

IFAD Project: Scaling-up SLM with extension services in PDR Lao

Guidelines for conducting participatory WOCAT Decision Support workshops

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- (A) Integrated Farming System

Introduction

Objectives of the decision support stakeholder (DSS) workshop are:

1. To jointly assess and select relevant SLM technologies for implementation on demonstration plots, farmer to farmer exchange, and training; and
2. To strengthen trust, dialogue and collaboration among concerned stakeholders.

Methodology

The methodology is **based on participatory principles**. The moderators guide the group through a series of consecutive steps that assist the stakeholders to voice and exchange their ideas on which SLM technologies are most promising to be implemented on demonstration plots, to be used in farmer-to-farmer exchanges and trainings.

Selecting workshop participants

The workshops are held with a group composed of different stakeholders; ideally about 12-20 people, plus the moderator(s). Backgrounds of workshop participants should be as diverse as possible to ensure that they reflect the various facets of sustainable land management decisions to be taken.

When selecting workshop participants, include **1 - 2 researchers** (NAFRI), **2 - 4 extension workers** (provincial and/or district, and community level) as well as **6 – 10 knowledgeable farmer representatives and local authorities** from the local context (village, or group of villages with similar land use and land degradation problems). Workshop participants are supposed to be **mixed in terms of age, gender, and stakeholder group**.

Depending on the cultural context, it might for some exercises or discussions be favourable if men and women work in separate groups to encourage women to actively participate and speak out their opinion. However, if you opt for working in separate groups, you have to make sure that the results of both groups are being shared and considered.

Workshop duration, timing, and location

The suggested duration of a stakeholder workshop is 2 days (may be split in several half-days, if convenient). We suggest splitting the workshop as indicated in the schedule below, i.e. **after Exercise 4 a break is needed in order to have enough time to prepare for Exercise 5 and 6**. This should also be considered if you decide to split the workshop in half-days.

When planning workshops, please schedule it in times, when farmers have less workload, and **consider gender differences in daily schedules** to foster participation of both, women and men.

Organize stakeholder workshops in the village, as it is much easier to create a relaxed and trustful working atmosphere if the **workshop is held in the community itself**, where local participants feel at home.

Workshop moderators

Facilitators of the workshop are **2-3 moderators**, who were trained in applying the participatory DSS methodology.

Requirements for workshop moderators

A moderator of the stakeholder workshop should meet the following requirements:

- to be familiar with moderation techniques and participatory methods; this includes familiarity with the contents of this guideline;
- to have some degree of expert knowledge on land use systems, livelihood strategies, and the SLM technologies actually and potentially applied in the project region;
- to be familiar with local conditions (socio-cultural, bio-physical, land use, land degradation and conservation, etc.);
- to have a trustful relationship with involved stakeholder groups;
- to have communication skills and speak the local language of the target villages;
- to have didactical skills; and
- to have conflict management skills.

About this guideline

The present guideline is a working instrument for use in moderating the stakeholder workshops in the target villages. It is designed to support the moderators in guiding the process of mutual reflection and exchange by workshop participants. At the same time, it is a baseline document to be used in the training of trainers.

The guideline suggests a basic structure and a series of consecutive steps (exercises) that will help to reach the workshop objectives as described above. It deals with the technical steps that have to be performed to reach a group decision.

Annex 1 suggests an additional optional exercise about Integrated Farming Systems, which can be conducted, if you feel they are relevant for the local context.

Preparatory work

As a moderator, you need to be prepared for facilitating the stakeholder workshop(s). Besides organisational preparations it is important that you take enough time to get familiar with the workshop guidelines, with the local context, and think about how you are going to address the topical issues of the workshop.

Methodological preparation: A suggested **3-4 days should be spent for preparation of the workshop.** It does not yet include the efforts required to invite your participants. Read the workshop guidelines very carefully, and try to imagine the workshop procedure step by step. Make sure you understand all the exercises, their purpose, and the procedure to follow. Think about how each step is related to the objectives of the workshop, and think about material that might help you to introduce a step, or to explain or illustrate specific aspects.

Preparation workshop material: Prepare the following material:

- Sketch drawing of a typical livelihood system (details see Ex. 3)
 - Prints of Technology summaries and posters (see Preparations for Ex. 5)
 - 3 Scoring tools (see Ex. 6)
- Abundant workshop material such as: Pin board, flipchart paper, markers (different colours), cards (different colours), stickers, post-its

Schedule for a 2 day workshop

Preparations for Stakeholder Workshop (to be made by the moderators):

- Methodological preparations
- Print-outs of WOCAT Technology summaries
- Preparation of the workshop material and venue
- Organise drinks and snacks; meals

3 – 4 days



Day 1	Duration (minutes)
Ex. 1: Introduction to the workshop	20
Ex. 2: Observed changes in land use and climate	60
Ex. 3: Average farm size and livelihoods	60
Ex. 4: Land management problems and solutions	90
	Total 3.50 h

Day 2	
Ex. 5: Selection of technologies to be assessed	140
Ex. 6: Assessment of promising technologies	135
Ex. 7: Evaluation and closure of the workshop	15
	Total 4.50 h

Optional Exercise A (45') /



Next Steps: Implementation: demonstration plots, farmer to farmer exchange, trainings, small grants, etc.

Exercise 1: Introduction to the workshop

- Objectives**
- To inform participants on the objectives and programme of the workshop
 - To prepare the ground for a good working atmosphere

Duration

	Minutes
1. Welcome participants	5
2. Introduction to the stakeholder workshop	5
3. Workshop objectives and programme	5
4. Workshop principles and intended working spirit	5
Total	20

- Preparations and material required**
- Workshop programme and objectives (written on A1 sheets)
 - Paper sheets, markers, tape

Methodology Plenary session

- Procedure**
1. The moderators welcome participants, introduce themselves and ask participants to briefly introduce themselves (do not spend too much time on it).
 2. Briefly recall the IFAD project and its objectives. Explain the purpose of the stakeholder workshop within the project.
 3. Present the workshop programme and the objectives.
 4. For reducing disturbances and creating a good working atmosphere, agree on a few workshop principles the participants and moderators should respect (e.g. rules of communication, commitment to attend, no phone calls, etc.).

Exercise 2: Observed changes in land use and climate

Objectives

- To briefly assess important changes and trends in land use and climate.
- To create a basic understanding of climate change and the need for adaptation.
- To get an overview on important trends in land use, which need to be considered for the selection of technologies.

Duration

	Minutes
1. Introduction	5
2. Group work: Timeline land use changes and climate change	20
3. Plenary discussion: Major trends and possible adaptations	35
Total	60

Preparations and material required

- Paper sheets A1, markers.

Procedure

- 1. Plenary session: introduction by the moderator:** point out that over the years, changes occur in many realms of life, including agricultural production systems. Illustrate by giving a few examples, which are relevant for the local context (e.g. changes in access to education, new employment opportunities, international migration, introduction of SRI, new crops and varieties, mechanization, etc.).

The following group work aims at identifying important changes and trends in land use and climate, which need to be considered when speaking about sustainable land management.

- 2. Group work: Timeline**

Form two groups (stakeholders mixed).

Group 1: identifies **changes in the land use system** that have occurred over the past decades, and estimates the change to be expected in the coming years. Identify the main changes and discuss the reasons behind!

Fill in the following table:

Changes: Land use	before 2000	2000 - 2010	2010 - present	5 - 10 years from now
Soil fertility				
Soil erosion				
Access to irrigation water				
Yields / productivity				
Available labour force				
Use of agricultural inputs (chemical fertilizer, pesticides)				
Number of livestock				
Forest cover				
Pests / diseases				

Example

Land use	Before 2000	2000 - 2010	2010 - present	5 - 10 years from now
Soil fertility	***	****	**	*
Soil erosion	*	*	***	**
Etc.				

Legend: **** = very high; *** = high; ** = medium; * = low; * = very low

Comments:

- Instead of drawing stars, you may want to use stickers or seeds.
- The example given above reads as follows: Soil fertility was medium before 2000, increased to high from 2000 to 2010, and sharply decreased to low after 2010. A further decrease to very low is expected for the 5 to 10 years to come. Soil erosion was very low / a minor problem before 2010, but considerably increased between 2010 and today. However, it is expected that soil erosion will decrease in the next years (e.g. due to a new SLM programme).

Group 2: identifies changes in climate and climate extremes, and fills in the following table.

Please clarify the difference between *changes in climate* and *climate extremes*.

Climate change: refers to a gradual change in the state of the climate (changes in the mean and/or the variability of its properties), that **persists for an extended period, typically decades or longer** (e.g. change in annual / seasonal rainfall or temperature).

Climate extremes: refers to extreme weather events and disasters such as tropical storms (cyclone, hurricane, typhoon); local rainstorms, windstorms or hailstorms; heatwave or coldwave (e.g. frost), drought; floods and landslides. Is **very limited in time**, i.e typically lasts for one or a few days; in the case of heatwave/coldwave a few weeks

Changes in climate / climate extremes	Before 2000	2000 - 2010	2010 - present	5 - 10 years from now
Rainfall				
Hot / cold temperatures				
Floods				
Droughts				
Wind storms / rain storms				
Frost				

Comment:

- Should any - for the context of the village, where the workshop is held - important changes in climate / climate extremes be missing in the table, please add more lines!

3. Plenary

1. **Presentation group work:** each group presents their group work, highlighting the changes identified, and the reasons behind.
2. **Plenary discussion:** The moderator summarises the main trends mentioned, and initiates a discussion on the following points:
 - o What are the main **causes / reasons** for the changes as perceived by the participants?
 - o Considering the major changes and trends in land use and climate; what **challenges** and **opportunities** do they bring along?

- Which trends and changes can land users **directly influence or counteract by applying good agricultural practices and SLM technologies**?

3. Brief input: Adaptation to climate change / extreme weather events:

Comment: Country based information on expected trends in regard to climate change can be found in internet; e.g.

<http://sdwebx.worldbank.org/climateportal/>

The moderator points out:

- What the **potential impacts** of climate change are (e.g. more frequent, and more extreme events like droughts and floods, dry spells, late onset of rains, etc.);
- That land use must **adapt to the changing conditions** to minimise the risk of crop failure and land degradation. Possible adaptation measures are: SLM technologies, resistant crops and varieties, etc.).

Conclusion

- Sustainable land management is a key for adaptation to climate change, and for minimising the risk of crop failure and land degradation.

Comment: *As an option, and to save time in the workshop, exercise 2 might be done as a preparatory step before the workshop. It could either be done together with a group of extension workers that know the context of the target village where the workshop will be held, or at a village meeting.*

Nevertheless, plan about 30 minutes in the workshop to introduce and explain the results of this assessment of changes in land use and climate.

Exercise 3: Average farm size and livelihoods

- Objectives** - To create a common understanding of the influence, that land size (of a farm) has on livelihoods in the project region.

Duration	Minutes
1. Introduction to livelihoods	5
2. Group work: the influence of land size on livelihoods	35
3. Plenary discussion	20
Total	60

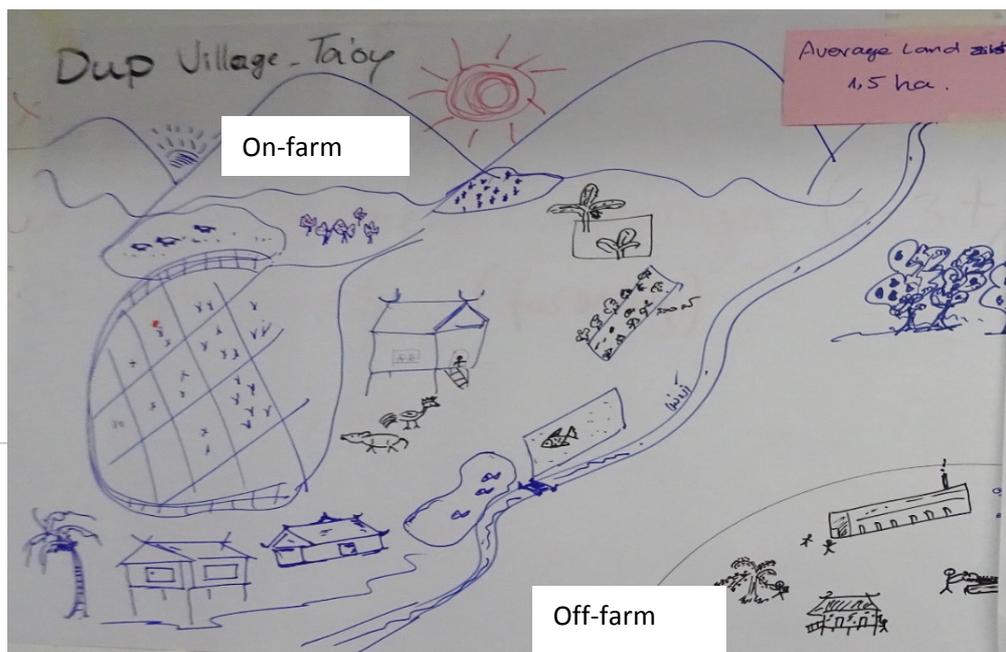
- Preparations and material required**
- Make a sketch drawing showing the main elements of livelihoods in the project region (example see below).
 - Identify an average land size of the IFAD target beneficiaries (in the village, where the workshop is held), e.g. 0.5 – 2 ha.
 - Paper sheets A1, markers (different colours), post-its (different colours)

- Procedure**
- 1. Introduction by moderator:** Make a brief introduction to the livelihoods in the target village(s). Explain what makes up a typical livelihood, and illustrate with the help of a sketch drawing containing the main components of the livelihood system as found in the project region.

Livelihood: basically means 'to make a living'. A livelihood system consists of **the resources and activities a family uses to feed the family, and to earn an income.**

- **Resources** comprise: land, financial resources, labour force, skills, social networks, etc.
- **Activities** comprise: **on-farm activities** (crop and livestock production, cash crops, home garden, processing of agricultural products, fish raising in fishpond, charcoal production, handicraft, etc.) and **off-farm activities** (e.g. day labour, paid job, transport services, trade, shop, small business, etc.)

Example: sketch drawing of a livelihood system (Lao example)



Farmers always have to decide, **for which activities they want to invest**

how much of their resources (land, financial resources and labour force). This decision may influence their capacity to adopt SLM technologies. A diversified livelihood strategy can help to optimize income opportunities, and at the same time minimize production risks, which is important in regard to the need to adapt to the possible impacts of climate change.

2. Group work: the influence of land size on livelihoods

Introduction by the moderator: Among other factors, livelihoods also depend on the size of land, a family has for cultivation (own and rented land). In IFAD target villages, the target beneficiaries' size of land holdings may vary; and this influences which SLM technologies are interesting for them. For instance, landless households and those with very small land strongly depend on off-farm income to make a living, and their options to improve the productivity of their land are limited. Households with bigger land size usually have more opportunities to diversify production, and to produce and sell cash crops on the market.

Agree on an average land size of the IFAD target beneficiaries in the village where the workshop is taking place.

Group work: If the group is large split the participants into 2 groups. **Each group works on the average land size of the IFAD target beneficiaries**, e.g. 0.5 ha – 2 ha. Most likely, the two groups will look at the same farm size. If the group is small you can do the group work all together.

Task group work: discuss, how a family of the respective land size category (e.g. 0.5 - 2 ha) typically makes a living. Identify the most relevant on-farm activities (and where applicable, also off-farm activities) and estimate their relative importance in terms of household income. Proceed as follows:

1. On a flipchart paper, **list the main activities / sources of income** (farming activities and off-farm activities).
2. (If the cultural context allows) **Estimate** how much of the total household income comes from farming activities, and how much from off-farm activities, respectively. (see example below)

Examples: Livelihood according to land size category (= fictive example to illustrate how this could look like)

0.5 ha - 2 ha	Share of total income
<i>Farming activities</i>	70%
• Livestock (1 -2 cows, poultry)	
• Rice (own consumption)	
• Cash crops (vegetables)	
• Homegarden	
<i>Off-farm activities</i>	30%
• Job in garment factory	
• Small business	

Option:

To indicate the share of total income you could also give the group 10 items (e.g. pebbles, stickers, beans) which they can divide between farming and off-farm activities and put into the respective cell.

3. Plenary discussion

The groups present their results. Briefly discuss **the similarities and the main differences** found in the livelihoods of households belonging to the average land size category of the IFAD target beneficiaries.

Then, point out the following:

- Land size and livelihoods of target beneficiaries need to be considered when selecting SLM technologies, as the capacity to implement and maintain the technologies will also depend on the livelihood strategy of a household.

Exercise 4: Land management problems and solutions

- Objectives**
- To prioritize the land management problems
 - To define the objective(s) SLM technologies should contribute to
 - To understand the links between land size – livelihoods – sustainable land management.

Duration	Minutes
1. Introduction	5
2. Group work: Land management problems and solutions	30
3. Plenary: Discuss results of group work and complement	30
4. Plenary: Prioritization land management problems, and objective(s)	25
Total	90

- Preparations and material required**
- Results (table) from Ex. 3
 - Paper sheets A1, markers (different colours)
 - Stickers

- Procedure**
1. **Brief introduction:** This exercise looks at the main land management problems that farms typically face, and at already implemented and possible solutions for enhancing farming activities in terms of productivity and sustainability.

Depending on land size and livelihoods, the main land management problems found, as well as potential solutions / SLM Technologies, can differ between target beneficiaries. This needs to be considered when selecting SLM technologies, as the interest in and capacity (e.g. financial resources, labour force) to implement and maintain the technologies will also depend on the livelihood strategy of a beneficiary.

2. Group work 'Land management problems and solutions':

Task group work:

1. **Identify the main land management problems, and the already widely applied solutions/technologies**
 - Starting from the list of on-farm activities (Exercise 3), **identify the main problems for each farming activity** and write them in a new column (*see example below*).
 - Identify the **solutions** to these problems that **farmers already (widely) apply**.
2. **Identify potential solutions** to these problems, and write them in the next column (*see example below*). In the following, please find some explanations on important terms.

Participants continue working in the same groups as for Exercise 3. Group work needs facilitation by a moderator (1 per group). If the group is small you can also do Exercise 4 all together.

Land management problems: problems mainly related to agricultural productivity (degradation of land resources, including soil, water, vegetation): e.g.

- Soil fertility, soil erosion (by water, wind), soil organic matter, etc.
- Water availability and storage, too much/too little water, water quality, etc.
- Pests and diseases

Solutions / SLM technologies: these are technologies that control land degradation and enhance productivity. E.g. intercropping of orange trees with mung beans.

Potential solutions / SLM technologies: These are technologies that are not yet widely applied in the target village(s); e.g.

- technologies that so far only a single or few innovative farmers apply, or
- technologies that the participants have seen in other places and most possibly might also fit the local context.

Example:

Land holding 0.5 – 2 ha	Share total income	Land management problems	Solutions / technologies (already applied)	Potential solutions / technologies
<i>Farming activities</i>	70%			
• Livestock (1-2 cows, poultry)		High mortality Limited availability of grazing land		Fodder production
• Rice (own consumption)		Susceptible to dry spells	Diversify rice varieties	Drought tolerant varieties irrigation
• Cash crops (vegetables)		Low soil fertility	Compost	
		Lack of irrigation	Pond; mulching; drip irrigation	
		Pests	Home-made insecticide;	Integrated pest management
		Low soil fertility	compost	Vermicomposting Establish information service on market prices
• Home garden	Low productivity	Improve home garden: - Compost - Water harvesting	Intercropping More fruit trees	
		Pests	Home-made insecticide	Integrated pest management
<i>Off-farm activities</i>	30%			
• Job garment factory				
• Small business				
Other major problems in farming		Limitation of labour force Expensive agricultural inputs	Home-made fertiliser / pest management	
		Low price offered by traders	Become a member of vegetable cooperative	Facilitate access to market information (prices)

3. Plenary discussion

The groups present their results. Proceed as follows:

- **One group presents** and explains the identified problems and solutions (already applied and potential solutions).
- Briefly discuss the solutions, and invite **the other groups to complement** with any important solutions they think are missing (considering the respective land size). Write additional solutions on cards and add them to the list.
- The next group presents, and the plenary makes complementary suggestions; etc.

Background information to be considered by the moderator

There are three main strategies to improve farm productivity:

- a) **Optimizing already existing technologies and farming practices,**
- b) **Introducing new, innovative technologies**
- c) **Combining / integrating different technologies into a farming system** (Integrated Farming System; see Annex 1: *Exercise B*)

The three strategies aim at:

- **Intensification of production** = more output per ha (e.g. improved / better adapted crops and varieties, intercropping, applying manure / compost to improve soil fertility, improving pest management, irrigation, etc.)
- **Diversification of production** = increased output value / minimizing risks (e.g. introducing cash crop, different crops and varieties, mixed farming crop production – animal husbandry, etc.)

However, it has to be considered, that depending on the available financial and human resources, some households may prefer to expand their activities in off-farm income instead of investing in on-farm activities, or may even be forced to give up farming!

4. Plenary: Prioritization land management problems and definition of objectives

This step aims at:

- (A) Prioritising the land management problems in different land uses / farming activities (for the average land size), and agreeing on most important problems for which to find and score SLM technologies (→ Ex. 6);
- (B) Defining main objective(s) in terms of SLM for the agreed upon priority land use, and land management problems.

Task in plenary:

1. Prioritisation of land management problems:

Discuss in plenary the following question:

- **Where are the most pressing problems? Which problems should get priority in terms of finding solutions?**

Prioritisation is done with stickers. Count the number of problems mentioned in the table, and give each participant as many stickers as there are problems (e.g., if 8 problems have been identified, each participant gets 8 stickers). Ask them to put the stickers next to those problems, which in their view are most pressing. Each person can put up to 3 stickers on the same problem (to give it more weight). When everybody has put the stickers, count the stickers for each of the problems and write it down. The problem with the highest number of stickers is considered having first priority for action. **Select the four priority problems.**

Example:

Land-holding ¶ 0.5--2-ha	Share-total-income	Land-management-problems	Solutions-/technologies ¶ (already-applied)	Potential-tech
Farming-activities	70%			
•→Livestock (1-2-cows, poultry)	● ●	High-mortality ¶ Limited-availability-of-grazing-land	¶ x	¶ Fodder
•→Rice (own-consumption)	● ●	Susceptible-to-dry-spells ¶ ¶ ¶ Low-soil-fertility	Diversify-rice-varieties ¶ ¶ ¶ Compost	Drought-varieties irrigation
•→Cash-crops (vegetables)	● ● ● ● ● ●	Lack-of-irrigation ¶ ¶ ¶ Pests ¶ ¶ ¶ Low-soil-fertility ¶ ¶	Pond; mulching; drip-irrigation ¶ ¶ ¶ Home-made-insecticide; ¶ ¶ compost ¶ ¶	¶ ¶ ¶ Integrating manure ¶ Vermicompost ¶

In this case, first priority would be finding solutions to the problem of 'low soil fertility in cash crops', and second priority 'low soil fertility in rice fields', 'limited grazing', and 'pest in cash crops'.

2. For each of the four priority problems, define a clear **objective** that potential solutions / SLM technologies should contribute to:

Discuss in plenary the following question:

- **Which improvement(s) do we want to see in regard to this problem?**

How to formulate objectives: start from the current problem (e.g. low soil fertility), and define what a potential solution must be able to do (e.g. increase soil fertility, or – more specifically - increase soil organic matter). This is then **the objective** your group has for solving this specific problem.

For your information: in the further process, SLM technologies that contribute to this specific objective will be identified (exercise 5), and then compared / scored (exercise 6).

The following **examples** may help you identify relevant objectives.

Current problem	Possible objective
Low soil fertility	Increase soil fertility Increase soil organic matter
Soil erosion	Decrease soil erosion
Lack of irrigation	Increase soil moisture Improve water availability
Low productivity	Increase soil fertility, and Improve water availability
Pests	Reduce damage by pests Improve pest management
Etc.	

Exercise 5: Selection of technologies to be assessed

- Objectives**
- For each objective defined in Ex. 4 a number of promising SLM technologies will be presented.
 - A set of promising SLM technologies will be selected for detailed assessment in Ex. 6.

Duration	Minutes
Introduction	10
Group work: Select interesting technologies for valuation	100
Plenary: Present and discuss group work	30
Total	140

- Preparations and material required**
- Prepare for each of the two groups the following material:
- Print WOCAT technology summaries and the tailored poster for those technologies listed (already applied and potential) in Ex. 4 if already documented in the WOCAT database.
 - Print additional technologies, which you already have documented in the WOCAT database you think could also be relevant for the listed objectives.
 - Prepare a brief information sheet for technologies not yet documented in the WOCAT database but listed in Ex. 4.
 - Prepare a brief information sheet for any other technologies, which could be relevant.
 - Option: if available short videos of a technology.
- Markers, flip-chart paper, post-its (min. size 5x5cm)

- Procedure**
- 1. Introduction**
- The exercise's purpose is to discuss and select technologies for detailed assessment in Ex. 6. The work will be done in the same two groups as before. Take the four objectives, which you have defined in Ex.4 and distribute two of them to each group. Hence, group 1 will work on objective 1 and 2, and group 2 will work on objective 3 and 4. Each group has a moderator (e.g. extensionist or researcher), who guides the discussion.

Task group work:

1. For each objective list the solutions / technologies (already applied, potential and additional ideas).

Example for objective 1:

Problem: low productivity in home garden

Objective: increase productivity

Solutions / technologies (already applied)

- *Compost*
- *Water harvesting*

Potential solutions / technologies

- *Intercropping*
- *More fruit trees*

Additional technologies

- *Mulching*
- *Drip irrigation*
- *Slurry from biodigester*
- *Improved seeds*

2. Start with the 1st objective. Explain the technologies to the group by using the tailored posters. Make sure that everybody fully understands them, including their economic, social and ecological benefits.
3. Select up to max. 5 promising technologies per objective to be assessed in Ex. 6 based on the following reflections:
 - Start with the already applied technologies and discuss which of those are already applied by the majority of farmers. Those technologies have already proven to be successful and will thus be excluded from detailed assessment. Strike them through on the list.
 - Look at the remaining technologies. Discuss based on the information you get from the summaries / information sheets their potential to address the objective. The following questions may guide the discussion:
 - Is the technology able to contribute to the objective?
 - Is the practice viable for the local context?
 - Is the implementation and maintenance of the practice not too costly for the respective land size category?
 - Are certain adaptations necessary to fit the local context?
 - Is the practice new / innovative?
4. Repeat the same exercise for the 2nd objective.

Plenary: Each group presents their results. After the two groups have presented, take some minutes to get an overview on similarities and differences between the selected technologies for specific objectives:

Exercise 6: Assessment of promising technologies

- Objectives**
- To assess the promising technologies based on selected criteria.
 - To identify the most relevant technologies for a particular objective.

Duration

	Minutes
1. Introduction	15
2. Group work: scoring based on criteria (for a particular objective)	80
3. Plenary: Analysis of scoring results	20
4. Plenary: Discussion of results	20
Total	135

Preparations and material required

- The moderator prepares the material for the assessment exercise:
 - for each group a scoring tool (scale 1 to 5 (with 1 being least positive and 5 being most positive); and 0 = killer criteria) → *see below*
 - for each group a set of cards with the assessment criteria (1 criteria per card) and 3 blank cards
 - A matrix containing all technologies (upper row) and criteria (left column). → *Matrix template see below*
- Markers

Procedure

1. **Introduction:** The assessment of the technologies is done as a group work. The same groups as in Exc .3, 4 and 5 continue to work together. Each group assesses their selected SLM technologies (in Exc.5) for each objective separately.

The assessment is made based on a limited number of **economic, social and environmental criteria:**

Economic criteria

- a) establishment costs and maintenance costs,
- b) short-term (1-3 years) and long-term (> 3 years) benefit,

Social criteria

- c) work load establishment,
- d) work load maintenance,

Ecological criteria

- e) Two specific ecological criteria (to be selected, depending on the defined objectives, *e.g. increase soil fertility, increase soil organic matter, increase water availability*).

Coping with climate extremes

- f) coping with short-term climate extremes (e.g. floods, droughts),

A moderator guides the process in each of the groups.

Explain the scoring process thoroughly and make sure everybody understands!

The following **information sources** can be used to support the scoring process: the groups own experience; the WOCAT summaries of technologies.

A few notes on scoring: When scoring the technologies, it is best to score all technologies against one criterion at a time. Give the best technology the highest score (which does not necessarily have to be 5) and the worst technology the lowest score (which does not necessarily have to be 1). Then try to work out how well the others do relative to the best and worst, and score them in relation to those best and worst scores.

0 = Killer criteria: The score 0 signifies that a technology performs so poorly on that particular criterion that it is probably not viable. A score 0 therefore indicates a killer criteria for a certain technology. (Example: if you have a budget of \$1'000 and the technology is going to cost \$5'000, you might want to give it a 0 because you know, that you cannot implement it due to lack of resources.)

2. Group work: Scoring of technologies against all criteria

The scoring process is as follows:

1. Put the first criterion on the 'scoring tool' (example see next page).
2. Start discussing which of the technologies is best, and which one worst concerning the selected criterion.
3. Once you agreed on the best technology, think about its score concerning the selected criterion, and place the technology card on the respective field.
4. Do the same with the worst technology.
5. Discuss and score the remaining technologies.
6. For each technology, fill the score concerning criterion 1 into the matrix.
7. Repeat the same process with all other criteria.

If you have finished the scoring with the 1st objective repeat the same procedure for the 2nd objective.

3. Analysis of the matrix tables in the group

Discuss in the group the results from the two scoring rounds separately. The following points may guide the discussion:

- Technologies with the **highest overall scores / lowest overall scores** (→ best, worst)
- Technologies that **score best in the single categories** (economic, social, ecological, coping with climate extremes)
- Which technologies do fit the objective best?

Comment: Please consider that the highest score does not necessarily mean the best solution. You will also need to have a look at the sub-totals of the single categories carefully.

4. Plenary session: Analysis of the matrix tables

The groups present the results from their group work: assessed technologies for each prioritised objective.

Briefly discuss the **main findings** of the groups by pointing out the following:

- Discuss how technologies can be combined in a land use / farming system to get synergy effects and to reinforce the achievement of the objective(s), e.g. *Integrated Farming System*
 - List the SLM technologies, which can be combined.

Template matrix

	Technology 1	Technology 2	Technology 3	Technology 4	Technology 5	Technology 6	Technology 7
CRITERIA							
ECONOMIC							
Establishment costs							
Maintenance costs							
Total Costs							
Short-term benefit							
Long-term benefit							
Total Benefits							
SOCIAL							
Workload establishment							
Workload maintenance							
Total Workload							
ECOLOGICAL							
Ecological criteria 1							
Ecological criteria 2							
Total Ecology							
COPING WITH CLIMATE							
Coping with climate extremes (short-term)							
Total Coping CC							
TOTAL							

Scoring tool

Prepare the following (empty) form on a big sheet of paper, where each line is about 10 cm high (to fit the post-its).

Example:

Criterion: Establishment costs	
Score	Technologies
Very good (5)	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; background-color: yellow; padding: 5px; width: 150px; height: 80px; display: flex; align-items: center; justify-content: center;">Intercrop- ping</div> <div style="border: 1px solid black; background-color: yellow; padding: 5px; width: 150px; height: 80px; display: flex; align-items: center; justify-content: center;">mulching</div> </div>
Good (4)	
Acceptable (3)	<div style="border: 1px solid black; background-color: yellow; padding: 5px; width: 150px; height: 80px; display: flex; align-items: center; justify-content: center;">Slurry from biodigester</div>
Bad (2)	
Very bad (1)	
0 (killer criteria)	

Exercise 7: Evaluation and closure of the workshop

Objectives - To evaluate the workshop.

Duration	Minutes
1. Evaluation of the workshop	5
2. Next steps in the project	10
Total	15

Preparations and material required

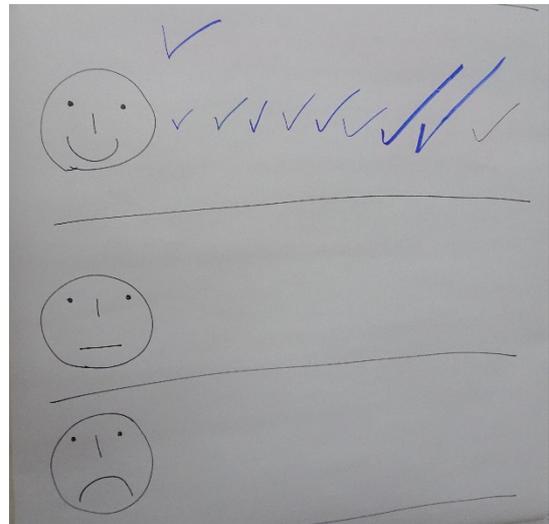
- Flipchart
- Markers

Procedure

- 1. Evaluation:** If appropriate for the local context, let the participants evaluate the workshop with the **mood barometer**. Draw three faces – happy, medium and disappointed on a flipchart.

Ask the participants to express their overall happiness with the workshop by putting a mark next to the face that represents their mood (for privacy reasons, turn the flipchart so that the other can't see where a person puts the mark).

If not appropriate, find another adequate way to get some feedback from the participants.



- 2. Next steps:** The moderator(s) provide some information on the following:
 - How will the results (especially from exercise 6) be used?
 - What are the next steps in the project?

Annex 1: Optional exercise

If you see that the selected Technologies have the potential to be combined in an integrated farming system (IFS), then add this exercise.

Exercise A: Integrated farming systems (IFS)

Objectives - The exercise helps to identify which Technologies could be combined into a Integrated Farming System (IFS).

Duration

	Minutes
1. Introduction	5
2. Plenary: discuss combination of Technologies in IFS	40
Total	45

Preparations and material required

- Technologies selected in Exercise 6 (cards)
- Flip charts where cards can be combined

Procedure

1. Introduction to the exercise

The moderator explains that some of the selected Technologies could potentially also be combined in an IFS. Some of the Technologies are already (or partly) a IFS, those would obviously not be considered for this exercise.

Integration means: **outputs** (usually by-products) of one production sub-system are used as **inputs by another**, within the same farm unit.

Examples of IFS:

- Crop-livestock farming system
- Crop-livestock-fishery farming system
- Crop-livestock-forestry farming system
- Crop-livestock-poultry-fishery farming system

2. Plenary session: suggestions for combining technologies for IFS

Start a discussion on which technologies could be combined in a IFS. The facilitator uses the technology post-its and hangs those which could be combined in a IFS on one flipchart paper.

Technical drawing from Technology: 'Improved orchard with an integrated farming system' (Cambodia)



