LEARNING AgriCultures

Insights from sustainable small-scale farming

MODULE 7

Knowledge for small-scale farming

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Please note:
This module is a 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 network of partners, have asked for support material explaining the principles behind sustainable small-scale farming. With 26 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 these requests. Sustainability translates differently under specific local conditions so this series does not intend to offer solutions to all the problems. Its objective is to stimulate a culture of learning about sustainable small-scale farming. Through probing questions, and a variety of educational resources, we hope that this material will feed into and provoke discussions and deeper reflections over the important contributions of small-scale farming, and what sustainability means in different contexts. The series is not intended as a field guide nor does it 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 aimed at educators seeking support material for explaining about sustainable agriculture in their courses, at a university or college level, in special NGO training courses or other professional environments. Courses in which this series could be useful include agriculture, rural development, environmental studies, research & extension, agricultural policy-making, with students who will primarily, but not exclusively, be working in developing countries.

What is in it and how can it be used?

The Learning AgriCultures series has seven modules (see list below). It explores 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) key issues in the wider context, and lastly 3) governance issues that affect farming sustainability. These learning blocks are followed by a section of educational support materials: practical cases (mostly drawn from 26 years of articles in ILEIA's archive), exercises, games, photos, videos, checklists for farm visits as well as further references (free books and websites). Illustrations and diagrams as well as a separate glossary of difficult terms provide further support to the series. Educators can draw on what is relevant to their own regional context and student group.

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

Figure 1: Knowledge is a factor of production that is critical to the sustainability of small-scale farming.

For small-scale farmers, knowledge is a key ingredient for production and for improving livelihoods. Knowledge helps farmers to live and farm in a sustainable way, allowing them to adapt to changing conditions. Farmers not only learn from external sources, by the means of extension, education or information and communication technologies, but a large part of knowledge for sustainable small-scale farming is generated on the farm itself.

Indigenous or local knowledge, generated and shared by farmers, plays a crucial role in small-scale agriculture. It is not a last resort but a necessary ingredient of farmers' knowledge repertoire. As is increasingly recognised, innovation by small-scale farmers is of great importance to deal with changes in the environment, like climate change, globalisation and urbanisation. However, systems of agricultural knowledge are not always well equipped to incorporate farmers' knowledge.

Formal education and extension are still too often organised within a top-down model, where there is little space for farmers' input. Participatory approaches have been taking farmers' own knowledge much more seriously. Also, they have helped to build capacities of farmers and other actors involved in the process of innovation and learning. However, they require very good facilitators, and it is not always easy to meet this condition. In the last decade private extension has come up more strongly. This form of extension is clearly client-oriented and often quite effective. However it works within the rules of the market game: only those who can afford benefit from this service. For a variety of reasons, small farmers run the risk of being excluded form such services or they choose not to use them.

All these issues are explored in this module. The different Learning Blocks examine various aspects of knowledge in small-scale agriculture at farm level, in the wider context, and at the level of governing institutions. Throughout the module, this material is linked to several educational resources that help stimulate discussion and reflection on knowledge issues in small-scale agriculture.

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Guide to educators

PURPOSES OF MODULE 7

Figure 2: Educators are the target group of Learning AgriCultures

For educators:

- to use a systems approach for teaching about knowledge and information for sustainable small-scale farming

For students:

- to understand about knowledge dynamics within small-scale farming systems;
- to learn about the role that knowledge and information play in the transition to a more sustainable agriculture; and
- to understand better how small farmers can be supported in their efforts.

How to teach Module 7

About 40 contact hours will be needed to teach this module. This does not include time for conducting interviews with farmers, or the time that students will spend on assignments. You will need to decide for yourself whether to use the entire module or parts of it when making your lesson plans.

At the end of this section, an example is given of how to make a lesson plan from the material included in this module. The total time required and duration of each lesson will vary depending on the level of your students, your knowledge as educator, and the number of exercises and assignments you choose to include in the course. A very important component of the module is to visit and interview at least one farmer – so that students can better understand the practical realities about knowledge and learning processes in farming systems in their area.

What is in Module 7?

This module is the seventh in the Learning AgriCultures series. As with the other modules, it includes three learning blocks with theoretical information and a section of educational resources that provides support material. Specifically, the content of this module is as follows:

LEARNING BLOCK 1: Knowledge on the farm

This block provides an overview of knowledge at a farm level. It outlines what knowledge is needed for sustainable family farming. It defines 'knowledge' and clarifies the relation between knowledge and learning. It explains how farmers learn, both by experience and from other sources, and how knowledge can be generated and documented on a farm level.

LEARNING BLOCK 2: The wider context of knowledge in small-scale agriculture

This block goes beyond the level of the farm, and assesses the issues which, in the wider context of small-scale farmers, influence how knowledge is generated, shared and used. The main conditions for creating an enabling environment for effective knowledge building are sketched. How education and extension systems can contribute to this enabling environment is addressed in detail.

LEARNING BLOCK 3: Governance of knowledge for sustainable farming

This final block discusses the role of formal agricultural institutions in managing and developing agricultural knowledge. It specifies the major objectives of good governance of agricultural knowledge. We look at the different actors involved in the governance of agricultural knowledge, and at the role they can play in creating a policy environment conducive for sustainable small-scale agriculture. Different models of extension and their effect on governance are discussed.

Figure 3: Symbol to indicate link to suggested questions.

EDUCATIONAL RESOURCES:

This section provides information about support material that can stimulate deeper understanding and discussions in class or assignments. Throughout the main texts, boxes suggest links to resources and to probing questions. These are indicated by the symbols found in Figures 3 and 4. The resources include:

- **Exercises and games:** for in-class use (and as assignments), to help deepen understanding of knowledge for small-scale farming.
- **Cases:** suggestions for further reading and assignments based on articles from ILEIA's magazine archive, to expose students to different practical examples of knowledge issues and how farmers deal with them, and to stimulate discussion.
- **Photographs:** for in-class use, to show practical implications of different issues raised in the module.
- **Videos:** for in-class use, to complement the teachings with visual examples from around the world.
- **Farmer interview(s):** suggested visit with small-scale farmer(s) (checklist and further on-farm exercises).
- **Further references:** suggestions for freely available books, articles and relevant websites.

Figure 4: Symbol to indicate link to educational resources.

Glossary for the whole series

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

Making a lesson plan

Three basic questions need to be asked when preparing a lesson plan:

- What do you want your students to learn?
- How are they going to learn it?
- How will you know if they have learned it?

A lesson plan therefore needs to reflect these questions by setting out the learning objectives, aims, or goals of the unit, and how it relates to the whole course. The lesson plan should also include a list of the materials needed and the learning aids and references that you will use. See the example below:

Example of a Lesson Plan

Lesson	Extension for small-scale farming
Time	3 hours
Objectives	After completion of this session participants are able to: • Explain the different types of extension approaches that target small-scale farmers, particularly in their own country • Understand to what extent farmers' inputs are expected in training programmes • Explain which models for managing knowledge support the various types of extension
Prerequisite	Recommended: Learning Block 1
References	Sections 1.5.1, 2.5, 2.6, 3.4, also see R6 Further resources

Time	Content	Teaching method	Teaching aid
30 min	*Central question:* What are the extension approaches aimed at small-scale farmers? *Important points:* • Transfer of technology • Participatory approaches (PTD, FFS, etc.) • Market-driven approaches (commercial extension)	*Introduction:* Make a link to previous lessons and existing knowledge by asking students to come up with ways in which farmers learn. *Plenary discussion:* Brainstorm about the different characteristics of the techniques and what they recognise in their own area.	Blackboard, chalk Section 2.5 *Optional:* article R2.6.1 on FFS

Time	Content	Teaching method	Teaching aid
30 min	*Central question:* How do these extension methods connect to farmers' realities? *Important points:* • Where is knowledge developed? • What type of knowledge is developed? • Relevance of local knowledge for adaptation • Different farmers' access to knowledge (e.g. gender differences)	*Introduction:* Make a link to the last lesson by asking students to summarise the important role farmers play in knowledge development. *Watch a video:* Use the short video in R4.5 to discuss the relevance of modern technologies for small-scale farmers. *Plenary discussion:* Discuss the space for farmers' innovations in these models of extension. Let them think about the benefits of participation and the disadvantages of participatory methods, and how to minimise the latter.	Blackboard, chalk Video R4.5 Computer, projection
10 min	BREAK		
50 min	*Central question:* How do the different extension methods benefit small-scale farmers?	*Organised discussion:* Divide the students into three groups and have each read and discuss one of the following articles: R2.5.2, R2.6.2 and R2.7. Then ask each group to share with everyone what each article showed them about local knowledge in different extension models.	Blackboard, chalk Pen and paper R2.5.2, R2.6.2 and R2.7
50 min	*Central question:* What are the main priorities of the models of knowledge management? *Important points:* • Characteristics of NARS, AKIS and AIS • (De)centralisation and privatisation of extension • Important actors for extension in each model	*Plenary session:* Explain about governance systems regarding agricultural knowledge. Ask students to link the methods examined earlier to a governance system and discuss why each governance system supports specific types of extension. Let them think about possible combinations of systems and methods, and discuss the system(s) in their own country.	Blackboard, chalk
10 min	*Concluding remarks*	Wrap up and respond to questions.	
Next lesson: Education in rural areas			

LEARNING BLOCK 1

Knowledge on the farm

Passing knowledge from generation to generation in rural Peru, photo by Anita Ingevall

How can we define knowledge? What kind of knowledge do small-scale farmers have? How do they use their knowledge in managing their farms? How do they get new information to build their knowledge? How is knowledge generated, and which ways of generating knowledge are of specific interest for sustainable small-scale farming?

1.1 Introduction

A person's knowledge is directly related to his or her possibilities or opportunities. This relationship is frequently summarised as "knowledge = power". Everybody knows that we need more knowledge to make progress in life. The increasing importance we give to knowledge is reflected in the recent rise of "knowledge management" and the mushrooming of "knowledge centres" staffed by "knowledge specialists" (more on this in Learning Block 3).

Knowledge is one of the key factors needed in agricultural production, together with labour, land or capital. As will be further explored in this module, knowledge is particularly important in small-scale sustainable agriculture. In short, "agriculture development depends to a great extent on how successfully knowledge is generated and applied" (Rajalahti et al., 2008).

There are many knowledge terms used throughout this module – most of these are defined in the Glossary.

Why is small-scale sustainable agriculture what we call "knowledge intensive"? To be able to answer this question, we need to give a closer look at the concept of sustainability. We need to understand that sustainable agriculture is more than a package of environment friendly practices. Sustainability in its true sense is about the capacity of a farm household to live in balance with their agro-ecological environment, by optimally managing the available resources without over-exploiting them. Farmers need to have an intimate knowledge of the ecosystem: the soils, crops, varieties, pests and disease management, livestock, water and energy cycles, the important functions of biodiversity at the level of seed, farm and landscape system.

Sustainability is also about the capacity to anticipate risks and adapt to changing conditions – whether physical (droughts, floods etc) or socio-economical (household life cycles, food price fluctuations, etc). Knowledge plays a key role here, as the capacity to adapt depends on continuous learning.

Finally, small-scale farmers live in extremely diverse environments. Therefore, standard knowledge packages of recommended practices simply do not exist. This makes it all the more important to take farmers' own knowledge as the starting point for any effort to develop agriculture. Let us return to the idea that knowledge is power. If development projects and organisations aim to empower farmers, then they need to support those processes that help farmers to develop their knowledge.

This Learning Block will look at knowledge at the farm level: how do farmers learn and what types of knowledge are relevant? Section 1.2 looks at the definition of knowledge and the different types of knowledge we can distinguish. Section 1.3 focuses on the processes of learning for farmers, specifically learning from their own experience. Section 1.4 outlines the importance of farmer knowledge and experimentation for generating 'farmer innovations'. Finally, in section 1.5 the other sources of knowledge that can be available to farmers in addition to experiential learning are explored.

1.2 What is knowledge?

Farmers in the Savannah region of Northern Ghana have at least fifteen names to describe the colour of the soil. Each name refers not just to the colour but also to the quality of that particular soil. This shows their intimate knowledge about soils and their characteristics. A dictionary definition of knowledge puts it as "the certain or clear apprehension of truth or fact", or as "familiarity gained by experience". In short, what a person knows is the results of his or her perceptions, learning and reason. Farmers' knowledge, as that of any individual, is continuously developing as a result of new insights and day-to-day experience, and also as a result of the information which is gathered. Knowledge and information are thus not the same.

If knowledge includes familiarity, awareness and understanding, then knowledge can be defined as organised or processed data or information. In their "Knowledge Solutions" briefs, the Asian Development Bank refers to knowledge as the combination of data and information, to which is added expert opinion, skills and experience, resulting in a valuable asset that aids decision making. In organisational terms, knowledge is generally thought of as know-how, applied information, information with judgement, or as the capacity for effective action (ADB, 2009).

Ask students to think about the difference between information and knowledge.

1.2.1 Different categories of knowledge

Let us have a closer look at different types or categories of knowledge. When working with farmers it is important to make a distinction between implicit and explicit knowledge:

- **Explicit knowledge** can be described, written down and documented (i.e. encoded), and is represented in behavioural rules, agricultural calendars, curative treatments or scientific theories.
- **Implicit knowledge**, in contrast, is acquired through experience in one's socio-cultural environment. Implicit knowledge is complex, logical and value-laden but often unconsciously acquired and learned, and as a result it is difficult to explain to an outsider. Much of our daily routines, behaviour, ideas about good life, success or tasty food, are based on implicit knowledge. (GTZ, 2007)

Implicit knowledge is also described as tacit knowledge, diffuse or not formalised knowledge (e.g. Villeval & Lavigne Delville, 2004), and is opposed to explicit knowledge which is formalised "and found in writing, standards and references." The GTZ Readers (2007) also distinguish "formal" knowledge, as that which is "generated in formal education settings (schools, universities or research institutes) and circulated through the global network of professionals, institutions and publications", from what is known as "local" knowledge. Formal knowledge is also described as "scientific" knowledge, or "the result of scientific methods based on statistical probabilities and replicable experiments". In contrast, local knowledge is largely determined by a specific context, or by a social and cultural environment, and is related to customary practices or to trial-and-error efforts. Local knowledge is also described as "indigenous" knowledge (see Box 1).

Watch the video in R4.1 about the value of traditional agricultural knowledge in the Andes.

Box 1: Indigenous knowledge (from Mudiwa, 2008; Millar et al., 2006; and Millar, 1999)

'Indigenous knowledge' refers to knowledge that is unique to a given culture or society, and which forms the basis on which local decisions are made. More than a decade ago, the International Institute for Rural Reconstruction (IIRR) described indigenous knowledge as the knowledge that people in a given community have developed over time, and continue to develop. Indigenous knowledge is not limited to technologies (also covering, for example, beliefs), but in all cases it is specific to a given culture and environment, and is therefore dynamic and in continuous processes of change.

The term "indigenous", however, is laden, and many people are reluctant to use it. To many, it refers "to that body of knowledge held by people who are not regarded as 'developed' as far as modern science and civilisation is concerned. Whenever this term is mentioned it is usually in relation to natives of a region whose history involves some kind of marginalisation from 'modern civilisation' at one point or another. Indigenous knowledge is therefore a term based on value judgement as to its quality, complexity, origin and other parameters. This type of knowledge does not command the same status as what is referred to as 'formal scientific knowledge'." (Mudiwa, 2008)

Indigenous or traditional knowledge does not only refer to technologies developed by rural people. 'Traditional knowledge' forms part of a way of viewing the world that is different from the western scientific model of knowledge. It refers to the complex ways in which people from different regions think about the relationship between the natural, social and spiritual world. As Millar et al. (2006) emphasise, we should be careful not to use western standards to measure traditional knowledge. Traditional knowledge has its own unique forms of proof and legitimacy – there is a unique logic to traditional knowledge. For example, what we refer to as 'science' and 'arts' cannot be easily separated in the traditional African context (Millar et al., 2006). A basic element of many African views about nature is that life forces permeate the universe, what Millar refers to as 'cosmovision'. In this view, mankind is part of nature, rather than the conqueror of nature. The cosmovision in northern Ghana, for example, includes a perspective on agriculture where maximising yield is not always the ultimate goal. In the worldview of the Talensi people, Millar describes, some groves are considered sacred and are tied to the identity of the people. This view protects the groves from excessive hunting, felling of trees and picking of firewood. What can be harvested and by whom is controlled, and sacrifices and festivals are closely tied to agricultural activities (Millar, 1999).

Different worldviews, belief systems and visions of leadership, for example, influence not only which knowledge is relevant and prevalent in rural areas, but also how knowledge is developed and transferred. If education is not linked to indigenous worldviews, it runs the risk of being contextually irrelevant and disconnected from people's realities.

EDUCATIONAL RESOURCES
for Module 7

This section contains resources that can help students develop a deeper understanding about knowledge dynamics of small-scale farming systems. Throughout the three learning blocks, different educational resources have been highlighted that can be used to stimulate discussions and as material for assignments. These include exercises, games, articles, photos, videos, a farmer interview checklist and field exercises, as well as references for further reading. They are brought together in this section.

Contents of this section

R1. Exercises and Games

This section includes four exercises and one game to support different lessons from the three learning blocks.

Figure 24: Exercises and games can help students understand issues better

R1.1 Knowledge and I

Objectives of the exercise: To recognise different knowledge and where it comes from
Time involved: 60 minutes
Suggested use: Sub-Section 1.3.2, Experiential learning
Number of participants needed: 4 or more
Materials: Pen and paper

Methodology:

- First the participants are asked to write down categories or clusters of things that they consider that they know (e.g. how to bake bread, read, agro-ecology etc). It can be explicit knowledge (like practical, scientific knowledge) but also implicit knowledge (such as beliefs and daily routines) (see Sub-Section 1.2.1). Ask them to write or draw it with themselves portrayed in the middle.
- When they are done with this first step, ask them to write down where the different categories of knowledge originate from. Add on the drawing where and how they have acquired the specific knowledge (e.g. in primary school, from parents, from work, from experience, etc).
- Invite the participants to talk with other participants in the group about their knowledge and beliefs.

Discussion:

- Is this 'information' or 'knowledge'? Is it 'implicit' or 'explicit' knowledge?
- What would you say you know the best? Why? Would you say you know a lot or too little?
- What type of knowledge is most useful? Why? What knowledge do you use every day and on what occasions? What knowledge do you use very seldomly? Why?
- Did you while making the map found out about knowledge you have that you were not aware of? If so, what kind of knowledge is that?
- What are the main sources that you have acquired knowledge from? What other sources could have been there?
- Why do you think that scientific knowledge is often ranked as more valid than practical knowledge?
- What different knowledge do you think that small-scale farmers have? What knowledge do you think they might be lacking?
- How can you best improve your own knowledge?

R2. Articles about practical experiences

Figure 25: Articles from ILEIA's archive can be used to stimulate discussion on practical issues of knowledge in small-scale sustainable agriculture.

Objective: To use articles about knowledge issues for small-scale farming from around the world to deepen the lessons from the three learning blocks.
Materials: All articles can be retrieved from the LEARNING pages on the AgriCultures' website (www.agriculturesnetwork.org), and a selection of articles (indicated by a page number) is included at the end of this section.
Methodology: These articles can be used as additional reading material, as part of classroom discussions, or as part of student assignments. For example, students might use the article to prepare presentations addressing specific questions raised in the learning blocks. Some questions are suggested.

R2.1 Farmer Field Schools in traditional societies: From technical to social issues (Egypt, 2008)

See page 80.

Where to use these articles: Sub-Section 1.2.2, Knowledge on a farm (or Sub-Section 2.5.2, Participatory techniques for extension)

What it is about: In a traditional region in Egypt, farmers started participating in Farmer Field Schools (FFS) to receive training on pest management. When women facilitators were recruited, some women-only field schools started, while later even mixed schools emerged. The topics discussed slowly moved beyond agriculture to health and reproductive issues, rights and literacy.

Suggested questions:
- Why were more men than women participating in FFS?
- How did women become facilitators? What kind of training did they receive?
- Why did the topics move beyond agriculture? Why do you think there was a need to discuss social issues?
- What were the results of the FFS? What were the effects for the participating women?
- How do you think that more FFS can be available for women?
- What kind of agricultural or social learning activities are women in your region involved in?

R2.2 Sharing innovations (2 articles)

Where to use these articles: Sub-Section 1.4.1, Farmers' innovations (or Sub-Section 1.5.2 and 2.5.2, ICTs and Participatory techniques for extension)

R3. Photo gallery

Objectives: These photos come from around the world and are intended to support lessons, to stimulate discussions and to bring small-scale farmers' knowledge issues brought up in the three learning blocks alive for students.

Total time involved: Presentation during class time (20-30 minutes)

Materials: Photo gallery as power-point presentation with a beamer, or printout (see p. 126-133 for larger photos)

Methodology:

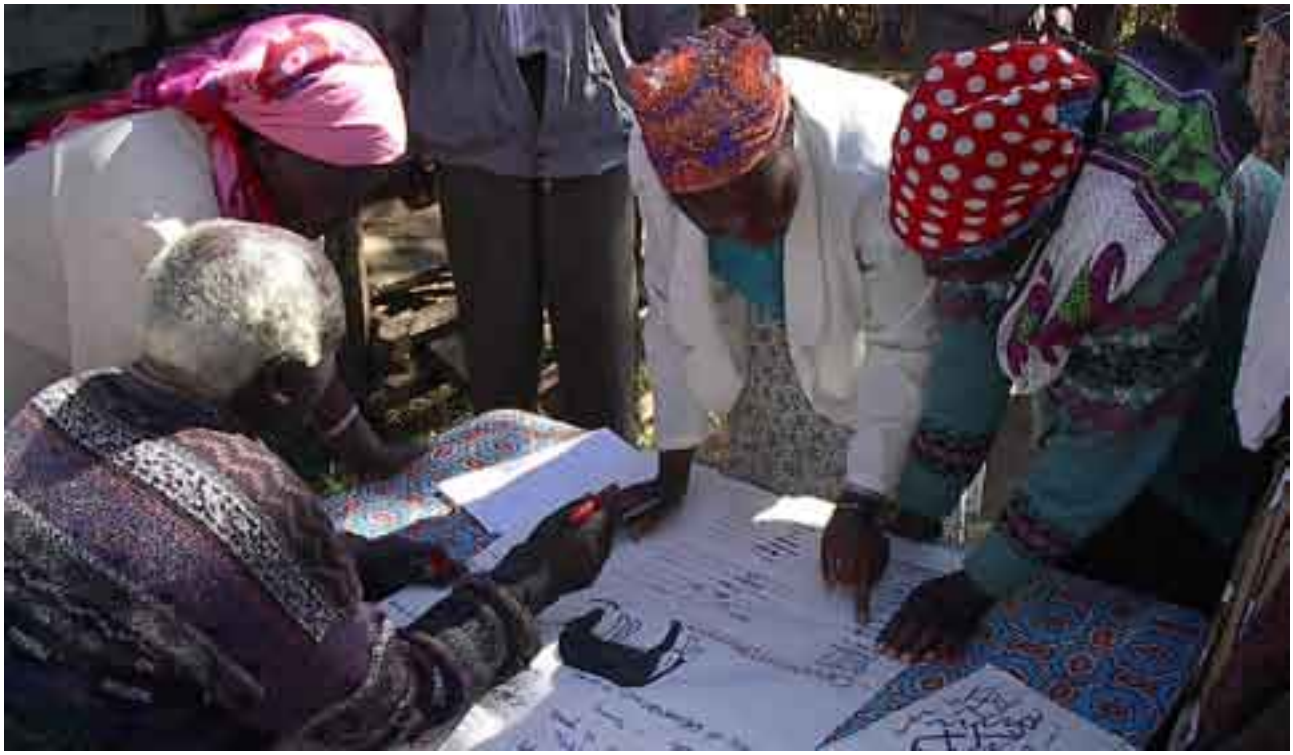
- Present the photographs and ask a number of questions to stimulate students to make links with larger issues; for example, what do they observe in the photo, and what does it mean in relation to small-scale farming (encourage them to reflect on environmental, socio-cultural, economic and policy aspects).
- Use the photographs to discuss similar initiatives in the students' regions.

Photo Nr	From	Photographer	Story
 1	**Kenya**	**Bruno Minjauw**	The Farmer Field School methodology was tested with smaller dairy farmers in Kenya by looking at animal health and production issues. Using Participatory Technology Development (PTD) techniques, facilitators trained in FFS methods worked with farmers to identify their priority livestock issues and constraints. The FFS method then developed farmers' learning skills, record keeping and observation. In the photo, participants in an FFS sub-group are preparing their presentation on the animal they observed on one of their farms.
 2	**Kumaon Hills, Indian Himalayas**	**CHEA**	In communities such as those in the state of Uttarakhand, members of village forest councils were trained to measure how much carbon their forests store per year. Members of the village forest council learned to use GPS systems for boundary marking of forests, and to take tree measurements in order to estimate the total biomass. This information enables them to benefit from carbon trading, and thus provide an income for the forest councils. This training therefore provides the local population with resources for sustainable livelihoods, while also encouraging them to contribute to reducing global emissions and conserving forests.
 3	**Uganda**	**Blythe McKay**	Radio is an effective way to reach small-scale farmers throughout Africa. By interviewing local farmers, radio can be used to transfer information on how different communities adapt to droughts, improve soil fertility, or select which crops to grow – all in response to changing climatic conditions. A script-writing competition in 2009 encouraged African radio producers to research innovative radio scripts on this topic, aiming to strengthen the capacity of rural radio broadcasters to provide relevant information to farmers.
 4	**Turkmenistan**	**Chris Lunch**	Participatory video processes, like this one in Turkmenistan, provide opportunities for rural people to document and express their own experiences and knowledge from their own viewpoints. Based on visual and verbal communication, participatory video is a strong tool for farmer-to-farmer and community-to-community information exchange. Villagers in Turkmenistan lacked knowledge on family farming after the deconstruction of a centralised State farm put in place by the Soviet regime. By using participatory video, they could learn traditional knowledge from more experienced farmers. Women in particular preferred participatory video over other types of community action research.

R3. Photo gallery

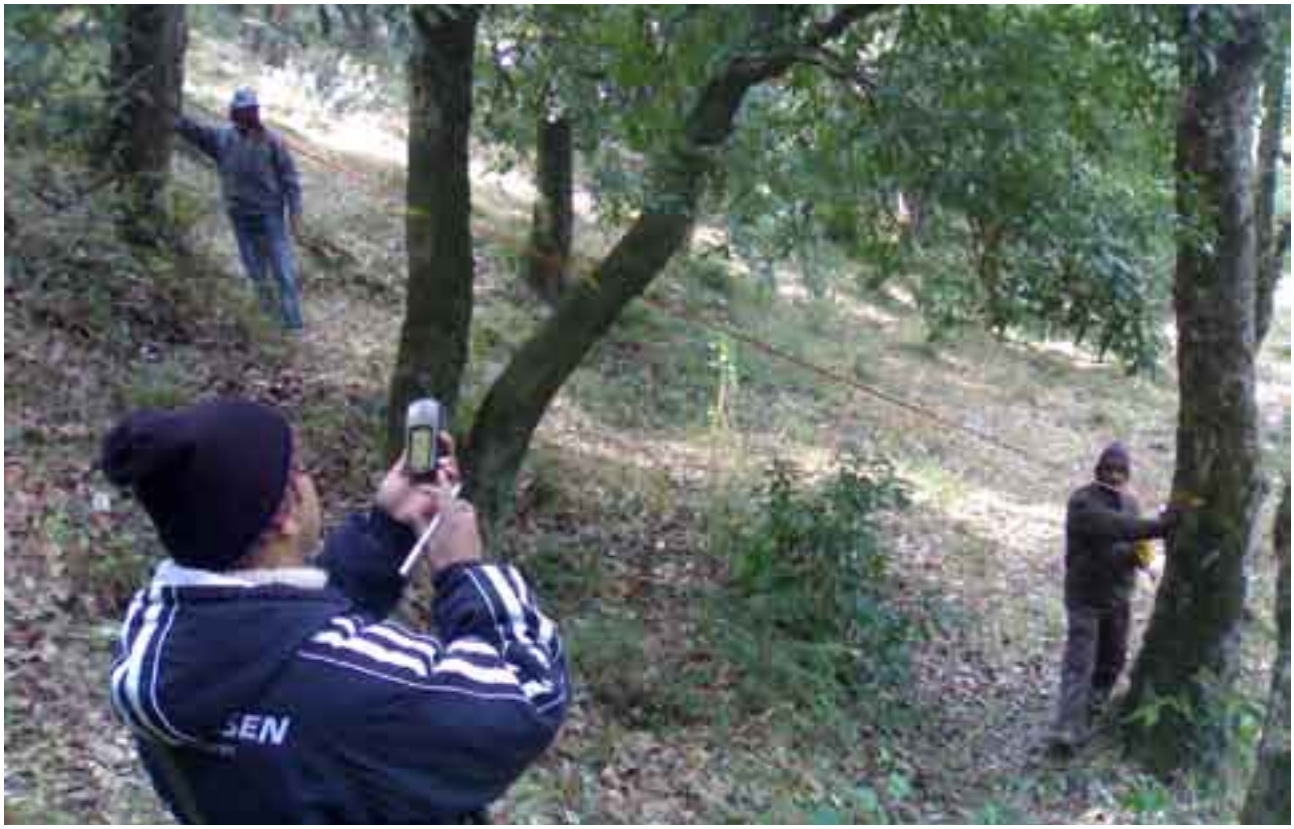
Kenya
Photo: Bruno Minjauw

PHOTO 1



Kumaon Hills, Indian Himalayas
Photo: CHEA

PHOTO 2



R4. Videos

Objectives: To offer visual examples from around the world to complement the teachings and to deepen students' understanding of knowledge issues in small-scale farming and practical initiatives towards greater sustainability.
Total time involved: See video durations below – add time for classroom discussion.
Materials: The links to the videos are available on CD-Rom or on the Learning Agricultures pages on the AgriCultures' website; to present the videos, a computer and projector are needed.
Methodology:
- Present the videos to illustrate points from the lessons and to stimulate discussions on them.
- Use the videos to discuss related issues and initiatives in your region.

R4.1 Transform Andean communities through traditional agriculture

Duration: 2:08 minutes
Suggested use: Sub-Section 1.2.1, Different categories of knowledge
What it is about: The Peruvian agricultural engineer Zenón Gomel Apaza realised that traditional farming using diverse crops is more suited to the Andean areas than modern farming. He tries to revive the traditional Andean Agriculture by collaborating with local farmers to create the exchange of traditional "know-how". (Produced by Rolex Awards, 2006)

Suggested questions:
- How important do you think it is to continue traditional farming methods?
- What is the importance of biodiversity in crops, as explained in this video?
- How do famers deal with the new technologies in order to secure the sustainable life in their area?
- How much is agriculture related to culture?
- Why is sharing of knowledge and practices so useful?
- What are the methods of sharing presented in the video? What other methods could be used?
- Can you think of traditional farming methods in your region? Is this widely acknowledged as 'knowledge'?

R5. Farmer visit and field exercises

Figure 26: Visits to farmers bring practical realities alive.

Objectives: To get close to practical realities based on different knowledge systems as well as local innovations; to interview at least one, but preferably more farmers and extension workers, scientists and/or other professionals; and to allow students to get practical experiences in interviewing and analysing information to strengthen learning.

Time involved: Take time ahead of the interview to prepare questions and field exercises. The time needed for the visit will depend on how far the farmers live from the school; the interview should last at least 1 hour. Per field exercise, calculate half a day.

Suggested use: Visits can take place once the lessons in Learning Block 1 have been completed. Waiting until completing Learning Block 2 will allow for more insights into the wider contextual issues that affect knowledge in small-scale farming.

Materials: For the interview: pen and paper to take notes – and if available, tape recorder, camera and/or video camera.

Methodology:

- If possible, arrange interviews with different farmers and other actors involved in the generation and dissemination of agricultural knowledge. Make sure to include both men and women. If there is not enough time to visit various actors with the whole group, divide participants into groups that will visit different actors.
- Prepare a list of topics that the students want to discuss with the farmer and other actors before the visit.
- Following the visit(s) ask students to make presentations and evaluations for discussion.

R5.1 Interviews with farmers and other knowledgeable people

Before going to the field:

- Discuss together with the students about potential social, environmental and technological problems and challenges that farmers are confronted with.
- Divide the students in smaller groups and ask each group to choose a different challenge. (Examples: pests, floods, not enough labour, etc)

During the field visit:

- The idea is that students discuss the challenge with different people (farmers, scientists, extensionists, politicians, consumers, etc.).
- The discussion can include:
  - √ How they perceive the challenge
  - √ What knowledge they have about the challenge (practical, no knowledge, academic knowledge, etc.).

R6. Further references for Module 7

This section provides a list of freely accessible resources that can help educators and students dig deeper into issues explored in this module. Resources include books and guides, as well as websites that offer further resources, photos and videos.

R6.1 Books and field guides

Affirming life and diversity. Rural images and voices on food sovereignty in south India

By: The DDS Community Media Trust, P.V. Sateesh and Michael Pimbert, 2008. 60 pp. ISBN 978-1-84369-674-2. The International Institute for Environment and Development (IIED), 3 Endsleigh Street, London WC1H 0DD, U.K. E-mail: info@iied.org

Downloadable at: http://pubs.iied.org/pdfs/14556IIED.pdf

IIED's action research programme in the drylands of the south Indian state of Andhra Pradesh resulted in the documentation of the research through the eyes of marginalised women and other small farmers. Using participatory video, the Community Media Trust contributed to processes of empowerment and transformation. This publication describes this project and includes a DVD series about these women's perspectives on sustainable food systems, conservation of biodiversity and regenerating livelihoods in a semi-arid region.

Agroecology and the struggle for food sovereignty in the Americas

By: A. Cohn et al., 2006. 203 p. ISBN 1843696010. The International Institute for Environment and Development (IIED), 3 Endsleigh Street, London WC1H 0DD, U.K. E-mail: info@iied.org

Downloadable at: http://www.iied.org/pubs/pdfs/14506IIED.pdf

The principles of food sovereignty include the right to food and the right to land for each nation and people. This workshop report, focusing on the Americas, offers empirically-based analysis, experiences, critical reflections and lessons that are directly relevant to the well-being of people and nature everywhere. This publication seeks to exchange ideas about new research, practice on the ground, and the social movements that are working to build more self-reliant, sustainable, and socially just food systems.

Beyond participatory tools: field guide

By: Tafadzwa Marange, Mutizwa Mukute and John Woodend (eds.), 2006. 66 p. ISBN 0797431195. DFID Crop Post- Harvest Programme Southern Africa, P.O. Box CY 2855, Causeway, Harare, Zimbabwe. E-mail: tafadzwa@ecoweb.org.zw

Downloadable at: http://www.rcpla.org/pdf%20download/Guide.pdf

Primarily intended for development facilitators who work directly with communities, this field guide was written because of the growing evidence that many people who use participatory tools need more understanding of why they are using them, not just how. It provides a good understanding of what lies behind

the tools, which should allow us to question them, adapt them and develop them further. The manual is experience-based and draws on the various experiences of three organisations (PELUM, the DFID Crop Post Harvest Programme, and VECO Zimbabwe) and the partners they have worked with in Eastern and Southern Africa where the social, ecological and political conditions are similar.

From farmer field school to community IPM: Ten years of IPM training in Asia by

By: Pontius J, Dilts R, Bartlett A. 2002. 106 p. FAO Community IPM programme. FAO regional office for Asia and the Pacific, 39 Phra Atit road, Bangkok 10200, Thailand.

Downloadable at: http://www.fao.org/docrep/005/ac834e/ac834e00.html

This is a comprehensive account of integrated pest management (IPM) as a farmer-centred and local need-responsive approach, developed on the rice farms of South-east Asia to tackle the risks arising from the excessive pesticide use promoted by the Green Revolution. The publication includes step-by-step instructions on organising and running farmer field schools, along with detailed case studies of farmer field schools in South-east Asia and several personal experiences of farmers who have gained from the programme. A separate section outlines the IPM programme activities in Bangladesh, Cambodia, China, Indonesia, Nepal, Sri Lanka and Vietnam.

Insights into participatory video: a handbook for the field

By: Nick and Chris Lunch, 2006. Insight U.K. 3 Maidcroft Road, Oxford, OX4 3EN, U.K. E-mail: nlunch@insightshare.org.

Downloadable at: http://insightshare.org/

This handbook is a practical guide to setting up and running Participatory Video projects anywhere in the world. Participatory video is a tool for positive social change; it empowers the marginalised; and it encourages individuals and communities to take control of their destinies. Readers will find the nuts and bolts of this technique: from how to set up a new project, to the key games and activities to use. Helpful tips for the facilitator clarify how to use video to encourage a lively, democratic process and not just as a means to an end. The authors draw on nearly two decades of experience of facilitating participatory video projects in the field, and share case studies and useful anecdotes, as well as responses to their work from diverse sources. The key messages are further highlighted by illustrations, cartoons and photographs.

Inter-group resource book: A guide to building small farmer group associations and networks

By: FAO, 2002. 99 pp. FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy.

Downloadable at: http://www.fao.org/sd/2001/PE0701_en.htm

This resource book shows how, using a participatory approach, intergroup associations can be established in rural areas. It is intended for use by group promoters, extension workers and other rural development staff to help existing groups set up and run such inter-group enterprises. It is available online, in English, French, Spanish and Arabic.

Mobile Pastoralists and Education: Strategic Options

By: Saverio Krätli, Caroline Dyer, 2009, ISBN 978-1-84369-759-6, IIED and SOS Sahel, 3 Endsleigh Street, WC1H 0DD, U.K. E-mail: newbooks@iied.org

Downloadable at: http://www.iied.org/pubs/pdfs/10021IIED.pdf

Educating nomadic peoples in the context of rapid global socio-economic change is a challenge of massive proportions. This paper sets out to address this challenge in two ways: firstly by mapping the conceptual terrain of education; and secondly by highlighting those successful and innovative approaches to education provision around the world that can inform and inspire new approaches to nomadic education.

'Most Significant Change' technique: a guide to its use

By: Rick Davies and Jess Dart. Version 1.00 – April 2005. 104 pp.

This document is freely available in PDF format at http://www.mande.co.uk/docs/MSCGuide.htm and at http://www.clearhorizon.com.au

Hard copies can be ordered by E-mail: editor@mande.co.uk

This publication is aimed at organisations, community groups, students and academics who wish to use the "Most Significant Change" technique to help monitor and evaluate their social change programmes and projects. The technique is applicable in many different sectors, including agriculture, education and health, and especially in development programs. It is also applicable to many different cultural contexts. The guide gives a clear overview of the methodology, and presents a step-by-step guide to using it. It also compares this technique to other approaches and epistemologies.

Participatory research and development for sustainable agriculture and natural resource management: a sourcebook. Volume 1 "Understanding", Volume 2 "Enabling", Volume 3 "Doing"

By: Julian Gonsalves et al. (eds.), 2005. 248 p. ISBN 971 6140304. Users Perspectives with Agricultural Research and Development (UPWARD) / International Development Research Centre (IDRC). P.O. Box 933, Manila, the Philippines. E-mail: cip-manila@cgiar.org

Downloadable at: http://www.idrc.ca/en/ev-73444-201-1-DO_TOPIC.html

The three volumes which constitute this sourcebook aim to inspire and guide aspiring and new practitioners of Participatory Research and Development (PR&D) to learn, reflect and constantly refine the way they work. The target users are field-based researchers in developing countries involved in natural resource management, agriculture and rural livelihoods activities. The book is intended to enhance access to information on field-tested PR&D concepts and practices among field practitioners and their organisations. It is envisioned as a general reference and comprehensive overview, showcasing the rich diversity of perspectives on PR&D.

Successful communication: a toolkit for researchers and civil society organisations

By: Ingie Hovland, 2005. 60 pp. Research and Policy in Development (RAPID) Programme, ODI 111 Westmister Bridge Road, London SE1 7JD, U.K. E-mail: rapid@odi.org.uk

Downloadable at: http://www.odi.org.uk/resources/download/155.pdf

The Overseas Development Institute's RAPID Programme has been looking at the links between research and policy for several years. It is now beginning a process of identifying, developing, distributing and delivering tools, resources and training support that can help researchers inform and influence the policy process. This handbook presents work in progress on communication tools, specifically geared towards the needs of researchers in civil society organisations. The tools are grouped under the headings of Planning, Packaging, Targeting and Monitor tools.

Tools for influencing power and policy: Participatory learning and action no. 53

By: IIED. 2005. 96 pp. ISBN 1843695723. IIED, 3 Endsleigh Street, London WC1H 0DD, U.K. E-mail: pla.notes@iied.org

Downloadable at: http://www.planotes.org/pla_backissues/53.html

The authors of the articles in this issue analyse and suggest ways forward in the adaptation and application of tools in participatory action and learning situations, where participants must deal with powerful institutions and individuals. Instead of waiting to be consulted by government or other policy processes, many people actively want to take their own values, priorities, analyses and demands to those with power. The tools aim to help less powerful people and their allies achieve positive change in natural resource policy through understanding, organisation, engagement, resistance and persistence.

Towards Food Sovereignty: Reclaiming autonomous food systems

By: Michel Pimbert. 2008. Multimedia publication IIED, 3 Endsleigh Street, London WC1H 0DD, UK. Email: info@iied.org

Downloadable at: http://www.iied.org/natural-resources/key-issues/food-and-agriculture/multimedia-publication-towards-food-sovereignty-re

This multimedia publication is an online book, linked to audio and video files. At the time of printing this module, Chapters 1-5 and 7 are available for download. It focuses on "the ecological basis of food and agriculture, the social and environmental costs of modern food systems, and the policy reversals needed to democratise food systems". Particularly Chapter 7 is relevant, concerning transformation of knowledge and ways of knowing. Pimbert challenges the current methods for knowledge production where local knowledge is not taken into account and food sovereignty cannot be achieved. This chapter is a good resource for a heavily theoretical background, as well as links to practice and policy, with regards to the democratisation of knowledge needed for food sovereignty.

Working together: forest-linked small and medium enterprise associations and collective action

By: Duncan Macqueen et al., 2006. 24 pp. Gatekeeper series no.125. IIED, 3 Endsleigh Street, London WC1H 0DD, U.K. E-mail: sustag@iied.org

Downloadable at: http://www.iied.org/pubs/pdfs/14521IIED.pdf

Forest products and services can offer development and enterprise opportunities, but there are also many difficulties associated with making a living in this way. Collective action can address such difficulties. This research set out to understand successful collective action in different contexts: Brazil, China, Guyana, India, South Africa and Uganda. Some lessons are presented on how and why forest-based associations work, and what affects group success. For example, lasting associations generally have a strong degree of autonomy, and are focused on a few long-term issues.

R6.2 Relevant websites

African Virtual University (AVU)

http://www.avu.org/

AVU is an example of how ICT can enhance education. Since the launch of its pilot phase in 1997, AVU has provided students and professional in 17 African countries over 3,000 hours of interactive instruction in English and French. More than 24,000 students have completed semester-long courses in technology, engineering, business and the sciences and over 3,500 professionals have attended executive and professional management seminars on topics such as strategy and innovation, entrepreneurship and e-commerce. AVU provides students access to an on-line digital library with over 1,000 full text journals. Over 45,000 free AVU e-mail accounts have been created and the AVU website currently receives more than 1 million hits per month.

Agriterra

http://www.agriterra.org

Agriterra promotes, facilitates and supports lasting co-operation linkages between rural people's organisations in the Netherlands and in developing countries. Agriterra cooperates with rural people's organisations in Africa, Asia, Latin America and Central and Eastern Europe. The development co-operation does not occur through governments or intermediaries, but is direct: from farmer to farmer, from rural woman to rural woman, from co-operative society to co-operative society.

ALIN Arid Land Information Network

http://www.alin.or.ke

Arid Lands Information Network (ALIN) in Eastern Africa is a network of Community Development Workers (CDWs) who are involved in drylands development. ALIN supports CDWs by encouraging the exchange of ideas, information and their own experience on development work.

Association for Progressive Communications

http://www.apc.org/

The Association for Progressive Communications (APC) is an international network of civil society organisations dedicated to empowering and supporting groups and individuals working for peace, human rights, development and protection of the environment, through the strategic use of information and communication technologies (ICTs), including the Internet. The website has many resources for small internet service providers working with civil society. APC also develops free software.

Communication Initiative

http://www.comminit.com

The Communication Initiative provides a forum to share, debate and advance effective communication for development progress. One of its programmes, the Drum Beat (also known as Son de Tambora in Spanish) is a weekly electronic publication sent by e-mail, exploring initiatives, ideas and trends in communication for development. The aim is to provide a space for debate and to develop more effective development communication practices.

Community IPM website

http://www.communityipm.org/index.htm

This site includes many very useful documents and teaching materials related to Farmer Field Schools. It was originally created as an activity of the FAO Programme for Community IPM in Asia. The site is being maintained as an archive of information relating to the groundbreaking work carried out by government agencies, NGOs and farmer groups that were associated with the FAO Programme. The Community IPM website is managed on the principle of "information for all", meaning that anybody can visit the site and download the content.

COPAC

http://www.copacgva.org/index.html

COPAC is a partnership between representatives of the co-operative movement, farmers´ organisations, co-operative development agencies, and the United Nations and its agencies. Members work together on equal terms to promote and coordinate sustainable co-operative development through policy dialogues, technical cooperation and information, and concrete collaborative activities. The website has various useful publications and links.

Developing Countries Farm Radio Network

http://www.farmradio.org/

On their website you can find scripts that are distributed to radio stations. Farm Radio Weekly is a news and information service for rural radio broadcasters in sub-Saharan Africa. If you are involved in rural radio broadcasting this is a site to check. They do not charge for their scripts and library services.

E-Agriculture

http://www.e-agriculture.org/en

The website e-agriculture provides resources and a space for dialogue on the use of ICTs for sustainable agriculture and rural development. E-agriculture has a 'knowledge base', where visitors can look for publications, news items, videos, etc. on a variety of topics linked to ICTs and sustainable agriculture. They post a blog and host a forum. Also in French and Spanish.

FAO's Participation Website

http://www.fao.org/participation/

The Participation Website was established in 1999 by the Informal Working Group on Participatory Approaches and Methods to Support Sustainable Livelihoods and Food Security (IWG-PA). One of the key objectives of the working group is to capitalise on FAO's most successful normative and field experiences with participatory approaches and methods through their adaptation, replication and dissemination, in order to enhance FAO's field programme. The site, with links, news and broad information, is also in French and in Spanish.

IIED

http://www.iied.org/

The International Institute for Environment and Development (IIED) is an independent international research organisation. They are particularly focused on collaborating with partners at the grassroots level, thus linking local voices to global policy arenas. IIED provides many publications on their website, which are free to download.

IMARK

http://www.imarkgroup.org/

The Information Management Resource Kit (IMARK) is a partnership-based e-learning initiative to train individuals and support institutions and networks worldwide in the effective management of agricultural information. IMARK consists of a suite of distance learning resources, tools and communities on information management. IMARK learning materials are being developed as a series of modules available online and on CD-ROM. The modules are being developed using the latest methods in e-learning, providing an interactive environment for self-paced learning.

Itrain Online

http://www.itrainonline.org/

Itrain Online is a joint initiative of six organisations with expertise in computer and Internet training in the South. The website aims at being a single source on the web containing a selection of the best and most relevant computer and Internet training resources for development and social change. You can find practical information about anything ranging from "how to use e-mail" to how to do advanced programming for your own website.

NABUUR.COM, The Global Neighbour Network

http://www.nabuur.com

NABUUR.COM gives communities in developing countries access to their global "neighbours" via the internet. Through these "neighbours", local communities can benefit from the huge reservoir of resources (knowledge, solutions, energy, creativity) that is available elsewhere.

National Community Radio Forum

http://www.ncrf.org.za/

This site is focused on South Africa but will be of interest for people from elsewhere who are interested in rural radio. It is an example of how the internet can be used to support networks using other media – in this case radio that support the poorest of the poor. You can read their manifesto, see how they organise collaboration and the experience they have gained since their inception in 1993.

Resources Centres for Participatory Learning and Action, RCPLA Network

http://www.rcpla.org

The RCPLA network is an alliance of seventeen different organisations from around the world that strive to promote the empowerment of the disadvantaged through participation in their own development. The network helps researchers and practitioners share information and experiences about Participatory Learning and Action (PLA) approaches, and encourages the improved implementation of these approaches globally. Since its creation, the RCPLA has helped to facilitate the development of PLA ideas. Through the Network, partners have also influenced the development and application of participatory methodologies on local, national, and international levels.