questions



Figure 3: Symbol to indicate link to educational resources

Glossary for the whole series

This is separate to the module and includes definitions for difficult terms for the whole Learning AgriCultures series.

LEARNING BLOCK

Small-scale farmers and their farms



What do we mean by small-scale farms? And why is small-scale farming significant? While recognising the vast diversity of farms, this first learning block presents some common traits and general issues within a systems thinking perspective. Through questions, stories and suggested exercises, discussion can be stimulated to get a better understanding of the world of small-scale farmers.

1.1 Introduction

Almost a billion and a half people around the world make their living from small-scale farming. This number is so large that productive, sustainable small-scale farming holds a key to reducing poverty, increasing economic growth, and improving environmental conditions. It is important to understand the potentials and constraints of small-scale farming, to see where the opportunities for improvement are. While there is so much diversity in farms and the conditions of farming, this is no simple task. With this learning block, we try to make sense of small-scale farms using different kinds of information and ways of analysing them.

When people think of farms, they have a certain picture in their minds about them. Telling stories of different real-life small-scale farms helps to convey their rich diversity and complexity – but also makes it possible to recognise the similarities as well. Four stories are offered in this module, of small-scale farms from around the world. These (or even better, use your own stories) can be referred to, to help bring the theoretical information alive. Other educational resources include exercises and video ideas. The learning block ends with a “Background Information” section, providing an overview of unique characteristics of small-scale farms.

1.2 Making sense of farms

Every farm is a unique agroecosystem. It is also a complex, interwoven mesh of soils, plants, animals, implements and people, operating within a specific landscape, climate and society. One way to make sense of the complexity of farming is to look at farms in terms of “systems”. Taking a “systems thinking” approach focuses on interrelationships between elements on the farm and patterns of change rather than focusing on the elements alone. This approach is based on the belief that the different parts that make up a system can better be understood by looking at them in relation to each other and to other systems, rather than in isolation.



For inspiration, read R2.1.1, R2.2.1, R2.3.1 or R2.4.1 for four examples from around the world.

It is helpful to start the discussion with a story of one or two small family-based farms typical to your region. Try to give an overview of different aspects of the farm – the types and mix of products (crops and livestock) coming from the farm, the resources at the disposal of farmers there, how much land they typically can farm, soil characteristics, water availability, the farmers’ approach to farming and the practices they use.

Looking at a farm as an example of a system, it consists of a number of elements that interact with one another in order to function as a farm. Elements on the farm include the soil, water, plants, animals and people working on it. These elements interact with one another to function as a farm – a place from which to gain a livelihood, to produce food and other products.

How the system is defined depends on the level focused on – or where the boundary around it is drawn. The system’s boundary is not fixed and it is also not closed as there are flows inside and across boundaries. For example, if a farm is defined as a system, then it is clear that water comes into the farm from outside its borders, and farm products flow out of the farm to be sold or exchanged in the market or elsewhere.

While a farm can be considered as a system in itself, it can also be looked at as being composed of many small systems. For example, the nutrient cycle is a sub-system within the farm, in which nutrients flow between the soil, plants, animals and people in it; or the sub-system of water cycling through the farm. By widening the system boundary over a larger area, the farm can also be seen as part of a wider system of farms in an area, in which farmers share the same resources, including water, grazing areas or forest; they might also share labour or draught animals, for example. The cycling of nutrients within the wider area also looks different. What were nutrient losses from the farm when products were sold in the market, for example, are simply part of the wider nutrient cycle in the area.



Understand the concept of systems better through a simple exercise on the flow of resources within a farm. Go to Exercise R1.1.

1.3 Looking at farms in terms of a model

In this section, we will move beyond the flow of resources, to look at farms on another level. While all farms are very complex and distinct, some basic concepts we find important are highlighted in this section, to help understand small-scale systems better. These concepts are introduced here, but will be deepened in the rest of the Learning AgriCultures series.

1.3.1 System of inputs and outputs

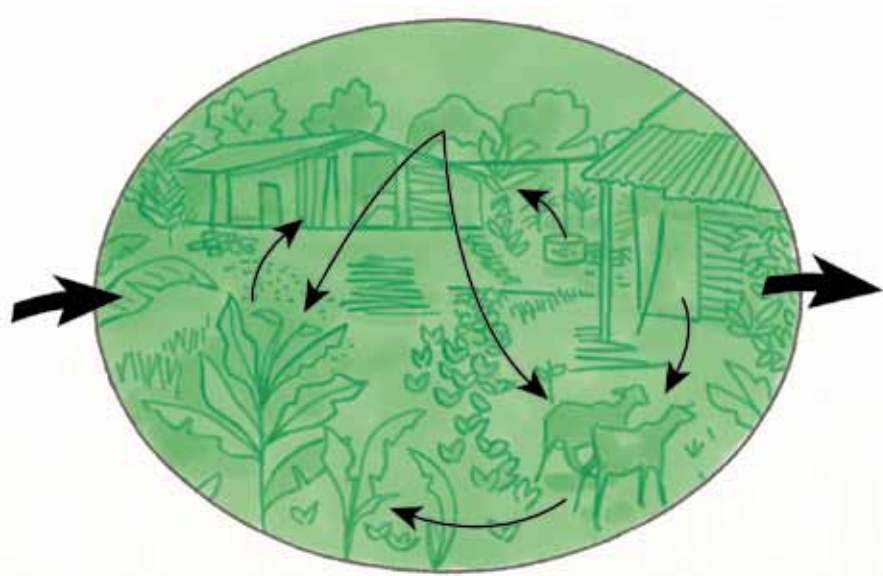


Figure 4: An example of some resource flows in a farm that itself is a system of inputs and outputs.

A farm as a system can be brought down to a simple definition: people interacting with ecological resources for their livelihoods. How the farmer “manages” the resources available to the farm greatly determines how well the system functions and how productive it will be. As explained above, farms are not closed systems, and there are always flows within and across their boundaries. These elements are often described in terms of “inputs” and “outputs” (see Figure 4).

Things that flow over the farm boundary can therefore be looked upon as an input. They are usually thought about in terms of physical resources such as inputs like seeds or water or the labour involved, but inputs also refer to less tangible elements like technologies, skills and knowledge. Especially when looking at farmers with few cash resources, inputs are often distinguished between locally available resources - and “external inputs” bought in the marketplace or elsewhere.



Looking at the resource flows in the farms made by the students, ask them to describe:

- What are the inputs and outputs, and those elements that are consumed or recycled within the farm?
- Where do the inputs come from?

Outputs refer to that which flows out of the farm. Outputs are usually thought of in terms of production of crops, animals, and other by-products such as manure, or value-added products such as crafts or herbal mixtures. Many of these products can either be consumed internally or recycled within the farm (some refer to these as “throughputs” - e.g. using manure in the farm to improve soil fertility); or be taken out of the farm system to be sold, exchanged or given away. But outputs also include “losses” from the farm system (e.g. leached nutrients or water evaporating). As with inputs, outputs are not only physical products, but also refer to less tangible elements like improved skills and knowledge, or ecosystem services such as contributing to a beautiful landscape.

It is very difficult to adequately quantify all the flows found on a farm although some scientists try to do this. In general, for a system to be functioning well – and for a farm to be sustainable – the outputs should not exceed the inputs (see Learning Block 3 for more on sustainability). However, for farming to be able to provide a profitable income, the value of outputs should be higher than the value of its inputs.

1.3.2 Farmer worldview & action perspective



Figure 5: Worldview plays an important role in farmers’ decision-making.

Everyone has a worldview, which is their perspective on life, work and their place in the world, as well as their individual priorities. While worldview plays a very important role in decision-making, it is something abstract and difficult to define. It is the overall perspective from which a person or group sees and interprets the world, and their collection of beliefs about life and the universe that influences their strategies. It refers to assumptions and images that have an effect on people’s motivations in life and in this case their farming goals. Worldview also refers to how people view their position in terms of gender equality, relationship with nature, etc. For example, men and women farmers have different priorities on the farm and therefore concentrate on different tasks they find important; however,

they can still have quite a similar worldview. Over time, people's worldview changes because of changes around them.

Although many people can have the same kind of worldview (for instance through religious or cultural beliefs), what they do with it, or their “action perspective”, depends on their personality and experience (for example, some people are risk-takers, while others are much more careful; also, some people are born leaders, and others are happy to be followers).

Understanding farmer families' worldviews and action perspectives helps us to understand their decisions about how they organise and manage their farm. It can for example have an impact on what input choices farmers make, and how to use them, though it may also have to do with changing opportunities. For farmers to move from subsistence to market-orientated agriculture, or to start using different inputs and resources, their worldviews may first need to change.



- How do students think a farmer who produces for the market thinks and acts differently from a more traditional subsistence farmer or a pastoralist. What about a woman farmer as opposed to a male farmer?

Ask students to think about their own worldview when answering the following questions:

- What is more important to you: earning money or something else?
- What do you do with your extra money – put it into a bank account, invest in something for the long-term, or buy things to consume right away?
- What do you do in your daily life because of religion?
- How do you view animals in your life? Do you have different feelings about different kinds of animals?
- Do you think that women and men have specific types of tasks to fulfil?
- If you have a daughter and a son and you only have enough money to educate one of them, who would you choose and why?
- How different is your worldview to that of your grandparents? How do you know this? What does this say about worldviews over time?

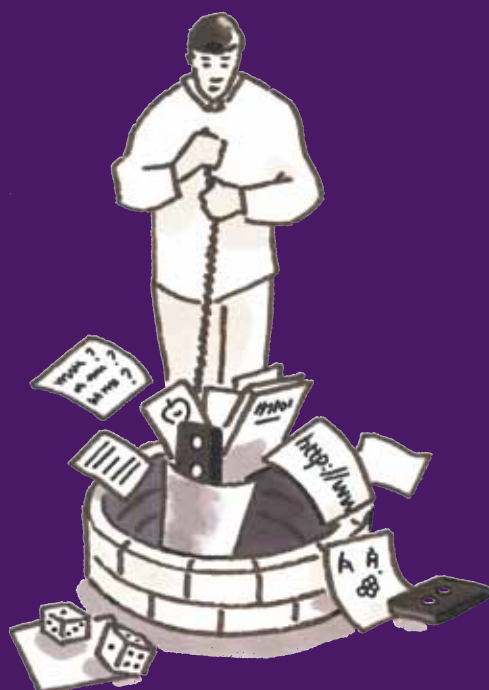
1.3.3 Land, Labour, Capital and Knowledge: four factors of production

The term “Factors of production” comes from an economic phrase describing resources (inputs), which are used to produce goods and services (outputs). These factors are also known as productive inputs. Common definitions of factors of production of farms all include at least the factors of land, labour and capital. A fourth factor that we consider to be important for understanding farming systems is: knowledge. These four factors are defined below. Small-scale farmers usually suffer from limitations in their factors of production, and therefore this section ends with a short look at how shifts in emphasis occur between the different

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EDUCATIONAL RESOURCES

for Module 1



How can students reflect more deeply about concepts of sustainability and small-scale farming? Throughout the three learning blocks, different educational resources have been suggested to help stimulate discussions and as material for assignments. These are brought together in this section, and include games, exercises, articles, photos, videos, farmer interview checklist and field exercises, as well as references for further reading.

R1. Games and Exercises



Figure 33: Games can help students understand issues better

This section provides four exercises and one game to support lessons in the three learning blocks.

R1.1 Resource flow map of a farm

Objectives of the exercise: for students to make a simplified picture of a farm system through flows of resources, to learn about elements, boundaries, flows and interactions.

Time involved: 1 lesson (during Learning Block 1)

Materials: Large sheets of paper and coloured markers

Methodology:

- If possible, divide the class into small groups of up to 10 people each.
- Agree as a group to make a map of a particular farm. Make a list of all the resources that are part of that farm before starting the map.
- First draw the homestead and farm fields (these are the boundaries of the farm) and other farm elements such as buildings, grazing areas, water sources and compost pits.
- For each field, draw both present and previous crops
- Draw arrows to represent resource flows between fields and other farm elements; e.g. arrows indicate flow of crop products (from fields to subsistence needs or leaving fields for selling) and residues (flows to compost heap – then back to fields? residues left as mulch? to animals?); also inputs into the farm such as mineral fertilizers, seed, etc.
- The resulting picture presents an overview of resources and interactions (or absence of interactions) between farm elements and inputs/outputs (elements outside the farm).

Discussion:

- Try to think about whether enough resources stay on the farm, or whether more go out than stay (or come back) in. Are there any bottlenecks or shortages? What does this mean for the farm?
- Try to think: what happens in a bad year (for instance only unseasonal rain) and in a good year with the resource flows on the farm
- Compare resource flow maps for different farms and discuss why they have different types of interactions and resources.
- See the example of a resource flow in Figure 34:
 - where should the boundary be between the farm system and outside the system?
 - See how division of labour is differentiated according to gender and hired labour. What can this tell us about the farm's labour patterns?

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R2. Four stories of small-scale farmers



Figure 37: Small-scale farmers exist all over the world. They all have their own story to tell about their farm - and all are different.

Purpose: to refer to examples of contrasting small-scale farmer stories from around the world in order to bring alive theoretical points in the three learning blocks, and to feed into discussions.

Materials needed: Either use the stories shown below, or tell stories you know from your region, as long as they provide enough contrasting illustrations.

Methodology:

Throughout this module, reference is made to “Four Stories” which we have designed to illustrate different points brought up in the theoretical sections. These stories are based on real farmers, but in the first three, details have been added to highlight certain issues that affect the productivity of small-scale farms in different ways. Only the fourth story has been written by the farmers themselves. The stories tell about a subsistence farmer household in Africa, a commercial farmer from Latin America, a woman farmer in Asia, and organic farmers in Europe.

- Each story has been split up into three sections according to the three learning blocks. Use them to explain theoretical points in the core text of the three learning blocks.
- References to the four stories come up throughout the blocks, with questions to be used as assignments or to feed into classroom discussions or debate.

R2.1 Subsistence farmer in Africa

R2.1.1 Learning block 1: The farm

Amir lives with his two wives, Mila and Helena, and their 12 children in a rural valley at the foot of low-lying mountains in western Mozambique. Their compound has a home garden where they grow vegetables (such as pumpkin, sweet potato, tomato, carrots) and fruit trees (banana, avocado and mango). The two households work on separate parcels of land (at about 1.5 ha each, shifting to different places every few years) on which they grow maize, sorghum, millet and cassava, as well as beans and groundnuts. Although they manage separate fields, Mila and Helena and their older children help each other at busy times such as during sowing and harvest. The households also have five cows, about 10 goats and many chickens. The sons look after the larger livestock, and herd them to the areas left to fallow in the area. The women do the greater share of the agricultural work, using hand tools, and yearly burning to clear the land of the wild brush.

The double household is struggling to survive. Every year, there are a few months when they do not have enough food as their cereal store runs out just before the new crops are ready to harvest. They mostly live from the farm produce, but


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R3. Articles of practical experiences




Figure 47: Using ileia's article archive to stimulate discussion on practical implications of small-scale farming sustainability

Objective: To use articles on small-scale farming experiences from around the world to deepen learnings about sustainability issues.

Materials: Most articles can be retrieved from ileia's website, while a selection of articles (indicated by ) is included in the Appendix to this section.

Methodology: These articles can be used as additional reading material, as part of classroom discussions, or as part of student assignments. One possibility is to have students prepare presentations on the basis of the articles, addressing specific questions related to the information brought up in the learning blocks. Some questions are suggested.

Article R3.1 Farmer crop priorities in Mexico

 Bridging the gaps between researchers' and farmers' realities (Mexico, 2006)

Where to use it: Learning Block 1 – during discussion about Knowledge as a factor of production (Section 1.3.3)

Suggested questions

- What does this article tell you about small-scale farmers' and scientist knowledge and priorities? Why do these differences exist?
- Why and how do research organisations encourage maize farmers' involvement in research?
- How do farmers benefit from participatory research?
- Could this work in your region? (Do you already know of similar initiatives in your region?)

Article R3.2 Debate virtues of small- vs large-scale farming

Go to: http://www.future-agricultures.org/EN/e-debates/Big_Farms/farm_debate.html

(by Future Agricultures Consortium, IDS, 2009)

Where to use it: Learning Block 1 – following Section 1.5 (Unique characteristics of small-scale farming)

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R4. Videos

Objectives: To offer visual examples from around the world to complement teachings and to deepen students' understanding of the diversity of issues confronting small-scale farmers, as well as practical initiatives towards sustainability.

Total time involved: Video durations shown below – add time for classroom discussion

Materials: Video are available on CD-rom or can be downloaded from Internet – need a computer and beamer to project it in class.

Methodology:

- Present the videos to illustrate points raised in the learning blocks, to stimulate discussions.
- Use the videos to also discuss similar issues and initiatives in your region.

R4.1 Feeding & Greening the city

Link from: http://www.youtube.com/user/ILEIAfoundation#p/u/3/jZZUZ_aQWx8

Duration: about 5 minutes (suggested for Learning Block 2-section 2.4.2)

This video looks at the experience of small-scale urban and periurban farmers in Accra, capital of Ghana, West Africa in producing fresh horticultural products for the city's population (produced by ileia and RUAF, 2009)

Suggested questions:

- How do the urban farmers supplement what the rural farmers produce for Accra's population?
- What are different practices that the urban farmers adopted that allow for a more sustainable approach to their production?
- How can people get access to land in the city? How secure is this?
- Is urban agriculture a good option in your region? What are the benefits and what are the disadvantages?
- What do you think of practices such as using urine as a fertilizer?

R4.2 Where is the Monsoon?

Link from: <http://www.youtube.com/user/ILEIAfoundation#p/u/0/XBnmvYtX8EM>

Duration: 10:01 minutes (suggested for Learning Block 2 – section 2.4.5)

This video looks at the experience of a family in the Anantapur district of India that has decided to turn its back on modern groundnut production in favour of their traditional ecological agriculture methods (produced by ileia, 2009).

This is a preview: the number of pages displayed is limited

R5. Farmer visit

Objectives: To get very close to practical realities of small-scale farming sustainability by seeing a farm and talking to a farmer directly; to understand the concepts in the learning blocks better; and to allow students to get practical experience in interviewing and synthesising information.

Time involved: Take time ahead of the interview to prepare interview questions. Time for the visit depends on how far farmers live from the school; the interview should last at least 2 hours. Field exercises half a day

Materials: For the interview: pen and paper to take notes, camera and/or video camera; For field exercises, see below.

Methodology:

- See R6.1 for farmer interview preparation and checklist.
- Read through R6.2 for some ideas on getting deeper insights from farmer interviews.
- Following the visit(s), ask students to make presentations or a written report on their findings.



R5.1 Farmer interview

- Explain to the students that it is important for them to visit farms and talk to farmers so that they get a better understanding of farming systems and issues of sustainability in your area.
- Decide how many students should visit one farm and help them to select small-scale farms to visit. Be sure to have permission from the farmers to a visit.
- Divide your students so that some interview male and others women farmers, to get different perspectives.
- Before going to the farm, ask students to make a list of questions to ask the farmers, reminding them to:
 - be sure to formulate the questions to be sure they are respectful to the farmers, and clear.
 - be sure to listen carefully to what they say, be as open and neutral as possible, and do not judge them hastily.
 - find ways to ask farmers questions that will give the answers you need - but use terms that are understandable to them. For example, they might not understand the theoretical terms we have discussed in the farming systems model.
- In their interview with the farmers, the students should ask questions that will allow them to get a good overview of the five elements of the farm, as introduced in the model in Learning Block 1 - and if possible any links with “drivers of change” they can find. Consider the constraints and opportunities of the farmers, and how they have buffers in their practices, to be able to adapt to changes.

This is a preview: the number of pages displayed is limited

R6. Further references for Module 1

This section provides a brief overview of different resources for educators and students to delve more deeply into the themes brought up in Module 1, particularly on small-scale farming and sustainable agriculture. Resources include books and guides, as well as websites that offer further resources, photos and videos.



R6.1 Books and guides

Explain to the students that it is important for them to visit farms and talk to farmers so that they get a better understanding of farming systems and issues of sustainability in your area.

Sustainable Agriculture Extension Manual – For Eastern and Southern Africa

IIRR. 1998. International Institute of Rural Reconstruction African Regional Office, PO Box 66873, Nairobi, Kenya

The manual provides an overview of selected problems and issues in sustainable agriculture in Eastern and Southern Africa, and the various attempts by individuals, communities and development organisations to overcome these problems and to attain sustainable agriculture in Africa. It provides specific examples of technologies and approaches, as well as selected cases of individual farmers' and communities' experiences. The book emphasizes locally available resources, crop diversification, animal integration, natural plant protection and systems of soil, water and genetic resource conservation.

Sustainable Agriculture Training of Trainers: A Resource book

IIRR, ETC. 2002. International Institute of Rural Reconstruction, Philippines and ETC, the Netherlands.

This manual focuses on how to conduct training on sustainable agriculture, with concepts and principles, experiences with practical technologies, and ideas on games and activities that help adults learn the issues.

See Table 4 at the end of Learning Block 3 for websites to access specific books relating to different sustainability approaches.

R6.2 Interesting websites

Agroecology in Action

www.agroeco.org

This website offers a wide range of useful information and documents on agroecology both in English and Spanish. The publications cover among other topics: concepts and principles of Agroecology, pest management, modern agriculture and biodiversity.

Agromisa

<http://www.agromisa.org/>

Agromisa Foundation, P.O. Box 41, 6700 AA Wageningen, the Netherlands. E-mail: agromisa@agromisa.org

This organisation aims to provide information on small-scale sustainable agriculture in the South, and related topics, through different educational booklets. Their Agrodok series ranges from practical tips on specific crop-growing or livestock-keeping, to general agricultural themes such as home gardening or HIV/Aids and agriculture. These documents can be ordered for free, or downloaded from the website. Agrodoks are available in English and French, and many are also in Portuguese and Spanish.

BioVision Foundation for Ecological Development

<http://www.infonet-biovision.org/>

BioVision Office at ICIPE, P.O. Box 30772, 00100 Nairobi, Kenya. E-mail: infonet@icipe.org

This web-based information tool offers trainers, extension workers and farmers quick access to up-to-date information on sustainable livelihoods. The information is text-based, and presented with nice photographs as well as illustrations that can be used for educational and training purposes. The different topics presented refer to agriculture, livestock, health promotion and environmentally safe technologies. They focus on the ecology and the species that are prevalent in East Africa. However, the information presented can be useful for other tropical countries as well.

Eldis

<http://www.eldis.org/>

Institute of Development Studies, University of Sussex, Brighton BN1 9RE, U.K. E-mail: eldis@ids.ac.uk.

The Eldis website provides freely accessible information on international development issues including (sustainable) agriculture and education resources and documents, as well as country profiles. Its focus is researchers, development practitioners and policy formers at national and international levels.

Europafrica: Family farmed lands

<http://www.europafrika.info/en/chi-siamo/>

Head office: Terra Nuova Centro per il Volontariato, Via Gran Bretagna, 18, 00196 Rome, Italy

This site aims for mutually supportive and sustainable agricultures in the North

and the South of the world. It provides information and aims to raise awareness. It also lobbies on shared issues for small-scale family farming, and local agri-food systems that bring consumers and producers closer together, prioritising local and regional markets.

FAO (Food and Agriculture Organization of the United Nations)

<http://www.fao.org/>

Viale delle Terme di Caracalla, 00153 Rome, Italy

This is an overwhelming website, but for those willing to spend some time in searching, there are a lot of worthwhile documents and publications on agricultural themes. It is also possible to access beautiful photo stories from the homepage that give visual insights into farmers' issues around the world.



Future Agricultures: A learning consortium

<http://www.future-agricultures.org/index.html>

Institute of Development Studies, Brighton, BN1 9RE U.K. Email:

FAC@ids.ac.uk

This website has a lot of interesting information on the future of agriculture in Africa. It is run by the Future Agricultures Consortium (FAC), a partnership between research-based organisations in Africa and the UK, with work currently focusing on Ethiopia, Kenya and Malawi – though its very interesting debates and policy dialogues are relevant for other regions as well.

Global Farmer Field School – Network and Resource Centre

<http://www.farmerfieldschool.net>

FFSnet Support Unit, Simon Vestdijkstraat 14, Wageningen 6708 NW, the Netherlands

This resource centre provides information about the educational process of FFS and various tools for interactions. It also includes a comprehensive database for searching on FFS documents, people and organisations around the world..

Ifoam (International Federation of Organic Agriculture Movements)

<http://www.ifoam.org/>

Ifoam Head Office, Charles-de-Gaulle-Str. 5, 53113 Bonn, Germany. E-mail:

headoffice@ifoam.org

This site contains a wealth of information about organic agriculture around the world. It also includes a number of training manuals – including on arid, humid, tropical zones, as well as on seed savings, gender and organic agriculture. These are free for members, but non-members must pay a fee.

IIED (Institute for Environment and Development)

<http://www.iied.org/>

Head office: 3 Endsleigh Street, London WC1H 0DD U.K. E-mail:

info@iied.org

IIED's mission is to build a fairer, more sustainable world, using evidence, action

and influence in partnership with others. They work with partners in Africa, Asia, the Caribbean, Central and South America, the Middle East and the Pacific, on research and advocacy. This website has an extensive publications section on topics relevant to agriculture, such as land tenure, climate change, biodiversity, water, markets and governance.

Intute

<http://www.intute.ac.uk/agriculture/>

Intute Executive, Mimas, University of Manchester, 5th Floor, Roscoe Building, Oxford Road, Manchester M13 9PL, U.K.

Intute is a free online service based in the UK that brings together the best web resources from all over the world. Intended for research and studies, the site URL given here goes to Intute's webpage on Agriculture, Forestry and Food. With millions of resources available on the Internet, it can be difficult to find useful material. Subject specialists from various universities review and evaluate thousands of resources to determine the key websites in particular subjects.

Practical Action

<http://www.practicalaction.org>

The Schumacher Centre for Technology & Development, Bourton on Dunsmore, Rugby CV23 9QZ, U.K. E-mail: infoserv@practicalaction.org.uk

Practical Action works with poor people to develop the skills and technology that will enable them to build a better future. Practical Action has made available a very large selection of Technical Briefs –fact sheets with basic practical information including on agriculture - on its website, which are downloadable at no cost, or hard copies can be ordered from the address above.

RUAF (Resource Centre on Urban Agriculture and Food security)

<http://www.ruaf.org>

ETC, P.O. Box 64, 3830 AB Leusden, the Netherlands. E-mail: ruaf@etcnl.nl

Growing cities and populations are one of the big challenges of the future. The importance of urban (and periurban) agriculture in sustainable urban development is growing. RUAF provides information on many different aspects of (sustainable) urban agriculture through its website and also a free (downloadable) quarterly magazine.