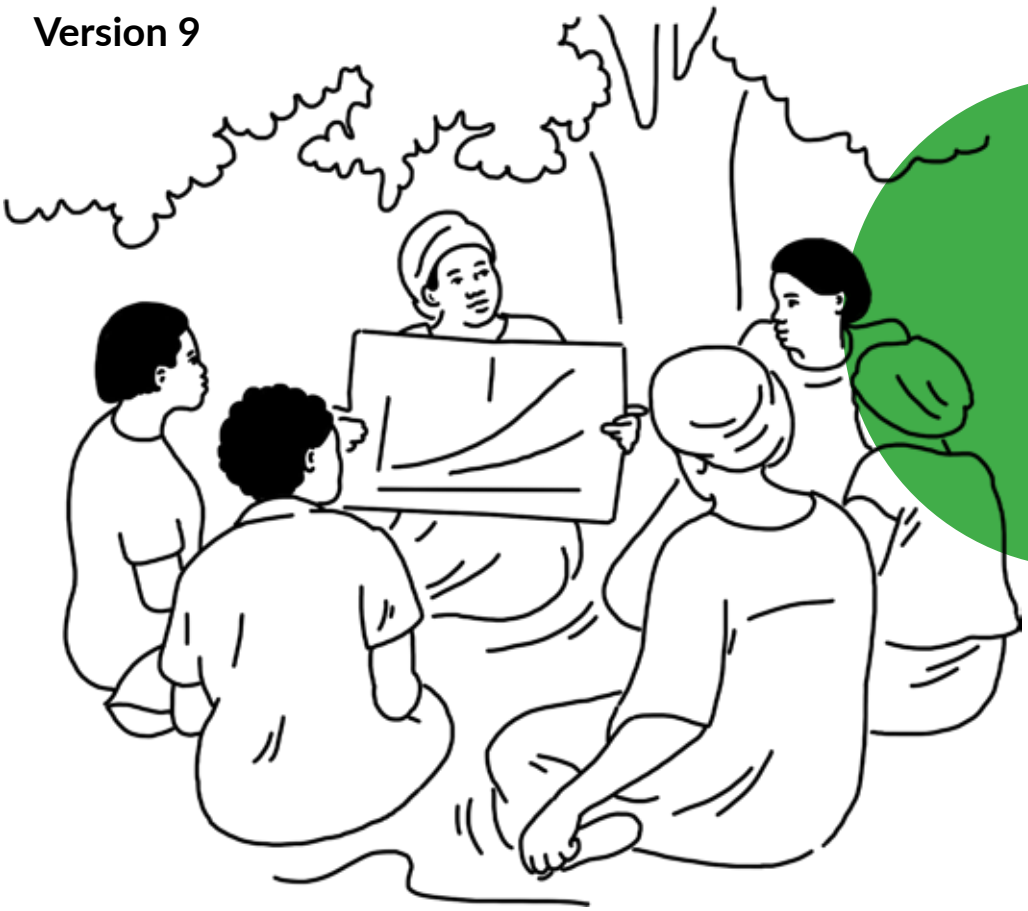
Participatory Assessment of Climate and Disaster Risks (PACDR)

A Tool for Integrating Climate and Disaster Risks into Community Planning and Development

Version 9



Brot für die Welt
HEKS EPER
BROT FÜR ALLE
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PANE PER TUTTI

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This fully revised and rewritten version 9 of the PACDR tool was developed based on previous versions made by Gottfried Horneber, Marion Künzler, Marius Keller, and many other colleagues from Brot für die Welt, Bread for All and HEKS/EPER as well as FAKT consultants.

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The tool can be downloaded at www.pacdr.net

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Introduction

The Participatory Assessment of Climate and Disaster Risks (PACDR) tool consists of seven modules that build upon each other to enable users to systematically integrate the consideration of climate and disaster risks into community planning and development. Good local knowledge can – and must – inform the assessment of climate and disaster risks, but the process can seem daunting. The potential for improving the adaptive capacity of households and communities or for implementing climate-friendly strategies may not be apparent at first glance. Taking account of hazards, risks, global warming and local responses requires information and a way of organizing knowledge and evidence into an effective plan. The PACDR tool can guide the way.

The idea behind the tool is that communities can apply their local knowledge in combination with general knowledge related to disasters and climate change in a way that suits their specific needs and situation. The tool provides a simple, easy-to-use structure and guidance to follow in the step-by-step development of a community assessment of climate and disaster risks and opportunities. The assessment can then inform ongoing or planned projects and programmes, and, more generally, community planning. The annexes identify available sources of relevant scientific information and provide links to numerous websites. The tool relies on local participation to identify hazards, to prioritize risks and to develop the strategies necessary to respond effectively to the risks.

Good reasons to consider climate and other hazards

Climate change is one of the greatest challenges humanity has ever faced. Rising temperatures and changing weather patterns can make natural or human-made hazards far worse and can generate new ones – the disasters resulting from the increased frequency and intensity of severe storms and droughts, for example. The capacity of households and communities to adapt to these new conditions depends on the strength of the natural, human, financial, social and governance systems they rely on for their livelihoods. In some situations, these systems are too weak to deal with the consequences of climate change and other natural or human-made hazards. This assessment tool can help communities identify the changes and actions necessary to strengthen their capacity to respond to the challenges they face.

Climate hazards and other natural or human-made hazards often overlap. The main difference is that climate hazards relate to the consequences of climate change, which is a long-term trend that includes a range of hazards – extreme storms, drought, and sea level rise, for example. Other natural hazards include earthquakes and volcanoes, and human-made hazards include the consequences of conflicts, land degradation, waste dumping or other illegal activities.

Where human actions and activities fail to account for these hazards, climate change and disaster risks can endanger the long-term success of development efforts. In contrast, the careful assessment of climate and disaster risks reveals opportunities for communities and households to protect their livelihoods and to reduce their vulnerability.

Objectives

The tool is intended to help communities raise awareness, assess their climate change and disaster risks and to develop adaptation strategies. Non-governmental or community-based organizations and district or local governments may initiate and facilitate the process. The tool is designed to be self-explanatory to the degree that first-time users with community participation experience and basic knowledge of climate change can work their way through the modules without assistance. Community-level project developers, managers and field staff may also find the tool useful in assessing existing or planned development projects.

The tool provides the basis for incorporating climate and disaster risk considerations into community planning and development. More specifically, the tool enables users to:

- Understand how climate and other hazards affect lives and livelihood resources
- Learn how local people currently respond to these hazards
- Identify adaptation strategies to strengthen the threatened livelihood resources and to enhance people's resilience
- Include gender considerations throughout the assessment of climate and disaster risks

The tool is designed to conduct participatory analyses of risks and their impacts on livelihood resources in both rural and urban communities. Facilitators who are not already familiar with climate change and disaster risk management may prepare by reviewing the material in Annex I and Annex VI, and by participating in Module 1 on the preparation of background material on hazards and policy.

Combining the PACDR analysis with other tools may sharpen the analysis by focusing on a specific theme or planning step. The usefulness of these add-on tools varies according to the local circumstances or the specific focus of the organization using the tool. Some modules include suggestions for add-ons. Annex V provides some examples.

Overview of the tool

Assessment phase

Module 1: Context

Preparation of background material and compilation of information on the community

- Review of the literature on climate change and hazards, and on national climate change and disaster risk reduction policies
- Consultations with stakeholders

Module 2: Climate change and hazard analysis

Identification and application of local knowledge

- Participatory mapping of hazards
- Creation of a seasonal calendar identifying events and periods of hazard-related stress
- Prioritization of hazards

Module 3: Vulnerability assessment

Analysis of vulnerable livelihood assets and resources and identification of the impacts of hazards

- Creation of a vulnerability matrix

Module 4: Responses to the impacts of hazards

Survey and assessment of local responses taken to reduce vulnerability and enhance resilience

- Survey and assessment of local responses
- Compilation and presentation of assessment results and conclusions

Planning phase

Module 5: Adaptation strategies

Identification of additional responses to cope with climate hazards and impacts

- Review of climate change scenarios
- Identification of community adaptation goals
- Consideration of adaptation strategies, obstacles and opportunities

Module 6: Co-benefits of adaptation strategies

Assessment of environmental and socioeconomic co-benefits of adaptation strategies

- Creation of a matrix of adaptation strategies and co-benefits

Module 7: Community adaptation planning

Development of an action plan and community presentation

- Identification of activities for individuals, groups, community and other stakeholders
- Advocacy planning
- Presentation to wider community

Participation

Community participation is an essential element of the tool, and the individuals or organizations facilitating the process face the challenge of balancing wide representation against the practical issues related to enabling people to participate meaningfully. Broad local participation helps ensure that interventions are tailored to the local context and that the strategies for adapting to the changing climate and other relevant hazards suit the local people. A hallmark of the PACDR tool is that it builds on local capacities and local responses to recurring hazards to develop adaptation action plans appropriate to the specific local circumstances. The key to success in using the PACDR tool lies in ensuring that the participation is meaningful, that is, that everyone who has something to say is heard.

The integration of gender and minority considerations into the assessments is another key feature of the tool. The considerations start with the recognition that men, women and minorities have different vulnerabilities and coping mechanisms, and that their different perspectives must be taken into account. The idea is to ensure that adaptation efforts systematically and effectively address gender- and minority-specific impacts of climate change. For the purposes of the tool, the term “minority” refers to categories of persons who hold few positions of social power, and may include groups identified by ethnicity, religion, political affiliation, nationality, wealth, age, physical or mental condition or sexual orientation. The tool provides for separate minority groups whenever the circumstances call for it.

All of the participatory exercises provide for appropriate representation of women and men, and are conducted in separate gender groups. Experience with the tool has shown the added value of considering gender differences. Separate work sessions for men and women, followed by the groups meeting together to discuss their results with each other, has revealed different realities between genders, and different risk perceptions and adaptation needs.

Facilitation team

The PACDR tool facilitation team should include two exercise facilitators (one male, one female), note takers for each group, one or two interpreters for local languages, and a person taking care of logistical arrangements. The note taking is an important part of the documentation of results, and together with completed templates from the exercises provides the basis for sharing the results of the assessment with the wider community, other organizations and governmental units for use in planning, advocacy and activities. Annex III provides blank templates and guidance for note takers. Annex II offers more general practical guidance for conducting the modules.

Module 1: Context

Preparation of background material and compilation of information on the community

Module 1 develops background materials on climate change and other hazards, on disaster risk, and on national policies. It considers existing or planned donor programmes dealing with climate change and disasters, and develops a community description.

The objectives of this module are to identify how climate change and disasters may affect the community, to find out what national policies may be in play, and to become familiar with outside organizations that may have useful resources and planned activities related to responding effectively to climate impacts and disasters.

Module 6 considers the environmental and socioeconomic co-benefits associated with adaptation strategies, and facilitators might want to look for opportunities to consider the issue of co-benefits at this stage.

Some of this information will be used in Module 5, and the team should prepare the material for presentation to the community as part of the documentation of this module. See Annex VI for sample materials.

Climate change and disaster risk

In everyday life, people may not care whether a given hazard is related to climate change or not, but the distinction is important in this assessment. As time goes by, climate change will almost invariably worsen climate-related hazards, and the origins of the hazards may matter in terms of appeals for funding for future projects. Industrialized countries are largely responsible for climate change, and are therefore largely responsible for supporting adaptation to its impacts. The resources listed in Annex I will help answer the following questions:

- What changes in temperature, rainfall patterns, sea level rise and extreme events have occurred in your area and what changes are expected?
- What climate, natural and human-made hazards have been the most important in your geographic region? Which are likely to be important in the future?
- What have been the most important impacts of those hazards on the lives and livelihoods in your region? Were the livelihoods of different genders affected differently?

Policies, plans and strategies

Knowledge of national policies on climate change and disaster risk reduction and management may prove useful in understanding how community strategies potentially coincide with or depart from national policy. The resources listed in Annex I will help answer the following questions:

- What are the main government policies, strategies, programmes and plans regarding climate change?
- Are these policies being implemented locally? How?
- What are the main government policies regarding disaster risk reduction? What agencies are responsible?
- What are the responsibilities of the government and local population in the event of a disaster?
- What relevant climate change, environmental, energy and disaster risk reduction programmes or projects are donor agencies financing, implementing or advising in the country and your region?
- What opportunities are available for civil society organizations to influence policies and processes at the national, regional or local level?

Description of the community context

The organizations and individuals likely to facilitate the use of the PACDR tool are no doubt familiar with their communities. The purpose of describing the community context is to provide a common understanding of the resources in place and to identify trends that may be influencing the community. The description will help participants connect the more general climate change and disaster risk survey and the overview of national policies, plans and strategies to the situation in the community, and may include:

- Main livelihoods and natural and physical assets and resources
- Local and external groups, institutions and organizations (including informal and community-based groups) that are working with the local population
- Projects and organizations targeting disaster risk reduction and/or climate change in the community
- Prevention and preparedness systems in place to protect against climate, natural or human-made hazards
- Activities and influence of the government in the area
- Political, cultural and social and economic trends (including gender issues)

The facilitating team may prepare a draft of the community description and present it to a meeting of community advisors for their consideration. Experience has shown that this process can be useful.

Methods

For the description of the community context, the facilitating team might want to involve community advisors – political and governmental leaders; staff from community-based organizations; resource persons such as extension agents, scientists and other professionals; and private sector representatives such as business people, farmers and others. This list is intended as suggestive. The facilitating team is likely to have its own ideas about the people to involve in this stage, and the same people involved in this preliminary step are likely to become contributors in the modules that follow.

Annex I has information on government policy and on climate hazards and their impacts, and Annex VI has additional materials that may be useful here. To develop the background materials on climate change and disaster risk and on policies, plans and strategies, the facilitating team can divide up the tasks among the members and any additional individuals to conduct the necessary research and write summaries to be compiled into a briefing paper for use in conjunction with information developed in subsequent modules.

After all the information is collected, the team members assigned to the tasks compile the findings in a report that can inform stakeholders, donors and others involved in the assessment as the need occurs. This module provides the scientific and policy background that may help determine the strategies the community wishes to pursue. Detailed information tends to be more available at the national level, and less so at the regional or local level.

The time required to complete Module 1 will depend on the breadth of participation and on how the facilitating team conducts the process. As a general rule, plan 2–4 days to collect the information and 1 day to compile the findings into a report.

A meeting or short retreat of the facilitating team and others in the community to discuss the results of this module may help bring everyone to a common understanding of how climate change and disaster risk management can inform community development.

Module 2:
Climate change and hazard analysis

Identification and application of local knowledge

Important note: Make sure you introduce yourself and the community process before you start the exercises. Consult Annex II for practical advice.

Module 2 develops a climate change and hazard analysis in the community through three exercises – one designed to develop a map of hazards, assets and resources in the area, one to draw up a seasonal calendar that shows when periods of hazard-related stress occur, and one to prioritize the hazards for further analysis.

Facilitators conduct the exercises in Module 2 in separate groups of men and women, and if minorities are involved another separate session is also a good idea. A large part of the value of the exercises comes from the joint discussions that follow, and keeping all participants in the same venue allows for the joint session to follow the separate sessions without delay. If the separate sessions create logistical problems, concurrent sessions, each with its own facilitator, may be an alternative way to handle the situation.

Exercise 1: Hazard map

Participants draw a map of their community, indicating the areas and livelihood resources put at risk by certain climate, natural or human-made hazards, and discuss the changes in the type, extent, frequency and intensity of these hazards. The objectives of this exercise are to:

- Identify important livelihood resources and assets in the community
- Identify areas and resources at risk from climate, natural or human-made hazards
- Analyse changes in areas affected and types of hazards seen

This exercise asks participants to share their knowledge so that local knowledge can complement the general knowledge developed in the review of the scientific and policy literature in Module 1. The map also provides knowledge for Exercise 4, which further analyses vulnerabilities of livelihood assets of the community.

Facilitation

Facilitators provide pencils or markers in multiple colours and sheets of paper at least 80 cm x 100 cm in size. The exercise begins with the participants drawing the boundaries of the project area.

The facilitators explain to the participants that they will be drawing a map of their community in two phases – the first focuses on boundaries, settled areas, facilities and resources, and the second on hazards. The facilitators ask the participants to start by drawing the locations of:

- Roads and facilities such as places of worship, health clinics, schools and wells
- Resources such as forested areas, water bodies, agricultural land, fishery zones, pastures and spiritual places
- Villages and cities, if the map is drawn at district or regional level

Facilitators ask the participants in drawing the maps to:

- Use symbols to represent facilities, resources and other map entries
- Create a legend for the symbols used on the map

Where conflict is a major hazard that could be an obstacle to the development of successful climate adaptation strategies, undertaking an additional conflict analysis would be a good idea. See Annex V for further guidance.

By helping participants distinguish between hazards and their impacts, facilitators will be setting the stage for the analysis of impacts in the next exercise. Note hazards that affect the whole area as opposed to being specific to a location on the margins of the map.

Facilitators help the participants get started but let them draw the map by themselves, and try to have them focus more on the resources than the settlements and facilities. Facilitators may be able to suggest additions based on their own knowledge. When the participants are in agreement that their map represents their community, the mapmaking turns to identifying the hazards in the area and placing them on the map.

Among the hazards to consider are:

- Extreme weather events – typhoons, cyclones, hurricanes, floods, heatwaves and droughts
- Sea level rise, the erosion of beaches and cliffs, and changes in tides, rivers and bays
- Wildfires, earthquakes and volcanoes
- Human-made hazards such as socio-political conflicts and waste dumping

Do not spend too much time drawing the boundaries, settled areas and facilities. Try to focus on the resources and hazards.

Sample hazard map

Discussion

When the participants have completed their maps, the facilitators bring together the female and male groups (and minorities if they have a separate session) into a single discussion on the respective results. The following questions can guide a discussion of the hazards:

- → Where do the maps agree, and how do they differ?
- → Are the hazards different now than they were 10, 20 or 30 years ago?
- → Are the hazards changing in frequency and intensity?
- → Who is most affected by them?
- → Do the hazards cause or increase conflicts between groups (e.g. irrigation users and non-users, farmers and livestock keepers)?
- → Who has access to and control over community livelihood resources?

The facilitation team takes notes on the discussion, and writes up an exercise report that includes the findings of the mapping exercises and the discussion (see Annex III for templates). The analysis of these results together with the literature review in Module 1 will help establish the hazards associated with climate change, provide insight into how these hazards have evolved over time and establish a basis for considering the potential linkages between and among hazards. They are also likely to reveal important differences in the perceptions of women, men and minorities.

Plan for 45 minutes of preparation, 1.5 hours for the concurrent mapping exercises, and 1–1.5 hours for joint discussion.

Remember to write up the results. Annex III has templates that may be helpful.

Men's group preparing hazard map, Nepal

Exercise 2: Seasonal calendar

In this exercise, participants make a seasonal calendar indicating important events in the year – particularly periods of stress due to natural or human-made hazards – and discuss how the frequency, intensity and timing of the hazards have changed. The exercise objectives are:

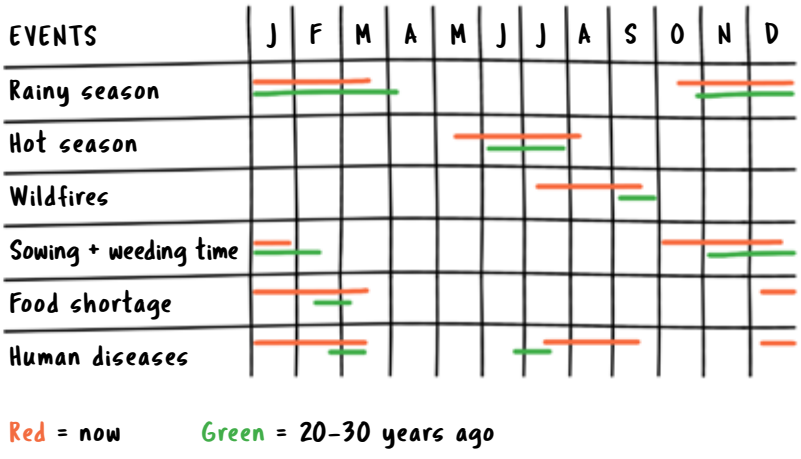
- To understand the main community activities and events
- To identify periods of stress, hazard, disease, hunger, debt and vulnerability
- To analyse changes in seasonal activities and events and their links to climate change

This exercise complements the knowledge developed in the hazard map exercise, and develops additional local knowledge to consider alongside the scientific and policy knowledge developed in the climate change and disaster risk portion of Module 1.

Facilitation

As in the hazard map exercise, facilitators provide pencils or markers in multiple colours and sheets of paper at least 80 cm x 100 cm in size. Facilitators prepare these sheets in advance as tables with the months of the year across the top, and a column down the side for listing community events or activities. Facilitators explain how to develop a seasonal calendar to show key events and activities that occur during the year.

Sample seasonal calendar



The participants list significant seasons, events or conditions down the left-most column. Among the common items to consider for placement on the list are:

- Rainy and dry seasons
- Crop seasons – clearing, burning, planting, weeding and harvest
- Livestock keeping and fishing seasons
- Typical timing of weather or climate hazards such as typhoons or cyclones, floods, drought and wildfires
- Periods of stress: food scarcity, water shortage, diseases, pests
- Hunting and firewood collection periods
- Times of labour migration
- Periods of potential financial stress – taxes, school fees, holiday expenses
- Important holidays and festivals

As the participants list each event, they mark the timing of the events by drawing lines through the box under the appropriate months, working from left to right for each event before moving on to the next event. Where the timing of events has changed over time, the participants can distinguish the time frames by marking the table with different coloured pencils or markers to indicate the changes in timing. In this way, the calendar shows shifts in the rainy season, for example, or an increase in dry periods. This approach is effective when some of the participants can remember an earlier era or when the relevant local knowledge of the past has been preserved.

For more ideas on common seasonal events in communities, consult Annex IV.

Try to balance the time spent preparing the seasonal calendar with the important discussion of the timing of events.

Discussion

When the participants have completed their calendars, the facilitators bring together the female and male groups (and minorities if they have a separate session) into a single discussion of the respective results. The following questions can guide a discussion of the seasonal calendar:

→ Where do the calendars agree, and where do they differ?

→ What are the differences in the timing of seasons and events as compared to 20 or 30 years ago?

→ What could be the reasons for these changes?

Plan for one hour of preparation, 1–1.5 hours for the concurrent seasonal calendar exercises and one hour for discussion.

Remember to write up the results. Annex III has templates that may be helpful.

Women's group preparing seasonal calendar, Sierra Leone

Example of seasonal calendar, Nepal

Exercise 3: Prioritization of hazards

Participants summarize the knowledge gained in the map and calendar exercises, draw conclusions and identify the hazards most relevant for their community. The objectives of this exercise are to:

- Create a common understanding of the main hazards affecting the community
- Highlight changes and trends in hazards and determine possible explanations
- Create a common understanding of the differences in who is most affected

This exercise should follow as soon after Exercise 2 as is feasible.

Facilitation

Facilitators make sure the hazard maps and seasonal calendars produced in the previous exercises are visible to all participants, who meet in one group. Facilitators provide a large sheets of paper and pencils or markers and materials for ranking hazards – sticky paper dots, stones, nuts or whatever works best for the participants.

Facilitators help participants summarize the findings of Exercises 1 and 2 by asking the following questions:

→ Which hazards relate to difficult moments for the community?

→ What changes and trends related to hazards and vulnerable periods are apparent, and what are possible explanations?

→ Who is most affected? By which hazards?

→ What are the most relevant or threatening hazards?

Facilitators help the participants make connections between hazards and periods of stress, identify patterns, propose and evaluate explanations for their observations and draw conclusions about what their assessment means to them.

Following this discussion, facilitators form groups of 2-3 people, and each group identifies three main hazards. As the groups report their hazards, the facilitators prepare a list on a large sheet of paper visible to all participants. Facilitators can refer to the hazard map and seasonal calendar and ask again for other hazards that have not come up in the earlier exercises and discussion.

Subsequent modules will consider the 4–5 highest priority hazards.

Plan 20 minutes for preparation, 30 minutes for the summary of Exercises 1 and 2, and 45 minutes for prioritization.

Remember to document the main discussion points and the results. Annex III has templates that may be helpful.

Facilitators can lead participants into the prioritizing of hazards by starting a discussion of the frequency and magnitude of each hazard:

→ How often does the hazard occur?

→ How severely are we affected by the hazard?

To rank the hazards, each participant applies three votes in form of small sticky paper dots, pebbles, nuts or other available small items. Sticky dots work with the sheet with the hazards hanging on a wall, but pebbles or nuts work with the sheet on the ground. Participants mark the hazards most relevant to them, and can vote for different hazards or just one or two. If some participants are not literate, hazards should be labelled with commonly understood symbols.

Discussion

The facilitator counts the votes for each hazard, tells the participants the results and asks for any comments.

Early stages of rehabilitation of an eroded gully, Ethiopia

Module 3:
Vulnerability assessment

Analysis of vulnerable livelihood assets and resources and identification of the impacts of hazards

In Module 3, participants identify the assets and resources most important to people's livelihoods. They then develop a matrix to determine which of the community's livelihood assets and resources are most vulnerable to the main hazards in the community.

As in Module 2, facilitators conduct the vulnerability matrix exercise in separate groups of women and men, and if minorities are involved another separate session is also a good idea. A large part of the value of the exercises comes from the joint discussions that follow, and keeping all participants in the same venue allows for the joint session to follow the separate session without delay. The separate sessions may create logistical problems, and concurrent sessions, each with its own facilitator, may be an alternative way to handle the situation.

Exercise 4: Vulnerability matrix

In this exercise, participants develop a matrix that lists the resources and assets most important to the community's livelihoods against the hazards prioritized in Exercise 3. Participants then evaluate the level of impact of the hazards. The objectives of the exercise are to:

- Identify the community's most important resources and assets
- Identify the vulnerability of the assets and resources to the hazards
- Determine which assets and resources are most at risk
- Determine which hazards are most harmful to the resources and assets

This exercise builds on the hazard map, the seasonal calendar and the prioritization of hazards from Module 2.

A list of resources and assets in Annex IV provides a basis for discussion, but every community is different, and the list is intended only as a prompt.

In order to be manageable, the total number of identified resources or assets should not exceed 20.

Facilitation

As in the hazard map and seasonal calendar exercises, facilitators provide pencils or markers in multiple colours and sheets of paper at least 80 cm x 100 cm in size. Facilitators prepare these sheets in advance in a matrix (see example below). Facilitators ask the participants to identify the main livelihood assets and resources in each of the categories listed below.

- Natural resources on which people rely for income, food, medicine, protection, fuel and other sustenance – forests, water, air and soil, for example
- Physical resources – infrastructure for transport, water management, energy and communications such as roads, hospitals, dwellings and water tanks
- Economic and financial resources such as income from the sale of agricultural products and handicrafts, casual work and remittances
- Social resources such as local councils, churches, cooperatives, trade unions and family
- Human resources – the skills, knowledge, capacity and good health important to the pursuit of livelihoods, including agricultural and leadership skills and gender-specific knowledge

Facilitators list the prioritized hazards from Exercise 3 horizontally across the top of the matrix. Participants then rate the impact of every hazard on the resources using the following scoring system:

3 = high impact on the resource
2 = medium impact on the resource
1 = low impact on the resource
0 = no or positive impact on the resource

The participants start with the first hazard and work vertically down the column. For each hazard, the participants decide on the degree of impact that each of the hazards has on each of the resources, and note the score in the appropriate box.

Facilitators will want to be aware of opinion leaders, quick responders, manipulation and domination, and to take enough time to discuss the score to find a consensus, especially at the beginning of the exercise.

Sample Blank vulnerability matrix

LIVELIHOOD RESOURCES AND ASSETS	Hazard 1	Hazard 2	Hazard 3
NATURAL			
PHYSICAL			
ECONOMIC FINANCIAL			
SOCIAL			
HUMAN			

When preparing the matrix, do not write "Total" or "Ranking" on the sheet. Instead, add these headings at the end of the exercise to create a moment of surprise when the totals and rankings are revealed.

Sample Filled-in vulnerability matrix

	LIVELIHOOD RESOURCES AND ASSETS	Drought	Changing rainfall patterns	Heavy winds	Total	Ranking
NATURAL	Arable land	2	1	2	6	3
	Pasture	3	1	0	4	
	Water	3	1	0	4	
	Forest	1	0	2	3	
PHYSICAL	Houses	0	0	2	2	
	Roads	0	0	1	1	
	Wells	0	0	0	0	
ECONOMIC FINANCIAL	Farming	3	3	3	9	1
	Livestock	3	2	2	7	2
	Petty trade	2	2	2	6	3
	Paid work	1	0	1	2	
SOCIAL	Farmers association	2	1	1	4	
	Women's Group	2	1	1	4	
	Family	2	1	1	4	
HUMAN	Health	3	2	2	7	2
	Security	2	1	1	4	
	Skills	0	0	0	0	
Total		32	16	21		
Ranking		1	3	2		

The note takers document key points of discussion that lead to the assigned scores, and record any disagreements on the scores.

Facilitators add the numbers vertically and horizontally to determine which livelihood resources have the highest horizontal sum and are thus most vulnerable, and which hazard has the highest vertical sum and thus has the highest impact on the identified livelihood resources.

Discussion

When the participants have completed the vulnerability matrix, the facilitators bring together the female and male groups (and minorities if they have a separate session) into a single discussion of the results. The following questions can guide a discussion on the vulnerability matrix:

- → Where do the matrices of men and women agree, and where do they differ?
- → Which assets or resources are most affected, and which are not affected?
- → What does it mean to the community when the basic assets or resources of the most widespread livelihoods are affected the most?
- → Are any groups – the landless, handicapped people, the elderly, migrants or indigenous people – more affected than others?
- → Why are some hazards more harmful than others?
- → Where and how has the vulnerability of the community increased in recent years?

If particularly vulnerable groups are identified, write them down in a list, which will be used in Exercise 6.

Plan 45 minutes for preparation, 90 minutes for completing the matrix and 60 minutes for discussion.

Remember to document the results. Annex III has templates that may be helpful.

Add-on: Annex V includes a Participatory Vulnerability Assessment that provides for a systematic assessment of particularly vulnerable groups within a community.

Women's group preparing vulnerability matrix, Sierra Leone

Presentation of women's vulnerability matrix, Democratic Republic of Congo

Module 4:
Responses to the impacts of hazards

Survey and assessment of local responses taken to reduce vulnerability and enhance resilience

Module 4 reviews and evaluates the effectiveness and sustainability of local responses to the impacts resulting from current climate and disaster hazards, and summarizes and interprets the results.

As in Modules 2 and 3, facilitators conduct the exercise in separate groups of women and men, and if minorities are involved another separate session is also a good idea. A large part of the value of the exercises comes from the joint discussions that follow, and keeping all participants in the same venue allows for the joint session to follow the separate session without delay. The separate sessions may create logistical problems, and concurrent sessions, each with its own facilitator, may be an alternative way to handle the situation.

Exercise 5: Review and evaluation of local responses

In this exercise, participants complete a matrix that lists hazards, their related impacts on livelihoods and the local responses that people in the community currently use to lessen the negative impacts. Facilitators then guide the participants in the evaluation of these responses.

Developing an example of an impact chain at the start of the module might help participants differentiate between direct and indirect impacts as they fill out the tables of impacts and local responses. See Annex V for an example of an impact chain exercise.

Facilitation

Facilitators provide pencils or markers in multiple colours and sheets of paper at least 80 cm x 100 cm in size. Facilitators prepare these sheets in advance in a matrix (see sample below). Facilitators select the two or three hazards with the strongest effects on livelihood resources from the vulnerability matrix created in Exercise 4, and write the first hazard in the matrix. Participants then identify the direct negative impacts of this hazard, and the facilitators list the impacts in the second column.

The third column lists the strategies or practices the participants report that they or someone else in the community use in response to this impact. As each response is added to the matrix, participants evaluate the responses on the effectiveness of the measures (column four) and their sustainability (column five) by ranking the measures on the following scale:

+++ = Very high
++ = High
+ = Medium
0 = Not effective or not sustainable

Participants work across the matrix, completing the responses to each impact and the rankings before moving on to the next impact. Facilitators may help participants understand the differences between hazards and their direct and indirect impacts. Hazards may include droughts and storms, for example. Their direct impacts include crop and property damage; indirect impacts may include hunger and loss of income. If the participants include an indirect impact in the matrix, they may find that the development of adaptation strategies in Module 5 is more difficult and less straightforward than the development of strategies related to direct impacts such as crop losses.

The ranking for effectiveness answers the question of how well the response is working to deal with the identified impact, and the ranking for sustainability answers the question of whether the response will work in the long term without compromising other aspects of livelihoods.

Sustainability and effectiveness depend on context. There is no absolute right or wrong ranking, but facilitators need to ask probing questions to ensure a good understanding of the concepts of effectiveness and sustainability used for this exercise.

It is important to take time during preparation of the PACDR analysis to find a good and meaningful translation of the terms sustainability and effectiveness into the local language.

Sample matrix Evaluation of responses to the impacts of hazards

HAZARD	IMPACTS	LOCAL RESPONSES	EFFEC-TIVENESS	SUSTAIN-ABILITY
Flood	Soil erosion	Build weirs	++	++
	Water pollution	Boil water	+++	+
		Add bleach to water	+++	+
	Loss of income	Cut trees to sell wood	+++	+
		Steal sheep	+	0
High tempera-tures	Dehydration	Drink lots of water	++	++
		Wear a hat	++	+++
	Water shortages	Collect river water	++	+
		Conserve water	++	++
	More difficult working conditions	Start work earlier	++	+

Facilitators can guide the participants to collect existing responses and local practices by reminding them that they should only list what they are actually doing, not what they think they should be doing. Some responses may be harmful, such as stealing, but should still be listed and discussed.

Discussion

After completion of the matrices, facilitators bring the different groups back together. When analyzing the results, participants can focus on where the strategies come from and on how well the local responses work in dealing with the existing impacts. Facilitators may choose to use the following questions to guide the discussion:

- → Where do the matrices of men and women agree, and where do they differ?
- → Which local responses are only identified in one of the matrices?
- → Do some people face obstacles to using responses others are using?
- → Which responses relate to direct impacts, and which to indirect impacts?
- → In light of the rankings, what conclusions can we draw as to effectiveness and sustainability?
- → Which responses are satisfying, and which are weak?
- → Where do the responses have to be improved?

At the end of the discussion, facilitators note the effective and sustainable responses that can contribute to adaptation within the community on separate cards that will be used to develop adaptation paths in Module 5.

Plan 45 minutes for preparation, 90 minutes for completion of the matrix and 60 minutes for discussion.

Remember to document the results. Annex III has templates that may be helpful.

Looking over the posters, Democratic Republic of Congo

Women's group discussing impacts and local responses, Sierra Leone

Summary: Review and conclusions

In this summary, the facilitation team presents the results from Exercises 1–5, and together with the participants draws conclusions about the assessment phase of the tool. The remaining modules will focus on planning and the actions to take in the future. The objectives of this summary are to:

- Ensure that everyone shares the same understanding of the process so far
- Ensure a common understanding and clear view of the main results
- Prepare participants for the next three modules

This summary of progress so far has proven useful in keeping everyone on board in previous community applications of the tool.

Facilitation

Facilitators prepare a blank hazard-response-action table in advance of their presentation (see sample table), and have on hand the hazard maps, seasonal calendars, the vulnerability matrix and the responses to impacts matrix developed in previous exercises. This review of previous exercises is done with all the participants in one group.

The hazard-response-action table provides a framework for summarizing the results of Exercises 1–5, and for displaying the relationships among the hazards, impacts and responses. The vulnerability matrix identifies the main hazards of concern, and facilitators list these hazards in the first column of the blank hazard-response-action table. Facilitators then suggest rankings for the severity of impacts based on the prioritization of hazards in Exercise 3 and the vulnerability matrix in Exercise 4, using the same scale as in Exercise 5:

+++ = Very high
++ = High
+ = Medium
0 = Not effective or not sustainable

Bearing in mind the impact of hazards on livelihood resources, the participants verify that the rankings are consistent with their views. The idea is to condense what the participants decided in the previous exercises, not create new rankings. The facilitators record the rankings in the second column of the table.

For each of the hazards in the first column, facilitators summarize the strengths of the local responses in one ranking per hazard using the same scale as above. When the participants confirm the strength-of-response rankings, the facilitators record the rankings in the third column.

Participants determine the need for action in light of the strength of the impacts and responses. Here particular local challenges may enter the considerations. A controversial large-scale development or land conflicts or other local concerns may warrant special attention. Participants use the same scale as above for their rankings, and facilitators record the rankings in the fourth column.

Sample Hazard-response-action table

Hazard	SEVERITY OF IMPACT	STRENGTH OF EXISTING RESPONSES	NEED FOR ACTION
Drought	+++	+	+++
Flood	+++	+	+++
Heatwaves	++	+	++

Plan 45-60 minutes for preparation and 2 hours for presentation and discussion.

At the end of this review and determination of the need for action, participants should have a clear view of those local responses that are effective and sustainable and can be done more widely or intensively, and of those where a better response is needed. The conclusions reached by the participants while discussing the rankings are likely to strengthen a shared understanding of the different vulnerabilities and the need to be sensitive to gender issues and to particularly vulnerable groups. The discussion leading to agreement on the rankings may provide indications for why some actions are difficult, and may identify some obstacles to overcome.

The compilation of the results from Modules 2–4 can stand alone as a community climate and disaster risk assessment report that can inform other, ongoing community processes and large-scale assessments.

Review of assessment results, Nepal

Tea break, Nepal

Module 5:
Adaptation strategies

Identification of additional responses to cope with climate hazards and impacts

In Module 5, participants use the results of the assessments in the previous modules to set adaptation goals and identify suitable strategies for the community. The module connects global trends and climate change scenarios to the local situation.

Facilitators or other resource persons begin Module 5 with a presentation on climate change causes and scenarios, global and regional impacts and worldwide actions taken in response to the consequences of climate change. The exercises that follow are conducted in separate groups of men and women, and if minorities are involved another separate session is also a good idea.

Presentation: Climate change scenarios

This presentation is based on the research from Module 1. Presenters should adapt their language and approach to the local level of knowledge and understanding, and make an effort to connect the local climate phenomena and analysis to world-wide trends.

The objectives of this session are to:

- Prepare participants for the identification of adaptation goals and co-benefits
- Raise awareness of the scientific basis of climate change
- Raise awareness of projected trends and the prospects for worsening conditions
- Provide participants with information on adaptation solutions and emission reductions at the national level

In some cases, presenters may want to discuss global emissions and climate policy, particularly where related projects – such as large-scale afforestation – might affect the local population.

Playing a climate change game, Nepal

Annex VI provides ideas of how to prepare this material.

Add-on: Annex V includes ideas for games that could be played here – Paying for Prediction or The Greenhouse Gas Game.

The presentation should be limited to 30 minutes or less. Plan another 30 minutes for questions and discussion.

Exercise 6: Community adaptation goals

In this exercise, participants identify short- and long-term adaptation goals for the community. As in previous modules, facilitators conduct the exercise in separate groups of men and women, and if minorities are involved another separate session is also a good idea. After each group has defined their goals, the facilitators bring together the men and women (and minorities if they have a separate session) into a single discussion of their respective results.

Facilitation

Facilitators provide pencils or markers in multiple colours and smaller paper cards of various colours. Facilitators prepare large sheets of papers on which participants will develop adaptation paths during this and the next exercise. Based on the hazard-response-action table in the Module 4 summary, facilitators prepare one sheet for each hazard and its related impacts where the table indicates a high need for action.

The facilitators explain that a goal is a situation we want to see in the future, and that the task here is to develop goals that take into account the observed and projected changes due to climatic impacts in the community, village and region.

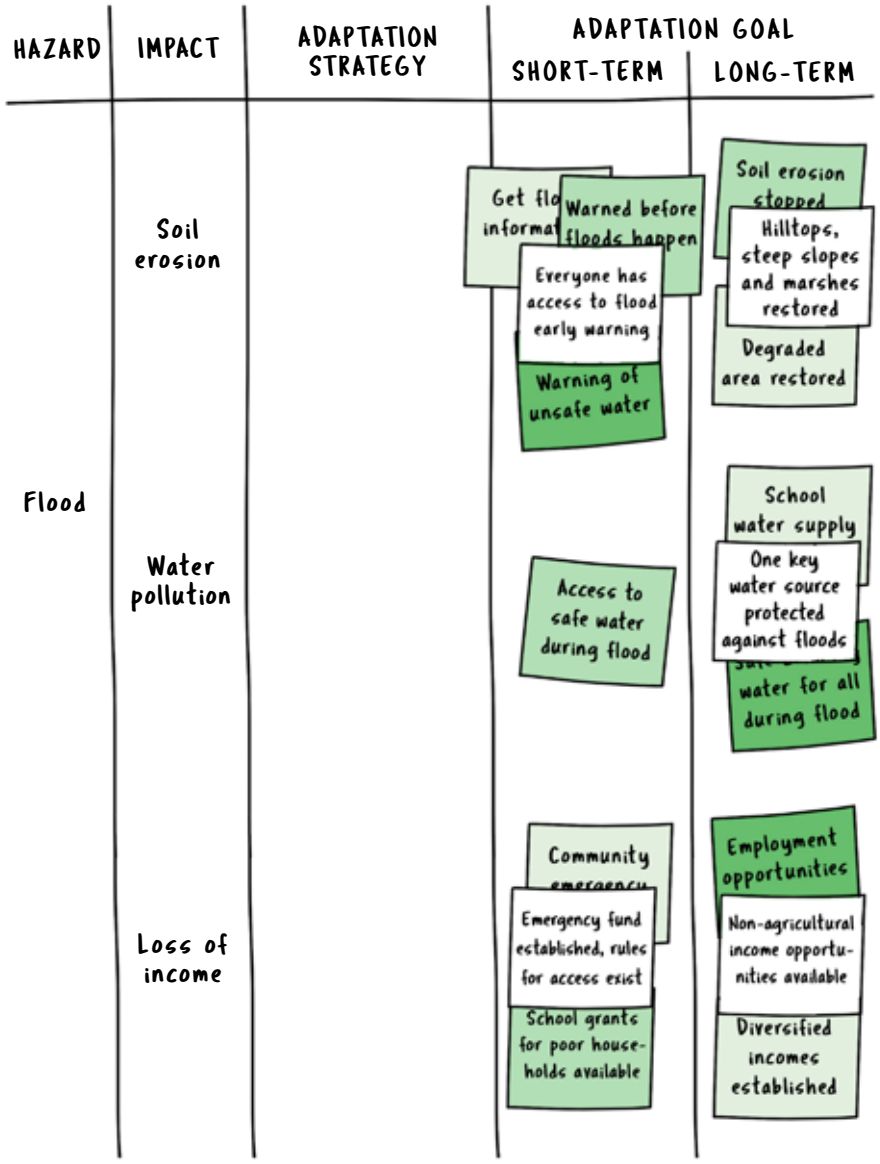
Participants form groups of 2–3 people, and each group identifies goals related to the impacts of the priority hazards on one of the sheets prepared by the facilitators. The groups should distinguish between short-term (1-3 years) and long-term (10 years) goals, and work for 20 to 30 minutes writing down the goals they consider important. Then the groups present their goals, and the facilitator arranges the goals according to hazards and impacts, clustering those goals that are similar and suggesting ways to merge similar goals (see example of adaptation path sheet below).

The objective is to have no more than five long-term goals in order to keep the number of goals manageable for planning. If more than five long-term goals remain after the clustering, do a ranking in order to agree on the five most important long-term goals. For ranking methods see Exercise 3 and Annex IV.

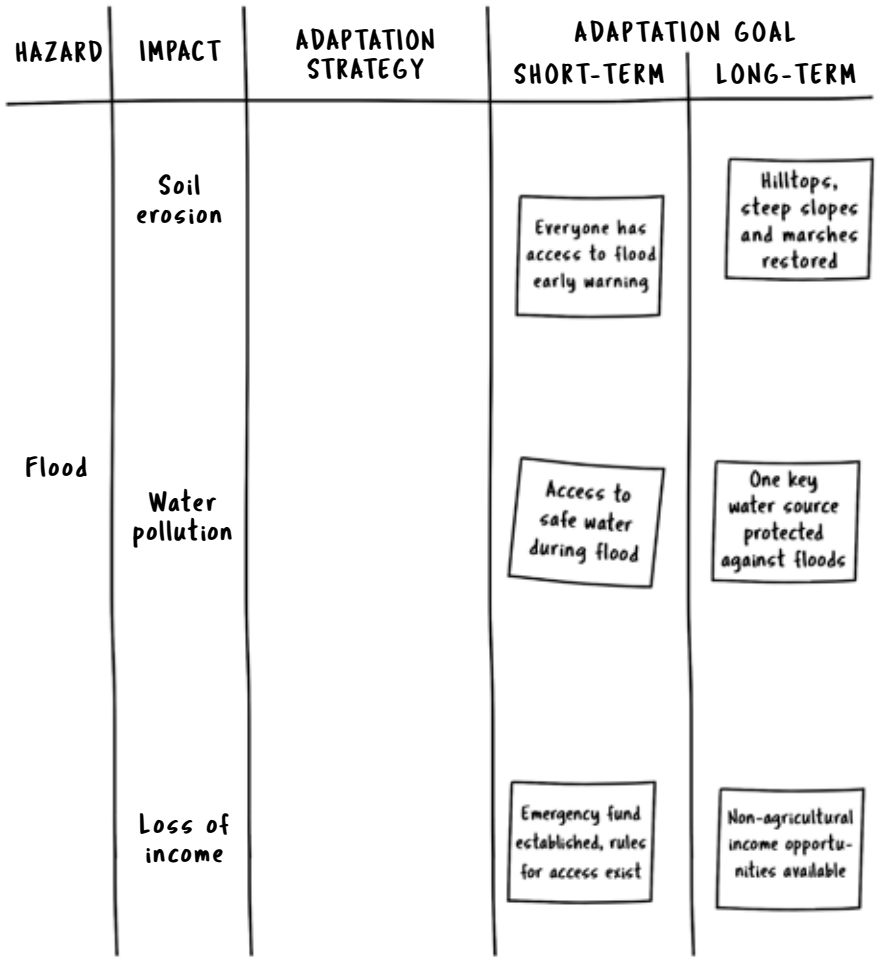
When forming the small groups, bear in mind that each group should have at least one member who can read and write. Otherwise, symbols should be used.

Add-on: Annex V includes the Gender Action and Learning System, a tool with a particular focus on the role of gender relations in improving community development.

Sample Adaptation path sheet with clustered and merged goals



Sample Adaptation path sheet with final (merged) goals



The discussion should make the goals specific to the community. If rehabilitation of degraded land is mentioned, for example, the goal should specify which areas in the community to target.

Be careful not to drop gender-specific goals during merging.

Discussion

The facilitators bring together the men and women (and minorities if they have a separate session) into a single discussion of their results. In this session the goals of the gender-segregated groups are merged where they are similar.

Facilitators can use following questions to guide the discussion:

- → Which impacts were most critical to women, which to men, and to minorities if there was a separate session?
- → Where do the goals agree, and where do they differ? Why were certain considerations more important to one group?
- → How well do the identified goals fit their short- or long-term time frames?
- → Are some goals similar, related or dependent on each other?
- → Can some goals be merged?

The facilitators and note takers should take notes of any discussion of why certain goals are difficult to reach and what the obstacles might be. Exercise 9 considers these issues in checking for feasibility of community planning.

The final list should include a maximum of eight long-term community adaptation goals and related short-term goals. Again, if too many goals remain, do a ranking. But be careful not to drop gender-specific goals or those important to minorities or other vulnerable groups identified in the Exercise 4 vulnerability assessment.

Plan 45 minutes for preparation, 60 minutes for identification of goals and 60 minutes for discussion.

Remember to document the results. Annex III has templates that may be helpful.

Rehabilitated watershed in semi-arid area (during the dry season), India

Discussing community goals, Bangladesh

Exercise 7: Adaptation strategies, obstacles and opportunities

This exercise is a good time to involve additional expertise (technicians, NGOs, scientists, etc.). This can be done in a large group if participants are not intimidated by the presence of external stakeholders. Alternatively, external stakeholders can be consulted in a separate workshop.

In this exercise, participants identify adaptation strategies for making progress towards the adaptation goals identified in Exercise 6, and build on the local responses identified in Exercise 5.

This exercise can be done in one large group. If this is difficult in the local context, facilitators can conduct the exercise in separate groups of men and women. The objective of this exercise is to:

- Develop additional strategies for making progress towards the identified short- and long-term adaptation goals

Facilitation

Facilitators provide pencils or markers in multiple colours and smaller paper cards of various colours, and display the completed adaptation path sheets from Exercise 6 for easy reference. The facilitators then add the effective and sustainable responses from the "Evaluation of responses to the impacts of hazards" matrix (completed in Exercise 5) to the appropriate goals on the adaptation path sheets. Participants identify and add any other responses or steps that may be needed to reach the identified goals. Facilitators and resource persons, such as NGO staff, can add ideas here too.

Facilitators split the participants into groups of 4–5 to develop and discuss suitable adaptation strategies. These small groups work on one hazard and adaptation path at a time – from impact through responses, short-term goals and long-term goals. Every 5–10 minutes, facilitators ask the groups to work on another adaptation path until each group considers every goal. If time is short, each group should consider a minimum of 2–3 goals.

If the exercise is done in separate groups, facilitators need two sets of the adaptation path sheets from Exercise 6.

Facilitators remind participants to build on the identified local responses, and to keep in mind that the proposed activities should be linked to dealing with climate change. Facilitators might want to give some examples of what adaptation strategies entail to provide participants with a better idea of what this exercise is trying to accomplish. The following questions provide additional guidance:

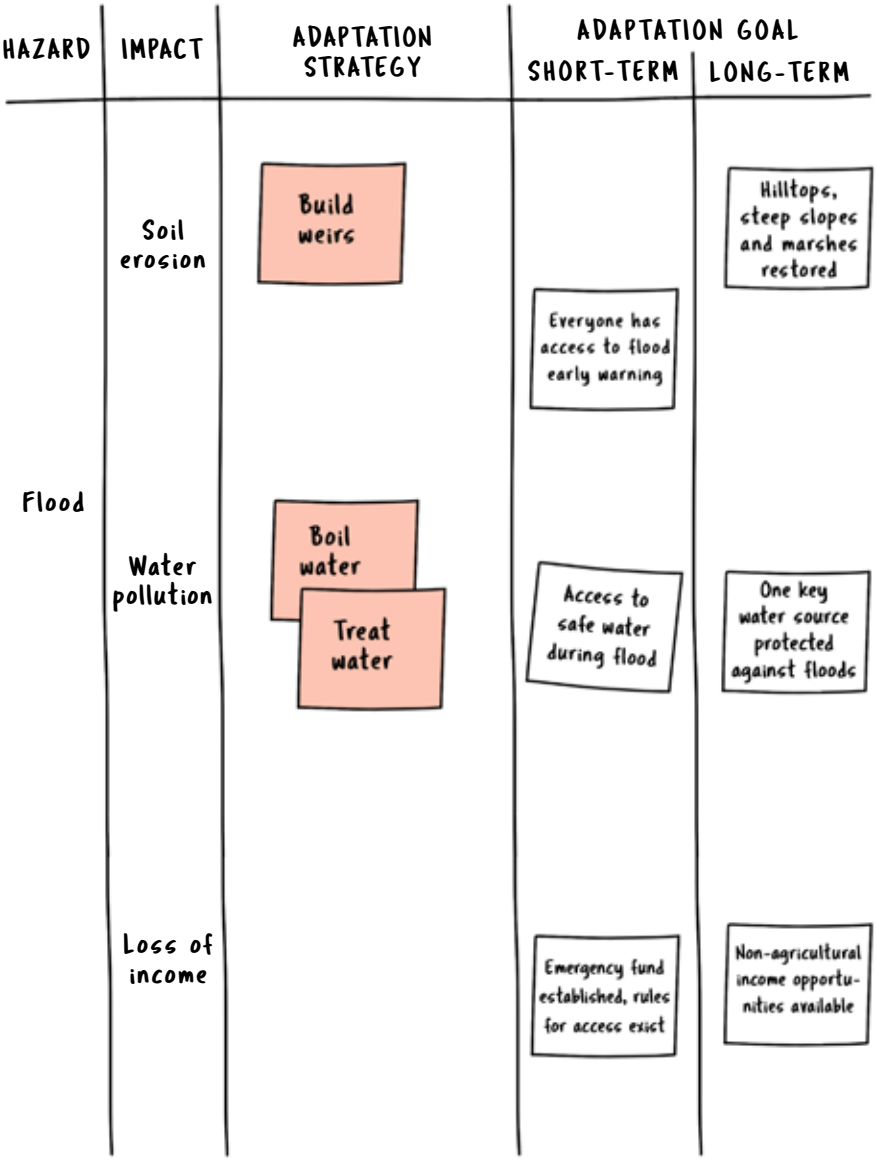
→ For which impacts are the existing strategies insufficient to handle climate change?

→ What additional actions or strategies would be needed to reach long-term resilience?

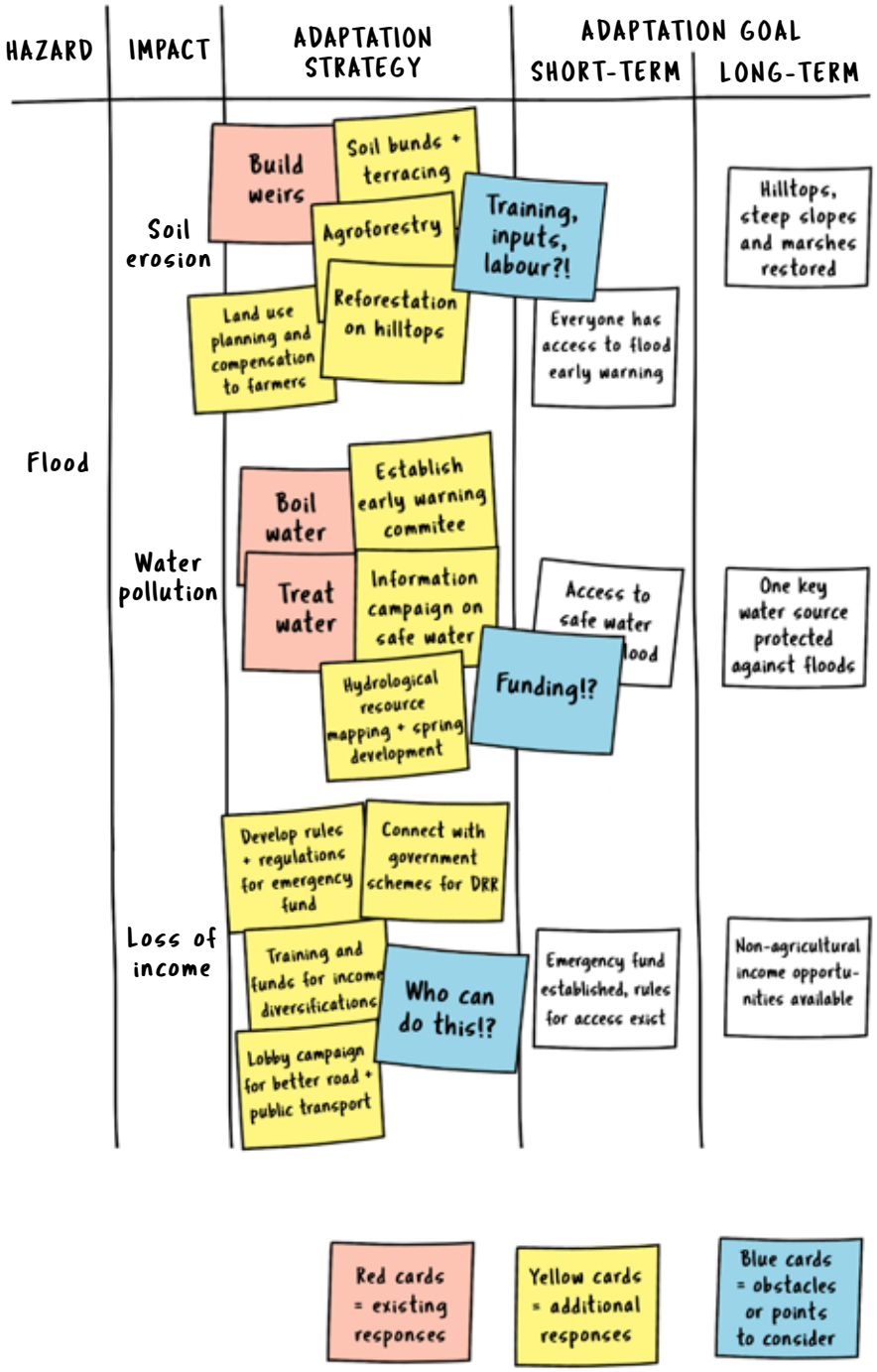
→ Are there other missing responses or steps to consider?

During the exercise the facilitators can ask for obstacles to implementing adaptation strategies.

Sample Adaptation path sheet with 'existing responses' cards



Sample Adaptation path sheet with all cards



Discussion

The facilitators bring together the men and women if the exercise was done in separate groups. Participants then discuss the proposed paths and the related activities. Questions to guide the discussion include:

- → For which strategies do the groups have paths in common, and for which are the paths different?
- → What obstacles stand in the way of implementing these strategies?
- → Do the identified adaptation strategies have potentially negative effects?
  - ↳ Conflicts between user groups such as farmers vs. pastoralists?
  - ↳ Environmental impacts on people upstream or downstream of the community?
- → Can the path be realized with community knowledge and resources, or is additional knowledge needed?

Obstacles and additional resources that are identified should be noted on cards and can be added to the adaptation path sheets for use in Exercise 9.

The main goal of the discussion is to verify that the developed strategies target the most important climate change impacts and other hazards in the community. Facilitators should verify that gender and minority considerations are included.

Plan one hour for preparation, 1–1.5 hours for identification of adaptation strategies, and one hour for discussion.

Remember to document the results. Annex III has templates that may be helpful.

Village chief of Makeni, Sierra Leone, comments on the adaptation strategies

Pits for increased water infiltration and terraced fields, Ethiopia

Houses with flood protection, Bangladesh

Module 6:
Co-benefits of adaptation strategies

Assessment of environmental and socioeconomic co-benefits of adaptation strategies

Module 6 assesses the environmental and socioeconomic co-benefits of the adaptation strategies developed in Module 5.

Much of the value of this module comes from the joint reflections of the participants, so facilitators conduct the discussion with the entire group. The objectives are to:

- Highlight the important role of communities as stewards of their natural environment
- Assess whether additional co-benefits can be realized through refinements in the strategies
- Increase awareness of life-sustaining ecological processes such as climate change mitigation through carbon sequestration

Exercise 8: Identification of co-benefits

This exercise follows up on the climate change research from Module 1 and the development of community adaptation goals and strategies in Exercises 6 and 7.

This module can be skipped if not suitable in the context, such as in extremely vulnerable communities.

Facilitation

The facilitators provide large sheets of paper and coloured pencils or markers, and display the adaptation path sheets from the previous module for easy reference. They explain the meaning of co-benefits, using one of the strategies identified by the community as an example.

Sample Table of co-benefits

ADAPTATION STRATEGY	CO-BENEFITS	FURTHER IMPROVEMENTS FOR CO-BENEFITS
o Reforestation of degraded watershed to improve stream flow during drought	o Carbon sequestration o Improved water quality o Provide shade o Increase biodiversity o Provides income for nursery owners locally	o Use indigenous tree species instead of Eucalyptus o Enhance with bee-friendly flowers o Use fodder tree species as well
o Small-scale irrigation with pumps		o Using renewable energy (solar/wind) for pumps o Monitoring of ground-water levels by the community

Annex V includes an easy and short exercise designed to give an overview of greenhouse gas emission sources and carbon sinks in the community.

Participants analyse the strategies on the adaptation path sheets one at a time, and write them down in a table that lists positive co-benefits and possible refinements as in the sample table.

Discussion

The guiding questions for the discussion are:

→ How do the adaptation strategies positively or negatively affect the protection of soil, water, biodiversity, forests or climate?

→ How can we increase the positive environmental and socioeconomic co-benefits of adaptation strategies?

The documentation of this module will inform community planning, and the options for increasing co-benefits may help guide the process. Facilitators can guide participants on the need to be context-specific and to think about what is feasible for the community.

Plan two hours for preparing the table and the discussion.

Remember to document the results. Annex III has templates that may be helpful.

Nursery for reforestation and income generation as co-benefit, Tanzania

Module 7:
Community adaptation planning

Development of an action plan and community presentation

Module 7 identifies concrete activities the community can take towards realizing the adaptation strategies and goals, and determines how the final assessment report will be completed. A presentation to the community shares the findings and recommendations of the PACDR analysis as a starting point for more detailed community planning.

The objectives of this module are to develop a first action plan and to share the results of the PACDR process with the wider community. As in Module 6, facilitators conduct the exercise with the entire group, and the group determines the details of the preparation and presentation of the final assessment report.

Exercise 9: Development of an action plan

The objective of this exercise is to develop a first action plan that becomes a part of the PACDR assessment report. The action plan should:

- Identify immediate and longer-term actions
- Differentiate between individual and collective action
- Identify where other stakeholders are needed for specific activities
- Identify limiting external factors and key advocacy issues and steps to take towards government institutions

This exercise lays out first steps and main lines of action to take to achieve the community goals. The influence of the plan in the community depends to some extent on the positions and stature of those who help develop it, and this exercise might provide a good opportunity to invite prominent local figures or elected representatives to participate.

Where community resources such as knowledge, technology and finances are insufficient, outside assistance may be necessary, and this exercise helps identify where external experts and stakeholders may make contributions to the development and implementation of a community plan. In some cases, the assessment report may need advocates who can appeal to potential funding sources or partners on its behalf. The concrete actions taken at the community level may entail identifying potential advocates, and asking for their assistance in moving the report forward.

Participants and facilitators alike should be aware that the asssessment report they develop here is not a full community development plan – which requires a longer planning process – but that their results can and should inform any community plans that follow their work.

Facilitation

Facilitators provide the completed adaptation path sheets from Exercise 7 and blank sheets of paper at least 100 cm x 80 cm in size – at least one sheet per community adaptation goal. Working from the adaptation goals and strategies, participants define concrete steps to be taken by community members, representatives or groups. Additionally, they identify where external stakeholders are needed for additional support to implement these activities, or to advocate for their adoption and implementation.

The guiding questions for the exercise are:

- → What concrete short- and long-term activities are needed to reach the goals?
- → What adaptation activities can community members implement individually?
- → Which adaptation activities are collective and need to be guided by community institutions? Which institutions?
- → Which adaptation activities can be implemented with existing community resources?
- → For which activities do we need support? What potential funding streams might we tap? Do we need to consider an advocacy campaign? Who can provide needed external knowledge and skills?

Sample format for developing actions

ADAPTATION GOAL	STRATEGY/ RESPONSE	WHAT WILL BE DONE AT COMMUNITY LEVEL		WHAT EXTERNAL ACTION/ SUPPORT IS NEEDED	
		NOW	LONG-TERM	NOW	LONG-TERM
Secure food through agro-forestry and irrigated garden	Farmer seed exchange	Women Self-Help-Group to share seeds at special event in October	Create annual seed exchange fair at village hall. Organized by farmers' cooperative and women groups	Approach extension service for new variety seeds; farmers coop head	Training on seed production and certification → Women's leader to approach NGO for support
	Hold Farmer Field Schools on variety selection trials				

Facilitators may try to get commitments to implement the activities from any elected officials and representatives of groups who are present for this exercise.

Facilitators may remind participants to consider the obstacles identified in Exercise 7 and the environmental and socioeconomic co-benefits identified in Exercise 8.

Discussion

Facilitators should reinforce the participants' commitment to the actions identified at the community level, and clarify the follow-up process and the following points:

→ Who will compile a report from the notes taken by the facilitation team and when will the community representatives receive a copy?

→ Who will present the report to the wider community? When and where?

The facilitation team may take this opportunity to explain any further involvement of their organization or institution and the groups and sections of the community they represent.

Plan two hours for the preparation of the actions and 45 minutes for discussion and closure.

Monitoring water volume at community level through citizen science, Ethiopia

Community presentation

In this final step, the results of the analysis are presented to the whole community and external stakeholders. The documented results can then be used to inform other planning processes and to approach external stakeholders for assistance or advocacy.

The final product of the PACDR analysis is The Report of the Participatory Assessment of Climate and Disaster Risks for (Name of Community): Findings, Recommendations and Actions. The complete assessment report consists of the compilation of background materials from the context description in Module 1 plus the documentation of the results from Modules 2–7:

- The assessment of climate and other hazards, impacts and existing responses (from Exercises 1–5)
- Adaptation goals and strategies (from Exercises 6 and 7), including any co-benefits (from Exercise 8)
- Adaptation activities (from Exercise 9)
- Roles of the community and other stakeholders (from Exercise 9)

Make sure that stakeholders who are needed for the implementation of the community adaptation actions are present. They can give feedback and get more on board when it comes to taking concrete steps after the analysis.

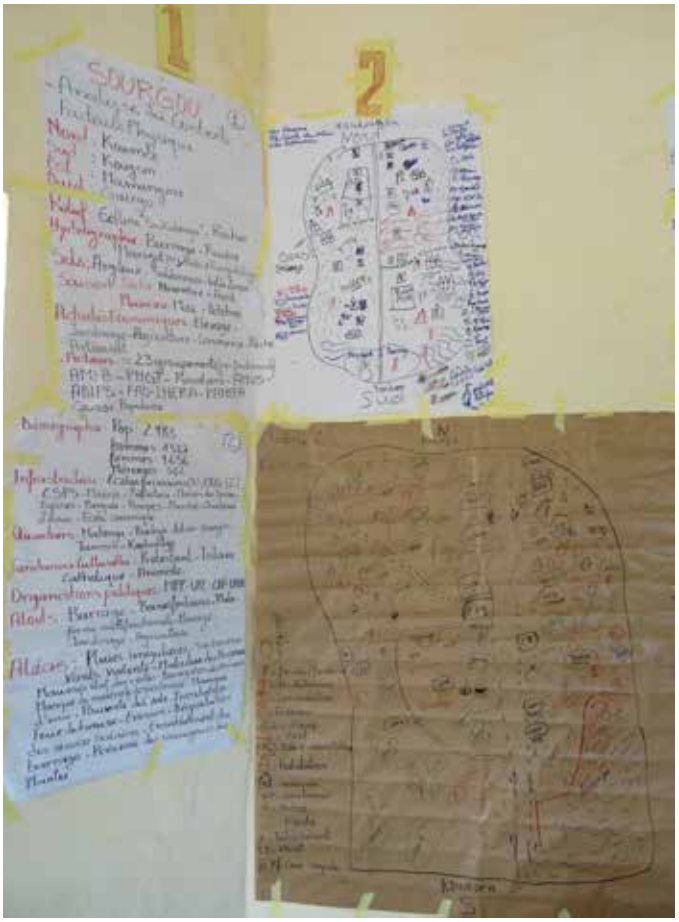
If the reporting templates from Annex III have been used and filled in with the results at the end of each module, they can be collated and serve as a basic report. They should be supplemented with a title page and an introductory section.

Stakeholders to invite to the presentation of the assessment results and adaptation plan, beyond the residents of the community, include:

- Local government officials
- NGOs and CBOs
- Research institutes
- Agriculture extension services
- Large landowners
- Private businesses
- Regional or national government officials
- Any others suggested for inclusion

Plan two hours for the presentation of the report and one hour for discussion.

Preparing for the community presentation, Burkina Faso



PACDR results for community presentation, Burkina Faso

ANNEX I: Information resources and glossary

Sources of further information for collecting background information during Module 1

Climate change knowledge and scenarios

Climate Watch – country profiles by World Resources Institute and partners: https://www.climatewatchdata.org

Intergovernmental Panel on Climate Change (IPCC) (2014) regional analyses chapters: https://www.ipcc.ch/report/ar5/wg2/

IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (2019) - Cartoon summary of the by the Red Cross Climate Centre: https://www.climatecentre.org/downloads/files/SROCC%20Version2%20%281%29.pdf

Regional summary reports based on IPCC analysis, by the Climate and Development Knowledge Network (2014), for Africa, South Asia, Small Island States and Latin America. Includes stand-alone infographics, presentations and images: https://cdkn.org/ar5-toolkit/?loclang=en_gb

World Bank Climate Change Knowledge Portal: https://climateknowledgeportal.worldbank.org/

National policies and frameworks

Climate Action Tracker: https://climateactiontracker.org/countries/

NAP Central. National Adaptation Plans submitted to UNFCCC: https://www4.unfccc.int/sites/napc/Pages/Home.aspx

National Communications submitted to the United Nations Framework Convention on Climate Change (UNFCCC): https://unfccc.int/non-annex-I-NCs

NDC Registry. Nationally Determined Contributions submitted to UNFCCC: https://www4.unfccc.int/sites/ndcstaging/Pages/Home.aspx

NDC Partnership country pages: https://ndcpartnership.org/countries-map

PreventionWeb knowledge platform on disaster risk reduction, including country profiles and access to national DRR plans and policies: https://www.preventionweb.net/countries/map#hits=20&sortby=default&view=pw

Websites of national climate change, meteorology, disaster risk and environmental institutions

Websites and country pages of donor agencies and NGOs active in your country

Practical guidance on climate change adaptation and disaster risk reduction

BRACED (2018) A 1.5°C warmer world: a guide for policy-makers and practitioners. http://www.braced.org/resources/i/A-15-warmer-world-A-guide-for-policy-makers-and-practitioners/

Climate Centre of the International Federation of Red Cross: https://www.climatecentre.org

ReliefWeb humanitarian situation reports: http://reliefweb.int/countries

Voluntary National Reviews database, on country progress towards Sustainable Development Goals: https://sustainabledevelopment.un.org/vnrs/

WeADAPT knowledge platform on climate change adaptation: https://www.weadapt.org/

Other tools

CARE (2019) Climate Vulnerability and Capacity Analysis Handbook – Informing community-based adaptation, resilience and gender equality – Version 2.0. *(Available in English and French versions)*: https://careclimatechange.org/cvca/

IFRC and the Red Cross Red Crescent Climate Centre (2019) Climate Training Kit: https://climatecentre.org/training

IISD (2012). CRiSTAL - Community-based Risk Screening Tool – Adaptation and Livelihoods. *(Available in English, French and Spanish versions)*: https://www.iisd.org/cristaltool/

IISD & UNEP (2018). Adaptation, Livelihoods and Ecosystem (ALivE) Planning Tool: User Manual. *(Available in multiple language versions)*: https://www.iisd.org/library/alive-adaptation-livelihoods-and-ecosystem-planning-tool-user-manual

Gender and Climate Change

CARE resources on gender and climate change: https://careclimatechange.org/what-we-do/gender/

Gender CC – Women for Climate Justice: http://www.gendercc.net/

Women's Environment & Development Organization (WEDO): http://www.wedo.org/

Glossary

Adaptive capacity
"The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences." Adaptive capacity is what enables people to make adjustments to protect their lives and livelihoods from the impacts of climate change. It is generally applied outside of crisis periods, based on learning from past shocks and stresses. It is oriented towards managing uncertainty and reducing future risks. (Source: CARE 2019, IPCC 2019)

Carbon dioxide (CO_2)
A naturally occurring gas, carbon dioxide is also a by-product of burning fossil fuels (such as oil, gas and coal), of burning biomass (organic material from plants and animals, such as wood and manure), of land-use changes (such as deforestation) and of industrial processes (e.g., cement production). It is the principal greenhouse gas originating from human activity. (Source: modified from IPCC 2019)

Carbon sequestration
The process of capturing and storing atmospheric carbon dioxide with the goal of reducing global climate change. For example, reforestation that increases the biomass that captures carbon through photosynthesis, or land management changes that increase the soil organic carbon content, resulting in a net removal of carbon dioxide from the atmosphere. (Source: modified from IPCC 2019)

Carbon sink
A carbon sink is a (natural) system that stores solid carbon. Some important carbon sinks include forests, wetlands, soil and oceans. (Source: modified from IPCC 2019)

Climate
The average weather. The mean and variability of temperature, rainfall, wind etc. over a relatively long period of time (typically 30 years). One popular phrase can help distinguish weather from climate: "Climate is what you expect. Weather is what you get." (Source: IFRC 2007)

Climate change
Any change in climate over time. In principle, climate change can be due to natural processes or a result of human activity. The media often refers to "global warming" (an increase in the average temperature of our planet), which is actually the initial manifestation of an increasing greenhouse gas effect. Warmer temperatures lead to further climatic changes, such as changes in rainfall patterns and in the frequency or intensity of extreme weather events. In the context of the United Nations Framework Convention on Climate Change (UNFCCC), the term is linked to climate change that is caused by human activities that alter the composition of the atmosphere, particularly greenhouse-gas emissions due to burning of fossil fuels. (Source: modified from IFRC 2007)

(Climate change) Adaptation
Adjustments in response to actual or expected climate change, to reduce negative impacts or take advantage of opportunities. (Source: IFRC 2007)
The official definition from the Intergovernmental Panel on Climate Change (IPCC) is "the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities." In practical terms, adaptation refers to the changes people and institutions make to adjust to observed or projected changes in climate. It is an ongoing process that aims to reduce vulnerability to climate change. Adaptation can also occur in natural systems, where it is the process of adjustment to actual climate and its effects, sometimes facilitated by human intervention. (Source: CARE 2019, IPCC 2018)

Climate risk management
An approach to systematically manage climate-related risks affecting activities, strategies or investments, by taking account of the risk of current variability and extremes in weather as well as long-term climate change. Climate risk management is similar to working on disaster management, health, food security and so on, but paying attention to (1) the way risks are changing, and (2) options to reduce the risks in addition to being prepared to respond after the event. (Source: IFRC 2007)

Co-benefits
The positive effect that a policy or measure aimed at one objective might have on another objective or sphere of life. Co-benefits depend on local circumstances and implementation practices, among other factors. Careful consideration and design of adaptation measures can increase co-benefits, while minimizing potential costs. For example, climate change adaptation measures can also contribute positively to climate change mitigation as well as employment, environment, health, reducing poverty levels, food security, gender relations etc. Co-benefits are also referred to as ancillary benefits. (Source: modified from IPCC 2019)

Disaster
A situation in which the impact of a hazard (such as a storm or other extreme weather event) negatively affects vulnerable individuals or communities to a degree that their lives are directly threatened or sufficient harm is done to economic and social structures to undermine their ability to survive or recover. (Source: IFRC 2007)

Disaster risk management
A systematic process of implementing policies, strategies, and measures to reduce the impacts of natural hazards and related environmental and technological disasters. This includes, among other things, disaster risk reduction, preparedness, response, recovery and rehabilitation. (Source: IFRC 2007)

Disaster risk reduction
Measures at all levels to curb disaster losses, through reducing exposure to different hazards, and reducing the vulnerability of populations. Effective disaster risk-reduction practices use a systematic approach to reduce human, social, economic and environmental vulnerability to natural hazards. (Source: IFRC 2007)

Ecosystem
Dynamic complex of plant, animal and microorganism communities and the non-living environment interacting as a functional unit. Humans are an integral part of ecosystems. (Source: CARE 2019, MEA 2005)

Ecosystem services
Ecosystem services are the benefits people obtain from ecosystems. These include provisioning services such as food, water, timber and fibre; regulating services such as climate regulation and carbon sequestration; cultural services that provide recreational, aesthetic and spiritual benefits; and supporting services such as soil formation, photosynthesis and nutrient cycling. (Source: CARE 2019, MEA 2005)

Fossil fuels
Carbon-based fuels from fossil hydrocarbon deposits, including coal, oil, and natural gas.

Gender
A social construct that defines what it means to be a man or woman, boy or girl in a given society. It carries specific roles, status and expectations within households, communities and culture. Individuals may also self-identify as neither male or female, or both male and female. There are different sexual orientations and gender identities. The initials LGBTIQAP refer collectively to people who are lesbian, gay, bisexual, transgender, intersex, queer, asexual or pansexual. (Source: modified from CARE 2019)

Gender equality
The equal enjoyment by people of all genders and ages of rights, opportunities, resources and rewards. Equality does not mean that all genders are the same but that their enjoyment of rights, opportunities and life changes are not governed by whether they were born female or male. (Source: CARE 2019)

Global warming
The rise in average temperature on earth due to the increasing amounts of greenhouse gases in the atmosphere. The media often uses this term to refer to "climate change" (a concept that includes global warming as well as other changes). (Source: IFRC 2007)

Greenhouse gas (GHG)
A gas, such as carbon dioxide or methane, that absorbs and re-emits infrared radiation. When pollution adds these gases to the earth's atmosphere, they trap more solar energy in our planet (like in a greenhouse) warming the earth's surface and contributing to climate change. (Source: IFRC 2007)

Hazard *(español: Amenaza; français: Aléa)*
A potentially damaging physical event that may cause loss of life or injury, property damage, social and economic disruption or environmental degradation. (Source IFRC 2007)

Livelihoods
The resources used and the activities undertaken in order to live. Livelihoods are usually determined by the entitlements and human, social, natural, physical or financial assets to which people have access. (Source: CARE 2019, IPCC 2018)

Mitigation
This word has different meanings for practitioners in the climate change and disaster management communities, often leading to confusion:

Mitigation (climate change)
Measures to reduce greenhouse gas concentrations in the atmosphere, and thus ultimately the magnitude of climate change. Measures include energy conservation, using renewable energy such as wind or solar energy instead of coal, oil or gas; and planting trees that absorb carbon dioxide from the atmosphere.

Mitigation (disaster management)
Measures aimed at moderating or reducing the severity of disaster impact. They include such things as retention walls, water reservoirs, and reforestation to avoid landslides. From the perspective of the climate change community, these measures would be labelled as "adaptation" because they help reduce the negative impacts of climate change.
(Source: IFRC 2007)

Nationally Determined Contributions (NDCs)
A term used under the United Nations Framework Convention on Climate Change (UNFCCC) whereby a country that has joined the Paris Agreement outlines its plans for reducing its emissions. Some countries NDCs also address how they will adapt to climate change impacts, and what support they need from, or will provide to, other countries to adopt low-carbon pathways and to build climate resilience. According to the Paris Agreement, each Party shall prepare, communicate and maintain successive NDCs that it intends to achieve. (Source: IPCC 2019)

Paris Agreement
The Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC). entered into force on 4 November 2016. One of the goals of the Paris Agreement is "Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels", recognizing that this would significantly reduce the risks and impacts of climate change. Additionally, the Agreement aims to strengthen the ability of countries to deal with the impacts of climate change. (Source: IPCC 2019)

Renewable energy
Bioenergy, geothermal, hydropower, ocean, solar, and wind energy.

Resilience
The capacity of social, economic and ecological systems to cope with a hazardous event, trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation. Resilience is about managing risk and dealing with shocks and stresses that negatively influence people's lives. (Source: CARE 2019, IPCC 2019)

Risk *(español: Riesgo; français: Risque)*
The probability of harmful consequences due to interaction between hazards and vulnerable conditions. (Source: IFRC 2007)

Sendai Framework for Disaster Risk Reduction
The Sendai Framework for Disaster Risk Reduction 2015–2030 outlines seven clear targets and four priorities for action to prevent new, and to reduce existing disaster risks. The voluntary, non-binding agreement recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders, with the aim of substantially reducing disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries. (Source: IPCC 2019)

Vulnerability
The degree to which someone or something can be affected by a particular hazard (from sudden events such as a storm to long-term climate change). Vulnerability depends on physical, social, economic and environmental factors and processes. It is related, for instance, to the places where people live, the strength of their houses, the extent to which their crops can survive adverse weather, or whether they have organized evacuation routes and shelters.

- Physical vulnerability relates to the built environment and may be described as "exposure"
- Social vulnerability is caused by such things as levels of family ties and social networks literacy and education, health infrastructure, the state of peace and security
- Economic vulnerability is suffered by people of less privileged class or caste, ethnic minorities, the very young and old etc. They suffer proportionally larger losses in disasters and have limited capacity to recover. Similarly, an economy lacking a diverse productive base is less likely to recover from disaster impact which may also lead to forced migration
- Environmental vulnerability refers to the extent of natural resource degradation, such as deforestation, depletion of fish stocks, soil degradation and water scarcity that threaten food security and health.

(Source: IFRC 2007)

References for glossary

CARE (2019) Climate Vulnerability and Capacity Analysis Handbook - Informing community-based adaptation, resilience and gender equality - Version 2.0 https://careclimatechange.org/cvca/

IFRC (2007) Red Cross/Red Crescent Climate Guide https://www.climatecentre.org/downloads/files/RCRC_climateguide.pdf

IPCC (2019): Annex I: Glossary. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems. https://www.ipcc.ch/site/assets/uploads/sites/4/2019/11/11_Annex-I-Glossary.pdf

Millennium Ecosystem Assessment (MEA) (2005). Ecosystems and Human Well-Being: Synthesis. http://www.millenniumassessment.org/en/Synthesis.aspx

ANNEX II: Practical advice for conducting a PACDR assessment

This annex offers some important practical tips for preparing and conducting the PACDR assessment and planning with a community. Community consultations are the main analytical method employed in this tool. The tips come from experience with previous versions of this tool.

Module 1 might be done with little community involvement, but all the following modules require a maximum of community participation to ensure community ownership. The facilitation team has to make sure that the community process is well prepared, that the community members have confidence in the team, that expectations are openly discussed, and objectives are clear and realistic.

PACDR is not about data collection but about community empowerment and action. Therefore, the facilitation team must have skills in participative methods.

Preparing for the community consultation: Plan carefully

- Select the community or respond to the request of a community. Important considerations include the willingness of the leaders to participate, contribute and carry out adaptation plans, the availability of participants, the existence of internal conflicts that might impede the process, and openness to sharing the PACDR experience with other communities.
- Decide on the geographical extent of the assessment, and make sure people from different locations in the area are consulted.
- Organize preparation meetings with the community authorities and leaders. Discuss the purpose, expectations, benefits, limits, requirements, expenses, duration and course of the PACDR process.
- Prepare a budget and set up a skilled facilitation team.
- Decide on whom to consult, considering the perspectives of gender and minority groups and potential conflicts among certain groups. Conducting a number of different consultations allows the facilitation team to appreciate the broad range or perspectives, priorities and needs within a community.
- With the help of community leaders, invite 15–20 women and 15–20 men representative of the social and age groups in the community. These men and women form the group of participants for Modules 2–7. The goal in selecting participants is to have comprehensive representation and, ultimately, community ownership.
- Provide for separate groups for women and men and for minorities if appropriate in Modules 2–5. The selection of participants is intended to ensure

that separate group sessions are well balanced and sized for effective and inclusive participation.

- Consider the participation of local government representatives. They can foster ownership and may provide assistance in the allocation of resources, but can sometimes dominate groups to the exclusion of other participants.
- Seek involvement from other important actors linked to the community – agricultural extension, large landowners, researchers and non-governmental organizations, for example.
- Be aware of potential conflicts in the community and consider do-no-harm methods.
- Remember that the people consulted might be illiterate, so you need to prepare the exercises accordingly. Where participants speak a language you don't know, you need two competent interpreters to make sure that the results are accurate.
- Plan enough time for the participants to express their opinions clearly and completely so that the results of the consultations are valid. In addition, what the participants learn is an important benefit of the analysis, and the time required for this outcome is well spent.
- Remember that the participants' time is also valuable, and try to find a good balance between the benefits of participation and time spent away from other responsibilities.
- The different modules should be carried out in successive meetings over several days or spread across several weeks, according to the availability and dedication of the participants. Take enough time, but avoid a lengthy process with the risk of dropouts.
- Make sure the facilitation team includes both men and women.
- Look for appropriate venues for the plenary meetings and the working groups with the possibility of displaying the posters (walls, boards).
- Each module specifies the materials you will need for the exercises with the participants. In addition, you may want to bring a camera, notebooks and whatever refreshments are necessary – lunch, snacks and drinks.

Getting started in the community

- At the first meeting, inform the participants about the purpose, the possible outcomes, the requirements, the duration and the course and methodology of the process. Make sure that the community leaders show publicly their commitment and support of the process.
- Prepare thoroughly in advance and present a list of keywords in the local language(s) to make sure participants understand the terminology.
- Explain the logic and linkage of the exercises (the PACDR pathway).
- As the main focus of PACDR is on climate change, it might be helpful to give a brief introduction to the basics of climate change at the start. A slightly longer

introduction to the scientific basis of climate change and scenarios is given in module 5. Ideas on how to present climate change in a community setting can be found in Annex VI.

Conducting the participatory exercises

- Some of the concepts might be difficult, so make sure the participants understand the questions they are asked.
- Try to strike a good balance between ensuring accuracy, necessary criticism and respecting the timetable without unduly influencing the results of the analysis.
- Make sure that the contributions of women and men and minorities are considered and monitored systematically and consistently throughout the application of the tool.
- Summarize and recall the results at the end of each exercise. Make sure to document the results – you may want to use the templates in Annex III to guide the note takers.
- Be careful not to raise unrealistic expectations with the assessment. Tell the participants exactly what you are you doing and why you are doing it. Be thankful for their time and effort.
- Ask for permission to take photos.
- Leave the posters in the community. They are the owners.
- Consider inviting participants for discussion on follow-up activities as representatives of their community, district, etc.

ANNEX III: Templates for note taking

Documentation of the results of the PACDR process is key to using the identified knowledge and information for further community action. After each exercise, note takers should summarize and document the results.

Reporting templates that cover the key aspects of each exercise and help note takers to produce conclusive exercise reports for the community as well as for the facilitation team and supporting organizations (NGOs, government services, etc.) are available to download at: www.pacdr.net/how-to-use-the-tool

Direct link to the Word document: https://pacdr.net/wp-content/uploads/2020/07/PACDR_Templates-for-note-taking.docx

A final PACDR report for the community should be produced based on the exercise reports. This document will deepen community ownership and help to organize and monitor community actions. It can also be used for advocacy purposes, project proposal writing, inspiring other communities, and raising awareness.

The intended purposes for the report determine the report language(s). The content of the final report should consist of the following elements:

1. General information (community, participants, facilitation team, venue, date or period…)
2. Assessment of risks (hazards, vulnerable livelihood resources, local responses)
3. Community adaptation goals
4. Adaptation strategies
5. Planned actions, key stakeholders and support

As a minimum final report, the exercise reports can be collated and an introduction page plus title page added at the beginning. The introduction page should contain general information about the setting of the PACDR analysis: when did it take place, how was it initiated, who facilitated it, who participated, what will the results of the analysis be used for, who is the owner of the results and the report. The background information compiled in Module 1 should also be added to the final report, if it is available.

ANNEX IV: Additional material for supporting the facilitation of the exercises

Exercise 2: Preparation of the seasonal calendar

The following list can help as additional hints, which events and activities to consider when preparing the seasonal calendar. The main input must come from the community, but the facilitators should ask probing questions in order not to forget important periods in community life.

Characteristics: Periodic events, activities, hazards, challenges (seasonality)

Items

Climate:

- Rainy seasons, dry seasons
- Heatwaves, heavy rains, thunderstorms, hurricanes, strong winds, sandstorms, frost, hailstorms, storm surges
- Flooding, droughts, uprooting
- Landslides, mudslides, rock fall, erosion, silting, sanding

Ecology:

- Wildfires, bush fires
- Slash and burn activities

Economic:

- Major crops (clearing, burning, sowing, weeding, harvest)
- Livestock
- Other crops (fruit trees, mushrooms…)
- Epidemics, diseases, pests
- Cash activities (hunting, firewood, charcoal, fishery, petty trade, brick making, gold digging)
- Labour migration

Food and water situation:

- Food shortage, hunger
- Water scarcity, water pollution, salinization

Financial situation, cash needs:

- School fees, holiday expenses
- Taxes
- Subsidies, government grants, aid

Social, cultural, political:

- Festivals, holidays
- Weddings, funerals, initiations
- Conflicts (land, elections, ethnic, religious
- Domestic violence
- Theft, damage, looting

Personal, human:

- Epidemics, diseases
- Alcohol drinking
- Suicide

Exercise 3: Prioritization of hazards

The prioritization of hazards is done with a participatory ranking exercise. Various methods of participatory ranking, suitable in different contexts, are available. You should choose the most practical one for your situation. You can choose one that you are familiar with, or consider some of the following options.

1. Weighted rankings with items
Each participant has three votes and marks the hazards most relevant to him/her with stickers, markers, seeds or pebbles. The marks can be put next to different hazards, or to just one hazard. If some participants are not literate, hazards should be symbolized by commonly understood drawings.

2. Hands-up
Each person has three votes. The facilitator names the hazards one by one and asks participants to raise hands. Hands up are counted and noted. Each person is allowed to raise the hand three times.

3. Stand and vote
Hazards are written on cards that are spread on the wall or floor. People stand next to the card that is most important to them. The hazard card with most people is pinned on a board. Repeat the process with the remaining cards. The number of rounds depends on how many hazards should be prioritized.

Exercise 4: Vulnerability matrix: Examples of livelihood assets

For the preparation of the vulnerability matrix, livelihood assets of the community are listed according to five different categories. As it has sometimes proven difficult for the participants to comprehensively list items belonging to the various categories, we have assembled a list of most common items. The main information has to come from the community, but the list can be used by the facilitator to ask probing questions.

Category	Example assets and resources
1. Natural resources *(around us without human efforts)* *Rely on directly (for food, income, medicine) or indirectly (protection from storms)*	• Arable land, soil • Grassland • Water • Air • Biodiversity • Forest: Fuel, building, food, medicine • Wild plants and animals • Peat • Wetland systems • Sand, gravel, rocks • Sea coral reefs • Mangrove forests • Tidal flats
2. Physical resources *(created by human work and efforts)* *Basic infrastructure and productive capital for transport, buildings, water management, energy and communication*	• Houses, stables and sheds • Agricultural implements and equipment • Ponds, harvesting systems • Bridges, roads, airports, harbours • Schools, hospitals • Communication facilities • Energy supply • Boats, ferries • Cars, trucks, motorcycles, bicycles, rick-shaws • Computers, office equipment • Waste disposal systems • Water pumps, tanks, wells • Water delivery and sanitation systems

Category	Example assets and resources
3. Economic and financial resources *(human activities and capital to generate income)* *Activities, stocks and flows of money that allow people to achieve their livelihood needs and objectives*	• Income generating activities: Agriculture, husbandry, fishery, trade, business, … • Access to markets • Liquid assets (livestock, stocks, etc.) • Cash and savings, jewelry • Loans • Credit systems • Pensions • Remittances • Insurance
4. Social resources *(human relationships, affiliations, organization, groups)* *Formal and informal of social relationships + institutions from which people draw in pursuit of their livelihood*	*Social attitudes and practices:* • Participation, democracy, solidarity, mutuality, awareness, conflict resolution skills, safety, communication, respect of laws, influence *Social structures:* • Local CBOs • Savings and solidarity groups • Human rights groups • Disaster preparedness committees • Networks • Local, regional and national governance institutions • NGOs (local, regional, international) • Informal groups • Women's and men's groups • Religious groups, church groups • Trade associations • Unions, federations • Parties, political organizations
5. Human resources *(personal or individual resources)* *Skills, knowledge, capacities and good health important to the pursuit of livelihoods*	• Health (physical, mental) • Skills: agricultural, veterinary, crafts, water management, health care etc. • Attitude, commitment • Values and virtues • Faith • Human rights • Affiliation, membership, influence

ANNEX V: Add-on tools, games and exercises

This annex provides links to other tools that can be used to complement PACDR and a quick guide for decision-making on whether or not to use them.

Conflict sensitivity analysis (Module 2 – Climate change and hazard analysis**)**

What can it be used for? In some contexts the hazard analysis of the PACDR can reveal that there are severe underlying conflicts in the community that could hinder the success of any climate-related project or community activities or that could be made worse during such a project. In such a case, an additional conflict sensitivity analysis helps to address these tensions in a systematic manner.

How does it work? The Helvetas/Swisspeace manual on working in fragile and conflict-affected contexts uses mainly participatory exercises. Step 1 includes three main exercises: (1) an actors' mapping and (2) an analysis of the positive and negative factors in the community that divide different groups, including men and women, or bring them together (e.g. values, institutions, common experiences or traditions). This is complemented by (3) an analysis of governance problems. The results can inform the development of conflict-sensitive adaptation options in the PACDR. In highly fragile or conflict-ridden contexts a full conflict analysis as described in the manual is recommended.

How long does it take? The three exercises of step 1 in the tool take about 4 hours.

Source: https://www.helvetas.org/Publications-PDFs/2013_hsi_manual_3_steps_wfcs.pdf

Participatory Vulnerability Analysis (Module 3 – Vulnerability Assessment**)**

What can it be used for? The Participatory Vulnerability Analysis (PVA) tool developed by Action Aid enables you to do an additional vulnerability assessment of vulnerable people or groups. The PACDR analyses the vulnerability of the community in general and of different livelihood resources. It also looks at gender dimensions of vulnerability and touches on issues of minorities, but not at differences within these groups. The PVA tool provides a detailed analysis of who the most vulnerable are within a community beyond gender and minorities, what they are vulnerable to and what the underlying causes of vulnerabilities are.

How does it work? The vulnerability analysis in the PVA tool draws on exercises similar to the PACDR (e.g. hazard map and seasonal calendar) but adds some specific guiding questions on vulnerability. In addition, it includes further exercises (problem tree and concept mapping) which focus more concretely on vulnerability. It also gives guidance on which aspects of vulnerability should be discussed and documented. The PVA also includes steps to carry the results from the analysis to the district and national levels to create ownership and develop advocacy strategies.

How long does it take? A full PVA community analysis takes about 3–4 days. Conducting only the additional exercises will take about 3–4 hours.

Source: https://www.actionaid.org.uk/sites/default/files/doc_lib/108_1_participatory_vulnerability_analysis_guide.pdf

Impact chains (Module 4 – Assessment of local responses to the impacts of hazards**)**

What can it be used for? The exercise on impact chains was developed by the Cooperative for Assistance and Relief Everywhere (CARE). The exercise can be used to facilitate the assessment of direct and indirect impacts of climate-related hazards on livelihoods, and can serve as a starting point for the PACDR analysis of impacts and local responses. The exercise offers another way to visualize the relationships between climate hazards and impacts with concrete examples from the community. This can provide a useful basis for the next step of the PACDR, when the group is discussing impacts of climate change on livelihoods and existing responses to these impacts.

How does it work? Based on the hazard map and the discussions around changing trends, participants analyze the impacts of one or two climate change hazards in more detail. Starting from the left side of a large sheet of paper, participants list the hazard, its direct impacts and the indirect impacts that are resulting from the direct impacts. An example is drought (hazard) which leads to water scarcity (direct impact) and an increase in waterborne diseases, a higher burden on women to collect water and dehydration of livestock (indirect impacts).

How long does it take? The exercise takes about 90 minutes.

Source: https://careclimatechange.org/wp-content/uploads/2016/06/CARE-CVCA-Handbook-EN-v0.8-web.pdf

Using games to enhance understanding of climate change scenarios (Module 5 – Identification of adaptation strategies)

Game 1: The Greenhouse Gas Game

What can it be used for? The Greenhouse Gas Game can be used in settings where it is important to create a basic understanding of the greenhouse effect. It creates a basis for understanding how global warming and climate change can increase this effect and exacerbate hazards and impacts across the world.

How does it work? The Greenhouse Gas Game is a physical game in which participants simulate the greenhouse effect. Each participant becomes either heat from the sun or a greenhouse gas and they simulate the entry of sun rays into the atmosphere and the trapping of the heat by greenhouse gases. The game needs an experienced facilitator. It is suitable for youth and adults, but not for settings where touching is inappropriate. To play you need a large space where 30 people can run around.

How long does it take? The game takes about 20 minutes.

Source: https://www.climatecentre.org/downloads/modules/games/Greenhouse%20Gas%20Game.pdf

Game 2: Paying for Predictions

What can it be used for? Playing the game Paying for Predictions helps participants understand the potential value of forecasts and helps break down some of the barriers preventing investment. The game emphasizes the concept of climate-based disaster risk reduction and can serve as a training in decision-making under high uncertainty.

How does it work? Paying for Predictions is a dice game that deals with forecast-based flood preparedness and constantly changing risk. Players play individually and in teams and decide whether to invest in preparing for a disaster or not. The game simulates the process of individual and collective decision-making in the context of uncertainty. The game needs a highly experienced facilitator and participants who are able to deal with uncertainty and confusion during the game. It can be played with 6 to 100 players in a room with tables and chairs.

How long does it take? The game takes about 45–60 minutes.

Source: https://www.climatecentre.org/downloads/modules/games/Paying%20for%20Predictions.pdf

Facilitating a community planning process at the household level with a Gender Action and Learning System (Module 5 – Identification of adaptation strategies)

What can it be used for? The Gender Action Learning System (GALS) is a community-led empowerment methodology that aims to give women and men more control over their lives and catalyse community action. It develops visions and corresponding activities on a household level, and can be useful for transforming insights from the PACDR analysis on gender effects into action. GALS is not a one-off activity, but is part of a long-term accompaniment of community activities with a particular focus on enhancing gender relations.

How does it work? GALS starts with a Change Catalyst Workshop to initiate the gender process with community champions and project staff. The workshop is facilitated by a lead expert on GALS and introduces three key tools: the Vision Journey, the Gender Balance Tree and the Empowerment Leadership Map. Over the months after the workshop, communities are accompanied by the lead expert. A Community Action Learning process aims at supporting reflective learning and individual and collective strategies to improve progress. Individuals, groups and organizations track and share their individual and collective progress based on the three tools. This is complemented by periodic Participatory Gender Reviews that help deepen gender transformation and address issues arising from the process. The review visits also provide a focus on qualitative analysis of the information from the Community Action Learning and progressive adjustment of the monitoring and evaluation systems.

How long does it take? The Change Catalyst Workshop takes 3–5 days. The ensuing process takes months to years.

Source: https://www.oxfamnovib.nl/redactie/Downloads/English/SPEF/140701_RRDD_manual_July_small(1).pdf

Simple Greenhouse Gas Assessment for Communities (Module 6 – Co-benefits of adaptation strategies**)**

What can it be used for? This assessment intends to raise awareness about existing sinks and sources of greenhouse gases in the context of the participants' daily lives. The analysis is simple and can help participants to become more aware of positive and negative impacts of existing practices and proposed adaptation strategies on greenhouse gas emissions. This can in turn empower communities to act on climate change (reduce GHG emissions) or to actively promote their contribution as guardians of carbon sinks (e.g. community conservation activities).

How does it work? The participants establish a list of common daily activities, livelihood and income-generating activities, as well as relevant ecosystems and natural resources managed by the community. For each listed item, the group identifies the impact on climate change: positive (reducing emissions or protecting sinks), neutral (no effect on carbon emissions or sinks), or negative (increasing emissions or reducing carbon sinks). For activities with negative effect, participants discuss whether alternative strategies exist and are feasible.

How long does it take? The assessment takes 1–2 hours.

Source: https://pacdr.net/wp-content/uploads/2018/11/PACDR_English_Ver7_2017-2.pdf

ANNEX VI: Guidance and sample material for presenting climate change scenarios

What you should consider when preparing for your presentation:

The presentation should:

- Connect to the experiences of the community: go from local to global, and back to local
- Be adapted to the conditions that you find in the village during the PACDR meetings
- Be in easy (local) language, understandable for community members including the elderly and those with low formal education levels
- Consider that knowledge is often told via tales and visual language. Which figures and numbers do you really need? How can you simplify?
- Fit to the role that you (as a facilitator) play in the eyes of the community (keep in mind that as a facilitator your role is not superior to the community. Rather, you are a supportive partner)
- Dare to be creative! For example, you may find local materials that you can use to illustrate your explanations (e.g. cooking tools to explain the greenhouse gas effect…)

Possible elements of your presentation

A. Local weather and climate records

B. Impacts of climate change beyond the community

C. Greenhouse gas effect basics

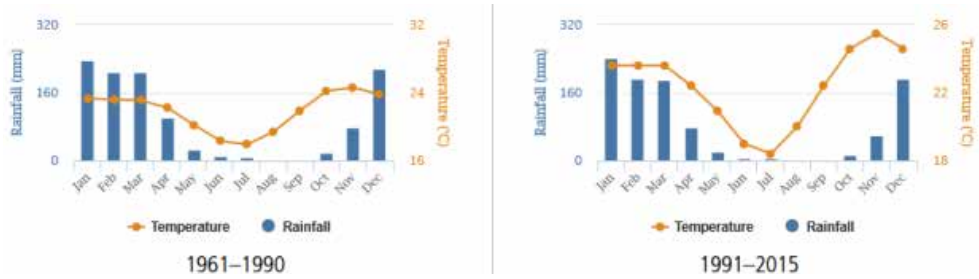
D. CO_2 sources as the cause of climate change

E. Climate change scenarios

F. Climate politics

A. Local weather and climate records

In Module 1, you searched for local weather and climate data. If you found suitable graphs (e.g. from the World Bank climate portal), you may want to print two graphs on posters to compare historical and recent climate data next to each other. Relate the scientific observations to the local observations made in modules 2–4 of the PACDR assessment.



B. Impacts of climate change beyond the community

We suggest that you start with impacts already familiar to the community (e.g. sea level rise if the community is affected by that), followed by impacts that the community can relate to (e.g. floods and impacts caused by heavy rainfall). Last, you can show those impacts that are different from those the community experiences, and maybe harder to grasp (e.g. forest fires caused by heat and drought).

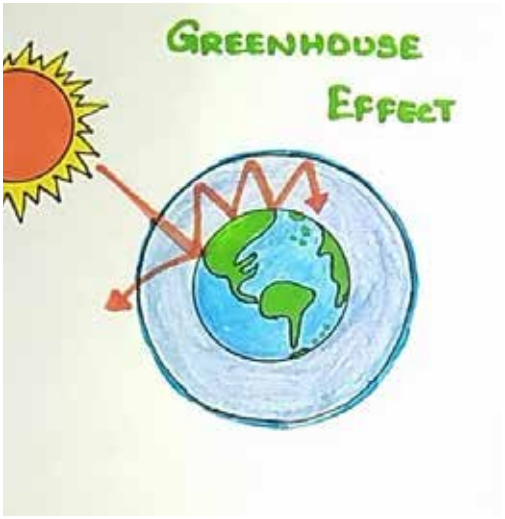
You can use photos (https://climatevisuals.org/images?f%5B0%5D=collections%3AClimate%20Impacts) and/or testimonials (e.g. https://www.trocaire.org/whatwedo/climate-justice/stories or https://facingclimatechange.net/) to show different impacts.

C. Greenhouse gas effect basics

For greenhouse gas effects basics you could also consider playing the greenhouse gas game (see Annex V), depending on the suitability for the participants and the time available.

Here you find an instruction on how to draw a very simple picture of the greenhouse effect: https://www.youtube.com/watch?v=xvAHRb0KFQA (video duration: 84 seconds)

At the end, the picture looks like this:



THE GREENHOUSE EFFECT

The sun's rays pass through the atmosphere to the earth. When they reach the earth's surface they are reflected and go through the atmosphere to space. However! When the sun's rays are reflected from the earth, GREENHOUSE GASES can trap the heat in the atmosphere.

Without these gases the earth would be very cold – about minus 18 degrees Celsius.

We call this process THE GREENHOUSE EFFECT because it is similar to what happens in a greenhouse. In the atmosphere these greenhouse gases act like a big blanket around the earth, trapping more and more heat from the sun.

Source of Material: https://www.climatecentre.org/downloads/modules/games/Debrief%20Climate%20Cards%20GHG-1-10.pdf

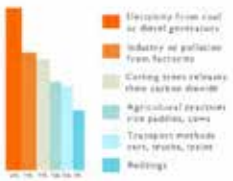
D. CO_2 Sources as the cause of climate change

It is ideal to use local pictures and examples to be context specific. You can get some inspiration from these general examples.

CAUSES

HUMAN ACTIVITIES contribute to having more greenhouse gases in the atmosphere.

What do you think the biggest causes are?



The major greenhouse gases are:

1. - Carbon dioxide
2. - Methane
3. - Nitrous oxide
4. - Fluorinated gases
5. - Water vapour

Source of Material: https://www.climatecentre.org/downloads/modules/games/Debrief%20Climate%20Cards%20GHG-1-10.pdf

Source: https://ars.els-cdn.com/content/image/1-s2.0-S016788091730244X-fx1_lrg.jpg

E. Climate change scenarios

When presenting the climate change scenarios, it is good to link the global scenarios to possible local scenarios. While it is often possible to find global or continental predictions for changes in climate, it is more difficult to find national or local material. As a basic assumption you can work with the observed changes locally and discuss that it is likely they will continue further in the future.

F. Climate politics

Climate politics might seem far removed from community realities, but national up to global climate politics might have direct impacts for communities. When preparing for or during the PACDR process, you may have become aware of climate mitigation projects conducted in or nearby the community. Some of these projects, such as bioenergy, REDD+-projects or large dams, potentially cause negative impacts for the community. If the community is or may become affected by such projects, it is important to build the communities` capacities to make informed choices and participate in local politics.

On the other hand, some national climate policies might offer access to resources for adaptation and resilience building or energy access to communities. These might be important sources to tap when conducting the community planning.

The Participatory Assessment of Climate and Disaster Risks (PACDR) tool consists of seven modules that build upon each other to enable users to systematically integrate the consideration of climate and disaster risks into community planning and development.

The tool is intended to help communities raise awareness, assess their climate change and disaster risks and to develop adaptation strategies. Non-governmental or community-based organizations and district or local governments may initiate and facilitate the process. The tool is designed to be self-explanatory to the degree that first-time users with community participation experience and basic knowledge of climate change can work their way through the modules without assistance. Community-level project developers, managers and field staff may also find the tool useful in assessing existing or planned development projects.