



# Experiential Learning for Adaptation

## Facilitation Cards



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# Exercises for Adaptation Action

## Using these Facilitation Cards

These facilitation cards are suggestions of activities that you might want to integrate in ongoing adaptation processes. It is important to choose appropriate process for the overall learning process that you are facilitating. The activities are grouped into 5 different categories and can be adjusted and mixed as needed.

Overall processes make use of a range of participatory adaptation exercises in an on-going learning journey. Overall processes should complement on-going learning processes.

**Overall  
Process**

These exercises will engage participants in experiential learning, contribute to the overall process and energize the group. Energizing exercises also enable participants to see problems from new perspectives.

**Energizing**

These exercises help a group to explore contents and unpack the complexity of adaptation processes.

**Exploring  
Contents**

Once there is some understanding of the context, the planning of possible next steps can be undertaken with the help of these cards.

**Planning**

Exercises for monitoring change help us understand progress and track how climate variability and change are impacting on existing livelihoods. This learning can inform adaptation action.

**Monitoring**

# Overview

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# Climate Change Preparedness Workshops

A1

A regular forum for community members participating in an on-going adaptation process with elements such as presenting the seasonal weather forecasts, reporting back on community monitoring processes, sharing monitoring data, planning for adaptation action, etc.

Overall  
Process

## Objectives

- To facilitate learning about weather, climate and adaptation in the context of a longer term process
- To create a platform to share experiences and to reflect on impacts and responses to weather events
- To share the latest long term weather and climate predictions in an interactive and accessible manner.

Energizing

## Description

Climate change preparedness workshops can be held quarterly (every three months) for members of a group wanting to explore and engage with weather patterns, climate variability and change and related possible adaptation options.

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We suggest limiting the workshops to a few hours (for example starting early in the morning and closing with lunch for all participants). Ensure that the process of the workshop is geared to foster reflection and learning. Including interactive exercises that help people engage in a safe space is crucial. The workshop should be designed to fit the local context and should address and explore topics that really matter to people in the group. For inspiration regarding workshop elements you can explore the exercises described in this compilation of cards and place them in an order that would make sense to the group. Ensure that you vary energizers and more contents based exercises. The most important is to keep the process relevant to the participants, to bring everybody on board and to maintain a relaxed learning atmosphere.

Planning

## Example

The Suid Bokkeveld Climate Change Preparedness workshops have been taking place for more than 10 years.

Monitoring

## Opportunity for Adaptation

Climate Change Preparedness workshops are an excellent platform to ensure integration of different projects and activities into one larger process that can lead to joint learning and action.

The workshops are also a good platform to surface the unexpected (positive or negative). If the facilitation team can ensure that the workshops are light and encourage participation of all, the workshop process becomes pleasurable and energized: a great basis to discuss adaptation and plan integrated action.

## Challenges in this process

Regular workshops are sometimes taxing to organize. In order to ensure participation of most vulnerable groups it is important to consider what could be barriers for participants to attend and to ensure these barriers are addressed. Some examples are transport to the workshop venue and childcare options to allow participation of child-minding parents.

We strongly advise organisers not to pay participants for attending the workshops. If there is no interest in the workshops, the team should reflect and assess if the process could be improved to be more enticing or relevant. Maybe these regular workshops designed to facilitate an overall adaptation process are not the best vehicle for a particular learning process.

Regular reflection within the facilitation team and at the end of each workshop are crucial. This allows the learning space to evolve and grow.

## Relevance for Adaptation Processes

Climate Change Preparedness workshops can be a platform to make sense of complexity and think together about integrated solutions to be put into practice on a trial basis.



# Knowledge Exchange Visits

A2

Facilitating a peer-to-peer learning process on a specific topic or set of questions to support creative thinking about possible adaptation solutions.

Overall  
Process

## Objectives

To generate new ideas for an adaptation process

To share insights and to learn from what other people have experienced

To see your own situation in a different light and start engaging with complexity

Energizing

## Description

Community Knowledge Exchange visits can follow many different formats. However there are some points that should be considered in all knowledge exchange visits: you need to be clear what the actual learning questions of the participants are, before you go out and look for a group/ organisation/ community to be partnered with in the learning exchange. While the design of the process of the learning exchange is important to ensure sound learning, the facilitator must also ensure that the visited group/ community / business will truly enrich the learning objectives that people have set. Remember here that while learning from best practice is interesting, learning from failure and challenges can possibly be more illuminating!

Participants in knowledge exchanges are likely to learn most easily from others that they consider as peers, i.e. people with whom they share livelihood strategies, culture, language etc..

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## Example

A Knowledge exchange visit from farmers in the Suid Bokkeveld in 2000 explored a key area that people in the local community wanted to explore: community based tourism and options for development. The key questions for investigation were compiled and a small delegation went on a learning exchange visit to community based tourism businesses in the Northern Cape. Quite a few of the traveling participants were first-time tourists themselves and a women's group was inspired to start an Eco Lodge on their return, using their own funds and the knowledge they had gained.

Planning

Monitoring

## Opportunity for Adaptation

Knowledge exchange visits are a good way to support people to be in charge of their own learning process. Sharing insights and learning with people in a similar situation can be stimulating. Being exposed to different contexts might also sharpen the way participants see things at home. The actual community knowledge exchange visit should be part of a larger adaptation process- to ensure that the learning is not just a once-off occurrence, but an ongoing process that explores opportunities and challenges in complex and uncertain systems.

## Challenges in this process

It is tempting to just plan a road trip - and for the groups to be passive participants in the journey. While this may be enjoyable to some participants (and facilitators), it is crucial to remember that the journey is about learning. It is best to reflect regularly on the learning questions, and what the new insights might mean for the problems at hand. It is not sufficient to focus on the logistics of group travel - while the arrangements for meals and accommodation are important for the well being of the participants, it is more important to create an environment where participants are in charge of their own learning process.

For more information on community knowledge exchange visits also see: Oettle, N., & Koelle, B. (2003). Capitalising on Local Knowledge: Community Knowledge Exchange. Washington: The World Bank.

### Relevance for Adaptation Processes

Knowledge Exchange Visits allow participants to broaden their horizons and explore creative alternative solutions hands-on.



# Participatory Environmental Monitoring

A3

A process supporting vulnerable groups to assess their own actual and potential vulnerabilities and thus inform adaptation action.

Overall  
Process

## Objectives

To monitor a relevant aspect of the environment that is important for people's livelihoods

To explore ways of linking different types of knowledge

To gather sound data for adaptation planning

Energizing

## Description

Adaptation action is often prompted by environmental extremes or longer term change. In order to better understand the linkages between a certain type of climate event (e.g. extremely high temperatures in summer), people and their livelihoods, it is important to understand these sometimes extremely complex linkages. Process of environmental monitoring can include a range of stakeholders, but should always include and in fact be meaningfully guided by the land users themselves! It is important to clearly define what the key questions are, what should be monitored and who should do what in the process. During the environmental monitoring process regular reflection is critical to share insights, discuss what this may mean and to adjust the monitoring process if needed. Keep in mind that climate change is a long term process - so environmental monitoring should be planned for a longer-term time frame (5-10 years). During the environmental monitoring process it is important that the facilitators keep all collected data in a safe place to ensure that long term comparison can be made once substantial data has been collected. Also always ensure that participants in the monitoring process have access to all monitoring data, and are able to retain co-ownership of it.

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## Example

Participatory monitoring by land users of water sources on farms in the Suid Bokkeveld has measured water quality and quantity over some years - to document water availability and quality to land use and climate patterns.

*See also Section C: Tools for Environmental Monitoring*

Monitoring

## **Opportunity for Adaptation**

Environmental Monitoring can be an important way to facilitate a learning process that allows participants to explore the linkages between the environment, ecosystem services and the experienced and possible future impacts on their livelihoods. It also allows to bring together different types of knowledge and to facilitate a joint long term learning process. Ideally an environmental monitoring process will allow all partners to explore and critically interrogate the complex linkages between environment and livelihoods. This can then effectively inform adaptation options.

## **Challenges in this process**

When setting up environmental monitoring processes, ensure you follow sound methods to effectively monitor. Short lived monitoring processes that generate patchy data are likely to be useless (and thus pointless).

It can be challenging to facilitate communication between community members and scientists in a manner that ensures that both sides are feeling they are equal partners in the process. This is a facilitation challenge and needs to be carefully monitored!

Participatory environmental monitoring is a long term process that needs to be sustained by all stakeholders - likely scientists and local community members. If you feel there is not enough enthusiasm and commitment for such a process on either side, it might be worthwhile considering alternative processes for supporting learning and adaptation.

## **Relevance for Adaptation Processes**

Environmental Monitoring can bring together different types of knowledge and ensure the planned action is based on a good understanding of a complex Eco-system.



# Participatory Action Research (PAR)

A4

Participatory Action Research processes allow participants (for example community members and scientists) to explore shared questions in the light of their own knowledge and expertise and to critically examine own assumptions and perceptions.

Overall  
Process

## Objectives

To engage a group in a collective process of learning and change designed to help people investigate “reality” in order to change it.

To transform both theory and practice

Energizing

## Description

A process that involves a spiral of self-reflective cycles of inquiry, including planning a change, acting and observing the process and consequences of that change, reflecting on these process and consequences and then re-planning, acting and observing, reflecting, and so on...

While facilitating PAR processes it is important to be transparent and reflected about the purpose and development of such learning process. A PAR process is not necessarily compatible with a project time-frame, and must have integrity and be steered by all of the participants in the process. While this level of flexibility might be challenging for many organisations and facilitators, it is crucial to allow participants of the PAR process to take charge of their collective learning process and to exercise agency in shaping the process.

PAR processes can tackle virtually any identified challenge - as long as the partners are truly committed to exploring the complexity of the problem and possible solutions jointly in a reflective learning process that could imply changing the way that the partners think and operate.

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## Example

A participatory action research process in the Suid Bokkeveld focused on issues on livestock health, specifically how sheep was coping with extremely high temperatures in summer and very low temperatures in winter. The Action Research process included livestock monitoring, weighing sheep, explorations on livestock disease and

Monitoring

seasonal forecasts - leading to interesting insights on conditions of sheep farming under predicted climate scenarios.

### **Opportunity for Adaptation**

Participatory Action Research processes can be an excellent vehicle for an integrated learning process - allowing participants to understand the complexity of a certain issue from various perspectives, including different types of knowledge. The process involves all participants in an active learning and reflection cycle, and thus it fosters agency amongst participants, critical reflection and eventually a better understanding of possible solutions. These solutions can then also be assessed using a PAR process.

### **Challenges in this process**

PAR processes need careful facilitation. As the learning process should be shaped by the specific learning community (with all partners), the process needs to be very flexible to accommodate insights and change in direction of the research (or the decision to not continue with the research). This is difficult to fit into a project type time frame and often pressurised facilitators to 'facipulate' participants into a certain direction. This inherently undermines the partnership and the entire PAR process.

PAR will probably take all participants out of their comfort zones. Those used to being in authority will probably find that they are challenged to open themselves to the ideas and realities of others; withdrawn individuals will probably be compelled to move out of their "comfort zone".

### **Relevance for Adaptation Processes**

Participatory Action Research processes can support an integrated learning process that promotes anticipatory capacity and agency amongst all partners involved.



# Participatory Vulnerability Assessment

A5

A process supporting vulnerable groups to assess their actual and potential vulnerabilities and thus inform adaptation action.

Overall  
Process

## Objectives

To facilitate a process that allows community members to assess their vulnerability to climate variability and change

To allow affected communities to formulate and communicate their priorities of vulnerabilities that must be addressed by adaptation measures.

Energizing

## Description

This process facilitates a reflective process within a group to explore their vulnerabilities to climate variability and change and indeed other stressors. This process can be facilitated in many different ways. However, it should clearly illuminate the following points: Collating and reflecting on people's perceived vulnerabilities, sharing of mid- to long-term climate forecasts, mapping of vulnerability to climate variability and change and possible future impact, exploring risk and exposure of possible climate shocks and trends.

It is important to explore other possible stressors that could negatively interact with and exacerbate experienced or future climate stressors. These compounding affects need to be considered when planning adaptation measures.

In the process of the vulnerability assessment it is crucial that the voices of less vocal groups are also heard, and that specific vulnerabilities of certain groups (women, landless farmers, people living in a certain area) are adequately explored and thus considered when thinking about and adaptation response.

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## Example

A participatory assessment of a farming community wanting to explore the risks and vulnerability to seasonal flooding and the impacts of floods on the livelihoods of different groups in the area, so as to inform plans for adaptation.

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## Opportunity for Adaptation

Vulnerability assessments are often used as the logical first step in planning adaptation projects. Often such assessments are done by outside experts, who undertake research and then assess the vulnerability of a certain community, area, country or region. It is obvious that such a vulnerability assessments may not necessarily reflect the priorities and perceptions of the local community. If you want to engage on a participatory adaptation process, it is important to do so right from the beginning by including people's identified risks and vulnerabilities.

## Challenges in this process

Vulnerability assessments must be carefully designed processes that consider the local culture and power dynamics in the community. Ensuring that all relevant groups (and especially marginal groups) can participate effectively and safely in the process requires a fair amount of insight into the local community and social and political structures.

A vulnerability assessment can also create considerable expectations in the community, and might create the impression that the facilitators are going to address all identified stressors. It is crucial to be realistic and not to give rise to unfounded expectations. Be transparent about the process, and stress that this is a process that might influence future adaptation measures initiated by the community members themselves or other agencies. Make it clear that external resources may be available for the actual adaptation work, while being clear on the conditions.

### Relevance for Adaptation Processes

Participatory Vulnerability Assessment can allow a community to reflect collectively on risk and exposure while differentiating levels of vulnerabilities of different groups.



# Gender Walk

B1

This short energizing exercise explores how gender differences and access to resources can influence vulnerability to climate change and the possibility to take action.

Overall  
Process

## Objectives

To explore gender dynamics within a community and surface gender related constraints

To reflect on how adaptation measures can effectively respond to gender dynamics

## Process

1. The setting of this exercise is explained: Every participant will receive a piece of paper that will describe his or her role in the exercise (e.g. male headmaster of the school, single mother with 2 children, girl looking after the goats, wife of the local chief, male farm worker, etc). Participants are asked to assume these roles for the duration of the exercise. Ask participants to keep their roles secret from one another for the duration of the walk.
2. Participants are asked to stand in a row on one side of the room - or if outside in a row with an open space in front of them.
3. Read out the first question (either from the back or make up your own). If a participant can answer the question with a “yes” they may take one step forward. All other participants must remain where they are.
4. Read out the other questions on the list in the same way.
5. Reflect on who could move forward the furthest. Ask participants to disclose their “roles” and reflect on their feelings.
6. Reflect on the experience and what this means for planning climate change adaptation strategies considering gender differences and power relations.

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## Debriefing

The debriefing is the most important part of this exercise. It can include the following questions: How did you feel when you moved forward? How did you feel when you stayed behind? Why could you move forward? Why could you not move? What does this mean for considering gender in adaptation projects?

## Materials needed

Small pieces of paper with the roles for participants: villagers (e.g. herd boy, village chief, wife of the teacher, woman teacher, woman government minister, male farm worker, women chicken farmer, etc)

A list of questions to ask in the course of the walk (please make up your own questions that you consider relevant)

The president of the country is coming for a community visit. Are you invited?

Do you qualify for a loan at the local bank?

There is a problem with the drinking water. Will you be able to buy drinking water at the shop?

Are you working less than 8 hours per day?

Are you able to travel to a national meeting?

Are you able to attend the local climate change workshop?

etc.

## Relevance for Adaptation Processes

The Gender Walk allows the group to walk in some-one else's shoes and to reflect on how some parts of the community have different vulnerabilities based on notions of power and wealth.



# Farming Juggle

B2

A short and playful activity to experientially learn how community members often have to juggle many responsibilities and how climate change related stressors are one of many stressors experienced.

Overall  
Process

## Objectives

To energize the group

To reflect on decision making under stress and while handling unexpected tasks

Energizing

## Process

1. Participants form a large circle, facing the centre. They are informed that they are a community.
2. A facilitator, standing within the circle, throws the first ball to a “community member”, announcing that the farming in the community is going well. Participants must keep the ball in motion by continuously throwing it around the circle, not letting it touch the ground or stay in any one participant’s hands for more than 2 seconds if possible. Allow some time for the group to find their rhythm.
3. At any time throughout the game, the facilitator may introduce new balls into the circle, either announcing their entrance in advance (e.g. “you are dealing with a specific livestock disease amongst your sheep” or “there is conflict in your community”) or springing it on the circle of participants as a surprise (“there is a flash flood”). Either way, participants must try to keep as many balls circulating and off the ground as possible.
4. Close with a round of reflections: How did you experience the game? What does this mean for adaptation for farmers and organizations?

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## Debriefing

Allow time for critical reflection by participants after the game:

How did you feel in the first stage of the game? By comparison, how did you feel when multiple balls were in the circle?

Seeing as it is virtually impossible to keep all balls from dropping on the ground, how did you / the group prioritize which balls to put the most energy into catching? What qualities (e.g. size, colour, texture) might have played a role in this decision?

## Materials needed

up to 6 different balls (differing in size and material)

## Remember

For safety reasons, the balls should be fairly lightweight and of a soft material. Also, if playing indoors, plenty of space should be set aside to play the game. Ask people to avoid throwing balls at people's faces.

## Variation

You can play this with a different story line too, to illustrate compounding stressors: e.g. an office situation, or implementing an adaptation process.

### Relevance for Adaptation Processes

The Farming Juggle can help people to experientially understand how community members often deal with many stressors at the same time - and what strategy they personally choose to deal with this.



# Seasonal Forecast Game

B3

A game that allows participants to explore the interpretation of seasonal forecasts and their personal risk taking preferences.

Overall  
Process

## Objectives

To explore seasonal forecasts and their possible use and limitations

To allow participants to experience how seasonal forecasts can affect livelihood decisions

## Process

1. The principle of the game is explained via a story line told by the facilitator: As part of a government land reform programme a number of farmers acquire land and start-up capital (the players). A cotton bag and tokens symbolise the farm and cash resources owned by each player. Each year the farmers face a difficult choice: should they prepare for a drought and invest in preparing for this (for example by purchasing more rainwater tanks and additional dry feed) or should they prepare for a year of plentiful rain by ploughing their lands and investing in seed and livestock?

2. Each player receives a bag with 5 tokens

3. The seasonal forecast for the first round of the game is shared and each farmer is asked to physically move towards the side indicating which strategy s/he will follow for the season (i.e. preparing for drier or wetter conditions). Each farmer makes a payment of one token to buy agricultural inputs (e.g. rainwater tanks and feed vs. seed and diesel for ploughing).

4. Once all farmers have paid, the dial is spun – determining the actual weather for the year. Should the farmer have prepared for good rains, and the spinning arrow comes to rest in that part of the dial indicating that the rains have indeed been good, s/he is rewarded for the above-average rainfall conditions by 2 tokens. On the other hand, if the farmer has prepared for a drought, and the arrow indicates that the rainfall is indeed below average, s/he can retrieve the price of their investment (1 token), but cannot make a net profit. Those farmers

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whose predictions are not matched by the “actual experienced weather” receive nothing, their investment is forfeited. If the pointer indicates neither wetter nor drier, the facilitator re-spins the dial and the round continues.

5. After each round is concluded and the players have all made payment or received tokens, the seasonal forecast is adjusted on the board and another round begins. If a farmer is no longer in a position to invest in farming inputs, the farm will be dispossessed and the player leaves the game. The game is over when only few farmers are left. In the course of the game the facilitator can introduce various options (e.g. calamity, drought relief, insurance, solidarity) to maintain high energy levels throughout the game and to allow a deeper learning experience.

6. The most important part of the game is the final reflection – where the players are asked to share their strategies and why a particular strategy was successful or unsuccessful in this particular game. The important step is then to explore the connection to sustainable and resilient farming practices in “real life”. Needless to say, luck plays a role in determining the outcomes and individual players will tend to play according to their inherent risk preferences.

### **Materials needed**

A board with a swinging arrow to simulate the seasonal forecast and inter-changeable segments in red and green colour, 5 tokens (glass beads or beans) in a cotton bag per participant and a string or long narrow piece of fabric be set aside to play the game.

### **Relevance for Adaptation Processes**

The seasonal forecast game can help people to engage with the seasonal forecasts, exploring the uncertainties given in percentages.



# Thinking on your feet

B4

A quick and safe energizer to get to know the group and to shed light on specific skills, preferences, experiences etc within the group.

Overall  
Process

## Objectives

To explore experiences or the mood in a larger group

To energize participants and allow them to get to know each other

## Process

Ask all participants to stand in a large circle

1. Explain the rules of the game: The facilitator will read a series of questions. If you feel you could answer “yes” to the question asked, cross the circle and stand on the other side. All participants who feel they can answer yes to the question should be crossing the circle at the same time.

2. Ask for questions of clarification

3. Ask the questions and allow time for participants to think, before asking all this who can answer positively to cross the circle. Start with something simple, and get more adventurous as you go along. Make sure the questions are not offensive and are simple yes/ no questions. Some examples that you could use are:

- Are you wearing glasses?
- Have you had coffee this morning?
- Do you own livestock?
- Do you know how to slaughter a chicken?
- Have you ever entered data into a climate model?
- Have you ever used seasonal forecasts for taking an important personal decision?
- Have you ever learn anything from a farmer?

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## Materials needed

All you need is a reasonably large space to form a large circle - outdoors can work well, as long as people can still clearly hear the facilitator asking the questions. It is helpful to have a prepared list of questions.

## Variations

You can vary the questions as appropriate for the context of your workshop. If it is all about adaptation in a farming community, you might want to focus your questions on this.

You can ask participants to suggest questions - just be careful that they are clear and not offensive in any way.

## Note

Make sure that you are not asking offensive questions, or questions that might embarrass some participants. Keep the tone light and simple.

If not everyone understands the language of the facilitator - ensure that there is good translation of the questions before you ask people to move.

## Relevance for Adaptation Processes

Thinking on your feet can easily be used to get an idea of the dynamic in the group. Choosing appropriate questions is crucial here.



# Reflection in small groups

B5

Reflection is crucial for sound learning processes. There are simple ways to make reflections in small groups safe and effective.

Overall  
Process

## Objectives

- To reflect on a specific topic to foster learning and insights
- To appreciate progress and learn from successes and failures

## Process

There are many different way to structure a reflective process in a small group. It is crucial that the process ensures that all participants feel safe and that the facilitator actively holds this space, while allowing people to participate freely. Ensure you have planned a flexible process. In exercises like this it is good to be clear about what you are going to do (the process) and gently encourage participants to stick to it.

Here is an example for a short reflective process that might be good to reflect on after having facilitated a community interaction as a team:

Ask all participants to stand in a circle

1. Share with participants why it is important to reflect on our experiences - and to appreciate what went well, while also acknowledging what did not go so well. The focus here is not blame - but rather how the group can learn from the experiences and move forward in a constructive (and maybe even enthusiastic) way.
2. Start with the questions: What went well? Pass a small ball around and ask each participant to share one thing that went well while it is their turn to hold the ball. The more specific the reflection is the better. ("Everything was good" does not really offer much insight or learning). Be relatively strict in allowing one point at the time per person, and have several rounds if needed.
3. Take notes on a flip chart - for all to see. Ask for clarification if you do not understand the point. Offer participants to amend or affirm each point that is written up.

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4. If there are no more contributions, ask what did not go so well? And repeat the process.
5. Finally do a round asking: what could be changed next time? And repeat the process. This last round creates the opportunity to build on successful processes and avoid problem in future.

### **Materials needed**

Flip chart stand and paper, pen, small ball

### **Variations**

You can combine the last two rounds by asking what did not go so well and should be changed? This can save some time and encourages participants to think positively about the way forward.

### **Note**

Ensure no personal criticism is voiced in an offensive way. In order to maintain a safe space it is important to ensure statements like: 'Person A is always so aggressive' are not made without a comment by the facilitator to remind people to be specific in their feedback by asking: 'When did you experience person A as aggressive?' and unpack these issues. This can surface some serious problems that can be very destructive if not addressed.

### **Relevance for Adaptation Processes**

Reflection in a team allows us to improve our practice by learning from successes and failures.



# Individual Reflection

B6

Individual reflection exercises while taking a silent walk in the environment to think about a complex adaptation question.

Overall  
Process

## Objectives

- To enable participants to enter and appreciate quiet, self-reflective spaces
- To allow understanding of other perspectives

## Process

There are many different way to structure an individual reflection. In all these processes it is important that the space you are doing the reflection is calm, quiet and undisturbed. Ensure that this is a place that is completely safe and calm and quiet. Encourage participants to be silent and to be with themselves (this can be harder than it seems).

You can ask the group members to reflect on a certain experience, their role or whatever else is suitable for the ongoing learning process. Or you can ask people to just be in a wild space and to listen to themselves.

When you start the individual reflection give clear guidelines (no talking, time frame, specific questions or open ended ones, etc). Then when the time is up call the group together and have a round of voluntary sharing of experiences.

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Here are some examples for individual reflections:

- Quiet individual reflection in a wild place: ask participants to spend 15 minutes just on their own without talking, looking for a small object that speaks to them. At the end you can ask people to share their experiences and (if they wish) their object.
- Quiet working with clay: ask participants to work with clay and make something that reflects how they experience the learning process or the team process etc. Then ask them to reflect on their creations.

Monitoring

## Materials needed

Depending on the type of reflection

## Variations

You can combine the last two rounds by asking what did not go so well and should be changed? This can save some time and encourages participants to think positively about the way forward.

## Note

Only encourage individual reflections if you are comfortable with the process - and you can ensure a safe space.

### Relevance for Adaptation Processes

Individual reflection can help us interrogate our assumptions and to become better listeners.



# Focus Group Discussion

B7

Exploring a specific topic or question within a small group of stakeholder, experts etc.

Overall  
Process

## Objectives

To discuss a certain aspect in a small group

To illuminate different perspectives on a matter

Energizing

## Process

Focus groups are a good way to discuss a certain topic and to illuminate different perspectives. The idea is that the participants in the focus group are also active learners - and that you can see the discussion evolve as you go along.

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You can prepare some guiding questions beforehand - and ensure that the focus is maintained. However, especially for adaptation processes it is important to be a sensitive listener and to detect unease and hesitation in discussions that might hint to other related issues. In order to understand the complexity it can be useful to have a diverse group offering their perspectives. However, ensure that marginalised community members also have an opportunity to speak. You can also decide to have homogeneous sub-groups for the focus group discussion - such as only young women, community leaders, single parents. etc.

Planning

The process should not take more than 30-60 minutes. Ensure that you create a record of the discussion.

For the analysis of focus group discussions you can use your transcripts and notes. If you are dealing with a large data set it is useful to enter the data in a qualitative data analysis software such as NVIVO.

Monitoring

## Materials needed

Recording device or notebook, depending on method and groups size software to analyse qualitative data (such as NVIVO).

## Note

Ensure that participants of focus groups are well informed about the aim of the research and that they are supportive of this process. Also ensure that the process must allow participants the choice not to answer a question and should ensure anonymity.

### Relevance for Adaptation Processes

Focus groups discussions can help us to explore and understand complex situations and problems.



# Sharing Seasonal Forecasts

B8

Some tips and tricks for effectively sharing seasonal forecasts with community members and other stakeholders.

Overall  
Process

## Objectives

To share seasonal forecasts with a group

To allow people to critically engage with seasonal forecasts

Energizing

## Process

Seasonal forecasts are often the only short term meteorological information that farmers can access. As such it is important to explore with the group if the seasonal forecasts locally available can be useful for making livelihood decisions.

Firstly, it is important to source the locally available seasonal forecasts and understand what information they can offer as well as where the uncertainties lie.

Secondly, it is important to share the seasonal forecast in a way that is accessible for the audience and encourages participants to ask questions. You can visualise the probability as a pie chart - always emphasising the range of the current prediction.

Typically these are:

Probability of higher / lower maximum average temperatures

Probability of higher / lower minimum average temperatures

Probability of higher / lower average rainfall

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Monitoring

Thirdly, explore what the different scenarios depicted in the seasonal forecasts may mean for participants livelihood decisions. Is there any action people would want to take - are there different actions that would be more appropriate for different scenarios?

You can engage participants in a game on seasonal forecasts - to explore uncertainties and how interpretation of the seasonal forecast and subsequent experiences can influence livelihood decisions (see B3).

You can also engage participants in making their own forecasts (agreeing or contradicting the one from the Meteorological office) on the basis of their own experience, observations and indicators. It is useful to record these predictions - and to reflect upon on them some months later.

## Materials needed

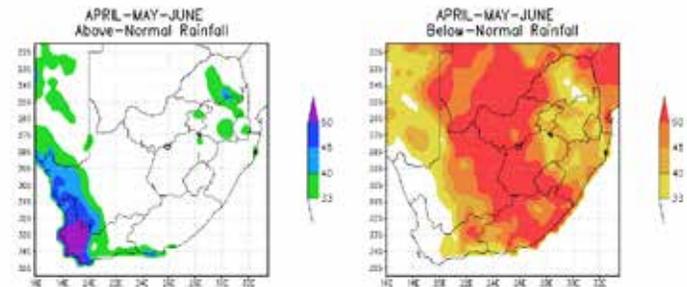
Seasonal forecast (provided by the national meteorological office or another regional or international institutions).

## Note

It is important not to oversimplify the data, and to emphasise that the forecast is always subject to error - and only gives an indication of what is more likely to happen than not. Avoid advising farmers what they should do: They are ultimately taking the risks for their livelihood decisions, and their best judgment is important. Do not undermine it.

### Relevance for Adaptation Processes

Seasonal Forecasts can be a useful resource to support anticipatory decision making and action - and provide a useful tool for learning.



# Climate Calendars

B9

Compiling a summation of weather experienced during the previous 3 months and how it impacted upon activities (agricultural or otherwise) - to keep a record and to facilitate discussion on possible adaptation options.

Overall  
Process

## Objectives

To document experienced weather and to link this to livelihood activities and decisions

To share information and experiences, drawing on records of actual weather conditions and recorded data

Energizing

## Process

1. Prepare climate calendars on flip chart paper - one per area/ village/ region according to the following structure (adjust as needed):

	January 2014	February 2014	March 2014
What was the weather like?			
What was the impact?			
What did we do?			
What else would we have liked to do? Why could we not do this?			

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Planning

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2. Present the idea of climate calendars to the group. Introduce and explain the preformatted table and ask participants to complete the table in smaller sub-groups (according to village/ farm/ area/region).
3. Allow 30 minutes for the groups to reflect, discuss and complete the calendar.
4. Ask a rapporteur from each group to share the information from their climate calendar with the plenary. Allow people to ask questions of clarification and facilitate discussions on possible adaptation options, should they arise.
5. Facilitate a final discussion on possible adaptation options. Record the calendars to build up a long term record.

### **Materials needed**

Prepared climate calendars, marker pens, masking tape

### **Relevance for Adaptation Processes**

Climate calendars promote reflection on experienced weather and possible responses.



# Participatory Video

B10

Participants plan and film their own video to share experiences, make a statement, lobby etc. A process that can be widely used but needs access to video camera and editing equipment.

Overall  
Process

## Objectives

- To create a platform that allows everyone to express their views
- To generate creative ideas and new perspectives
- To create a video with a certain purpose

Energizing

## Process

Participatory video can be used in many different ways. It is important that a few principles are observed in the process: participants are responsible for deciding on the story board, they should do all the filming themselves and must approve (or reject) the final product. Optionally, people can edit the videos themselves, if the local facilities exist.

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Contents

Here is an example of a PV process:

1. Introduce the video equipment to the participants. Explain the different functions to the first person (including on/ off button, stop/ start, zoom etc.) in the circle. This person will then have the task of explaining the functions to the next person, and so on, so as to enable all to learn and teach. Provide mentorship so that misunderstanding and mistakes are not replicated.
2. Ask the group to decide on a topic and support them in developing a story board - detailing the sequence of events in their movie and the sound. Use the story board throughout the process of filming and editing.

Planning

Monitoring

3. Ask the groups to organise themselves for the video shoot. Ensure that there are enough batteries and tapes and that people are carefully logging and labeling the tapes. Refer to the story board in the process to ensure that all scenes necessary are filmed (in good quality!). Do sound checks and play back the videos to the group to appreciate the good shots and to learn why some shots have not worked well (e.g. shot against the light or out of focus).
4. Once you return to the office, log all video tapes by recording the timeline and scenes filmed. Also not any possible problems with visuals or sound in the process.
5. Edit the movie using the story board and some of the footage. Ensure you include a title and credit all contributors. Arrange for one or several previews with the groups to ensure you are on the right track.
6. Once you get approval from the group, finalise the movie and hand it over to all team members on a DVD. Discuss the next steps and possible public screening events or uploads to websites.

### **Materials needed**

At least one good video camera with microphone, computer, video editing software

### **Note**

While it is crucial that participants are in charge of all the filming and the story board, assist on the technical level and ensure that the shots are of good quality and that film is serving its intended purpose well. Always consider the option of subtitling the spoken word to ensure the message is well understood.

### **Relevance for Adaptation Processes**

Participatory video can be an empowering tool for people to reflect on their situation or a specific question and to effectively share this with a wider audience.



# Participatory GIS

B11

Often adaptation challenges can have a spatial dimension. Participatory GIS allows to record these spatial challenges with the actual stakeholders themselves.

Overall  
Process

## Objectives

To allow groups to record relevant aspects of spatial questions

To engage with maps and learn about reading maps while creating your own

To create a spatial record for a certain purpose (e.g. boundary conflicts, organic certification, crop planning)

Energizing

## Process

1. Familiarize yourself with the GPS and be sure you know how to use it and that all settings are correct.
2. Discuss the aspects that members of a certain group would like to map. Assess what data needs to be collected and how this can be best recorded. Prepare adequate data sheets for use in the field.
3. Arrange for a field visit and explain the use of GPS and maps. It is useful to refer to the satellites in the sky and how some maps are based on or supplemented by satellite photographs. Ensure all persons going to do the mapping are familiar with the GPS and can manage it confidently. Ensure that all waypoints marked are saved and recorded on the data sheet.
4. Download all data and enter the data sheets accordingly. Import the data into the GIS and add additionally layers (road, vegetation, aerial photographs, satellite imagery, etc) to support the intended use of the map.
5. Discuss the map and adjust as necessary. Print the map and hand it over to the group. Ensure you keep the data in a safe space for possible future use.

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Planning

Monitoring

## Materials needed

GPS device, data sheets, computer, GIS software, colour printer

## Note

Maps can empower but can also be abused by those in power. Carefully assess the situation and ensure that the maps produced will have a positive impact and cannot be abused.

Seeing that spatial data can be very powerful, it is important that the data provided is kept confidential and is only handed to third parties with explicit (preferably written, if appropriate in the context) permission.

GIS skills are specialised skills - and different GPS measurements have different accuracy. Ensure you involve an expert in the field who can ensure the measurements and imported data are accurate (consider accuracy, scale and projections) and include a clear legend explaining what is marked on the map.

## Relevance for Adaptation Processes

Adaptation related challenges often have a spatial dimension and PGIS is a way for the people themselves to create their own accurate spatial records.



# Qualitative Interviews

B12

Narrative interviews can deepen our understanding of complex realities of stakeholders and are a great way to listen.

Overall  
Process

## Objectives

To have a better understanding of people's perceptions and priorities, their values and ideas  
To create an open space for new insights to emerge

Energizing

## Process

Prepare some guiding questions for the interview. Ensure that these are open ended questions (e.g. "What do you think about the future of farming? ") not entailing a value judgement (so **not**: "Why do you think driving fast is a bad thing?")

Determine who you would like to interview and be clear what your process is going to be. Ensure that you have formal permission to conduct the interviews (from your University, Ethics clearance, the local chief, the headmaster, local development committee etc.). Free yourself from any assumptions and go into the interview process listening without prejudice and with an open mind.

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During the interview process, these steps are important:

1. Explain the purpose of the interview, the confidentiality of the data and that any person can decide not to answer questions and stop the interview process at any time. Ask for permission to record the interview.
2. Ask an easy opening question (e.g. For how long have you been farming here?) and listen to what is said very carefully. Think on your feet and ask follow-up questions to more fully understand complex thought processes or values. If appropriate, consider taking notes.

Planning

Monitoring

3. After the interview record a postscript by yourself: include the situation of the interview, any other details about the situation that might be important to understand and interpret the data later-on (place of interview, disturbances, your feelings, the atmosphere etc).
4. Save the interviews on the computer (consider making backups) and start transcribing the interviews. Make sure you capture all the meta-data, and that you code it in such a way that you keep the identity of the interviewee confidential. Transcribe the interviews. Be aware that this is a slow process.
5. Clearly identify your research questions and start coding the transcripts. It is useful to use qualitative data analysis software such as NVIVO. Analyse the results.

### **Materials needed**

Recording device and/ or notebook

### **Note**

Ensure that participants of focus groups are well informed about the aim of the research and that they are supportive of this process. Also ensure that the process allows participants the choice not to answer a question and ensures anonymity.

### **Relevance for Adaptation Processes**

Qualitative interviews enable people to express important views and insights in a confidential setting.



# Visioning Exercise

B13

Community based adaptation processes need to be guided by a positive shared vision - that people are motivated to move towards.

Overall  
Process

Energizing

Exploring  
Contents

Planning

Monitoring

## Objectives

To enable members of a community or group to generate and share their aspirations for an improved future situation

To define a positive vision for the future that people can work towards

## Process

There are many processes to establish joint visions. Because the main aim is to establish a joint and agreed to vision within the group it is important to ensure that all members have a fair chance to contribute and to be heard. You might want to consider breaking into homogeneous subgroups (young women, young men, youth, elders, etc.) and then combine the results to get agreement.

Here is a possible process for a visioning exercise:

1. Introduce the concept of a vision or a dream - that will allow people to have a direction for their learning and developmental journey.
2. Ask people to close their eyes and imagine they are flying over their home area in 5 years time. They are looking down at the houses where people live. Ask them to imagine what people are doing. After 5 minutes ask people gently to come back.
3. In sub-groups, ask people to draw what they saw. Explain that it is not important that the picture should be beautiful or accurate, but rather that it should capture in some way what people have seen. Ask them to be sure

to draw what they have envisioned people **doing**.

4. After 20-30 minutes ask the different sub-groups to present their visions to the larger group. Display the presented drawings publicly - and see if you can help the group synthesise a vision statement that captures all or as many as possible of the aspects presented by the group without introducing a fundamental contradiction.

5. Discuss steps on the journey towards the vision and plan for action.

### Materials needed

Flip chart paper, crayons, marker pens, masking tape

### Note

It is important to allow everyone to participate in the drawing exercise. This will ensure that everyone will be heard and that broad ownership is ensured.



### Relevance for Adaptation Processes

A clear vision is crucial for adaptation processes - so they development pathway becomes a positive one.



# Fixed Point Photography

B14

Understanding environmental or land use change by using photographs repeated over a long time frame.

Overall  
Process

## Objectives

To document environmental change through taking series of photographs  
To understand environmental change in long time series

Energizing

## Process

Fixed point photography is a technically intrinsic approach.

While the technical requirements are important, we would like to focus on some principles for fixed point photography in the following:

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1. Decide where you want to start a series of fixed point photos. GPS and physically mark the place where you put the tripod (with a peg or an immovable object such as beacon of rock).
2. Prepare a data sheet that allows you to record what you are seeing at the time you took the photograph.
3. Decide on the interval that you want to repeat the photographs - and stick to it. Consider photographing always at the same time of day and season.
4. Download and file the records accurately and ensure you are making backups. Label the photos accurately.
5. When repeating the photograph, take printouts of previous photos of the site(s) so that you can frame the picture accurately.

Planning

Monitoring

6. Analyse the changes in the photograph spatially, quantitatively or qualitatively and ensure that you include other possible factors in your analysis (e.g. grazing management of the area).

### **Materials needed**

Camera, tripod, data sheets

### **Note**

Ensure that the technical aspects of taking the photos are as similar as possible, including the lens of the camera - in order to ensure that you can accurately compare photographs. Include a sketch map in your data sheets to ensure that you easily find the position of your marker. Note the direction the camera is pointing to - in order to have the same angle.

It is good to take quite a few repeat photographs - after all, you want to make sure you have a close match in excellent quality.

### **Relevance for Adaptation Processes**

Fixed point photography can be an excellent complementary process in order to capture long term change.



# Using Weather Stations

B15

Weather stations are a useful tool, if the data is managed well and the weather stations are maintained in good working order.

Overall  
Process

## Objectives

To collect long term series of weather data

To better understand extreme local weather events and local long term trends

Energizing

## Process

Purchasing an automated weather station is costly and needs regular maintenance. Thus it is important to ensure that you have the technical skills to do the maintenance or that you have resource persons available.

1. Determine what you would like to measure in your context - and choose an appropriate weather station for this need. Ensure that you have the skills to do basic maintenance of the weather station and that you are able to download the data. Rainfall and minimum and maximum temperatures are often the most useful data to record.

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2. Proper installation of the weather station is important. Ensure a position away from buildings or trees, and a place that is safe from disturbance from curious livestock. Weather stations look strange and mystical and often attract the attention of passers by. It might be good to place the weather station just out of sight from major roads or walkways.

Planning

3. Keep a log for each weather station and record events such as downloads, change of batteries, problems experienced, maintenance performed.

4. When you have downloaded the data, ensure that you check that the data is of reasonable quality (check dates, and that the temperatures, etc. are in a likely range. If the data is inconsistent or does not make sense, you

Monitoring

might have to re-calibrate a logger or exchange a part.

5. Find out how long batteries normally last for you weather station type (often 8-12 months) - and make sure that you replace the batteries in good time. This is important to ensure a continuous record.

6. Keep a sound archive of all downloaded weather station data and ensure you make regular backups.

### **Materials needed**

Weather station, basic set of tools for maintenance, weather station log

### **Note**

Installing weather stations is a long term investment - and a long term commitment! Unless you can ensure ongoing downloading and maintenance and long term storage of data, you should rather consider manual ways of monitoring weather data.

### **Relevance for Adaptation Processes**

Weather stations can allow us to collect local climate data in long time series to better understand extreme climate and climate trends.



# Action Planning

B16

A quick exercise to help action planning in smaller or larger teams.

Overall  
Process

## Objectives

To develop a quick list of agreed actions

To allocate tasks and get agreement

To have a record of action agreed to for follow up

Energizing

## Process

After a process or a workshop you might want to sum up the next steps -and to allocate appropriate time frames and responsible persons to each action.

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Contents

Here is a simple layout to be completed within a working group or equivalent:

What?	Who?	By When?
<i>Draw up report and circulate for comments</i>	<i>Peter</i>	<i>30 Oct 2014</i>
<i>Comment on report in writing and email to team</i>	<i>Jane, Joe, Mary</i>	<i>7 Nov 2014</i>

Planning

1. Ask participants to contribute action items and record them in the left column.

Monitoring

2. Establish who is responsible for this action item and by when it should be completed the latest. Ask for agreement of the group and especially of the person whose name is on the list.
3. Ensure all action items have an associated person responsible and a time frame at the end of the exercise.
4. Type the action item list and circulate this to the team.
5. In the next meeting/ gathering go through the action item list and see what actions are still outstanding (and re-plan if necessary).

### **Materials needed**

Flip chart and marker pens

### **Note**

Effective action planning can help people think through the details of plans, allocate clear responsibilities and thus help avoid frustration and confusion. Action plans need follow up - so keep them as working documents.

### **Relevance for Adaptation Processes**

Adaptation action requires thoughtful and effective implementation and follow up. Because conditions may change, action items need to be flexible and amended if necessary.



# Visualising Action Planning

B17

Action planning process that creates for a visually stimulating record.

Overall  
Process

## Objectives

To understand activities and tasks to be performed in context.

To have a visual record of an action plan to support effective implementation.

Energizing

## Process

Some adaptation related processes require complex action planning. This is especially the case when one activity has to be completed before another activity can take place. In this regard it might be good to unpack the complexity of action planning by creating a rich picture that will allow the team to see the cross-linkages between the different areas of activities that need to be implemented before another activity can happen.

These rich pictures do not have to be pretty - as long as they are sound and informative. It is even better if they are also inspiring.

For the actual process you can use cards or large pieces of paper - depending on the action items that you are planning. Encourage each participant to draw a symbol on each card for a specific action item.

Depending on the activities you are planning, you can ask different groups to contribute their action items on cards and ask others in the groups to put their action items in relationship to already existing cards/ action items.

While you put the cards up, validate the linkages with the group and finally document the process. You might want to supplement this process with a written action list (see B16).

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Planning

You can also discuss whether you have enough resources available (persons time, budget, skills). This sketch is

Monitoring

a first step in getting clarity about the overall process. Once this is established it is easier to link this to detailed action and activity planning .

## Materials needed

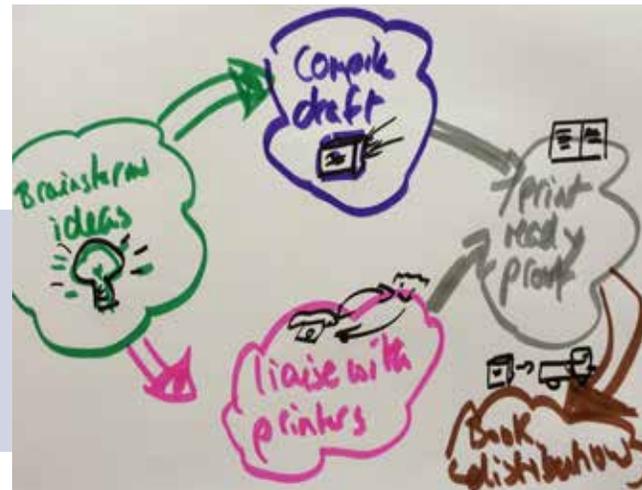
Cards, Crayons, large piece of paper

## Note

This process draws on the creativity of participants. It is important to create an open space for everyone to contribute. If a drawing is not clear, always gently ask for clarifications. Never ridicule or criticise someone's drawing.

### Relevance for Adaptation Processes

Complex processes often need the bigger picture perspective - this exercise can be a good start.



# Monitoring of project progress

B18

Description of ways of monitoring project progress

Overall  
Process

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Planning

Monitoring

## Objectives

To plan for effective project progress monitoring

To learn from own experience and integrate learning into future project planning

## Process

Even the best planned projects are never implemented exactly as they are planned. Adjustment is always needed and at the same time it is important that all planned activities are being attended to and achieving the desired impacts. In the course of implementing an adaptation project, it is important to take time for reflection (B5 & B6) and openly discuss the following:

What is going well?

What is not going so well?

What do we want to change?

These are three simple but very important questions to support your learning process. Remember that the learning process is only going to be useful if participants feel invited to contribute and are safe from repercussions.

Monitoring of projects also involves having to check that all project activities planned for have been implemented. In this regard it is important to ascertain that the planned activities are all still relevant and to consider re-planning informed by the learning if need be.

Adaptation processes are often complex, and we need to ensure that the project is not having unintended

negative side effects. If these are detected, it is crucial to change the course of action. This might need approval of the donor and other project partners - but is a crucial step for implementing effective and reflected adaptation action.

### **Materials needed**

Project document, action plans, activity plans, paper, marker pens

### **Note**

Keep in mind that if the project plan states that in year 3 a certain training workshop will be conducted, it is important to examine whether the training workshop will still have the desired and intentionally planned for results. The reflection should also examine if the planned workshop is the best course of action - or if the funds could be used for alternative and more appropriate interventions...

Always remember, having finished all project activities on time does not necessarily make for an effective and successful adaptation project!

### **Relevance for Adaptation Processes**

Monitoring project progress is an important step that also should consider if the situation has shifted/ evolved and if therefore planned project activities are still appropriate.



# Timelines

B19

Timelines often help us to understand longer time sequences

## Objectives

To understand and agree on longer term time sequences  
To foster a sense of joint history and identity

## Process

Draw a line in the sand - or alternatively take a long piece of string and place it in a straight line on the ground (fix it with masking tape).

1. Reflect how important it can be to see events in the historical context. Explain the timeline - with the furthest point being the earliest event people can remember in the past and the end of the line being today.
2. Ask one of the elders present what events in the distant past they can remember and write a card for the year in which it took place and another card for the event. Place each card on either side of the line/ string.
3. Place other events along the lines as they are put forward (People can also write their own cards - or use pictures instead of words). At the same time generate appropriate year cards to indicate when the event took place. All events should be ordered in sequence.
4. Once the timeline is complete, reflect on the sequence of events and document the timeline for further use.

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Process

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## Materials needed

Cards, marker pens, long piece of string

## Note

Timelines can be useful tools to reflect on experiences in the past - and therefore allow people to engage in longer time-frames and reflect on significant cause and effect of significant events

Carefully consider if it is best to do a joint time line - or if it would be better to have different timelines drawn up by different groups (e.g. women, men, youth, etc).

### Relevance for Adaptation Processes

In order to understand adaptation options, it is important to understand the context of past events. Timelines can open the discussion on perception of the past, key events and difference in perceptions of the past.



# Budgeting

B20

How to manage a budget in the light of uncertainty and complexity of adaptation projects

## Objectives

To plan and budget for activities

To allow to be able to respond to the unexpected

## Process

Most adaptation activities are planned and are linked to a budget that allocate the available financial resources to each activity. While it is crucial to have a clear budget for adaptation interventions, it is also important to be able to accommodate the unexpected without jeopardizing project progress and impact.

When drawing up the budget it is helpful to think through the aims and objectives of the intervention, the planned activities and costs associated with these activities. It is important to have a clear idea about the activities that must be implemented (see B21), but you also need to budget adequately for the expected costs. Some donors have specific requirements for drawing up budgets - but for the general purposes it might be better to follow one organisational system.

Here are a few common budget items:

- **Professional time:** think about how many days of different persons' time will be needed for the implementation, monitoring and administration.
- **Materials:** think about what materials will be needed by everybody involved in the project
- **Transport & subsistence:** Give details to where people will need to travel to and how much you will need to budget for each trip).
- **Communication cost:** Consider communication costs necessary for all activities (e.g. internet, telephone)

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Here is an example budget:

Activity	Professional time	Materials	Communication	Travel and subsistence	Admin fee
Climate Change Preparedness workshop - August 2015	R 3,000	R 4,000	R 200	R 2,800	10% R 1,800
Conference: Arid Zone, 2 delegates	R 3,000	0	0	R 3,500	R 650
Etc.					

### Note

Using a budget with more generic categories will allow you more flexibility. However it is crucial that you have a detailed internal budget that is accurate and that you can revise from time to time.

### Relevance for Adaptation Processes

Financial management is important - and should ideally be able to respond to any unforeseen changes and changed requirements.



# Activity Planning

B21

Planning activities using a chart can be a helpful way to co-ordinate activities and adjust when necessary.

## Objectives

To plan activities in sequence and to allow tracking of activities

## Process

Once an adaptation project has been designed it is important to be clear about the different activities that need to be implemented in order to achieve the desired objectives. This process can be daunting, especially if the activities planned are complex in their sequence.

When planning activities it might be important to allocate budget and staff time to activities - to ensure the planning is realistic.

A useful way of activity planning, that allows tracking of implementation of activities over time is a chart as depicted on the reverse side of this card.

1. Decide in different clusters of activities (e.g. national conference, community adaptation process, policy briefs).
2. Then discuss each of these clusters in detail - and decide who is going to be responsible and when the activity should be implemented. Complete the chart in such a way. Finally document and share the chart.

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Activity	Person responsible	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>National Conference</b>													
Secure venue and arrange for logistics	Peter	■	■										
Invite key note speakers and confirm	Mary		■	■									
National communication and registration process	Jack		■	■	■	■							
Conference programme finalised	Mary						■						
Conference	All								■				
Conference report draft version, circulate to committee	Mary									■	■		

### Relevance for Adaptation Processes

Activity planning in adaptation processes is important, but must remain flexible in the light of the unexpected.



# Monitoring your environment (generic)

C1

Environmental Monitoring Processes can be crucial to better understand long-term trends and short and medium term weather extremes to inform appropriate adaptation action.

Overall  
Process

## Objectives

To observe the environment in a systematic way that will give insight into the health of the eco-systems, the processes that are at working the environment, shifts that are taking place and impacts of natural events or human interventions so as to inform management interventions.

Energizing

## Process

1. Decide what aspect of the environment would be worthwhile to monitor in terms of gaining greater insight into the relative health of the ecosystem. You could do this on your own, but would have a fuller picture if you do it with others who also know the area from different perspectives.
2. Identify which aspects of the environment will provide the most insight into its relative health, and list these.
3. Review the list and choose some that will be relatively easy to measure, and that will provide insight into a range of aspects of the environment (for example, populations of a particular indicator plant, populations of invasive plants, numbers of pollinators visiting key species of flowers, water quantity and quality, erosion and sedimentation, composition and percentage of plant cover, etc.)
4. For each aspect that you decide to monitor, define the method that you will use, the frequency of monitoring, and how you will record, analyse and share the data. Decide who will be doing the monitoring and what resources they will need, and if necessary plan to make these resource available. (See B21 Activity Planning and B20 Budgeting)

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5. At the right moment (in terms of season, weather, availability of people and resources) undertake the first round of monitoring to establish an initial baseline against which you will be able to compare future data. This is especially important if changes are coming in the way the environment is being used or managed.
6. Reflect on what you have observed, any obvious anomalies, and what these may mean. If possible, undertake this reflection with others who can add their insights and knowledge.
7. Repeat the process at regular intervals, compare findings and reflect on what it means. The appropriate interval between monitoring visits will depend on what you are monitoring.

### **Materials needed**

Materials needed for environmental monitoring will vary according to what aspect you are monitoring. However, as a minimum you will need a reliable way of collecting, recording and organising the data that you are collecting (data sheet, notebook, computer, camera, GPS, etc.), as well as a reliable method of analysing and interpreting the data. It is best to clarify these questions before you start, or you may find that you have collected data that is incomplete or cannot be analysed in a meaningful way.

### **Note**

Environmental monitoring can be an engaging and stimulating process for people to engage in and learn from. In the case of natural resources that are shared by a community (such as water resources or rangelands), the process of data gathering and its analysis can focus attention on the importance of managing these resources in a sustainable way and provide invaluable information for decision making processes.

### **Relevance for Adaptation Processes**

For long term adaptation it is important to understand environmental change and observed trends.



# Participatory water monitoring

C2

Participatory water monitoring was a process developed by a group of farmers in the Suid Bokkeveld that includes monitoring of all water sources on farm every 5 years to establish trends.

Overall  
Process

## Objectives

To understand long term trends in water quality and availability on a specific farm

## Process

Most rural communities are highly dependent on local water supplies from streams, springs and boreholes. Changing climate and land use can have a significant effect on the amount and quality of water available from these sources. Participatory water monitoring enables people to deepen their knowledge about these vital natural resources

Energizing

It is important to ensure that resource-users (farmers and other members of the community) want to be part of the process. Farmers are the experts on their farms, so it is vital that monitoring process is facilitated in ways that ensure that they are at the centre of the process, and are comfortable to share their information.

Arrange ahead of time when and where a water monitoring process will take place. Be sensitive to the rhythms and the needs of the participants, so that the monitoring process takes place at a time that is optimal for them but also appropriate for the water source to be monitored.

On arrival it is important to make sure that all of the people who may potentially interested in the process are aware of it and feel invited to participate if they can.

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1. Introduce the participants to each other; explain the objectives for the day. Present the programme that you have prepared (and amend it if necessary in response to feedback).

2. At the initial workshop, Invite the participants to draw a map of their farm, and ask them to include important features or locations that will that they want to have on the map. In subsequent years, review the map and update where necessary.

Planning

Monitoring

3. Walk to all of the different water sources that have been marked on the map that participants have created. Conduct a video interview at every water source and ask the interviewee/s to explain what the water source is used for, e.g. “this water source is used exclusively for drinking water for people”

If you have the necessary equipment you can measure and record water quality indicators such as conductivity (to establish salinity), pH and TDS (Total Dissolved Solids).

4. Hold a reflective session at the end of the water monitoring process with farmers/ participants. Take a photograph of the map and ask participants if they want to keep the original map that they have drawn (if not, keep it for the record, and for future interactions). Discuss the findings of the day with the participants, and clarify what the next steps in the process will be (if any).

5. Within the facilitation team: At the first quiet opportunity, reflect together about your experiences and impressions, and discuss and agree on what you will undertake going forward.

6. Organize the data: File the original data sheets in a safe place. If you have made use of Participatory Video (see also Participatory Video B10), edit the video and distribute copies to participants who were involved in the process. Make sure that the movie is stored in a safe place: it will provide an invaluable point of reference in the future to enable people to reflect on whether things have changed in the interim, in what ways, and why.

### **Relevance for Adaptation Processes**

Water monitoring can alert farmers to trends and can support anticipatory capacity.



# Participatory livestock monitoring

C3

Understanding the impact climate extremes (such as extreme heat or extreme cold) can have on livestock is important in planning adaptation action.

Overall  
Process

## Objectives

To understand how extreme temperatures can affect livestock and to explore adaptation options

Energizing

## Process

With livestock owners and herders, identify what temperature related stressors livestock is usually exposed to. Facilitate a discussion on the questions they would like to answer with the monitoring process. These questions should guide you in establishing a research team including scientists and farmers/ herders. It is crucial that the team members accept each other as partners in the research process, each one contributing a unique set of skills and expertise.

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Identify an appropriate way to measure and record the actual temperatures that animals are experiencing and obtain the necessary equipment (e.g. temperature loggers, GPS, etc.). Identify community monitors who are motivated to become part of the research team.

Plan together how the actual movements and responses can be observed and recorded. Document your research strategy and allocate clear tasks and responsibilities for the process. Decide on a time frame for monitoring and prepare all necessary data sheets.

Planning

When the monitoring is about to start, plan for a joint monitoring session to test the methodology and to ensure that there are no misunderstandings. If the data collection is too haphazard the data will be useless.

Monitoring

During the monitoring process ensure that mentoring for the community monitors is available whenever needed and at short notice. After a trial period of monitoring, hold a team workshop to reflect on initial findings and process and adjust the monitoring methodology if necessary.

The collected data must be carefully analysed and compared with other data such as: how is the range land condition? Is there enough grazing available in a certain camp? Are any diseases present? Importantly the monitoring team (researchers and farmers) should get together regularly and discuss the data collected and possible implications for future farming. This discussion should also address possible adaptation measures.

### **Materials needed**

- Livestock scale for weekly weighing
- GPS and data sheet / monitoring diary
- Min Max Thermometer - possibly a weather station
- Rain gauge

### **Note**

In participatory monitoring processes it is important that the data collected addresses some of the questions the farmers would like to answer and at the same time are scientifically accurate and effective. Ethical considerations are important in reaching an agreement in research methodology - and communication is crucial in this process.

### **Relevance for Adaptation Processes**

Farmers can engage in participatory monitoring processes in order to answer their own questions and think of possible solutions.



# Phenological monitoring

C4

Monitoring the impact of climate on affected plants and ecosystems provides important information for planning adaptation interventions.

Overall  
Process

## Objectives

To understand ecological trends and management impacts by monitoring specific populations of a plant species

Energizing

## Process

It is important to be clear why you would like to conduct phenological monitoring, and what the questions are that you want to answer through this research. Monitoring specific plants can give you an indication of how extreme climate, changed land use or other factors impact specific species.

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Contents

In phenological monitoring it is important to select a species that is possibly affected by environmental change and to set up a sound research protocol to detect any change within a couple of identified populations. This will give you an idea of the long term changes that might be observed for the selected species.

Aspects to include in phenological monitoring could be: rate of recruitment of new seedlings, juvenile plants, seed set, height or diameter of the plant, flowering etc. If you would like to track the life-cycle of individual plants it is important to mark each individual and note this accordingly on the data sheet. Ensure that these markers are as permanent as possible and take GPS measurements to back-up the actual tags.

Planning

It is crucial to have long time series for this monitoring - so ensure that the data is collected over the years in the same way (best by the same person or team) and that the process is well documented - so that other groups can understand how the monitoring was set up and conducted.

Monitoring

It is also a good idea to use fixed point photography (see B14) or take photographic records of individual plants. These records can give an indication idea of trends and longer term changes in the environment and are a useful resource to illustrate the findings of the monitoring.

After the monitoring for each year is concluded, ensure that the data is downloaded, labeled and saved in an appropriate place. Check the data for consistency before you finally file it.

It is a good idea to save all time series on a few DVDs that are kept in a safe place. Consider whether you would like to share this information with other institutions to ensure the data does not get lost. Only long term data sets will give you a meaningful indication of environmental change and its impacts (8-30 years timeframe).

### **Materials needed**

Monitoring equipment (e.g. GPS, caliper, measuring tape, clip boards, camera)

Data sheets, back up media

### **Note**

Phenological Monitoring must be scientifically accurate and thus it is crucial to have a botanist or vegetation scientist on your team!

### **Relevance for Adaptation Processes**

Monitoring of indicator plants can give an indication of climate impacts on the ecosystem.



# Temperature monitoring

C5

Monitoring of temperatures by farmers with a simple maximum/ minimum temperature thermometer can improve understanding of extreme climate and its consequences.

Overall  
Process

## Objectives

People experience temperature in a very subjective way depending on the degree to which they are exposed to sun or cold, the activity that they are undertaking or their state of health. Temperature monitoring by farmers enables them to record maximum and minimum temperatures, to link recorded temperatures to the impacts of extreme temperature events, to assess temperature trends in their home areas and thus to anticipate and plan for future extreme weather events.

Energizing

## Process

1. Through interactive discussion, find out if farmers are able to accurately measure maximum and minimum temperatures on their farms, and if so, if they record and use this data in a systematic way. If not, assess whether they are interested in doing so.
2. If a farmer expresses interest in recording temperature data, equip the farmer with a simple maximum/ minimum thermometer, and with a diary in which they will be able to record weekly maximum and minimum temperatures (see C6 Climate Diaries).
3. Demonstrate the functions of the thermometer and then ask the farmer to practice recording the maximum and minimum temperatures and resetting the instrument while you or another resource person is with them. This is most easily learned experientially by trial and error, and with sufficient practice the “error” will not take place once the farmer has started regular data recording.
4. Propose that recording maximum and minimum temperatures on a weekly basis (on the same day) might be the most useful recording cycle, without becoming too onerous.

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5. It will be useful to the wider community and to climate modelers if the data that is being recorded by the farmer can be shared. For example, this could be done by photographing the farmer's records and transcribing the data into a more central database. (see Climate Diaries C6)

6. Temperature data recorded by farmers is a valuable input into reflective learning processes such as climate change preparedness workshops (see A1 Climate Change Preparedness Workshops).

### **Materials needed**

Maximum and minimum thermometer

Notebook or climate diary for recording data

### **Note**

With the widespread access to cellphone technology many people are familiar with digital data recording devices. In the beginning it is important to monitor the data collected and discuss any unlikely temperature sequences that have been recorded with the farmer.

### **Relevance for Adaptation Processes**

Temperature is one of the most obvious and straightforward climate parameters, and is a good indicator of the changes that farmers will have to adapt to.



# Climate diaries

C6

Climate diaries allow farmers to record actual observed weather, temperature and rainfall in connection with how this impacted their farming enterprises and livelihoods.

Overall  
Process

## Objectives

To share information and experiences, drawing on records of actual weather conditions and recorded data  
To have a long term record of local weather conditions, allowing a better understanding of climate trends and possible consequences for people's livelihoods.

Energizing

## Process

The climate diary is a tool that allows people to be in charge of their own weather data. By monitoring and recording weather data themselves they can build up a record which will enable them to compare their data with one another, reflect on past events and build up a more nuanced understanding of how weather events impact on their livelihoods. Climate diaries should be supplied along with a rain gauge and maximum/ minimum thermometer, so that persons who are interested can document the data and use the measuring equipment on their own.

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This tool is not only useful in terms allowing people to gain more insight into the weather, but also gives people confidence when it comes to having general discussions around the weather with visiting scientists and other specialists.

It is important that the facilitators of such processes ensure that the data recorded in the climate diary is photographed at least every three months so that a central record can be compiled of all the data that is being collected by different individuals. This will provide a long-term overview of the weather trends, and additional insights in local micro-climates. Facilitators should keep in touch with monitors about how they are doing and whether they need any assistance with the monitoring. Facilitators should also make sure that monitors are aware that they are more than welcome to get in contact with the facilitators when they need the facilitators' support.

Planning

Monitoring

Climate diaries should capture information that is locally important and links to people's livelihoods and other activities. In the Indigo climate diaries they include the following information (also linking to the Climate Calendars - B9):

- Weekly minimum and maximum temperature (always recorded on the same day of the week)
- Daily rainfall
- Weather observations per month
- Farming activities in that month
- Water situation on farm that month

### **Materials needed**

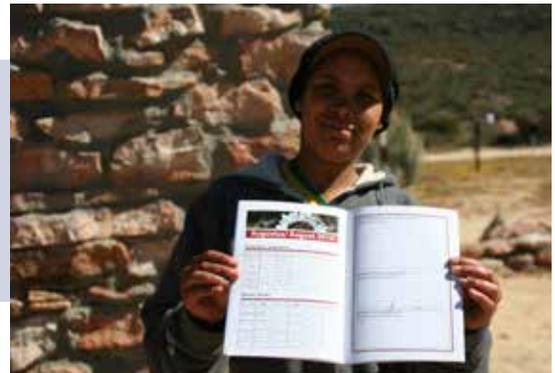
Maximum - Minimum thermometer, rain gauge and locally adapted climate diaries

### **Note**

It is important to accompany a climate diary process - this means that there is regular discussion of observations and possible adaptation strategies. The data is collected primarily to support the learning process - and not to add to a data graveyard.

### **Relevance for Adaptation Processes**

Climate diaries allow land users to keep their own detailed records of experienced weather and thus support long term planning.



# Soil sampling

C7

Soil sampling and analysis provide a good understanding of soil properties (such as nutrients, salinity, water retention potential, etc.), how different soils can be used and how soils may be impacted upon by proposed adaptation measures.

Overall  
Process

## Objectives

To gain more insight into how well the soil in different parts of a landscape is able to support plant life (crops, pastures and natural rangeland) so that its productivity can be maintained or improved.

Energizing

## Process

1. Decide what you want to sample for: If you want to do a baseline assessment of soil potential, or are planning a change in land use or farming practices, it will be useful to expose the profile of the soil and analyse the properties and content of the different soil layers. This is especially important if deep rooted plants or trees will be planted. If you want to assess carbon content or soil fertility in the topsoil you need only sample the topsoil where relatively shallow-rooted plants have their roots.
2. Obtain a suitable tool for taking your samples: a simple soil auger (or a spade or a trowel with a long, narrow blade) will be adequate for topsoil sampling; for sampling soil profiles you will need a spade and possibly a pickaxe.
3. Obtain or draw a map of the landscape that you want to sample and mark areas that (as far as you can tell) are relatively homogeneous in terms of land use, tillage used, grazing pressure, past fertilization (composting, manuring, liming or artificial fertilization), soil type (clay/ loam/ sand), drainage and topography (slope/ orientation/ etc.)
4. Define sampling areas for each homogeneous area: a homogeneous sampling area should ideally not be larger than 20 hectares, so if an area is much larger than this, divide it into smaller units.
5. Determine how many samples you want to take within each homogeneous area. For a 10-hectare piece of land, you may need 5 samples to be able to derive a realistic average result.
6. Determine how you want to spread the sample sites over the area: you can mark it out in a grid, or select representative sites across the area.

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7. Determine how deep you want to sample. This will depend on the soil type and how deep the feeding roots of plants are found in the soil. Usually a profile sample would expose a metre of soil, and a topsoil sample should be to a maximum depth of 15 cm.
8. At each sampling site: **For profile sampling**, excavate a pit at least 1X1X1 metre, and collect a number of samples of the soil from each horizontal profile (most soils will have two or 3 clearly differentiated soil layers). **For topsoil sampling** mark a circle with a 6-metre radius in a typical site and collect 15 – 25 soil samples from equally spaced points around the circumference of the circle.
9. Prepare the samples from each sampling site: For profile sampling, for each sampling pit mix the samples of soil from each layer of soil together. Place up to 500 grams of the sample into a bag or box, and label it (site location, pit #, profile type and depth).
10. For topsoil sampling, mix the samples from each site together into one larger sample, and place up to 500 grams of the sample into a bag or box and label it (site location, sample # and depth).
11. Send the samples to a soil laboratory with clear instructions about what you need to have the sample tested for (N, P, K, salinity, clay content, organic content, etc.)

## Materials needed

A detailed map or aerial photograph of the area to be sampled (or paper and pencil to draw a map)

Soil auger, towel or spade.

Plastic bags or sealable, waxed cardboard boxes

## Relevance for Adaptation Processes

Regular soil sampling can inform the land-user how soil quality is being affected by land-use practices under changing weather conditions.



# Monitoring soil erosion

C8

Extreme weather might result in increased soil erosion. Monitoring soil erosion effectively can provide insight into what strategies will result in sustainable land management.

Overall  
Process

## Objectives

To understand how much soil is being lost from land through erosion, and how much soil is being retained by erosion control measures so that you can identify ways to improve the sustainability of land management in a changing climate.

Energizing

## Process

1. Using a map or aerial photograph, identify the area that you would like to monitor (if you do not have a map, draw one of the area).
2. Together with others who know the land well, draw on the map the areas where you have observed soil erosion taking place (erosion is a natural process, but in nature it is usually very slow: if you can observe it, it is probably taking place at an increased rate as a result of human interventions).
3. If any erosion control measures like check dams, contour bunds or revegetation interventions have been undertaken, or are planned, mark these on the map.
4. Decide what you think it will be feasible to monitor, and discuss the methods that you will use with your neighbours/ colleagues/ family. Fixed point photography (See B14) is a very useful method for monitoring landscape change, including erosion and restoration. Other suitable methods might include: a) Measuring the depth of deposition of soil by excavating or probing stream or gully beds. b) Measuring the composition and percentage cover of vegetation on sites that are being actively restored by soil amelioration, seeding, or other changes in management practices.
5. In the eroding areas, or the rehabilitation sites, place markers that you will be able to return to in the future to monitor change. These could include rock beacons to mark fixed point photography sites or iron pegs against which relative erosion of deposition can be measured

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6. At each site, record any relevant information: describe the site and its location, the type of problem encountered or ameliorating measure used, the method that you will be using to monitor and the type of marker that you have used, as well as any initial data such as the height of a marker pen above the soil or sediment level.
7. Plan to revisit the site after a suitable length of time (following the rainy season, a year later, etc.), and keep to this schedule when recording the follow-up data.
8. After each visit to collect data, organise a meeting with the land users and discuss your findings.

### **Materials needed**

A map or aerial photograph of the site, or paper and a pencil or pen to draw one.

A camera (if you will be using fixed point photography)

Tools and materials for erecting beacons or marker pegs (metal fencing droppers, etc.)

A measuring tape

### **Note**

Monitoring soil erosion will not only provide you with useful data that can be analysed and interpreted, shared with others and help inform future action, but will also provide the opportunity to regularly visit sites and carefully observe the processes at work in nature. Repeated observation is often more useful in the learning and adaptation process than the data it produces.

### **Relevance for Adaptation Processes**

Maintaining healthy soils is crucial for supporting sustainable livelihoods under changing environmental conditions for future generations.

