DESIRE REPORT series



Guidelines for WB3 Part III: Stakeholder workshop 2

Selection and decision on prevention and mitigation strategies to be implemented

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Foreword

The DESIRE WB3 methodology was developed by the Centre for Development and Environment (CDE). It is based on experiences from the 'Learning for sustainability (L4S)' methodology (http://www.cde.unibe.ch/Tools/ALS_Ts.asp) and the WOCAT methodology (www.wocat.net). It consists of three parts:

- Part I: Stakeholder Workshop 1: Identification of existing and potential prevention and mitigation strategies (WP 3.1)
- Part II: Assessment of Conservation Strategies: Assessment and documentation of existing and potential prevention and mitigation strategies (WP 3.2)
- Part III: Stakeholder Workshop 2: Selection and decision on prevention and mitigation strategies to be implemented (WP 3.3)

These guidelines are a working instrument for use in conducting and moderating the DESIRE WB3 Stakeholder Workshop 2.

Part III: Guidelines for Stakeholder Workshop 2 (WP 3.3)

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Report Format

WB3 Methodology



Guidelines for WB3 Part III

Stakeholder Workshop 2: Selection and decision on prevention and mitigation strategies to be implemented (WP 3.3)

Selection and decision on technologies and approaches to be implemented

In each of the 18 study sites of the DESIRE Project a stakeholder workshop on 'Selection and decision on mitigation strategies to be implemented' will be conducted. It has the following objectives and contents:

Overall aim:

To select promising (existing and potential) strategies for land conservation to be tested / implemented in the selected study site.

Objectives:

- 1. To jointly select 1-2 options (mitigation strategies) from the WOCAT database to be implemented / field-tested in the selected study site in the context of DESIRE WB 4.
- 2. To strengthen trust and collaboration among concerned stakeholders.

Contents of the workshop:

- Definition of options (mitigation strategies) for the local context.
- Identification of relevant criteria to evaluate the different options.
- Scoring the options.
- Creating a hierarchy and ranking criteria.
- Analysis and prioritizing of options. Decision on 1-2 options to be test implemented.
- Embedding the options into the overall strategy.

For this workshop it is indispensable to have a computer and if possible a beamer. Methodologically, the selection of options is based on the WOCAT database and the scoring and decision process is supported by a Multi Objective Decision Support System (MODSS) software.

Introduction to the workshop guidelines

| WB 3 - Stakeholder Workshop 2 | This 2 nd stakeholder workshop aims at the joint decision-making on the selection of promising strategies for land conservation to be test-implemented in the respective study site. The selection is based on a process of evaluating and scoring different options which meet the specific conditions of a given local context. | | |
|--|--|---|--|
| Methodology | The methodology applied in this workshop consists | s of three main elements: | |
| | A participatory approach has been chosen t ticipants through the process of evaluation and | o guide and lead the workshop par- d decision-making. | |
| | 2. The options or strategies of land conservation from the WOCAT database . | from which to choose are derived | |
| | 3. The single steps of the evaluation and decisio Multi Objective Decision Support System (I | n-making process is supported by a MODSS) software . | |
| | In the workshop a computer (and if possible a bear the background. | mer) is required to run the software in | |
| Stakeholder WS 2: A chance and a challenge | To go through the process of stakeholder WS 2 wh stakeholders on which technology to test-implement for each study site. At the same time you must be moderators to lead the group successfully through cision. | hich results in the decision made with nt in the course of WB 4 is a chance aware that it is a challenge for the the process and come to a good de- | |
| | For your area or study site it is a chance to provok stakeholders, but you can also spoil it, which will p rating in future projects. | e good future collaboration with robably result in tiredness of collabo- | |
| Responsibility of the moderators | Be aware that moderating stakeholder workshop 2 is a responsible task, as the decision that will be taken in the course of the workshop: directly concerns the reality of stakeholders living in the study site; is an important decision for the DESIRE project. | | |
| | The moderators also have to be careful not to man deal of influence such as for instance in the prepar (selection of options from the WOCAT database; s the preparatory work to the best of your knowledge to be able to consider newly emerging ideas and to | ipulate where they do have a great atory work done before the workshop ee page 9ff). We advise you to make but to be open-minded and flexible adjust to them where necessary. | |
| To whom the guide- lines are addressed | The present guidelines are a working instrument for 2^{nd} stakeholder workshops (\rightarrow WP 3.3). They are a moderators in guiding the processes of joint decisis workshop participants. At the same time they are a training of moderators. | or use in moderating DESIRE WB3 designed to support the study site on-making and selection of options by a baseline document to be used in the | |
| Content of the | The workshop guidelines consist of: | Guidelines for Stakeholder Workshop 2 | |
| guidelines | a) didactic quidelines which formu- | Step 5: Creating a hierarchy and ranking criteria | |
| | late learning objectives, and de- | Objectives - To organise oriteria in a hierarchical order. | |
| | scribe a step by step procedure for | 1. Introduction 5 2. Plenary session: tanking offenta 45 Total 50 | |
| | decision-making process; | Preparations - Paper sheets, format A1 and material - Write all offeria on cards (1 criteria per card) required - Markers | |
| | | Methodology Plenary session | |
| | | Frideware 1. an outdown in the movement explains the pulpose of step 2 (cfeating a hetal- chy and carling deteral), Most possibly, not all orten are equally important Therefore the criteria are tranked according to their importance, so that more important ortenia age to new weight. | |

mportain creara ger more weight.
Participants have the opportunity to express which factors they think are more important than othere by ranking the otheria. Higher ranked criteria are given more weight than the lower ranked criteria.
Plenarry session: organise the criteria on a pin-board (or on the wall) according to the importance.
Organise them according to the category (socio-cultural, economic/



to have trustful relationship with involved stakeholder groups;

| | to have communication skills; speak the local language of the study site; to have didactical skills; to have conflict management skills; to have skills in advisory work (advises in sustainable land management). | | |
|--|--|--|--|
| Organization and preparation of a workshop | Organization : The stakeholder workshop is organized by the study site leader in collaboration with the workshop moderators. | | |
| workshop | Responsibilities and tasks: | | |
| | • The study site leader bears the main responsibility for logistical arrangements (accommodation, meals, transport, etc). | | |
| | • The moderator is primarily responsible for the material and methodological | | |
| | preparation of the workshop. | | |
| | Material needed: computer, beamer, paper, markers, pin board, stickers, tape, A1 paper sheets, transport facilities, etc.). | | |
| | Of primordial importance is a serious and in-depth preparation of the topics and contents of the workshop i.e. | | |
| | - get familiar with the guidelines, the WOCAT database, the MODSS soft- ware; | | |
| | recall the main results and conclusions from stakeholder workshop 1 (list of potential solutions, outline of overall strategy, etc.) | | |
| | - be aware of the objectives of the stakeholder workshop and expected out- | | |
| Invitation and preparation of the group | The moderator issues timely invitations to interested professionals and researchers, providing information about the content and objectives, time and programme of the workshop, and requirements for participants. Local participants will also receive this in- | | |
| | formation from the moderator or local institutions that help in organising the workshop. | | |
| Evaluation | Brief daily evaluations serve to get a reading on the mood of the group, and to identify and introduce corrective measures as needed. Let all participants briefly express them- selves. Possible guiding questions: What did you like? What did you not like? | | |
| | Principles to be observed: free, individual expression; tolerance of the opinions of others; respect. Do not discuss what has been stated unless something severe needs to be clarified. | | |
| | The objective of the final evaluation is to get a feedback from participants on: achieved results, | | |
| | didactics and process, | | |
| | organisation of the workshop. Ack for and an written foodback to the workshop (organisation, procedure, didection) | | |
| | proach, content, etc.). It might be helpful to formulate a few specific questions to be an- swered. | | |
| Workshop report | The moderators and the research team of the study site share the responsibility for documenting the workshop results and writing a workshop report. | | |
| | Language: | | |
| | A detailed workshop report has to be written in the local language. A summary report has to be written in English and submitted to WB3. A format for the English summary report is provided in Annex 1! | | |
| Use material / results from | To follow-up on discussions and results from Stakeholder Workshop 1 you will need mainly the following material (big sheets from exercises) / results: | | |
| Stakeholder WS 1 | Overall strategy for SLM | | |
| | The cycles Stakeholders and their roles | | |

Overview on the Programme of Stakeholder Workshop 2

| Preparat | Preparations for Stakeholder Workshop 2 (to be made by the moderators): | | | |
|---------------|---|---------------|------------|--|
| • Me • Pre | thodological preparations paration of the workshop venue | | 3 days | |
| | | | | |
| | WP 3.3: Stakeholder Workshop 2: program | me overview | | |
| | Day 1 | Minutes | | |
| Introductio | on to the workshop | 15 | | |
| Step 1: | Review and adjustment of objectives | 60 | | |
| Step 2: | Identification of options | 120-180 | | |
| Step 3: | Identification of relevant criteria for evaluation | 100 | | |
| Step 4: | Scoring the options | 100,100 | | |
| | Part A) Scoring in groups | 100-130 | ee oh | |
| | Day 2 | TOLAI | 0.5 - 8 11 | |
| Step 4: | Scoring the options (continuation) | | | |
| • | Part B) analysis of assessments | 30-60 | | |
| Step 5: | Creating a hierarchy and ranking criteria | 50 | | |
| Step 6: | Analysis and interpretation | 90 | | |
| Step 7: | Prioritisation of options – negotiation and decision makir | n g 60 | | |
| Step 8: | Embedding into the overall strategy | 90 | | |
| | | | | |

Evaluation of the workshop30Closure of the workshop10Total6 - 6.5 h



Next Step WB 4: Implementation

Preparatory work

Preparatory work of the moderator(s) prior to the workshop (3)

The moderator(s) need to be prepared for facilitating the stakeholder workshop. Besides organisational preparations it is important that the moderator(s) take enough time to get familiar with the workshop guidelines, the WOCAT database and the MODSS software.

Before the workshop, all local solutions have to be documented and evaluated with the WOCAT technology and approach questionnaires and entered into the WOCAT database, i.e. WP3.2 has to be completed!

1. Methodological preparations for the workshop

Read the workshop guidelines very carefully, and try to imagine the workshop procedure step by step. Think about how each step is related to the objectives of the workshop, and about the expected results of each step. Think about material that might help you to introduce a step, or to explain or illustrate specific aspects. This second stakeholder workshop (WS2) is a follow-up to the first one (WS1) and will build on discussions and results of the first workshop. Therefore some of the visualizations (e.g. cycles, overall strategy, stakeholder analysis, etc.) from WS1 will be used as a starting point for WS2.

- Reuse the following results from Stakeholder WS 1: biomass and water cycles (Ex.2), outline of an overall strategy (Ex.8), and stakeholders' influence and motivation for SLM (Ex. 4).
- Prepare any useful material that might support moderation (sketches, maps, photos, etc.).
- Develop ideas and write down key words on how you are going to introduce the different steps, and explain the role and use of WOCAT database and MODSS software to stake-holders.
- Make yourself familiar with the WOCAT database and the MODSS software.
- Prepare **posters and cards** illustrating locally applied and potential options (based on a search in the WOCAT database; see below).

Objectives:

- To get familiar with the guidelines, the WOCAT database and the MODSS software.
- To be prepared to use the guidelines as a flexible instrument, as adaptations (in time and topics) might be necessary in the course of the workshop.
- To be able to speak in words and metaphors local people understand.

2. Preparation of the workshop venue and working materials

Make the necessary preparations in the workshop venue (either the evening before the workshop or in the morning).

- Check the following: whether the venue is tidy, whether enough chairs and tables are available, whether enough power outlets and extension cables are available, etc.
- Make sure that abundant working material is available such as paper sheets (format A1, format A4, colored paper, etc.), tape, markers, scissors, glue, thumbtacks, pin board etc.
- Install a laptop and beamer (check whether the room where the screen is can be dimmed such that the projection is clear and readable);
- Install a color printer.
- Etc.

Objectives:

- To be ready when the workshop starts.
- To be able to concentrate on the topic and process, instead of having to deal with organisational and logistic questions.



(2-3 days)

(2 hours)

Preparations for step 2:

Edit and print posters and cards illustrating locally applied and potential options (derived from the WOCAT database)

The following procedure describes the preparatory work to be made for step 2 of stakeholder WS 2. Step 2 is a crucial step in the workshop and needs good preparation, which must be done before the workshop. Time during the workshop does not allow making a thorough search in the database, making necessary adaptations, and printing all the results.

This is a delicate aspect of the methodology, as you are asked to anticipate possible outcomes of stakeholder discussions in step 1. But we expect that this anticipation is possible as the discussion in step 1 (see page 19) is a follow-up of the work made and discussions led in stakeholder WS1! Hence, we trust that the discussions and results from stakeholder WS1 give you a sound basis for these preparations. However, you must be aware that it could happen that the stakeholders will focus on another than the anticipated objective. In this case it will be necessary to make a new search in the database and print the resulting options during the workshop itself.

Remark on the use of the WOCAT database in Stakeholder Workshop 2

The WOCAT database will mainly be used by the moderators during workshop preparations. The database is a source of options and a source of information for researchers (and other interested stakeholders). **We recommend not using the database directly with stakeholders in this workshop**, as this is not the objective of the workshop.

However, when conducting step 2 it is important to be transparent and explain the participants what the database is, how it is used and how you came to the selection of options that you are going to present them (see step 2) without having to show them the database itself.

1. Anticipate the most important objective

Before you can start your search in the WOCAT database you have to recall and review the discussions you had in WS1, and the objectives defined in Exercise 8 (outline of an overall strategy for SLM) of WS1. From these objectives, i.e. disturbances in the cycles, causes and effects that shall be mitigated, the participants will have to agree on the most important one (in step 1, p. 19). **This most important objective is then the basis for the whole assessment and decision-making process in stakeholder WS2**: options will be searched which match this objective, criteria will be defined, and options scored focussing on this most important objective, etc.

You are now asked to anticipate which of the objectives will most probably be selected as the most important one. We trust that you are able to deduce it on the basis of discussions and results from WS1. To minimise the risk of being totally wrong with your anticipation, we advice to follow two tracks during preparatory work, i.e. to keep two objectives in mind and search for options for both. But remember which options match which objective!

2. Search procedure

For each of the objectives, a number of options need to be identified and listed. Relevant options will be searched and retrieved from the WOCAT database. The WOCAT database contains the locally applied solutions (those identified in WP 3.1 and documented in WP 3.2 by the means of the WOCAT questionnaires) as well as documented potential solutions, aside from all the solutions documented by the other DESIRE study sites, and internationally applied solutions.

Each option consists of a technology and, where available, of an approach describing the ways and means of the implementation of the technology.



In the WOCAT Technologies database, use the option 'search by key guestions'. By using this button, the search for potential technologies (and their associated approaches) will be facilitated by leading the user through a series of key guestions to limit the number of potential options to some 5 - 10.

The following is the demonstration of the search procedure by key questions. It shows how the number of options is narrowed down by selecting key questions.

Case study used for demonstrating the search procedure:

- Climate: semi-arid
- land use: annual cropping •
- objective: to reduce water loss •
- \rightarrow refers to land use type

- \rightarrow refers to type of degradation

Question 1: determine type of degradation

| Which is your main type of DEGRADATION for which you are searching a technology to prevent, mitigate or rehabilitate it? | | | | |
|---|---|---|--|--|
| | | Wt: Water erosion: loss of topsoil by water | | |
| AND | • | Ha: Water degradation: aridification: decrease of average soil moisture content 💽 👘 | | |
| | | Next > Cancel | | |

Search results: The search with the 2 degradation types selected (see above) shows the following results:

| Search result | | | | |
|------------------------|--|--|--|--|
| for technol | gies addressing degradation type 'Wt' AND 'Ha' | | | |
| Technologies found: 12 | | | | |
| Quest Id | SWC Technology Name | | | |
| BRK10e | Composting associated with planting pits | | | |
| BRK10f | Le compostage associé aux trous de plantation | | | |
| CHN45 | Zhuanglang loess terraces | | | |
| IND14 | Forest catchment treatment | | | |
| KEN05 | Fanya juu terraces | | | |
| KEN16 | Grevillea agroforestry system | | | |
| KEN30 | Small-scale conservation tillage | | | |
| PER01 | Rehabilitation of ancient terraces | | | |
| SYR01 | Stone Wall Bench Terraces | | | |
| SYR03 | Furrow-enhanced runoff harvesting for olives | | | |
| THA25 | Small level bench terraces | | | |
| UGA04 | Improved trash lines | | | |

Question 2: determine type of land use

| White on N | ich is your main type of LAND USE which you plan to implement the conservation technology? |
|------------|---|
| | Cropland: annual cropping |
| or | ▼ |
| | |
| | < Back Next > Cancel |

Search result:

Search result

for technolgies addressing degradation type 'Wt' AND 'Ha' and land use tpye 'Ca'

Technologies found: 7

| SWC Technology Name |
|---|
| Le compostage associé aux trous de plantation |
| Zhuanglang loess terraces |
| Fanya juu terraces |
| Small-scale conservation tillage |
| Rehabilitation of ancient terraces |
| Small level bench terraces |
| Improved trash lines |
| |

Question 3: climate regime

| Wh i for v | ich is your CLIMATE re which you are searching a | gime a suitable techno | ology? |
|----------------------|---|----------------------------------|---------------|
| | semi-arid | | <u> </u> |
| or | | | • |
| | [| < Back | Next > Cancel |

Search result:

| Search result | | | | |
|---------------|---|--------------------|---|--|
| for techno | logies addressing degradation type 'Wt' AND 'Ha' and land use tpye 'Ca' and | climate 'semi-ario | ď | |
| | | | | |
| Technologie | is found: 5 | | | |
| | | D: 10 | | |
| Questic | SWC Lechnology Name | Potential? | 1 | |
| BRK10f | Le compostage associé aux trous de plantation | | 5 | |
| CHN45 | Zhuanglang loess terraces | | • | |
| KEN05 | Fanya juu terraces | | | |
| KEN30 | Small-scale conservation tillage | | Γ | |
| PER01 | Rehabilitation of ancient terraces | | | |
| | | | | |

The search result signifies that the WOCAT database on Technologies currently contains 5 technologies (options) which address the conditions of our case study.

As we recommend limiting the number of potential options to 5-10 you may stop the selection process here and continue with the next steps described below.

If you still get too many options after these key questions, you can continue to narrow your search with the next key questions on *slope* and *market orientation*. In fact, you can use as many key questions as are necessary to narrow down your selection to a manageable and useful number.

It is important that you become familiar with the content of the database and get a feeling for the data and we therefore suggest that you 'play around' with these various search procedures.

Please check whether your search results (options) really match your objective!

Alternative search procedure

A more open, but also more complex search form is provided in the database menu option 'search by criteria'. Here you are free to combine a number of search criteria which your technology should suit. It is recommended to use this form only if you don't get a useful set of options from the procedure described above, or if you need other search criteria to limit your selection than those provided by the key questions. The danger with using this form is that users tend to define too many search criteria, which does not give any or too few results. However, you can avoid this by using a step-wise refinement of search criteria.



3. Preview technology information

On each search result form you have the possibility to preview the details of the technology using various output formats. This will help you understand the technology behind its name and to decide whether the technology really is an option for your objective or not.

For a rough look, it's best to select the poster or card format to preview. For a more detailed look, select the 4-page summary. Once you have decided about a suitable set of technologies, we recommend printing the 4-page summaries and using them as background information in your role as a specialist and moderator.



4. Posters and cards

For the stakeholder workshop you need to print for each of the relevant options a poster, and additionally several sets of cards of all options to be evaluated (format A6; containing 1 photo and some key information on the technology).

The relevant information can be retrieved from the database. Select from the menu (see above) DE-SIRE poster format, and DESIRE card format respectively. Select 'display' to preview the output. From there you can export the information to Microsoft Word (clicking on the **W** in the poster navigation).

If you like to produce pdf files directly from the database, you temporarily set your default printer to Adobe PDF and then select the print option from the poster or card navigation menu.





Example Poster format (A3):

Example Card format (A6):

In order to make changes to the text you need to export the information to Microsoft Word. Where applicable, we recommend including information on obvious necessary adaptations that need to be made to make the option suitable for the local context (e.g. adaptation to a slope, or a specific land tenure system, etc.). Please make your reflections concerning adaptations explicit! Why do you suggest these changes? How feasible are they? Etc.

According to your working context, translation into local language might be necessary!

| Search re | sult | | | | |
|----------------|--|---------------------|---|--|--|
| for technol | ogies addressing degradation type 'Wt' AND 'Ha' and land use tpye 'Ca' a | nd climate 'semi-ar | id' | | |
| | | | | | |
| Technologie | s found: 5 | | | | |
| Quest Id | SWC Technology Name | Potential? | If you are happy with this selection, you can | | |
| BRK10f | Le compostage associé aux trous de plantation | | select one, define the output format and | | |
| CHN45 | Zhuanglang loess terraces | | display or print it with the menu below. | | |
| KEN05 | Fanya juu terraces | | | | |
| KEN30 PER01 | Small-scale conservation tillage Rehabilitation of ancient terraces | | Short summary (4 pages) | | |
| | | | DESIRE poster format | | |
| | | | O DESIRE card format | | |
| | | | C Entire questionnaire (about 26 pages) | | |
| | | | C Assessment indicators | | |
| | | | | | |
| | | | | | |
| | | | O Display | | |
| | | | C Print | | |
| | | | OK | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | Otherwise click 'back' to alter your selection or 'next' to go to the next key question. | | |
| | | | Charles I count | | |
| | | | < Back Next > Cancel | | |

5. Combinations and improvement of options

According to the needs and the different contexts, the options as derived from the WOCAT database may be seen as standing-alone options, but they may also be combined with other options or single elements of other options (e.g. add a new element from an external solution to a local solution), or they may need some adaptation and improvement to fit a certain context!

Options taken from the WOCAT database have to be assessed and reflected. Mostly, they can not just be transferred 1 to 1 from one context to another!

This necessary adaptation process must be considered in the discussions. In this sense, the WOCAT database has to be seen as a basket of diverse options and ideas, which can be used as a model for the development of a context specific version, but which should not be confused with a blueprint solution!

Please write down all adaptations which have to be made to a certain option and include this information in the posters and cards. Please write necessary adaptations in red colour, so that they are distinguishable from the original option.

For the evaluation and decision-making process supported by the MODSS (or 'facilitator') software, it is important that the options with their necessary adaptations are considered and assessed, not the pure version from the WOCAT database!

6. Missing options and status quo

After retrieval of options from the database it is worthwhile to think about any possible solutions that have been mentioned in WS1 (e.g. new ideas), but which are not represented in the sample. If so, try to include such solutions, especially those which you might have specified using the proposed description format (see file 'Description of potential strategy.doc' from WP3.2).

According to the context and the options that come from the database, it might also be viable to include the option 'status quo' (keep going on with what the land users are doing anyway).

Produce your own posters and cards for these options as well (by writing directly into the poster and card format in MSWord)!

7. Identify relevant options for evaluation

Out of the range of options retrieved from the WOCAT database and completed with missing solutions and necessary adaptations, decide on the number of options to be taken into consideration for evaluation. Make sure that the different options are clearly distinguishable. We recommend selecting between 3 and 8 options (per objective).

The workshop - steps

| Introduction to the workshop | | | |
|--|---|--|------------|
| Goals | - | To inform participants on the objectives and programme of the worksh To prepare the ground for a good working atmosphere. | iop. |
| Duration | | | Minutes |
| | 1 | . Welcome participants | 5 |
| | 2 | 2. Introduction to WB3, Stakeholder workshop 2 | 5 |
| | 3 | Objectives and programme of the stakeholder workshop | 5 |
| | | Total | 15 |
| Preparations and material required | - | Workshop programme and objectives (written on sheets A1) Paper sheets, markers, tape | |
| Methodology | Ple | enary session | |
| Procedure | 1. The moderator welcomes participants, introduces himself and asks participants to briefly introduce themselves. (Do not spend too much time on this as the majority of participants is expected to be the same as in Stakeholder Workshop 1). | | |
| | Briefly recall the DESIRE program and its objectives. Explain the purpose of the WB3 2nd stakeholder workshop within the whole programme. | | |
| | 3. | Present the workshop programme and the objectives. | |
| | 4. | For a good working atmosphere, recall the 'rules of the game' (eg. rul communication, commitment to attend, etc). | es of |
| Expected results | - | The participants are clear about objectives, the procedure and program workshop. | mme of the |

Step 1: Review and adjustment of objective(s) (causes / effects of disturbances to be mitigated)

Goals

- To recall and refresh main discussions and results from the first stakeholder workshop (WS1).
- To decide on which objectives to focus on for the selection of options that will be implemented later.

Duration

| | Minutes |
|---|---------|
| 1. Recall main results from WS1 | 15 |
| 2. Plenary discussion | 30 |
| Agree on most relevant objective(s) | 15 |
| Total | 60 |

Preparations - Paper A1, markers, tape

and material - Posters / visualisations from WS 1 (biomass and water cycle; outline of an overrequired all strategy, stakeholder analysis, list of already applied and potential strategies)

Methodology Plenary session

_

Procedure Paste the posters with the main results from WS1 to the wall.

- 1. **Plenary session**: with the help of the posters from WS1 the moderator recalls the main findings and results from the following exercises:
 - Exercise 2: water and biomass cycle
 - \rightarrow diagnosis of the cycles
 - \rightarrow main disturbances, causes and effects; already applied solutions, potential solutions
 - \rightarrow most important problems and solutions
 - \rightarrow main legal, institutional and socio-economic factors
 - Exercise 8: synthesis outline of a strategy for SLM
 - \rightarrow objectives (disturbances, causes, effects that shall be mitigated)
 - \rightarrow appropriate technologies and approaches

Focus your presentation and explanations on:

- most important causes / effects of disturbances that need mitigation
 (→ deduce objectives)
- appropriate technologies and approaches
- 2. Plenary discussion: initiate a discussion to review and complete the objectives identified in WS1. The objectives will guide the selection of options to be implemented in the study site. Thus, it is important that the objectives are really relevant for the local context, and in the perception of the various stakeholders. To start the discussion, refer to the objectives defined in the outline of the overall strategy. The following questions may guide the discussion:
 - Are there any important disturbances or their causes and effects which have been forgotten so far, and which need to be considered when deciding on options to be implemented?
 - Are these the most important objectives?

- Do we already have locally applied solutions for these objectives?
 What kind of new / external solutions do we need?
- What may be the effects of potentially changing framework conditions such as EU-policies, EU-subsidies, climate change etc. on the relevance of these objectives?
- **3. Plenary:** The group needs to agree on **1 objective** (or 2 at the most), which will be used as the basis for the selection of options to be test implemented in the study site.

It is important to make clear, **that all the following steps**, i.e. the search for options, their evaluation and finally the selection of options to implement in a test in the study site **depend on the objective identified**. Be aware that for each objective you select, you need to go through the whole assessment process (time!)! So, if ever possible, agree on 1 objective.

What we call objective here, is the mitigation of a cause or an effect of a disturbance in one of the cycles.

Example: If for instance reduced soil water availability is a crucial problem / disturbance in the water cycle, the reduction of run-off can be an objective, or the increase of the water retention capacity of the soil could be another one.

Don't bee too broad in the definition of an objective. For example 'poverty alleviation' might sound attractive, but is not specific enough. The same with 'reduce runoff', it is too broad and might as such not be interesting for the land users. In this example 'improve water availability for enhanced production' might be a good compromise.

If possible, find a consensus! If not, let participants individually weigh according to their own opinion.

Remark: It is assumed that the objective selected here will not be something completely different from objectives identified in WS1 and we found it therefore feasible that the moderators prepare the search for options to suit the objective in advance (see also step 2).

Expected - Participants are up to date and can follow-up the discussions from WS1.

results - 1-2 agreed upon objectives, as a basis for the search of options for implementation

THEMATIC SHEET: The use of computer in the stakeholder workshop

| Use of com- puter in the | Starting from here, the decision-making process will be supported by computer with the help of the 'Facilitator' software. |
|-----------------------------|--|
| background only | During the workshop, use the computer and the software at the background only. In most steps, the computer will not be directly used in the work with stake-holders. Ideally, an assistant or the second moderator will feed the data from each step (results from work done in the different steps) to the Facilitator software. The calculations for the analysis of the assessment however are made by computer. |
| Transparency | Although the computer will only be used at the background, it is important to be transparent and to explain participants that the WOCAT database was used for selecting options, and that the Facilitator software is used to calculate the results from the assessment process done in the course of the different steps of the workshop. |
| | Transparency and a clear understanding of the purpose of the use of these tools are important to avoid suspicion and mistrust. People should understand that no decisions will be taken by the software itself nor any magic applied. |
| Purpose of the software | Explain the workshop participants that a software will be used in the background. Its purpose is to: A) calculate the results of the assessment which will be done by the participants according to their own criteria. B) Visualise the results. |
| | Make clear that the software itself does not make any selection, or decision, or evaluation of options! It only reflects what workshop participants are doing and how they assess it. The only purpose is to calculate what participants evalu- ate in the course of the different working steps, and to visualise it. It works with the data generated by the participants themselves, without adding or subtracting any- thing. |

Why using The software is used for the mere reason of dealing with the impossibility of hanthe software? dling all the information generated in the assessment process!

A number of technologies will have to be judged and scored according to different criteria, and in the end the group will have to have an idea on which of the technologies fit the local context best to be able to make a decision on which one to test-implement. It would just be impossible to consider and remember all important aspects without this technical help.

About the MODSS software 'Facilitator'

AboutDESIRE facilitator is based on the open source software 'Facilitator'. Few adapta-
tions and some debugging were made in March 2008 by CDE, University of Berne,
Switzerland. Below please find the original description by the software authors.

Software Description: This Multi Objective Decision Support System (MODSS) software uses decision rules, a hierarchical system for ranking criteria, score functions and linear programming to identify a preferred management option consistent with the ranking of the decision criteria. Assigning an importance order to the decision criteria overcomes in part the need to assign individual weights. The matrix framework of management options and decision criteria is generic and open, encouraging participation by all stakeholders and can accommodate measured data, simulation model results and expert opinions in the decision making process. The results can be viewed in one of two formats; bar and polar. Results in the bar format are displayed as horizontal bars with best and worst composite scores; the length of the bars representing the sensitivity of the resource management option to the individual ordering of the criteria. The polar format highlights, and groups, differences between best and worst composite scores. "What if" scenarios can be generated by reordering the decision criteria, selecting a different score function or by including additional options and criteria. The entire process can be exported to HTML allowing scenarios to be viewed from anywhere on the web.

Programming Platform: This software is written entirely in platform independent Java. As a result it should run on any platform which supports the JDK/JRE 1.5 (or 1.6) environment

Brief History: The *Facilitator* project was started in 1997. It has seen a number of iterations since then. Up until 2002 it was a proprietary application used in-house. It is now open source.

The project page for the Facilitator is: http://facilitator.sourceforge.net

This software is based on research from:

- The Department of Natural Resources (DNR), Queensland Australia.
- The U.S. Department of Agriculture, Agricultural Research Service (ARS) Southwest Watershed Research Center (SWRC) in Tucson Arizona.

This software was designed and built by:

- Netstorm Pty Ltd, Queensland Australia. http://www.netstorm.net.au
- The U.S. Department of Agriculture.
- The Department of Natural Resources (DNR), Queensland Australia. http://www.dnr.qld.gov.au

Funding sources for this project included:

- The Natural Heritage Trust, Appraisal System for Catchment Resource Use Management Strategies.
- The USDA Water Quality Initiative.
- The Sugar Research and Development Corporation.

Manual on Reference:

the use of
FacilitatorCoastal CRC, Queensland Government, 2005: Manual for decision-making in
groups with Facilitator software.

 \rightarrow was used as the main source for the explanations on the use of the software in this document.

Facilitator: Enter objectives

the Facilitator software



Start To start the DESIRE Facilitator software double-click on the file DESIRE facilitator.jar DESIRE Facilitator

😹 DESIREfacilitator.jar

In a first screen you are asked to select your language. Please select 'English'.

| Specify I | anguage | | × |
|-----------------------------|---------|---------|---|
| ? Select a language: | | | |
| | English | Spanish | |

Make a Make a new file by choosing New from the File menu. Save the file by choosing File new file and then Save. It will create a .dss file.

Click on Window and then Objective. Enter the objective as defined with participants Entering (objective name). In the section below (statement of the objective) you have the opobjectives portunity to describe the objective more precisely.

| 👙 DESIRE Facilitator | | |
|----------------------------|---|--|
| File Window View Run H | elp | |
| 🔌 Objective | | |
| O | bjective Editor | |
| Objective name | Reduce Water Loss | |
| Statement of the objective | To increase the water availability for production by enhancing soil moisture and reducing runoff. | |
| Ok | Cancel | |
| | DESIRE Decision Support System | |

Step 2: Identification of options (technologies) according to selected objective

| Preparations to be made before the workshop | This 2 nd step requires preparations to be made by the moderator and the study site team already before the workshop! They need to search the WOCAT database for options, and to prepare and print the posters and cards before the workshop, based on the objectives defined in WS1. | | | |
|--|--|---|--|--|
| | However, as the discussion in Step 1 may lead to new or additional objectives, it may be necessary to search for additional options in the database, and to print respective posters and cards during the workshop. | | | |
| | For details see: Preparatory work to be made by the moderators workshop; page 9 ff. | prior to the | | |
| Goals | To identify with the help of the WOCAT database a range of option gies and approaches) that fit the selected objectives. To visualise the potential options. | ns (technolo- | | |
| Duration | | Minutes | | |
| | Introduction | 5 | | |
| | Presentation of options from the WOCAT database | 45-105 | | |
| | Plenary discussion | 50 | | |
| | Selection of options to be assessed | 20 | | |
| | Total | 120-180 | | |
| Preparations and material required | Posters that document and illustrate the options from the WOCAT (1 poster per option). Cards (format A6) containing key information on the options. 1 Se each working group. Computer Printer Paper, markers, tape | database t of cards for | | |
| Methodology | Plenary session | | | |
| Procedure | 1. Introduction: The moderator explains the preparatory work done and the study site team. He/she briefly explains what the WOCA and how it was used. Make sure that the purpose and the use of (search for options) is transparent and well understood by the pa | e by him/her T database is, the database rticipants in | | |

order to avoid suspicion and mistrust (see thematic sheet).

2. Presentation of options

Write the selected objective on an A4 paper, stick it to the wall and add the posters with respective options. (In case you are working with two different objectives, make clear which options fit which objective by spatially separating them.)

Start from the objective and explain the single options. Take enough time for each of the options and make sure that everybody fully understands. In the case of options for which you have already identified necessary adaptations during preparatory work, explain which adaptations you consider necessary and why. Present these options including the adaptations (not as the 'pure' version from the database).

- **3. Plenary discussion**: Allow time for questions and discussion. The following questions may guide the discussion:
 - Is the option viable for the local context, generally speaking?
 - Are certain adaptations necessary to fit the local context?
 - Can several options or elements of an option be combined?
 - Are any very important options lacking?

If the discussion should reveal that any **important** options are lacking in the presented selection of options, it is still possible to go back to the database, search again, and add new options from the database! However, it is expected that this step, i.e. the brainstorming on possible options, was already completed in stakeholder workshop 1!

In this case, however, you will need to print additional posters and cards, too.

4. Selection of options to be assessed: Ask the participants to agree on 4 to 7 options which seem to be feasible and interesting enough for the context of your study site to be more thoroughly assessed in the course of the next steps.

Try to find a consensus! If no consensus can be found, give each participant 5 stickers to mark his preferences. Make sure that nobody feels pressurised by others into voting for certain options. Those options with the highest number of votes will be assessed.

Remark: One out of these options will finally (at the end of the whole process) be selected to be test-implemented in the study site. In case the current selection contains options which are already well known and successfully applied in your study site we recommend to not consider them for further assessment, as it will not be interesting to select them for test-implementation!

Expected results

• The participants agree on 4-7 options to be evaluated with the help of the following steps.

THEMATIC SHEET: selection of options from WOCAT database

The following graph (see below) can be used by the moderator to explain how the WOCAT database was used to select options.

1st step: selection of **type of degradation** → in this example two types of degradation were selected, namely *aridification* and *water erosion*. All options in the red circle fight water erosion and all those in the green fight aridification. It is important to note, that besides the intersection of the green and the red circle, i.e. those options that fight aridification and water erosion, there are more options for each of the 2 degradation types.

2nd step: select **type of land use:** type of land use for which we are seeking a technology is *annual cropping*. This specification further narrows down the range of options to those belonging to the intersection between the red, green, and blue circle.

Each new specification leads to another narrowing down of the number of options!



The selection process

Facilitator: enter options

Enter options

Enter the selected options into 'Facilitator'. It doesn't matter in which order. For options which have a strongly context specific name (e.g. Zhuanglang loess terraces), and / or where you have already identified necessary adaptations, you may wish to change the name to something that fits your context (e.g. level bench loess terrace).



Note that in the graph above, for 2 options the names have been changed compared to their original technology database name, i.e. the selected 'Zhuanglang loess terrace' is now 'Level bench loess terrace' or the 'Fanya juu terrace' became the 'Terrace bund with ditch'. This is either because the name is not meaningful enough for the local stakeholders, or because some adaptations or combinations have already been included.

Step 3: Identification of relevant criteria for evaluation

Goals - To identify and agree on a set of 9-12 criteria (ecological, economic, and sociocultural) per objective, relevant for the local context, along which the different options can be evaluated.

Duration

| | Minutes |
|---|---------|
| 1. Introduction | 15 |
| 2. Group work: brainstorming on criteria | 15 |
| 3. Analyse and complete criteria | 30 |
| 4. Group work: select most important criteria | 10 |
| 5. Agree on most relevant criteria | 10 |
| 6. Create a common understanding of selected criteria | 20 |
| Total | 100 |

| Preparations | - | Paper sheets, format A1, and cards |
|--------------|---|---------------------------------------|
| and material | - | Stickers (different colours) |
| required | - | Posters of options, cards of options |
| | - | Markers (different colours) |
| | - | Computer, DESIRE facilitator software |
| | | |

Methodology Group work: brainstorming, selection Plenary: discussion and final selection

Procedure

- 1. Introduction: the moderator explains the process of evaluating the different options. He gives a brief overview on the purpose and procedure of each of the following steps (see: thematic sheet step 3):
 - identification of relevant criteria
 - scoring of all options against all criteria
 - ranking / weighing of criteria
 - analysis (done by computer)
 - select 1-2 options for test implementation

The three dimensions of sustainability

To be feasible, options must fit into the specific bio-physical, economic and socio-cultural context of the respective study site. An option can only be considered sustainable if its evaluation is (more or less) positive concerning all three dimensions of sustainability: economic, ecological, and socio-cultural. That is, it has to pay off for the farmers implementing it, has to have positive impacts on the land (including soil, water, vegetation, fauna), and has to be acceptable by local actors, i.e. it has to fit into the socio-cultural context and practices.

2. Definition of criteria

Briefly introduce the use of the term 'criteria' by illustrating it with an example from daily life, such as 'how do you decide on renting a flat: it needs to have 3 rooms, be cheap, be located near your working place, etc.' The option (flat) meeting these criteria (size, low cost, location) best, will be selected.

Criteria for sustainable options: for each of the three dimensions of sustainability, criteria have to be defined which are relevant for your specific context. An option will be considered good; the more criteria are valued positively.

For the identification of possible criteria the following question may help: **How can we recognise if a technology is good for us or not?**

Example:

| | Criteria |
|----------------|--|
| Economic | low financial input required |
| | little maintenance work required |
| | increased yields |
| Ecological | Increased soil cover |
| | Reduce siltation down-stream |
| | Water harvesting potential |
| Socio-cultural | Reduce conflicts over water |
| | Must be suitable for small-holders |
| | No increase of women's workload |

Group work: Participants split up in groups (2 to 4 groups according to the size of the learning group), within the same type of stakeholders, e.g. local stakeholders (farmers, representatives of local authorities etc.), and external stakeholders (e.g. researchers, representatives from ministries, etc.). Each group brainstorms on criteria (economic, ecological and socio-cultural) which are useful to assess whether a technology is suitable, sustainable and successful in the local context or not. Remember that the criteria should always focus on the selected objective.

The following questions may help:

- Which qualities must a technology have to be good (regarding the objective)?
- Which services/benefits/effects should it provide to be good?

Write the criteria on cards (1 criterion per card).

3. Plenary: presentation of group work: each group presents the criteria they identified. The moderator takes the cards and sticks them on a big sheet under one of the three categories: economic, ecological, socio-cultural.

Example:



Group the criteria: After all criteria have been presented, the moderator starts to group criterions that belong together. Clarify the meaning of a card and rewrite it, if necessary. If several cards coincide, eliminate the redundant ones, i.e if there is some overlap between criteria it is good to put them in the same category. This prevents the overlap between concepts being measured twice.

Summarise: the moderator briefly summarises the identified criteria. He points to categories of criteria that are underrepresented and asks if there is anything important to add. Complete where necessary.

The list of criteria provided in the thematic sheet (see p33) can be used by the moderator as a checklist or aide memoire to make sure that all relevant realms are covered, and to complete the list resulting from the brainstorming. *But: do not just select criteria from this list; let the stakeholders identify their own crite-ria!*

The criteria should meet the following requirements:

- It should reflect the most important qualities which the options (technologies) should have.
- It has to include economic, ecological, and socio-cultural criteria.
- It should include off-site effects (geographically → e.g. downstream effects; and socio-economic → e.g. effects on poor / rich farmers; pastoralists vs agriculturalists).

- 4. Group work: Select the 3 most important criteria per category Groups are the same as before. Organise the groups in a way, that everybody can see the pin boards with the criteria. From all criteria listed, each group selects **the 3 most important criteria per category**, those that they consider to be most relevant for the local context.
- 5. Plenary: Try to find an agreement among participants on the 3-4 most important criteria per category. Proceed as follows:
 - Add the results from the different groups: ask each group to say which criteria they selected. Mark the criteria with a sticker for each vote they get. (If for example 'reduce women's workload' has been selected by two groups, put two stickers).
 - Check if there are major differences between the selection made by local participants and by external participants. If so, discuss and see whether a consensus can be found.
 (Note: If major differences remain even after discussing the issue, it is also possible to continue working with two different valuations, although the process becomes more complicated and time-consuming!)
 - Sum up and identify the **3-4 criteria per category** that received the highest number of votes. These are the criteria that will be used to assess the options / technologies. Please note: The number of criteria selected from a single category should not exceed **4**!

6. Plenary: Find a common understanding of criteria

For the next step (scoring of criteria) it is decisive that everybody understands the criteria the same way, otherwise scoring made by different stakeholder groups will not be comparable, and much time will be needed for clarifying.

Example: 'costs' \rightarrow it has to be clear, whether 'costs' means implementation costs only, or whether it includes implementation and recurrent costs. Which costs? Financial input, labour, material, etc.

Clarify the meaning of each of the selected criteria. Where necessary, rewrite the card and specify.

- **Expected** Relevant criteria for the evaluation of different options are identified.
- results
- The participants have a common understanding of selected criteria.

THEMATIC SHEET: steps of the evaluation process

The process of evaluating the different options mainly consists of the following Steps of the evaluation steps: process

• identification of relevant criteria

- scoring of all options by criteria
- ranking / weighing of criteria
- analysis (done by computer)
- select 1-2 options for test implementation

| Step | purpose | procedure |
|--|---|---|
| Identification of context-relevant criteria | To be sustainable, options must fit into the given ecological and socio-cultural context, and must have positive ecological and economic impacts. For each context a set of relevant criteria needs to be defined. Criteria, along which the different options will be evaluated, differ according to the local context. The criteria have to reflect the most important qualities that the options should have. | Discuss and identify relevant context- specific criteria |
| Scoring of options | Each of the options needs to be evaluated re- garding each criterion, i.e. it has to be evaluated which of the options fulfils criterion A best, which second etc., and this for all criteria. The method allows that different stakeholders may score different options differently. Options which score high in most of the criteria are supposed to be promising and fit the given context best. | Participants score in small groups all the options against all cri- teria The scoring results are entered into facili- tator |
| Ranking / weigh- ing of criteria | Most possibly, not all criteria are equally impor- tant. Therefore criteria are ranked according to their importance, so that more important criteria get more weight. | The group agrees on the importance of each criterion The results are en- tered into <i>facilitator</i> |
| Analysis | • The analysis is the result of all previous steps mentioned here. It is supported by the 'facilitator' software. The analysis shows: how participants assess each option; and the appraisal of their suitability for the local context concerning eco- nomic, ecological, and socio-cultural aspects. | Calculations made by computer Interpretation of results in the plenary |
| Selection of options for test implementation | In the DESIRE programme each study site will test implement 1-2 options to mitigate or prevent soil and water degradation / desertification. In this step the options for testing will be selected. | The group agrees on 1-2 options that will be test implemented in the given study site ¹ |

¹ Although within the DESIRE programme only 1-2 options can be implemented, the evaluation process should lead to a better understanding and to finding additional options that could be implemented or recommended for implementation by other programs.

Identify criteria

To be useful a criterion should:

- **Distinguish between your options**. For example, if all options cost the same, there is no point having cost as a criteria.
- Be possible to be assessed. If no one can think of a way to assess a criterion it should not be used. For ex., while it sounds nice to include "maximise happiness" as a criterion, it can not be assessed in a way acceptable to everyone.
- Be important to at least one person included in the process. To build consensus, it is better not to use voting. If something is important to one person and it is ignored then that person will not share ownership of the process.

Checklist <u>Checklist for possible criteria</u> (for the evaluation of conservation options) criteria

Category: economic (includes production!)

- crop yield
- fodder production
- fodder quality
- animal production
- wood production
- risk of production failure
- drinking / household water availability / quality
- water availability / quality for livestock
- irrigation water availability / quality
- off-site water availability (groundwater, springs)
- demand for irrigation water
- expenses for inputs
- farm income
- diversification of income sources
- land availability: loss of land (decreased production area) or increased production area (new land under cultivation / use)
- workload / labour constraints
- eased / hindered farm operations
- product diversification
- economic (in)equity
- suitability for local socio-economic conditions (e.g. cropping system, market orientation, etc.)

Category: socio-cultural

- cultural opportunities (eg spiritual, aesthetic, others)
- recreational opportunities
- community institution strengthening
- national institution strengthening
- conservation / erosion knowledge
- socio-cultural conflicts / conflict mitigation
- food security / self-sufficiency (reduced dependence on ext. support)
- health
- suitability for small holders / large-scale land users
- gender (in)equity
- suitability for local socio-cultural conditions
- damage on neighbors' fields
- damage on public / private infrastructure

Category: ecological

- water quantity
- water quality
- harvesting / collection of surface runoff
- soil moisture
- evaporation
- surface runoff
- improved excess water drainage
- waterlogging
- groundwater table/aquifer
- hazard towards adverse events (drought, floods, storms, ...)
- downstream flooding
- off-site stream / river flow
- downstream siltation /sediment yields
- off-site groundwater / river pollution
- off-site buffering / filtering capacity (by soil, vegetation, wetlands)
- wind velocity
- wind transported sediments (off-site)
- soil cover
- biomass / above ground C
- nutrient cycling / recharge
- soil organic matter / C sequestration
- emission of carbon and greenhouse gases
- soil loss
- soil crusting / sealing
- soil compaction
- salinity
- fire risk
- animal diversity
- plant diversity (incl. crop diversity)
- invasive alien species
- beneficial species (predators, earthworms, pollinators)
- biological pest / disease control
- habitat diversity / fragmentation
- competition (water, sunlight, nutrients)
- suitability for local ecological conditions: slope, soil, climate, etc.

Facilitator: enter criteria

List of
criteriaEnter all relevant criteria into 'Facilitator'. No sorting is necessary right now. Criteriawill be classified later (according to category) (see step 5).

1. Formulate each criterion in such a way that the interpretation always is: <u>'more is better</u>'.

| 🛓 Criteria | | | <u>- 🗆 ×</u> |
|------------------------|---------------|--------------|--------------|
| List of Criteria | | | |
| - A | | | 5 |
| Add Edi | t Move Up | Move Down | Delete |
| | | | |
| effectiveness | in reducing r | unoff | |
| water harvest | ng potential | | |
| reduce evapor | ation | | |
| reduce siltatio | n downstrea | m | |
| cost effectiver | less | | |
| increase yield | 5 | | |
| reduce conflic | ts over wate | r | |
| suitability for s | mallholders | | |
| protect sacred forests | | | |
| no increase of | women wor | kload | |
| increase empl | oyement opp | oortunities | |
| little financial i | nput require | d formainter | nance |

Properties of criteria

2. Define minimum and maximum score of criteria. Standard criteria limits are defined as 1 (minimum) and 7 (maximum).

Depending on the context, it might be easier for stakeholders if you use words instead of numbers for scoring: e.g.

| | Corresponds to |
|-------------------------------|----------------|
| Very good | 7 |
| Good | 6 |
| Slightly good | 5 |
| Neutral / medium / acceptable | 4 |
| Slightly bad | 3 |
| Bad | 2 |
| Very bad | 1 |

However, the limits (minimum and maximum score) can be changed if the standard definition is not applicable (e.g. if only very limited information is available it might be useful to use 1 (poor), 2 (acceptable) and 3 (good) only).

You need to decide what is most appropriate for the context you are working in and accordingly adjust the 'criteria editor' in Facilitator (see below). 3. Define interpretation of criteria, e.g. if highest score is the best = 'more is better (linear)' → standard definition

| 🕌 Criteria: effec | tiveness in reducing runoff | × |
|-------------------|-----------------------------|-------|
| | Criteria Editor | |
| Description | Properties | |
| Measurement | QuantityUnits | |
| Criteria limits | Minimum 0.0 Maximum 7.0 | |
| Score Graph | More Is Better (linear) | |
| Ok | с | ancel |

| Step 4: | Scoring the options | |
|--------------------------|--|---|
| Goals | - To assess for each option, to which extent it fulfils the different in step 3, i.e. to assess the options by the criteria. | criteria identified |
| Duration | | Minutes |
| | 1. Introduction | 10 |
| | 2. Scoring (in groups) | 90-120 |
| | 3. Analysis of assessments | 30-60 |
| | Total | 130-190 |
| and material required | A4 table (matrix) with all options (in columns) and all criteria (in A6 cards of options → 1 set per group A5 to A4 sheets with all criteria to be scored (1 criterion per she group Prepare a 'scoring tool' on a big sheet of paper for each group Computer with WOCAT database and a person who acts as inf (→ info desk) | rows) eet) \rightarrow 1 set per ormation officer |
| Methodology | Group work: scoring options against criteria Plenary: consensus building | |
| Procedure | Step 4 consists of two parts: | |
| | Part A) scoring in groups; Part B) analysis of assessments | |
| | Part A) will be done at the end of day 1 of the workshop, and | |
| | , | |

Part B) at the beginning of day 2. At night of day 1, the moderator / assistant has to fill in the values of the scoring into Facilitator software.

Part A) Scoring (groupwork)

- 1. Plenary session: The moderator explains the scoring process. The work will be done in small groups, i.e. 3-4 persons from similar stakeholder groups. Each group assesses all the options by all the criteria.
- **2. Group work**: form groups of 3-4 persons (same or similar stakeholder group). Each group gets:
 - a 'scoring tool'
 - a set (sheets) of all criteria to be scored
 - a set of A6 cards of all the options to be assessed;

- an A4 table (containing all options and criteria) to fill in the results of the scoring

According to the context you are working in, it might be necessary to moderate the discussion and assessment made by groups of local stakeholders. If this is the case, ask e.g. one of the researchers to support the group by moderating discussions. **But:** make sure that the researcher fully understands his/her role of moderating, i.e. he/she is not supposed to influence the discussion by forcing his/her own opinion! It is not his/her assessment that is wanted, but the local stakeholders'!

Information sources: For scoring options, the groups can rely on their own experience where applicable, on the information provided on technology descriptions (A3 print-outs), and if necessary, they can ask for more information (from WOCAT database) at the info desk. The information officer checks the WOCAT database for more specific information.

Scoring process:

- 1. Put the first criterion on the 'scoring tool' (example see next page).
- 2. Start discussing which of the options is best, and which one worst concerning the selected criterion.
- 3. Once you agreed on the best option, think about its score concerning the selected criterion, and place the A6 card on the respective field.
- 4. Do the same with the worst option.
- 5. Discuss and score the remaining options.
- 6. For each option, fill the score concerning criterion 1 into the table (example below).
- 7. Repeat the same process with all other criteria.

Table: scoring

| Scoring | Criterion 1 | Criterion 2 | Criterion 3 | Criterion 4 | Criterion 5 | Etc. |
|----------|-------------|-------------|-------------|-------------|-------------|------|
| Option 1 | | | | | | |
| Option 2 | | | | | | |
| Option 3 | | | | | | |
| Etc. | | | | | | |

Example:

| Scoring | Effectiveness in reducing runoff | Water harvesting potential | Reduce evaporation | Increase soil cover | Etc. |
|-----------------------|-------------------------------------|-------------------------------|-----------------------|------------------------|------|
| Composting associated | 6 | 6 | 1 | 5 | |
| with planting pits | | | | | |
| Level bench terrace | 2 | 7 | 3 | 1 | |
| Sunken streambed | 5 | 7 | 1 | 0 | |
| structure | | | | | |
| Small-scale | 7 | 6 | 6 | 7 | |
| conservation tillage | | | | | |
| Rehabilitation of | 7 | 6 | 3 | 1 | |
| ancient terraces | | | | | |

Scoring tool Prepare the following (empty) form on a big sheet of paper, where each line is about 17 cm high (to fit the A6 cards).

Example:

| Criterion: | Increase yields |
|-------------------------------|--------------------|
| Score | Options |
| Very good (7) | |
| Good (6) | |
| Slightly good (5) | |
| Acceptable (4) | |
| Slightly bad (3) | |
| Bad (2) | |
| Very bad (1) | |
| 0 (killer criteria) | |

Work to be
done at nightAfter all the groups have finished their work, collect the tables and enter the data for
each group into an Excel sheet. You may either create a sheet for each group or
you can place the matrices below each other in the same sheet.

erator

Identify big disparities between the scoring of different (stakeholder) groups for discussion in part B.

Calculate the averages of each value in the matrix on an additional sheet and create a tab separated text file of this resulting sheet (using File - Save As - .tab). This file can then be imported into Facilitator using the File - Matrix - Import menu. Tick 'overwrite existing alternative/criteria', otherwise both old and the new matrix will appear in the analysis.

Part B) Analysis of assessments

- 1. **Plenary session**: The moderator presents the scorings made by different groups (not very detailed), pointing out the following:
 - Indicate where (in which criteria) the assessments more or less coincide.
 - Point out **major discrepancies** in the assessments. It might happen that certain criteria are judged very differently by different stakeholders.

Criteria which have been assessed very differently by different stakeholders need to be discussed! Try to find the reasons for the discrepancy:

- Is it due to different understanding / misunderstanding?
- Is it due to different valuation? Where are the differences?

If the reason for the discrepancy is more a question of understanding, see whether you can find a consensus concerning the scoring. If the valuation is different and no consensus possible, you have the opportunity to double the Facilitator file and continue working on two tracks.

Expected - All options are assessed for the different criteria.

 Major differences in the assessments made by different stakeholder groups are made transparent.

results

THEMATIC SHEET: scoring

Scoring ≠ ranking Scoring means assigning each option a certain value concerning the question: how well does the option fulfil the criteria? It quantifies the effects of the options on the criteria. Scoring is not the same as ranking! Ranking is putting the options into an order. At scoring we define the value of each option seperately. Therefore it might happen that several options get the same score and that certain score values are 'unused'. If for example all options increase soil cover and there are only small differences in their effectiveness, all options will get a score value between 5 and 7.

Scoring Score always between 1 and 7. It means that 7 is the best, and 1 the worst option.1 to 7 Several options may have the same score.

It is not necessary to use the full range of scores. You might want to leave some room at the ends of the range of scores for options to be added later which might be better or worse than the ones you already have.

| Criteria: cost effectiveness | | | | | | | |
|------------------------------|----------------------------------|--|--|--|--|--|--|
| Score | Optic | Options | | | | | |
| 7 | Composting with planting pits | | | | | | |
| 6 | | | | | | | |
| 5 | Small-sca conserva tillage | ale tion | | | | | |
| 4 | | | | | | | |
| 3 | Terrace bund with ditch | Rehabilitation of ancient terraces | | | | | |
| 2 | | | | | | | |
| 1 | | | | | | | |
| 0 | | | | | | | |

Example:

How to When scoring the options, it is best to score one criterion at a time. Give the best option tion the highest score (which does not necessarily have to be 7) and the worst option the lowest score (which does not necessarily have to be 1; see example above). 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.

Killer crite-
rionThe score 0 signifies that an option performs so poorly on that particular criterion that
it is probably not viable. A score 0 therefore indicates a killer criteria concerning a
certain option.

Example: if you have a budget of \$10'000 and one of the options is going to cost \$50'000 you might want to give it a 0 because you know, that you cannot really implement it. You may want to leave it in, so that people can see that it has been considered, and why it wasn't a feasible option.

Facilitator: scoring Scoring In Facilitator, a table is formed with the criteria along the top and the options down matrix the left hand side. DESIRE Facilitator: GuidelinesExa File Window View Run Help - 🗆 🗵 iter harvesting...reduce e . reduce siltatio ost effect duce conflicts ... suitability for sm.... otect sacred fo...no inc Composting associated with planting pits Level bench terrace Sunken streambed structure Terrace bund with ditch Small-scale conservation tillage Rehabilitation of ancient terraces DESIRE Decision Support System Enter The scores for each option against each criterion are added into the score table or matrix. It is possible to navigate this matrix using the mouse or the cursor keys, in the scoring data same way as a spreadsheet. Note: it is not possible to enter a score outside the range (minimum and maximum) entered for that criterion.

| B DESIRE Facilitator: GuidelinesExampleMay2 | | | | | | | | | | | | |
|---|------------------|------------------|------------------|------------------|--------------------|-----------------|------------------|--------------------|-------------------|-------------------|---------|----|
| File Window View Run Help | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | effectiveness in | water harvesting | reduce evaporati | reduce siltation | cost effectiveness | increase yields | reduce conflicts | suitability for sm | protect sacred fo | no increase of w. | increas | JE |
| Composting associated with planting r | 6 | 6 | 1 | 7 | 7 | 7 | 5 | 7 | 7 | 1 | 1 | |
| Level bench loess terrace | 2 | 7 | 3 | 7 | 4 | 6 | 6 | 4 | 3 | 5 | 5 |] |
| Sunken streambed structure | 5 | 7 | 1 | 2 | 2 | 7 | 6 | 5 | 6 | 2 | 2 |] |
| Terrace bund with ditch | 6 | 5 | 1 | 6 | 5 | 5 | 4 | 6 | 3 | 6 | 6 | |
| Small-scale conservation tillage | 7 | 6 | 6 | 7 | 9 | 7 | 6 | 6 | 5 | 7 | 7 |] |
| Rehabilitation of ancient terraces | 7 | 6 | 3 | 7 | 6 | 6 | 6 | 6 | 7 | 2 | 2 |] |
| | | | | | | | | | | | | |
| | 4 | | | | III | | | | | | • | •] |
| | | | | DESIRE Docis | ion Sunnort System | m | | | | | | |

. .

Step 5: Creating a hierarchy and ranking criteria

Goals - To organise criteria in a hierarchical order (related to the objective!).

Duration

| | IVIINUTES |
|--------------------------------------|-----------|
| 1. Introduction | 5 |
| 2. Plenary session: ranking criteria | 45 |
| Total | 50 |

Preparations - Paper sheets, format A1

and material - Write all criteria on cards (1 criteria per card)

required - Markers

Methodology Plenary session

 Procedure
 Introduction: The moderator explains the purpose of step 5 (creating a hierarchy and ranking criteria). Most possibly, not all criteria are equally important. Therefore the criteria are ranked according to their importance, so that more important criteria get more weight.

Participants have the opportunity to express which factors they think are more important than others by ranking the criteria. Higher ranked criteria are given more weight than the lower ranked criteria.

- 2. **Plenary session**: organise the criteria on a pin-board (or on the wall) according to their importance.
 - 1) Organise them according to the category (socio-cultural, economic, ecological) they belong to (see step 3).
 - 2) Check if there are criterions which belong to two (or three) categories. In this case, write a second (third) card and put the criterion in both (all) categories!

Example: 'increase employment opportunities' fits in as both, a socio-cultural and an economic factor and could go under both headings.

| Economic | Ecological | Socio-cultural | | |
|--|-----------------------------------|---|--|--|
| Little financial input required for mainto | Effectiveness in reducing run-off | Suitability for smallholders | | |
| Increased | Reduce evaporation | Reduce conflicts over water | | |
| yields Water harvesting potential | Water harvesting potential | Increase employment opportunities No increase of women's workload | | |
| Increase employment opportunities | Reduce siltation downstream | protect sacred forests | | |

3) In each category, rank the criteria according to their importance. The higher ranked (higher up on the pin-board) a criterion, the more weight it gets. Criterions that are equally important are put on the same level.

Try to find a consensus in the plenary on the weight / rank the different criterion shall be assigned. In case of enormous differences between the perceptions of different stakeholders, it is also possible to make separate rankings and later on to compare the results.

4) An assistant feeds the ranking accordingly into the DESIRE Facilitator software.

Expected - The weight / importance of each criterion is identified and agreed upon.

results

THEMATIC SHEET: ranking

| Organise criteria according to categories | The use of socio-cultural, ecological and economic as categories (including on and off-site effects) is a good way to structure the criteria for natural resource decision-making. These are valued differently by different people and represent major differences in value systems. It will be easier to gain consensus in diverse groups if economic, socio-cultural and ecological criteria are in separate categories, and so ranked separately. They should also be analysed separately (step 6). |
|--|---|
| In multiple categories | You can put the same criterion in more than one category. For example, 'increase employment opportunities' might fit in as both a socio-cultural and an economic factor and could be in both categories. If the impacts are different from the two perspectives they could even be assessed differently. |
| How many criteria per category | In fact, there is no limit to the number of criteria that can be in one category, but if there are too many, people may have difficulties conceptualising what the category is about. If you have 4-5 criteria in a category, people will be able to think about it fairly easily. |
| Ranking of criteria | By ranking criteria, participants have the opportunity to express which factors they think are more important than others. Higher ranked criteria are given more weight than the lower ranked ones. Criteria can be grouped as equally important. Example: 'little financial input required for maintenance' and 'cost effectiveness' are equally ranked. |
| Rank each category separately | Criteria are ranked in their own category, so socio-cultural criteria are ranked sepa- rately from economic criteria, for instance. Categories as such can also be ranked, although we suggest analysing the categories separately. |
| Conflict over ranking | If participants disagree over which are the most important criteria, it is possible to create several different rankings and compare them. Often, it will not make much difference to the results, and it's useful for people to be able to see this. |

Facilitator: creating a hierarchy and ranking criteria

Set cycle Before you start creating a hierarchy and ranking the criteria in Facilitator, you need to Set Cycle (click *Run* and then *Set Cycle*). This deletes any old runs and prevents confusion over which data set goes with which run. This is especially important if you make changes to the options, the criteria or their scoring later on.

| DESIRE Facilitator: GuidelinesDemo2 | | | | | | |
|-------------------------------------|-------|--|-----|----------|--|--|
| File Window View Run Help | | | | | | |
| | 4 | | Run | Analysis | | |
| | | | Set | Cycle | | |
| | NODED | | | | | |

Any previous ranking will be deleted and you need to redo the ranking.

CreateTo create the criteria hierarchy choose Ranking from the Window menu, then clickhierarchyAdd Category. Create 3 categories and name them 'ecological', 'economic' andheadings'socio-cultural'.

Add criteria Click *Add Criteria* and select all relevant criteria to be added to the ranking window. **to categories** Place a criterion under a category by selecting the criterion and dragging it to the left of the category. When the category is highlighted in blue, drop the criterion and it will appear underneath the category.

Ranking Changing the relative importance of a criterion is done by dragging and dropping elsewhere in the hierarchy. The criterion will appear below where you drop it.

Equally important criteria Double clicking on a criterion assigns equal importance to the criterion and the one above. Double clicking again breaks this assignment and assigns greater importance to the criterion above. Example: 'little financial input required for maintenance' and 'cost effectiveness' are equally ranked (see graph).



Criteria in multiple categories You can put the same criterion in more than one category. Click *Add Criteria* to add one of the criteria and drag it to your second category. Example: 'water harvesting potential' is put under 'ecological' and under 'economic' (see graph).

Step 6: Analysis and interpretation

Goals

Visualisation of the relative merits of the different options (related to objective!).
 Interpretation of the results.

Duration

| | winutes |
|--|---------|
| 1. Introduction | 5 |
| Interpretation of results and discussion | 85 |
| Total | 90 |

Preparations - Computer, beamer

and material - Keep paper and markers ready

required

Methodology Plenary session

Procedure Using DESIRE Facilitator software you can analyse the options. This produces graphs which give a visual representation of the relative merits of each option.

1. Plenary session: The moderator explains that the results from all previous steps have been fed to the computer and that the analysis is now made by computer. Install the computer and the beamer. Run an analysis and show the results (see instruction sheet). Discuss the results.

General remarks on the interpretation of the graphs (for more details see thematic sheet).

- Each option is represented by a green bar showing the range of overall scores for that option.
- The smaller the green bar, the clearer the valuation, i.e. the lower the variability of valuations.
- The further to the right in the graph, the better the option.
- An option is clearly better than another if there is no overlap between the green bars.
- 2. To find out which of the options has the most promising relative merits, look at the graph for each of the categories (socio-cultural, economic, ecological) separately and try to satisfy all of them.

An option can only be sustainable if it receives a (more or less) good valuation in each category! If an option scores well in two categories but very bad in the third, it can not be considered to be sustainable for the local context.

Sometimes it is clear which of the options is best, in other cases this might not be obvious. Given the latter case, it will be necessary to further discuss and negotiate among the different stakeholders to agree on which option is most promising and suitable. The following question may guide the discussion:

 What is more important in our context that an option scores better economically, socio-culturally, or ecologically?

Different stakeholders may have different opinions and a concluding answer is maybe not possible. However, consider it to be a great chance to discuss such basic principles together with the stakeholders.

Expected results

- The relative merits of different options become clear, and participants get aware of the pros and cons depending on the view of different stakeholders.
- Participants understand which options are most promising in the local context.

THEMATIC SHEET: analysis and interpretation

Before showing the results of the MODSS, the moderator should explain that the How to ex**plain the role** software only helps to organise your thoughts. It is difficult for the human mind to of MODSS keep all criteria in your head and know the overall effect. Therefore, the software helps us to summarise the result of all our scoring.

Visualisation The results of data analysis are displayed in graphs. The way Facilitator displays them is not very stakeholder-friendly though. Therefore we suggest to either draw of results them manually on the wall (flip chart) while explaining their meaning, or to use e.g. Photoshop or PowerPoint to simplify the graphs (replacing the number with words ranging from poor to good, giving the lower bars a red colour, etc.).



The further to the right in the graph, the better the option. Each option is represented General interpretation by a green bar, which shows the range of overall scores for that option. It is only of the clear that an option is better than another if there is no overlap between the bars. graphs

Look at the graphs for categories (economic, ecological, socio-cultural) separately. Analyse the To be sustainable, an option must rank well in all three categories!

Producing an overall analysis averages out the different aspects.



Ecological:

categories separately

Economic:



Socio-cultural:

| Result: Final run Polar View Ascending RANKING C ecological | Sort by: Alphabetical | | | | | <u> </u> |
|--|--|-----|------|-----|------|----------|
| •C economic ⊡C <mark>socio-cultural</mark> | Glue | | | | | |
| | | 0.0 | 0.25 | 0.5 | 0.75 | 1.0 |
| | Terrace bund with ditch | | | | | |
| | Sunken streambed structure | | | | | |
| | Small-scale conservation tillage | | | | | |
| | Rehabilitation of ancient terraces | | | | | |
| | Level bench loess terrace | | | | | |
| | Composting associated with planting pits | | | | | |
| | | | | | | |

Interpre- How to interpret the results is explained using the example (see the 3 graphs) above. **tation**

From an ecological point of view, 'small-scale conservation tillage' is clearly scoring best, although in certain aspects 'rehabilitation of ancient terraces' is better. This is mainly due to its best effectiveness in reducing runoff and because this criteria was ranked highest. You can see this by selecting that specific single criterion to be displayed.



Economically, 'small-scale conservation tillage' and 'composting associated with planting pits' score best because they are both rather cheap and do not require high labour inputs. From a socio-cultural point of view, the picture is not that clear anymore, but all options rank fairly well, as for none of the options the average is below 0.5. Here, 'composting associated with planting pits' is the less clear, because its range is the largest. 'Small-scale conservation tillage' is again scoring best.

In this example, it is quite obvious that 'small-scale conservation tillage' would most probably be selected as the best option. In other cases it might be less clear, and the results need to be negotiated, i.e. discuss questions like "What is more important in our context, that an option scores better economically or ecologically?" etc.

The various stakeholder groups will probably have different opinions and it is a great chance to discuss such basic principles while sitting together.

Reflecting the results Once you are running the analysis and looking at the results, you will start to get a feeling for whether you have included all the important factors. Does the analysis produce the sort of results that people who are really familiar with the situation would expect, or that appeal to them? If not, what is missing? Are there criteria that should have been included? Are there problems with the hierarchy or the rankings? Do you need to collect additional information to refine the scores? Have additional options emerged which need to be added and assessed?

The process is iterative – the first runs provide useful information on how to refine your matrix to come up with a decision that people involved with have confidence. You might expect to have to revisit criteria, options, scores and rankings several times before feeling confident that you really have chosen the best option(s).

The major problem is that you will probably not have time during the stakeholder workshop to go back to previous steps and redo them! So try not to rush trough the steps but do them carefully, or otherwise, extend the duration of the stakeholder workshop.

Facilitator: analysis and interpretation

Analysis by Using DESIRE Facilitator software, you can analyse the options. This produces graphs of the options, which gives a visual representation of their relative merits. All values are normalized between 0 and 1.

Run analysis Choose *Run Analysis* from the *Run* menu to launch the processing of the data. The following window proofs that the analysis was run successfully.



Viewing and ordering the results

- 🗆 × sult: Final run 0 Sort by: Alphabetical Polar View Ascending ecological 🖕 [economic 💁 [socio-cultural 0.0 0.25 0.75 1.0 0.5 Terrace bund with ditch Sunken streambed structure Small-scale conservation tillage Rehabilitation of ancient terraces Level bench loess terrace Composting associated with planting pits

After running the analysis, the view of the result will automatically be displayed.

The results can be viewed from any point within the hierarchy by clicking on the relevant category in the left navigation.

It is most useful to compare the main categories ecological, economic and sociocultural. An overall analysis averages out the different aspects, and might therefore not be very meaningful.

Example: if an option scores high from an economic point of view and low from an ecological perspective, in the overall analysis it would be placed somewhere in the middle. That means the option seems to be more or less viable, although it could be very damaging to the environment! It is important not to loose this information.

The display order of the options can be changed. You can order the options regarding mean, minimum, maximum, range or alphabet. To be able to compare the various categories, we recommend sorting the options alphabetically. Using the glue to compare categories You have the option to glue the current background for easier comparison of categories (or single criterion). Click *Glue* on the current view and then switch to another category. The previous category will be display below the actual green bar.



In the example above, the light green bars correspond with the economic category and the dark green bars below with the ecological category.

Unfortunately it is not possible to compare more than two categories at a time.

View Previously run results can be viewed by selecting *Results* in the *View* menu. Then click *Show* in the dialog box. That's also where you can change the run name or add comments by selecting the *Properties* option.

| 👍 DESIRE Facilitator: GuidelinesDemo2 | | 🔹 Run Propert | ies: Final Run |
|---------------------------------------|-----------------|---------------|----------------------------|
| File Window View Run Help — | | 073 | Run Properties Editor |
| A | | | Train roperties Earlor |
| 🚔 Run List | | Description | Final Run |
| Final Run | -Run Operations | • | |
| | Show | | Agreed by all stakeholders |
| | Properties | COMMENTS | |
| | Move Up | | |
| | Mo∨e Down | | |
| | Delete | Ok | Cancel |
| | | | |

Step 7: Prioritisation of options – negotiation and decision making

Goals

- To find a final agreement on which option should be selected for testimplementation in the study site.

Duration

| | Minutes |
|--|---------|
| 1. Introduction | 5 |
| Select option(s) for test implementation | 55 |
| Total | 60 |

| Preparations | - | Paper sheets, format A | 1 |
|--------------|---|------------------------|---|
| | | | |

and material - Cards

required - Markers

Methodology Plenary session

Procedure 1. Introduction: The moderator explains that the group now has to select one (or at the most two) option that will be test-implemented in the study site. The application of the Decision Support System in the previous steps allows to take an informed decision rather than an accidental decision. But still, Decision Support Systems are meant to support decision making and not to make decisions on their own!

Refer to the results from Step 6 and the discussion led there, and point out which of the options score well in all three categories (economic, ecological, and socio-cultural). They are supposed to be the best options.

Maybe there is already a clear favourite because one of the options absolutely scores best. In this case the selection will be easy and just has to be confirmed by the group.

Maybe several options got comparable scores. In this case a selection has to be made considering and weighing pros and contras of the different options. The negotiation of these options is the aim of this plenary discussion.

Explain that before a technology will be implemented in the field, a more detailed assessment of necessary adaptations to make it fit to local conditions will be necessary and will be made by the study site researchers in collaboration with local and external stakeholders.

2. Plenary discussion: Try to find a consensus among the participants concerning which option shall be test-implemented in the next step of the DESIRE project.

To reach this consensus the finally best options need to be negotiated among the stakeholder groups. For example, if two options generally score well, but one scores better ecologically, and the other better economically, the stakeholders have to negotiate which aspect is more important to them. Sometimes the group has two fractions, the conservationists and the developers. The conservationists are most concerned about ecological criteria and the developers over economic criteria, which will show in their different ranking of the criteria. The discussion about this divergence can promote collaboration and the recognition of each other's contribution to the solution. It is very important to moderate this negotiation process well!

It will be important that the test-implementation is broadly accepted and supported, and that local stakeholders really have an interest in it. Therefore make sure that everybody can speak out his / her concerns and give local stakeholders enough space to reason. The whole selection and decision process is iterative, i.e. the discussion during step 7 may conclude that it would be necessary to revise criteria, options, scores and rankings before everybody will agree with the decision. If time allows going back to the previous steps, such an iterative procedure is recommended.

If no consensus can be found, let participants vote (openly or secretly, according to your context). Each person 1 vote and the option which receives the highest number of votes is selected. However, a selection by voting bears a higher risk that the result will not be accepted by some people, and therefore should be avoided if possible.

Expected - 1 to 2 options are selected for test implementation.

results

Step 8: Embedding into the overall strategy and seeking a commitment

Goals - To refine the overall strategy and to ensure that the option selected for testimplementation fits in and framework conditions are considered.

Duration

| | Minutes |
|---|---------|
| 1. Introduction | 5 |
| 2. Plenary discussion | 45 |
| Support to the implementation process | 30 |
| 4. Conclusions | 10 |
| Total | 90 |

Preparations - Overall strategy and list of stakeholders (results from Stakeholder WS1, Ex. 8/4)

- and material Paper sheets, format A1, cards
- required -

- Markers

Methodology Plenary discussion Group work

Procedure 1. Introduction: Put the overall strategy for sustainable land management which has been drafted during the 1st stakeholder workshop to the wall. Recall the strategy and explain along general lines.



- 2. Plenary discussion: complete and complement the draft strategy with the work done in the 2nd stakeholder workshop:
 - Recall the **objective** the group has been working on in this 2nd stakeholder workshop and reformulate it in the strategy if necessary.
 - Fill in the selected option (= what), and
 - Initiate a brief discussion on the **appropriate approach** (= how). If the option comes from the WOCAT database have a look at the approach suggested there.
 - Recall legal, institutional, political, and socio-cultural framework conditions (e.g. EU agricultural policy; subsidies, inheritance or land use rights, etc.) which have been identified in the first workshop as having a strong influence on land management practices, and which may even be obstacles to the implementation of certain technologies. Discuss how these obstacles can be overcome by specific accompanying measures, or adaptations to selected option(s) and respective approaches, etc.

- Identify stakeholders to be involved in the (test-) implementation (= who) process. Make sure no important stakeholder category was forgotten by also revisiting stakeholder categories identified in Stakeholder WS1, Ex. 4, and especially those identified as key stakeholders for implementation, and those 'most critical stakeholders' (who have the power to obstruct SLM)!
- **3. Group work**: In order to get a certain commitment of participants to support the test-implementation process, people reflect on what type of support they could contribute.

Form groups of 2-3 people (belonging to the same stakeholder group). Each group takes 10 minutes to reflect on how it is willing to support the test-implementation of the agreed upon option(s). Write on cards.

Each group presents what its contribution will be.

| Stakeholder group | Willing to support test-implementation by |
|-------------------------|--|
| Large-scale farmer | To put a test-plot at disposal To provide necessary machinery To provide labour force and inputs to implement the technology To attend meetings and assist in evaluations To help development adaptations to local context |
| Small-scale farmer | To put a test-plot at disposal To provide labour force for technology implementation To attend meetings and assist in evaluations To collaborate in the identification process for necessary adaptations |
| Advisory service | To provide technical assistance To collaborate with land users and researchers To incorporate test results into future advice and dissemination |
| Ministry of Agriculture | To follow-up the implementation process To support the implementation by providing free tools and inputs to the small-scale farmers |
| Local administration | To co-organize and support evaluation meetings |
| Researcher | To make external know-how available To organize evaluation meetings together with the advisory service and the local administration |

Example:

4. **Plenary discussion:** draw important conclusions from the discussion on the overall strategy, and the presentation of possible support from participants.

Expected results

- Participants are aware of the need for matching the selected option(s) for testimplementation with current framework conditions and the overall strategy for sustainable land management.
 - Possible obstacles and respective solutions are identified.
 - Participants specify how they are going to support the implementation process and commit themselves.

Evaluation and closure of the workshop

Goals - Evaluate contents, methodology, and results of the workshop.

Duration

| | Minutes |
|----------------------------|---------|
| 1. Evaluation | 30 |
| 2. Closure of the workshop | 10 |
| T | otal 40 |

Preparations - Paper sheets, format A 1, cards

and material - Markers (different colours)

required - Write each question on a separate A1 sheet of paper

Methodology Plenary session

Give each participant cards to write on. State some concrete questions to be answered covering results/contents, methodology / didactics, and organisation of the workshop. Write the questions on A1 sheets and stick them to the pinboard.

The following questions may be used:

- 1) Which are your hopes and concerns regarding the selected option?
- 2) How did you like the methodology used in the workshop?
- 3) Which suggestions do you have to improve the organisation of the workshop?
- 2. Give 10 minutes to write down the answers. Ask people to use for each question a separate card. In case not everybody is literate make sure that those in need of assistance do get it from other participants.
- **3.** Collect the cards, read them loudly and stick them to the respective question. Do not initiate a discussion on what has been written unless there is something really severe which needs clarification.
- 4. **Closure of the workshop**: Give a brief outlook on the next steps of DESIRE activities in the study site.
- **5.** Officially close the workshop and thank all participants for their valuable collaboration.

Expected - A feedback from workshop participants: what they liked / disliked, what they found useful / useless, necessary improvements, etc.

- Participants are aware of next steps in the DESIRE project.

Annex



Workshop Report - English summary

Stakeholder workshop 2

Selection and decision on technologies / approaches to be implemented

Results and conclusions from the stakeholder workshop

Name of the study site:

Date of workshop:

Author(s):

I General information

A) Workshop

Workshop venue: Workshop moderator(s):

List of workshop participants:

| Mr. / Ms. | First name, name | Stakeholder category and institution (e.g. land user, researcher, NGO, GO) | Local or exter- nal participant? (L / E) |
|--------------|------------------|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Comments:

(e.g. stakeholder categories that were not represented in the workshop; stakeholder categories invited to the workshop but who did not participate; participants who partially attended, etc.)

B) Background

Please provide background information on the context in which the workshop was conducted (area covered, no. of inhabitants, predominant types of land use, main types of land degradation, constraining factors for soil and water conservation, etc.)

II Results and conclusions from single steps

Please send the .DSS file together with your workshop report to:

gudrun.schwilch@cde.unibe.ch

Please provide the following results from the single steps:

Step 1 \rightarrow Objective(s) you worked on:

Which objective?

Step 2 \rightarrow Selected options and necessary adaptations:

Which options did you work with? Necessary adaptations to fit the local context?

Step 3 \rightarrow Criteria for evaluation:

Which criteria did you work with?

| Economic / production | ecological | Socio-cultural | |
|-----------------------|------------|----------------|--|
| • | • | • | |

Step 4 \rightarrow Scoring of options made by different groups:

- The scoring itself
- Major differences between stakeholder groups

Step 5 \rightarrow Ranking criteria

How have criteria been ranked?

Step 6 \rightarrow Analysis and interpretation:

Graphs of each of the three categories

Step 7 \rightarrow Prioritisation of options:

Which option (technology) has been selected for test implementation?

Please provide a brief description of the context in which it will be implemented:

- On which land use type will the Technology be applied? Land use type(s):
- If land use will change due to the implementation of the Technology, indicate land use type before and after: Original land use (before implementation):

Future (final) land use (after implementation):

 Land users who will apply the Technology tick one option per line Individual/household □ groups / community □ cooperative □ employee (company, government) □ Small scale land users □ medium scale land users □ large scale land users □ Leaders / privileged □ common / average land users □ disadvantaged land users □ Mainly women □ mainly men □ mixed □

Step 8 → Embedding into overall strategy Which conclusions have been drawn from the discussion? Which are the commitments made by the stakeholders?

III Evaluation of the workshop

Evaluation of contents and methodology of the workshop:

- By participants (local and external)
- By the moderator(s)

IV Other information

Difficulties encountered:

Changes made concerning the procedure suggested in the workshop guidelines:

How was the interest and participation of the different stakeholder groups in the workshop?

Recommendations:

Comments: