Participatory Assessment of Climate and Disaster Risks (PACDR)

Integrating Climate and Disaster Risks into Community-level Development Projects

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BREAD FOR ALL

Brot für die Welt

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Hilfswerk der Evangelischen Kirchen Schweiz
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This tool was developed by Marion Künzler and is based on a previous version by Marius Keller. Bread for All, Bread for the World, HEKS colleagues, and FAKT consultants provided valuable feedback. Gottfried Horneber, FAKT has revised the current version 7.

Available Languages

English, French, Spanish, Portuguese, Indonesian

Tool download

www.breadforall.ch/climatetraining
http://www.heks.ch/en/news-service/resources/
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Bread for All is the development organization of the Swiss Protestant Community of Churches. The organization supports 400 development projects and programmes in 57 countries in Africa, Asia, and Latin America. The goal of its development policy is to create and maintain fairer international socioeconomic structures and to bring peace.

Bread for the World – Protestant Development Service is the globally active development and relief agency of the Protestant Churches in Germany. In more than 90 countries all across the globe we empower the poor and marginalized to improve their living conditions. Key issues of our work are food security, the promotion of health and education, the access to water, the strengthening of democracy, respecting human rights, keeping peace and the integrity of creation. Through lobbying, public relations and education in Germany and Europe we seek to influence political decisions in favour of the poor and to raise awareness for the necessity of a sustainable way of life.

HEKS (Hilfswerk der Evangelischen Kirchen Schweiz, Entraide Protestante Suisse, Swiss Interchurch Aid) is active in 21 focal countries and collaborates closely with local partner organisations. HEKS aims to contribute towards establishing just and peaceful structures leading to improved and sustainable livelihoods. In accordance with its corporate strategy, HEKS works first and foremost in rural contexts, focusing on two defined focal themes: development of rural communities and peace promotion and conflict transformation. HEKS considers that these two themes—especially when combined—contribute decisively to livelihood sustainability.

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Introduction

Background

Climate change is one of the greatest challenges mankind has ever faced. Rising temperatures and changing weather patterns exacerbate existing natural or human-made hazards or generate new ones. The poorest inhabitants of our planet are among the most vulnerable, mainly due to weak natural, financial, social, human and physical capacities to deal with the consequences of climate change and natural or human-made hazards. Climate change endangers the long-lasting results of development cooperation. In order to ensure sustainable development projects, these hazards have to be taken into account to strengthen beneficiaries' capacities or livelihoods and reduce their vulnerability.

Figure 1: Difficult growing conditions in the drought-hit South of Zimbabwe (Photo: M. Künzler).

At the same time, development efforts can influence carbon sinks and sources of greenhouse gases (GHG), and thereby exacerbate climate change or help to mitigate it. In order to improve their environmental impact, the effect of development projects on GHG emissions and capture should also be evaluated.

To facilitate the assessment of climate and disaster hazards and the impact of development projects on adaptive capacities and GHG emissions, *Bread for All,* Heks, and Bread for the World have designed a simple, easy-to-use participatory tool. The present tool is the sixth version and takes into account experience gained with previous versions in Ethiopia, Niger, Kenya, Senegal, Zimbabwe, Haiti, Honduras, Guatemala, Brazil, Philippines, and Indonesia. Further practical experience might lead to further changes.

The Participatory Assessment of Climate and Disaster Risks (PACDR) tool can be associated with community-based adaptation (CBA) and sustainable livelihood approaches. The structure and methodology of the tool are strongly based on the Community-based Risk-Screening Tool – Adaptation and Livelihoods (CRiSTAL) developed by the International Institute for Sustainable Development (IISD), Intercooperation, the International Union for Conservation of Nature (IUCN), and the Stockholm Environment Institute (SEI), as well as the Climate Vulnerability and Capacity Analysis (CVCA) Handbook developed by CARE International.

In accordance with the open-source philosophy, just as this PACDR tool is based on CRiSTAL and CVCA, its readers and users are encouraged to apply and adjust it for their own purposes.

Main objectives and target groups

The tool is intended to help community-level project developers, managers, field staff and co-ordinators to assess existing or planned development projects with regard to climate change and disaster hazards. More specifically, the tool seeks to help users to:

- understand how climate and other hazards affect the vulnerability of the local population and their livelihoods in the project area,
- learn how the local people (men and women) currently cope with these hazards,
- evaluate how existing or planned projects affect local livelihood resources that are vulnerable to climate and other hazards and/or relevant to coping with those hazards, considering gender-specific issues,
- identify new adaptation strategies to strengthen the threatened livelihood resources and to enhance people's resilience,
- identify how existing or planned projects affect greenhouse gas (GHG) emissions and thereby contribute to or mitigate climate change, and
- adjust existing projects or design new activities to strengthen beneficiaries' adaptive capacities to deal with climate change and other hazards.

This tool has been expressly designed to integrate considerations of climate change and other hazards into all kinds of community-level development activities. It can also help to devise advocacy strategies.
The tool can even be used if no specific project is being screened (for example, to set up a new project).

➔ PACDR is a participatory assessment tool which provides important data for project planning. For effective planning, it may be necessary to collect other data by using tools like climate projections, stakeholder mapping, socio-economic analysis, gender analysis, needs assessment, etc.
When planning with communities, the first step should be the presentation and discussion of findings and key conclusions. In a second step, project objectives should be identified and decided by both the community and the organisation(s) like NGOs, government, research, etc.

How to Use this Tool

How is the tool set up and meant to be used?

The tool begins with the Introduction to terminology, which explains how the tool is used and familiarises users with its principal terms. The main part of the tool contains 6 modules, which build upon each other. Every module suggests different exercises. The modules are codified with “M1, M2, M3 etc.” and the exercises with “E1, E2, E3 etc.” for simplified orientation:

M1: Project and Context Description of the existing or planned project to be analysed	• M1/E1: Project and Context - Description of the existing or planned project to be analysed
M2: Participatory Climate change and Hazard Analysis Combination of literature-based climate change and hazard informations and local community knowledge	• M2/E1: Climate Change and Hazards in Literature • M2/E2: Political National Aspects • M2/E3: Hazard Map • M2/E4: Seasonal Calendar • M2/E5: Atlernative Exercise to Identify Hazards
M3: Participatory Vulnerability and Capacity Analysis Participiatory analysis of vulnerable livelihood resources, hazard impact and existing coping strategies	• M3/E1: Vulnerability Matrix • M3/E2: Hazard-Impact-Coping Strategies
M4: Participatory Identification of Adaptation Strategies to strengthen capacities and resilience	• M4/E1: Adaptation Strategies
M5: Projects Mitigation Capacities Assessment of project impacts on greenhouse gas emissions and identification of mitigation strategies	• M5/E1: Project mitigation Capacities
M6: Project Revision Identification of recommendations for project revision	• M6/E1: Compilation of assessment results • M6/E2: Project Revision

The information is collected through participatory methods at community level involving the project beneficiaries (stakeholder consultations), meetings with project staff, and a limited amount of literature research. Each of the six modules contains instructions, suggestions on literature resources or tools with different participatory methods, advice on implementation, advice on taking into account gender and minority issues, as well as proposals for participatory methods of gathering and interpreting the required information. In annex II you will find a typical implementation programme and tips for stakeholder consultations.

For every module, you will find information indicated by symbols which cover the following points:

- **Time requirements:** This information gives you an idea how much time you might need to implement the module.
- **Literature resources:** Where literature has to be consulted, useful resources are indicated. Literature research is never meant to be exhaustive. A small number of documents with the pertinent information is usually sufficient. For some countries, there are Climate Change and Disaster Risk Guides which give an overview of existing climate,

natural and human-made hazards information. All guides can be found on: www.bread-forall.ch/climatetraining

Participatory methods: Most of the analysis is meant to be carried out through participatory methods with the project staff and/or stakeholder consultations.

- Project staff meetings: some modules require meetings with project staff of the existing or planned project activity being screened. In these meetings, the user has to be aware that the project staff might have a vested interest in specific outcomes of the analysis.
- Stakeholder consultations: a large part of the analysis is meant to be conducted through workshops with the project beneficiaries. This is to ensure that interventions based on the results of an analysis with this tool are tailored to the local context, so that the local population can adapt in their own way to the changing climate and other relevant hazards.

Gender: Because climate change affects men and women in different ways, it also results in different vulnerabilities. The participatory assessment of climate and disaster risks must consider these differences in order to focus on gender aspects. Because of their roles, unequal access to resources and their limited mobility, women are often more negatively affected by climate change. At the same time, they develop their own coping strategies to face it.
Minorities: If the perspectives of minorities are to be considered adequately, it is important to make sure that, while consulting with the local population, different minorities have their say.
This part provides advice on how to integrate gender and minority aspects.

Advice on implementation: In this part, you will find advice on, for example, possible shortcuts if time is limited, use of terminology or the highlighting of issues to keep them in mind.

How detailed should the analysis be?

The PACDR tool seeks to offer maximum flexibility in terms of time spent on the analysis, the context in which it is applied, and the goals of the assessment.

Users who are mostly interested in adaptation, for instance, can skip the mitigation parts. Similarly, the number of separate stakeholder consultations can be chosen depending on the time available and the context. As to geographical focus, the tool is primarily designed for use at community level, yet it can also be applied to larger project areas. The level at which you should conduct the analysis will depend on the homogeneity of the geographical area in question. It is up to users to decide how detailed and time consuming they want the analysis to be.

The entire assessment will usually take a minimum of four to five days (See the typical programme in annex II), and can consume two weeks if conducted in more detail. In rural contexts, it is recommended to spread the assessment over a longer period depending on the availability of the participants. One or two days are required for preparation, two to five days for workshops and meetings with stakeholders and project staff, and another one to three days for literature research and writing an assessment report.

Where do I find further guidance?

Further explanations and documentation are provided in a series of documents elaborated by *Bread for All* to support your work. These include:

- PACDR in various languages: English, French, Spanish, Participatory Tool on Climate Change and Disaster Risks (CliDR) in Portuguese and Indonesian
- Country guides on climate change (for selected countries)
- Assessment reports on the application of this tool for projects in various countries

Some documents can be downloaded from www.breadforall.ch/climatetraining.

Introduction to Terminology

What is climate change?

Climate change refers to changes in the Earth's climate that are long term (over several decades) and often large scale. These changes can be caused either by natural processes or by human activities. In the remainder of this guide, climate change will refer to changes that are man-made unless noted otherwise.
Different human activities affect the climate, including energy production from combustion of fossil fuel, coal, and wood and land-use changes. The mechanism by which these activities affect the global climate is called the greenhouse effect.

📖 More about climate change: http://en.wikipedia.org/wiki/Climate_change

What is the greenhouse effect?

The Earth receives energy from the Sun in the form of visible light and loses energy in the form of invisible, thermal radiation (heat) into space (figure 2). Greenhouse gases (GHG) prevent some of the infrared radiation from escaping, thus heating the atmosphere and the surface of the Earth. One can think of GHG as a blanket that you use during the night to keep the body from cooling. Adding GHG to the atmosphere is like using a thicker blanket, with the consequence that your body heats up.

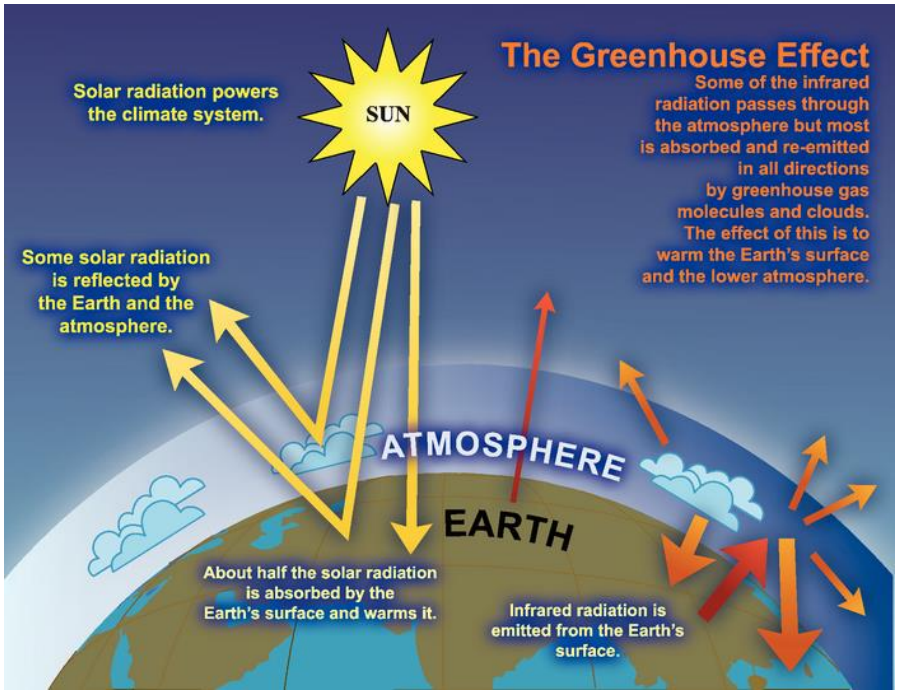


Figure 2: An idealized model of the greenhouse effect (IPCC, 2007)

The most important GHG is water vapour, which occurs naturally. Without water vapour in the atmosphere, the Earth would be completely frozen. Other important GHG are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Human activities such as combustion of fossil fuels, deforestation (carbon dioxide), and agriculture (methane and nitrous oxide) add GHG to the atmosphere, where they spread out globally, accumulate, and warm the atmosphere and the surface of the Earth.

If we look at the way the temperature has evolved over the last 400,000 years (figure 3), we find a strong correlation between the amount of carbon dioxide in the atmosphere and temperature. Carbon dioxide concentrations increased from 280 parts per million (ppm) in pre-industrial times (before 1750) to 392 ppm in 2011. During the same period, global temperatures increased by 0.8°C. Most of the observed warming happened in the last 50 years.

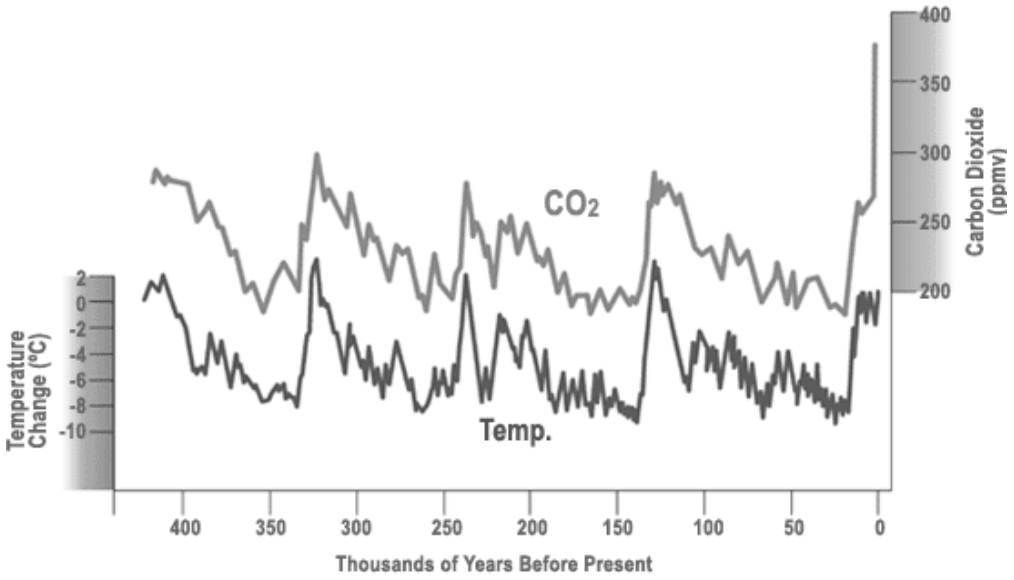


Figure 3: Carbon dioxide concentration and temperature anomalies over the past 400,000 years (www.architecture2030.org)

📖 More about the greenhouse effect: http://en.wikipedia.org/wiki/Greenhouse_effect and https://www.ipcc.ch/publications_and_data/ar4/wg1/en/faq-1-3.html
A list of relevant GHG sources and sinks: http://en.wikipedia.org/wiki/Greenhouse_gas

Is it possible to stop global warming?

If we continue to emit GHG at present rates, global warming will continue at about 0.2°C per decade. If we stopped emitting GHG now, however, global temperatures would continue to rise by about 0.1°C per decade due to the inertia of the climate system. Aside from water vapour, which has a residence time of about nine days, major greenhouse gases are well-mixed, and take many years to leave the atmosphere, e.g. CO_2 is estimated to have a lifetime of 30 to 95 years. Therefore, the world is warming now and it will keep on warming as long as we do not drastically reduce GHG emissions.

What kinds of climate hazards exist?

Global warming is just the most obvious and best understood aspect of climate change. Many more aspects of global and regional climate have been found to change as well. As a direct consequence of warming, the sea level rises and the snow and ice cover decreases (IPCC, 2007). Furthermore, weather patterns change with widespread changes in rainfall, and extreme events such as heavy precipitation, floods, droughts, etc. are more likely to occur. A special report of the Intergovernmental Panel on Climate Change (IPCC, 2012) on “Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation” presents the following key findings:

- It is virtually certain that increases in the frequency and magnitude of warm daily temperature extremes and decreases in cold extremes will occur.
- It is likely that the frequency of heavy precipitation or the proportion of total rainfall from heavy falls will increase in the 21st century over many areas of the globe.
- Average tropical cyclone maximum wind speed is likely to increase, although increases may not occur in all ocean basins.
- It is likely that the global frequency of tropical cyclones will either decrease or remain essentially unchanged.
- There is medium confidence that droughts will intensify in the 21st century in some seasons and areas, due to reduced precipitation and/or increased evapotranspiration.
- It is very likely that mean sea level rise will contribute to upward trends in extreme coastal high water levels.

- Projected precipitation and temperature changes imply possible changes in floods, although overall, there is low confidence in projections of changes in fluvial floods.
- A 1-in-20-years hottest day is likely to become a 1-in-2-years event by the end of the 21st century (10 times more frequent).
- A 1-in-20-years annual maximum daily precipitation amount is likely to become a 1-in-5 to a 1-in-15 years event.

These are global projections. Links for detailed information about particular regions can be found within the report.

What are the impacts of climate change?

These changes have severe socio-economic and environmental consequences. Hundreds of millions of people suffer from water shortage, floods in coastal low-land areas, heat waves, droughts, and increases in cardio-respiratory and infectious diseases due to climate change. Furthermore, thousands of species will become extinct and agricultural yields may dramatically decrease in some regions. The impacts of climate change already affect hundreds of millions of people today and in the next twenty years the number of people seriously affected by climate change will likely double.

📖 More about impacts on climate change:
http://en.wikipedia.org/wiki/Effects_of_global_warming

What is resilience?

Resilience is “the amount of change a system can undergo without changing state” (IPCC, 2001) or the amount of change it can quickly recover from. For example, if a village is resilient to storms it probably means that there is a protection system in place and/or no construction in a zone susceptible to damage and that reconstruction material is stored to rebuild damaged houses quickly.

How can we fight climate change?
What are adaptation and mitigation strategies?

The harmful effects of climate change cannot be avoided completely. Therefore, we must find ways of coping. Two strategies are distinguished:

1. *Adaptation strategies* help people to cope with and adapt to on-going climate change impacts. Adaptation seeks to reduce vulnerabilities and to enhance capacities to cope in both the short and long term. Examples are diversification of income, salt- or drought-tolerant crop varieties, irrigation, weather forecasting, water storage, or construction of dams. Adaptation measures must be implemented regardless of the mitigation measures taken, as the climate system will keep changing in the coming decades due to its inertia.

📖 More about adaptation to global warming:
http://en.wikipedia.org/wiki/Adaptation_to_global_warming

2. *Mitigation strategies* are aimed at slowing down and eventually stopping global warming by fighting its causes. The basis could be an agreement by the international community to drastically reduce the emission of GHG or/and to enhance carbon sinks. Examples are organic agriculture instead of conventional agriculture, prevention of deforestation, use of renewable energy, e.g. solar or water power, energy-efficient cooking stoves to reduce use of firewood, or afforestation with local species. *Carbon sinks* accumulate and store carbon in soil, biomass or oceans, thereby removing carbon dioxide (CO_2) from the atmosphere. This process is also known as carbon sequestration.

📖 More about mitigation: http://en.wikipedia.org/wiki/Climate_change_mitigation
More about mitigation potentials in agriculture can be found in a document submitted to the United Nations by the Food and Agriculture Organisation (FAO) http://unfccc.int/resource/docs/2008/smsn/igo/036.pdf

What is a hazard?

The potential for a natural or human-caused event to occur with negative consequences is called hazard (USAID 2005, UNISDR 2009). Hazards may be natural or human-made and can be classified accordingly. For example, drought is a regional, slowly developing but time-limited combination of natural and human-made events. In contrast to this, earthquakes are clearly natural hazards while industrial accidents are clearly human-made – both are rapidly developing hazards.

📖 More about hazard terminology:
http://www.preventionweb.net/english/professional/terminology/

What is a disaster?

Disasters may be caused by extreme occurrences in nature or by human activity and affect a community or a society. They destroy the basic conditions of life for the victims. Disasters often have a very significant detrimental impact on past development efforts. A disaster is defined as “a natural or human-caused event (hazard) which causes intensive negative impacts on people, goods, services and/or the environment, exceeding the affected community’s capability to respond” (USAID 2005).

📖 More about disaster terminology: http://en.wikipedia.org/wiki/Disaster
http://www.preventionweb.net/english/professional/terminology/

What is the difference between a hazard and a disaster?

It is important to note that not every hazard turns into a disaster. A volcanic eruption in an unoccupied area is a natural hazard but not a disaster. Also, hazards such as floods can have beneficial effects: the soil is supplied with fresh nutrients and made more fertile again, resulting in higher yields; whereas disasters always have adverse impacts. Whether a hazard turns into a disaster depends on different factors: the exposure to and the frequency and intensity of the hazard, the vulnerability of the population affected and its coping capacity.

Why are developing countries more hit by disasters than industrialised countries?

The clear majority of natural disasters occur in emerging economies and developing countries. The loss of life in emerging and developing countries is often much higher than in industrialized countries. It is no coincidence that 92% of the deaths caused by natural disasters between 2000 and 2009 were in emerging and developing countries (WDR 2010). In contrast to this, the material damage in industrialized countries is higher. Between 2000 and 2009 around 627,869 million US dollars or 64% of estimated damage occurred in industrialised countries compared to 36% in emerging and developing countries (WDR 2010).

Why is there a difference? In many regions of the world, the threat of natural hazards such as volcanic eruptions, earthquakes and tsunamis, hurricanes and tornadoes, extreme rainfall, droughts or forest fires are permanently present. People living in these regions are exposed to these natural hazards, but they may be able to prevent themselves from having grave consequences (e.g. earthquake-resistant building, a dyke, or a good insurance policy). People who do not have enough coping capacities to protect themselves sufficiently from the adverse effects of hazards are particularly 'vulnerable' to disasters.

Thus, the main difference between emerging and developing countries and industrialized countries is their vulnerability and capacity to cope with the impacts of a disaster. Emerging and developing countries, and especially poor people, often have a lower capacity to cope with the impacts of a disaster and their vulnerability is therefore higher than in industrialized countries (GTZ 2002, BMZ 2008). On the other hand, because there is more valuable infrastructure in industrialized countries; the material damage is bigger.

What is a disaster risk?

The disaster risk (of a region, a community, a family, or a person) consists of three elements—hazard, vulnerability and coping capacity:

- *Hazard:* see explanation above. The disaster risk depends on frequency and intensity of the hazard.
- *Vulnerability* denotes the inadequate means or ability to protect oneself against the adverse impacts of natural events and to recover quickly from their effects. Vulnerability depends on a system's sensitivity and its adaptive capacity. Vulnerability comprises very diverse, often reciprocal, factors that have to be taken into account to determine the vulnerability of a family, a village, or a country.
- *Coping capacity* is defined as the "ability of people, organizations and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters" (UNISDR 2009). Although the term 'coping capacity' is widely used in the context of the UNFCCC, it is not officially defined. Coping capacities and strategies are often passed on from generation to generation within communities and households and depend on the assumption that abnormalities follow a well-known pattern, to which people's earlier actions could serve as a reasonable guide for the future. Examples of coping strategies are indigenous knowledge for tsunami pre-warning systems, selection of crop types, and varieties or reduction of meals.

Vulnerability and coping capacity depend mainly on the availability of and access to livelihood assets: natural, financial, human, physical, and social resources.

📖 More about disaster risk terminology:
http://www.preventionweb.net/english/professional/terminology/

How can we reduce disaster risks?

Disaster risk reduction is about putting in place measures to limit the impacts of natural disasters, especially the frequent medium-scale disasters that continually erode the development gains of communities. Disaster risk reduction distinguishes two measures:

a. *Prevention* or *mitigation* refers to reducing the likelihood that a disaster will occur through flood protection mechanisms, livelihood diversification, safe building practices etc.
b. *Preparedness* refers to strengthening a community's ability to respond and cope with a disaster through cyclone shelters or evacuation routes.

📖 More about disaster risk reduction terminology:
http://www.preventionweb.net/english/professional/terminology/
http://en.wikipedia.org/wiki/Disaster_risk_reduction

What have disaster risk reduction and adaptation in common?

Both disaster risk reduction and adaptation to climate change aim to strengthen capacities of systems or human beings and reduce the vulnerability of livelihoods, e.g. natural or financial livelihoods. Thus, the strategies applied to reduce disaster risks are often similar and strongly linked to climate change adaptation.

What is resilience?

Resilience can be defined as the ability of a community to resist, absorb, and recover from the effects of hazards in a timely and efficient manner, preserving or restoring its essential basic structures, functions and identity (UNISDR, 2009).

What is the difference between coping and adaptation strategies?

Coping is a way of responding to an experienced impact with a shorter-term vision (for example, one season), and adaptation is the process of adjusting to change (both experienced and expected), which is longer term (for example, over a decade or longer) (IRIN 2012).

Coping strategies

- Short-term and immediate
- Oriented towards survival
- Not continuous
- Motivated by crisis; reactive
- Often degrades the resource base
- Prompted by a lack of alternatives

Adaptation strategies

- Practices and results are sustained
- Oriented towards longer-term livelihood security
- A continuous process
- Involves planning
- Uses resources efficiently and sustainably
- Focused on finding alternatives
- Combines old and new strategies and knowledge

(from: Care CVCA: http://careclimatechange.org/wp-content/uploads/2014/12/CVCA_EN.pdf

What is the livelihood approach?

Livelihood approaches take into account objectives, scope, and priorities for development. They place people and their priorities at the centre of development and focus poverty reduction interventions on empowering the poor to build on their own opportunities, supporting their access to assets, and developing an enabling policy and institutional environment. Livelihood approaches are mainly based on responsive and participatory, people-centred, and sustainable principles.
The conceptual framework to aid analysis of the factors affecting people's livelihoods includes:

- the priorities that people define as their desired livelihood outcomes
- their access to social, human, physical, financial, and natural capital or resources and their ability to put these to productive use
- the different strategies they adopt (and how they use their assets) in pursuit of their priorities
- the policies, institutions and processes that shape their access to assets and opportunities
- the context in which they live, and factors affecting vulnerability to shocks and stresses.

📖 More about the different resources can be found in module 3, exercise 1 (M3/E1): vulnerability matrix.
More about livelihood approaches and its terminology:
www.eldis.org/ go/topics/dossiers/livelihoods-connect/what-are-livelihoods-approaches

How can minority and gender aspects be integrated?

Gender is defined by FAO as "the relations between men and women, both perceptual and material. Gender is constructed socially and often governs the processes of production and reproduction, consumption and distribution" (FAO, 1997). Despite this definition, gender is often misunderstood as being the promotion of women only. However, gender issues focus on women and men as well as on the relationship between them, their roles, access to and control over resources, division of labour, interests and needs.

In social science, the term "minority" refers to categories of persons who hold few positions of social power, e.g. ethnic, racial, religious, political, national, wealth, age, disabled or sexual orientation groups.

The consideration of gender translates into different vulnerabilities and coping strategies for men and women. The same is true for minorities. Therefore, the perspectives of men and women and of minorities must be taken into account. It is therefore worth considering organising separate meetings with different groups, e.g. men and women. Adaptation efforts

Figure 4 and 5: Separate groups of men and women drawing a hazard map of Kitui district in Kenya. (Photo: M. Künzler).

should systematically and effectively address gender and minority-specific impacts of climate change.

For example, women's limited access to resources and decision-making processes increases their vulnerability to climate change. Women in rural areas in developing countries bear the major responsibility for water and energy (cooking and heating) supply and food security. Because of their roles, unequal access to resources and limited mobility, women in many contexts are disproportionately affected by climate change and natural disasters, such as droughts, floods, fires, or uncertain rainfall. But women are not only victims of climate change, but also effective agents of change in relation to both adaptation and mitigation. Women have a strong body of knowledge and expertise that can be used in climate change mitigation, disaster prevention and adaptation strategies. Therefore, depending on the situation, it can make sense to hold separate meetings for men and women and also for minorities e.g. age or ethnic.

📖 More about climate change and gender:

- Gender climate change platform offers information, knowledge, and networking on gender and climate change http://www.gendercc.net/
- WEDO Women's Environment and Development Organization platform http://www.wedo.org/
- Gender and climate change BRIDGE Cutting Edge Pack: www.bridge.ids.ac.uk/go/bridge-publications/cutting-edge-packs/gender-and-climate-change
- Training Manual on Gender and Climate Change www.generoyambiente.org

Module 1
Project and Context

This module helps you to compile basic information on the analysed project and its context. If the analysis is not focussed on an existing project, you should include any available information on your planned activities. If none is available, skip the respective elements in the following list.

- 2 hours to one day.
- To gather this information, please consult the existing project proposal, progress reports, and evaluations or consult directly with project representatives and probably organize a field visit. You might also want to search for literature or online resources to learn more about the geographical area.
- The information can be gathered through a project staff meeting in combination with a field visit.
- Tips for field work, as well as a typical implementation programme, can be found in annexes I and II.

M1/E1: Project and Context

Objectives

- To become familiar with the implementing organization, the project, its activities and the project context.

120 -180 minutes

How to Facilitate

Try to answer the following questions:

- Name / title of the project
- Description of the implementing organizations
- Involved agencies (i.e. donors, implementing organizations)
- Description of the project area: geographical location of the project, size of project area, poverty rate, main economic resources
- Description of the core project (e.g. type of project, duration, goals, objectives, activities, results so far, budget, financier, target group)
- Description of the project context:
  - Local and external groups/institutions/organizations (including informal and community-based groups) that are working with the local population
  - Projects/organizations working in disaster risk reduction and/or climate change
  - Activities/influence of the government in the area
  - Climatic conditions
  - Current hazards
  - Prevention and preparedness systems against climate, natural or human-made hazards in place
  - Political, cultural, social (including gender issues) and economic trends

Module 2
Participatory Climate Change and Hazard Analysis

The second module helps you to develop a climate change and hazard analysis as well as to identify main governmental aspects on climate and disasters in your project area. It combines literature-based climate change and hazard information with local community knowledge.

4-5 hours to one day

The information is gathered through the following participatory exercises:

- Climate change and Hazard in Literature (M2/E1): conduct literature research to answer basic climate change and hazard questions in your country/region.
- National Political Aspects (M2/E2): analysis of political aspects related to climate change and hazards in your country.
- Hazard map (M2/E3): workshop participants draw a map of their village/community, indicating the areas put at risk by certain climatic, natural or human-made hazards. Participants discuss the changes of frequency and intensity of the hazards in the past.
- Seasonal Calendar (M2/E4): participants make a calendar indicating important events in the year, particularly periods of stress due to natural or man-made hazards. Participants discuss the changes of frequency, intensity, and seasonality of the hazards in the past.
- Alternative exercise to identify hazards (M2/E5): participants identify the hazards they are confronted with in daily life and discuss the changes of frequency, intensity and seasonality of the hazards in the past.

The information should be gathered through literature research (M2/E1, M2/E2) and consultations with the local population (M2/E3, M2/E4, M2/E5) in gender-separated workshops.

You are recommended to organize gender-separated workshops, one for men and one for women, to collect the necessary information. If you work with minorities it might also be helpful to work with them in different groups.

If you have insufficient time to do the participatory exercises (M2/E3 and M2/E4), skip them and do exercise 5 (M2/E5) instead.
Tips for field work as well as a typical implementation programme can be found in annexes I and II.
Note that climate hazards and 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 including abrupt and slowly unfolding hazards. Natural or human-made hazards include all hazards related to the natural environment, which may include hazards without any relation to climate change, such as earthquakes.

Even though the local population may not care whether a given hazard is related to climate change or not, it is important for this analysis. First, because future climate change will almost invariably exacerbate climate-related hazards. Second, because the origins of hazards also matter for advocacy. Climate change, for instance, has largely been caused by industrialised countries, which means that adaptation to its impacts has to be supported by these countries.

M2/E1: Climate Change and Hazards in Literature

Objectives

- To identify past and predicted climate change in the project area.
- To identify human hazards in the project area.

2-3 hours

The information should be gathered through literature research.

How to Facilitate

Try to answer the following questions, by consulting the recommended links below.

- How has climate change (e.g. temperature, rainfall patterns, sea level rise and extreme events) been developing in your area in the past and how will it develop in the future?
- What are the most important past and future climate, natural and human-made hazards in your geographical region?
- What have been the most important impacts of those hazards on people's lives (for men and women) in your region?
- What are the most important sources of GHG emissions and carbon sinks in your country or project area?

Information on climate hazards and their impacts, on GHG emissions and carbon sinks, as well as on government policy, can be found in the following documents. Note that in most cases, detailed information is only available on a national level:

- Country guides on climate change elaborated by *Bread for All*.
- "National Communications" of the respective country: All parties to the United Nation Framework Convention on Climate Change (UNFCCC) must submit so-called National Communications which deal with the impacts of climate change and GHG emissions within their borders. Reports can be found on: http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php
- National Adaptation Programmes of Action (NAPAs) are issued by all Least Developed Countries (LDCs) that are parties to the United Nations Framework Convention on Climate Change. Reports are available at: http://unfccc.int/_cooperation_support/least_developed_countries_portal/submitted_napas/items/4585.php
- The National Adaptation Plan (NAP) process helps countries conduct comprehensive medium- and long-term climate adaptation planning. See: http://www.wri.org/blog/2014/06/clarifying-unfccc-national-adaptation-plan-process
- United Nations Development Programme (UNDP) provides Climate Change Country Profiles on general climate, recent climate trends, and projections of future climate for the respective country: http://country-profiles.geog.ox.ac.uk/
- The World Resources Institute provides country profiles for over 220 countries, presenting environmental and GHG emissions information about key variables for each topic area: http://earthtrends.wri.org/country_profiles/index.php?theme=3
- Reports from the UN's climate panel (IPCC). They can be found at http://www.ipcc.ch/publications_and_data/publications_and_data_reports.htm
- weAdapt knowledge base is a web-based, open source tool with useful information on climate change adaptation for many countries: weadapt.org
- Status of Ratification of the United Nations Framework Convention on Climate Change: http://unfccc.int/essential_background/convention/status_of_ratification/items/2631.php
- Germanwatch provides information on the Climate Change performance Index in 2011: http://www.germanwatch.org/ccpi

📖 The following sources provide information on hazards and their impacts, as well as on government policies and mechanisms for disaster risk reduction:

- Prevention Web has information on relevant disaster risks, policies and organisations working in disaster risk reduction for each country: http://www.preventionweb.net/english/countries/
- Relief web publish situation reports, appeals, policy documents, analyses, press releases and maps related to humanitarian aid: http://reliefweb.int/countries
- The International Disaster Database provides data on disasters in the past for each country: www.emdat.be/country-profile or www.emdat.be/disaster-profiles
- OCHA Regional Office for Asia and Pacific provides hazards maps: http://ochaonline.un.org/roap/MapCentre/HazardMaps/tabid/3725/language/fr-FR/Default.aspx
- National disaster prevention organisations often have their websites, but there is little coherence regarding the structures of the websites and the responsible organisations themselves across countries.

M2/E2: National Political Aspects

Objectives

- To become familiar with the national climate policy, its plans and strategies.

2-3 hours

The information should be gathered through literature research.

How to Facilitate

If you want your analysis to include political aspects, you should find information on the questions listed below. This is particularly important if the goal of the assessment is to elaborate advocacy strategies.

- What are the main government policies, strategies, programmes and plans regarding climate change resilience (adaptation strategies), GHG emissions / carbon sinks (mitigation strategies), and/or low carbon development / energy policies?
- What are the main government policies and structures regarding disaster risk reduction? What are the responsibilities of the government and local population in case of a disaster?
- Are intergovernmental organisations (e.g. UNEP, UNDP, World Bank, African, Asian or Inter-American development bank) financing, implementing or advising climate-change or energy-related programmes or projects in your country?
- What opportunities are there at national level and in the project area for civil society organisations to influence policies and processes at national and regional/local level (e.g. platforms, networks, consultations)?
- Are there any important developments in national policies regarding disaster risk reduction (elaboration or revision of policies)?
- What are the main objectives and strategies of the national government as to international climate policies? Are they at bilateral, multilateral or global (UNFCCC) level?

📖 View recommended resources in module 2, exercises 1 (M2/E1).

M2/E3: Hazard Map

Objectives

- To become familiar with the community, and to see how inhabitants are perceiving their community
- To identify important livelihoods resources in the community, and who has access and control over them
- To identify areas and resources at risk from climate, natural or human-made hazards
- To analyse changes in hazards

120 minutes for both drawing (90 minutes) and discussion (30 minutes)

The information should be gathered through stakeholder consultations with the local population in gender-separated workshops.

How to Facilitate (90 minutes)

1. Prepare the exercise (see figure 6): Provide sheets of paper (minimum size 50 cm x 100 cm) and coloured pencils to draw the map. It helps at the start if you have an idea of the boundaries of the district / villages that the project is working in or have already drawn them on the sheets of paper.
2. Explain to the participants that they will draw a map of their community.
3. To start with, the participants draw the boundaries of their community or district.

You should help the participants to get started but let them draw the map by themselves. Use signs or symbols to draw facilities, resources etc. Try to avoid written names. Create a key for the symbols and signs used (see example).
Time management: Do not spend too much time drawing the boundaries, settled areas and facilities. Try to focus on the main information (resources and hazards).

4. Ask community members to draw the location of:
   a. Settled areas: villages and cities
   b. Facilities: roads, churches/mosques, health clinics, schools, wells
   c. Resources: forested areas, water bodies, agricultural land, fishery zones, pasture, spiritual places
5. Is there anything missing that seems relevant or important to you? When the community members have agreed that the map is representative of their community, begin the second step: identifying the hazards.
6. Which areas are at risk from different types of hazards?
   a. Climate hazard: temperature, precipitation, (annual, seasonal, daily) sea level rise (erosion of beaches/cliffs, changes in tides/rivers/bays), extreme events (drought, heavy rainfall, wildfire etc.)
   b. Natural hazards: typhoons/cyclones/hurricanes, flood, drought, El Nino (warming), La Nina (cooling), earthquakes, volcano
   c. Human-made hazards: Socio-political conflicts, littering, deforestation etc.

Don't confuse hazards with their impacts. The latter will be analysed in the next step. Hazards that affect the whole area (not location-specific) are noted in the margin of the board.
Climate change is a long-term phenomenon (over decades), thus a change occurring once in the last ten or twenty years is not due to climate change. Also, keep in mind that recent events are often more present and impressive and therefore often overvalued by participants.
No distinction is made between hazards related to climate change and other hazards, as the local population rarely knows about the exact origins of hazards. It is important, however, to note for yourself whether hazards are related to climate change or not, considering your results in module 2. This will also give you insights into the future

evolution of today's hazards. Furthermore, consider potential linkages between hazards.

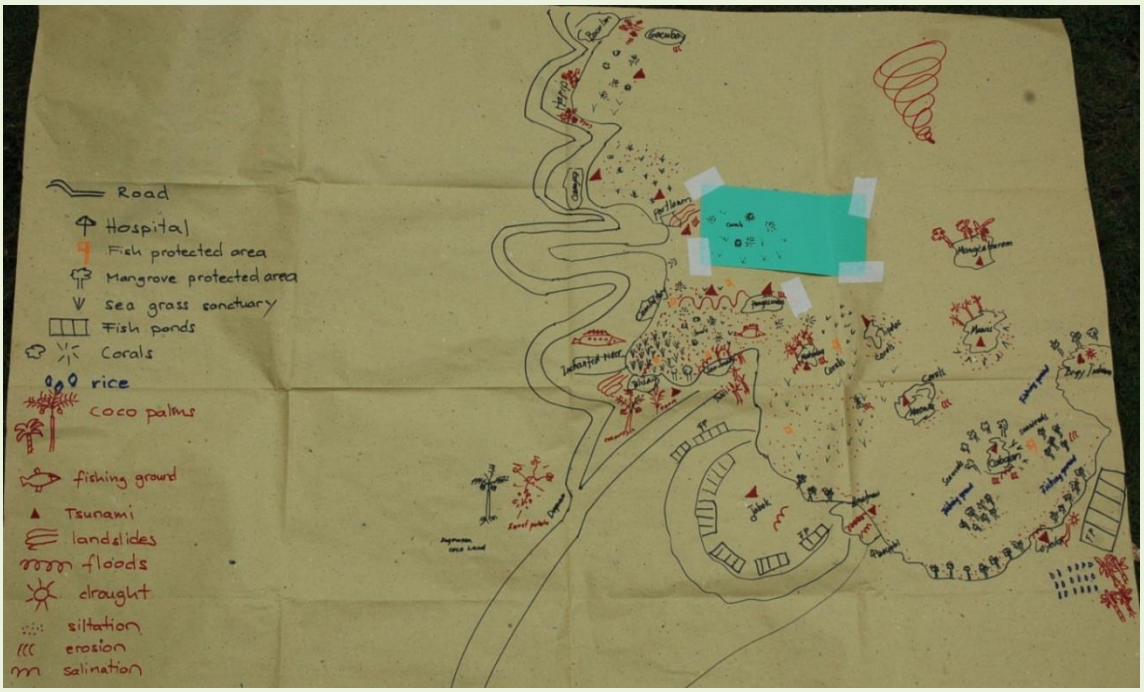


Figure 6: Hazard map elaborated in a workshop with female fishers in the Philippines (Photo: M. Künzler).

Learning and Discussion (30 minutes)

When the map is complete, ask the group members the following questions:

- Are the hazards different now than they were 10/20/30 years ago (depending on age of participants)? Are the hazards changing in frequency and intensity?
- Who is most affected by them?

M2/E4: Seasonal Calendar

Objectives

- To identify periods of stress, hazard, disease, hunger, debt, vulnerability, etc.
- To understand main community activities/events
- To analyse changes in seasonal activities, events, intensity, and frequency and their link to climate change

75 minutes for drawing (45 minutes) and discussion (30 minutes)

The information should be gathered through stakeholder consultations with the local population in gender-separated workshops.

How to Facilitate (45 minutes)

1. Prepare the exercise (see figures 7 and 8): Provide sheets of paper (minimum size 50 cm x 100 cm) and coloured pencils. Prepare the table and mark off the months of the year on the horizontal axis
2. Explain to the participants that you would like to develop a seasonal calendar to show key events and activities that occur during the year.
3. Ask people to list seasons, events, conditions, etc. along the vertical axis. The list should include:
   a) Rainfall season
   b) Activities such as planting and harvest seasons, livestock keeping, or fishing season

c) Timing of climatic variables or hazards: typhoons/cyclones, flood, drought, El Nino (warming), La Nina (cooling), earthquakes, precipitation
d) Periods of stress: food scarcity, water shortage, diseases
e) Times of migration
f) Important holidays/festivals

4. When the key events have been listed, plot their timing in the table based on agreement among the participants (either with x for every month (figure 7) or with lines (figure 8))
5. Ask the participants, especially older ones, about the situation 20 or 30 years ago for each item and mark it with a different colour (can be seen in figure 8: green (current) and red (30 years ago) lines)

Time management: Do not spend too much time completing the exercise as the discussion is very important.
Climate change is a long-term phenomenon (over decades), thus a change occurring once in the last ten or twenty years is not due to climate change.

Figure 7: Seasonal calendar elaborated with female farmers and pastoralists in Kenya (Photo: M. Künzler).

EVENTS	J	F	M	A	M	J	J	A	S	O	N	D
Long rains			X		X							
short rains										X	X	X
farm cultivation		X						X	X			
planting & weeding			X	X						X	X	
harvesting	X						X					
livestock & chicken keeping	X	X	X	X	X	X	X	X	X	X	X	X
collecting firewood	X	X	X	X	X	X	X	X	X	X	X	X
fetching water	X	X	X	X	X	X	X	X	X	X	X	X
cooking	X	X	X	X	X	X	X	X	X	X	X	X
mary-go-rounds	X	X	X	X	X	X	X	X	X	X	X	X
bricks making					X	X	X	X	X	X		
vegetable selling	X	X	X	X	X	X	X	X	X	X	X	X
sweet potatoes selling						X	X	X	X	X		
pease selling				X					X	X	X	
water selling							X	X	X			
initiation for boys								X				
wedding				X				X	X			
foot-and-mouth disease	X											
newcastle poultry disease							X					
malaria		X	X								X	X
amoeba/typhoid/brucella					X	X	X	X	X	X		
diarrhoea/vomiting						X	X	X	X			
	J	F	M	A	M	J	J	A	S	O	N	D

Figure 8: Seasonal calendar elaborated with rural women in DR Congo (Photo: G. Horneber)

Learning and Discussion (30 minutes)

When the calendar is complete, ask the group members the following questions:

- 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?
- Are there any trends or changes in the frequency or intensity of events over time?

Interpretation of exercises 3 and 4 (feedback of project analysis team to beneficiaries)

- Are the hazards and seasonal changes (e.g. rainy/drought season, sea level rise, etc.) consistent with observed climate changes and the climate change predictions of scientists (results of M2/E1)?
- Explain your interpretation of the results to the participants.

M2/E5: Alternative Exercise to Identify Hazards

This exercise can be done if you have insufficient time to do the hazard map (M2/E3) and the seasonal calendar (M2/E4).

Objectives

- To identify climate, natural, and human-made hazards
- To analyse changes in hazards over the last 10/20/30 years
- To analyse changes in seasonal hazards as well as changes in intensity and frequency

45 minutes for drawing (15 minutes) and discussion (30 minutes)

The information should be gathered through stakeholder consultations with the local population in gender-separated workshops.

How to Facilitate (15 minutes)

1. Prepare the exercise (refer to figure 9): Provide sheets of paper and a pencil.
2. As a first step, ask people which hazards they are struggling with in daily life:
   a) Natural hazards: typhoons/cyclones, flood, drought, El Nino (warming), La Nina (cooling), earthquakes, volcanic activities
   b) Climatic hazards: temperature, precipitation, (annual, seasonal, daily) sea level rise (erosion of beaches/cliffs, changes in tides/rivers/bays), extreme events (drought, heavy rainfall, wildfire etc.)
   c) Man-made hazards: Socio-political conflicts, littering, deforestation etc.
3. Is any relevant or important hazard missing? When the community members have agreed that the hazards are representative of their community, begin the second step: identifying the three or four most important hazards.
4. Ask the community to name the three or four most important hazards. Try to summarize certain hazards if the participants named a lot of similar ones. For example various illnesses such as malaria, diarrhoea and typhoid can be summarized as human diseases.

No distinction is made between hazards related to climate change and other hazards, as the local population rarely knows about the exact origins of hazards. It is important, however, to note for yourself whether hazards are related to climate change or not, considering your results in module 2. This will also give you insights into the future evolution of today's hazards. Furthermore, consider potential linkages between hazards.

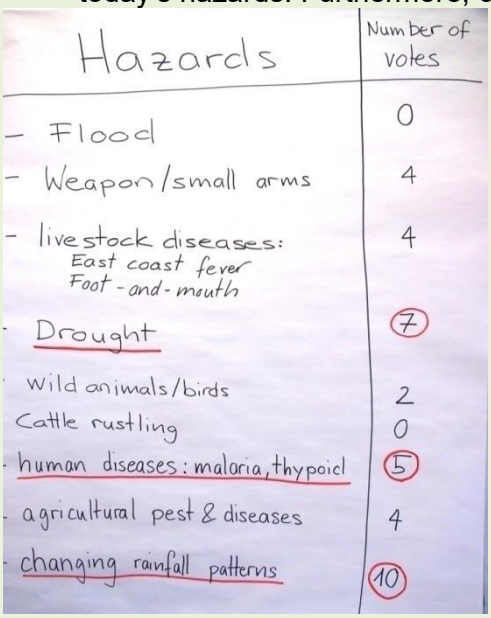


Figure 9: Hazards identification elaborated in a workshop with male farmers and pastoralists in Kenya (Photo: M. Künzler).

Learning and Discussion (30 minutes)

When the list of hazards is complete, ask the group members the following questions:

- Are the hazards different now than they were 10/20/30 years ago (depending on age of participants)? Are the hazards changing in frequency and intensity?
- Are there any differences in the timing of seasonal hazards compared to 10/20/30 years ago (depending on age of participants)?

Interpretation of exercise 5 (feedback of project analysis team to beneficiaries)

- Are the hazards and seasonal changes (e.g. rainy/drought season, sea level rise etc.) consistent with observed climate changes and the climate change predictions of scientists (results of M2/E1)?
- Explain your observation of the results to the participants.

Module 3
Participatory Vulnerability and Capacity Analysis

This module consists of a participatory analysis of hazard impacts, existing coping strategies and vulnerable livelihood resources within the communities. More precisely, you'll identify the most important hazards, their main impacts as well as the coping strategies currently applied by the local population (men and women) to temper negative impacts. In a second step, the most important livelihood resources are identified and their vulnerability to natural hazards is analysed.

Half a day

The information is gathered through the following participatory exercises:

- Vulnerability Matrix (M3/E1): Participants identify their main livelihood resources and hazards. They evaluate the impact of the hazards on their livelihoods.
- Hazard-Impact-Coping Strategies (M3/E2): Participants prepare a table with rows showing hazards, the impacts of these hazards and the strategies to deal with those impacts. Participants discuss the sustainability and effectiveness of their coping strategies.

The information should be gathered through consultations with the local population in gender-separated workshops.

It is recommended to organize gender-separated workshops, one for men and one for women, to collect the necessary information. If you work with minorities it might also be helpful to work with them in different groups.

Tips for field work, as well as a typical implementation programme, can be found in annexes I and II.

M3/E1: Vulnerability Matrix

Objectives

- To determine the main hazards that have the most serious impact on important livelihoods resources
- To determine which livelihoods resources are most vulnerable

90 minutes for drawing (80 minutes) and discussion (15 minutes)

How to Facilitate

1. Prepare a matrix in advance (see figure 9). This can be done on sheets of paper (minimum size 50 cm x 100 cm).
2. Ask the group to identify their most important livelihoods resources. You are encouraged to categorise the resources according to the following classification. Ideally, at least three resources in each category will be identified.
   a. *Natural resources*: the natural resources on which people rely for income, food, medicine, protection, etc. Examples: forests, water, air, soils, crop, vegetables, fish, and livestock.
   b. *Economic and Financial resources*: The stocks and flows of money people rely on. Examples: income from the sale of agricultural products and handicrafts, casual work, and remittances.
   c. *Human resources*: The skills, knowledge, capacity and good health important to the pursuit of livelihoods. Examples: health, agricultural or leadership skills and gender-

specific knowledge, such as women's technological knowledge and biological materials[1].

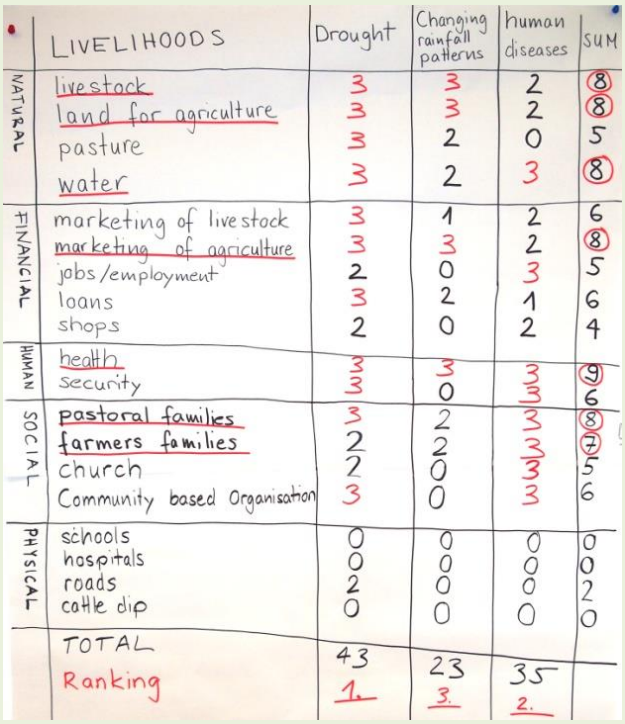
d. *Social resources*: The formal and informal social relationships and institutions important to pursuing objectives worthwhile for the community. Examples: local councils, churches, cooperatives, trade union, family.

e. *Physical resources*: the basic infrastructures and productive capital for transport, buildings, water management, energy and communications, etc. Examples: roads, hospitals, dwellings, water tanks.

If you have time management problems, concentrate on the resources that are affected by the hazards mentioned in the hazard map (M2/E3).

3. Ask the group to identify the two or three main hazards to their livelihoods identified in the exercises M2/E3-5 (the number of hazards identified will depend on time management so far) and list them horizontally across the top of the matrix, again using symbols if necessary.
4. Rate the impact of every hazard on the resources. The scoring system is as follows:
   3 = significant impact on the resource (**note it in red**)
   2 = medium impact on the resource (**note it in blue**)
   1 = low impact on the resource (**note it in black**)
   0 = no or positive impact on the resource (**note it in black**)
5. Ask the participants to decide on the degree of impact that each of the hazards has on each of the resources, note the score. Start the rating with hazard 1 following it vertically, then hazard 2, etc. Be aware of opinion leaders, quick responders, manipulation and domination. Take enough time to discuss the score and to find a consensus, especially at the beginning of the exercise.
6. The note taker should note key points of discussion that lead to the scores assigned, and any disagreements on the scores.

Figure 10: Vulnerability matrix elaborated in a workshop with male farmers and pastoralists in Kenya (Photo: M. Künzler).



	LIVELIHOODS	Drought	Changing rainfall patterns	human diseases	SUM
NATURAL	livestock	3	3	2	8
	land for agriculture	3	3	2	8
	pasture	3	2	0	5
	water	3	2	3	8
FINANCIAL	marketing of livestock	3	1	2	6
	marketing of agriculture	3	3	2	8
	jobs/employment	2	0	3	5
	loans	3	2	1	6
	shops	2	0	2	4
HUMAN	health	3	3	3	9
	security	3	0	3	6
SOCIAL	pastoral families	3	2	3	8
	farmers families	2	2	3	7
	church	2	0	3	5
	Community based Organisation	3	0	3	6
PHYSICAL	schools	0	0	0	0
	hospitals	0	0	0	0
	roads	2	0	0	2
	cattle dip	0	0	0	0
	TOTAL	43	23	35	
	Ranking	1.	3.	2.	

Learning and discussion (15 min.)

- Add the numbers vertically and horizontally
- **Most vulnerable livelihoods:** Which livelihood resources have the highest horizontal sum and are thus most vulnerable?
- **Highest impact of hazard:** Which hazard has the highest vertical sum and thus induces the highest impact on the identified livelihood resources?
- Considering the projected climate change, how might hazards and the vulnerability of livelihoods change in future? Will other livelihoods become vulnerable?
- For which livelihood resources is it most important to implement the identified coping strategies?

[1]APRODEV Briefing, October 2009, Call for IPR Flexibilities in Climate Change and Trade Negotiations. Women's Intellectual Property Rights.

M3/E2: Hazards - Impacts - Coping Strategies

Objectives

- To identify the impacts of hazards on the group's life and livelihoods
- To identify the coping strategies currently used to address the hazards and impacts identified
- To identify the effectiveness and sustainability of coping strategies

80 minutes for drawing (60 minutes) and discussion (20 minutes)

How to Facilitate (60 minutes)

1. Prepare the exercise (see figure 10): Provide sheets of paper (minimum size 50 cm x 100 cm) and coloured pencils to complete the table.
2. List the two or three main hazards identified in the M2/3-5 vertically (the number of hazards identified will depend on the time management so far).
3. Identify the most important impacts of the hazards noted above.

Don't confuse impacts with hazards. Examples of natural hazards include droughts or storms, while their impacts can include crop damage and destroyed dwellings. Gender-specific impacts can be water sources running dry, thus producing an increase in house work and time spent gathering water for women because of droughts and scarce rainfalls

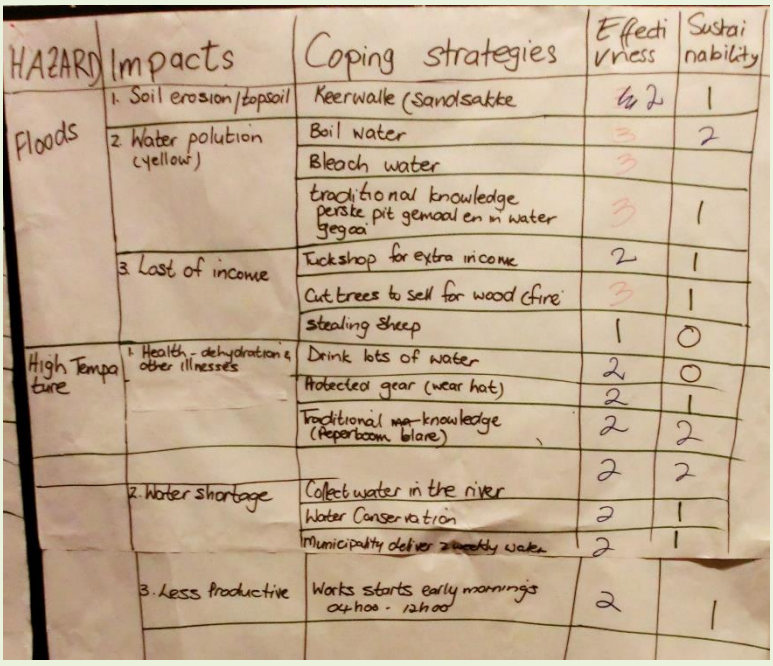
4. Identification of existing coping strategies: How do you respond to the impacts?
5. How are these coping strategies working? How effective and sustainable are they?

Make sure that men and women are given the opportunity to contribute their coping strategies: in the example mentioned above, a gender-specific coping strategy for water scarcity could be water-saving practices, e.g. rain-water harvesting.
Be aware that people have to identify their actual coping strategies, rather than desirable response mechanisms.

Discussion (20 minutes)

- Where do these coping strategies come from? How are they passed on in families and communities?
- Are there coping strategies which are harmful for livelihoods in the long run?

Figure 11: Hazards-Impacts-Coping strategies elaborated in a workshop with NGO staff in South Africa (Photo: G. Horneber).



HAZARD	Impacts	Coping strategies	Effectiveness	Sustainability
Floods	1. Soil erosion/topsoil	Keerwalle (sandsakke	½ 2	1
	2. Water polution (yellow)	Boil water	3	2
		Bleach water	3	
		traditional knowledge perste pit gemaal en in water gegooi	3	1
	3. Lost of income	Tuckshop for extra income	2	1
		Cut trees to sell for wood (fire)	3	1
		stealing sheep	1	0
High Temperature	1. Health - dehydration & other illnesses	Drink lots of water	2	0
		Protected gear (wear hat)	2	1
		Traditional ma-knowledge (Peperboom blare)	2	2
			2	2
	2. Water shortage	Collect water in the river		
		Water Conservation	2	1
		Municipality deliver weekly water	2	1
	3. Less Productive	Works starts early mornings 04h00 - 12h00	2	1

Interpretation (feedback of project analysis team to participants)

- Take up the issue of effectiveness and sustainability. Are these short- or long-term coping strategies? Can the population cope alone with the impacts? On whom and how does the population rely for support to cope with the impacts? How efficient will the coping strategies be with the predicted climate change scenarios?
- Explain the results to the participants

Module 4
Participatory Identification of Adaptation Strategies

In this module, you identify barriers or obstacles to the implementation of coping strategies and identify adaptation strategies to strengthen vulnerable livelihood resources, and to increase adaptive capacities and resilience.

The focus in this module is on adaptation strategies. However, sometimes adaptation and GHG mitigation strategies cannot be completely separated (e.g. reforestation can be an adaptation as well as a mitigation strategy). Therefore, GHG mitigation strategies are not excluded from this module and can also be discussed. For a detailed analysis of mitigation strategies consult module 5.

1-2 hours

The information is gathered through the participatory exercise Adaptation strategies (M4/E1). Participants discuss barriers and obstacles to the implementation of coping strategies and identify alternative adaptation strategies to minimize their vulnerability, strengthen adaptive capacities, and increase resilience.

The information should be gathered through consultations with the local population in mixed or separated groups.

This exercise can be either done in mixed or gender- or minority-separated groups. The decision depends on the gender and minority sensibility of the local populations. Can the women/minorities express themselves in a mixed group or not? If it is not possible, use gender/minority separated groups. The results are presented in mixed groups.

Consider political aspects. Information on political barriers can serve as an important basis for devising advocacy strategies in module 6.
Tips for field work as well as a typical implementation programme can be found in annexes I and II.

M4/E1: Adaptation Strategies

Objectives

- To identify alternative adaptation and mitigation strategies to minimize the vulnerable livelihood resources and strengthen adaptation and mitigation capacities
- To discuss the feasibility and obstacles to the implementation of desired adaptation strategies

60-120 minutes for discussion (30 minutes), group work (20-60 minutes) and discussion (10-30 minutes)

Discussion (30 minutes)

- Explain the differences between coping and adaptation strategies (see page 12)
- Discuss difficulties and obstacles to the implementation of coping or adaptation strategies? What are the reasons for not implementing some of the coping strategies (based on results of M3/E2)?
- In the discussion, and in the analysis of its outcome, it may be useful to distinguish between different types of barriers: economic (e.g. access to resources such as land and security of tenure), technical (e.g. knowledge, tools, information), socio-cultural (e.g. traditions, bans), physical (e.g. resources, environment, infrastructures), political (e.g. participation, decision-making, policies) and institutional (e.g. organisations, research).

How to Facilitate (60 minutes)

1. Separate the participants into 3-5 groups with not more than 6 participants per group. Hand out 3 or 4 cards to each group to complete the exercise. The total number of distributed cards should not exceed 20.
2. Task for each group: each group discusses and agrees on 3 or 4 adaptation strategies (the number will depend on the number of distributed cards). The strategies aim to reduce the hazard impacts, reduce their vulnerability and strengthen their adaptive capacities and resilience. The strategies should be financially and technically feasible as the organization may be responsible for their implementation. The strategies should also be effective and sustainable in the context of the climate change scenarios for the project area and its additional impacts.
3. Each group presents its results in the plenum. Similar cards are clustered (see figures)

Figure 12: Identification of adaptation strategies with farmers and pastoralists in Kenya (Photo: M. Künzler).

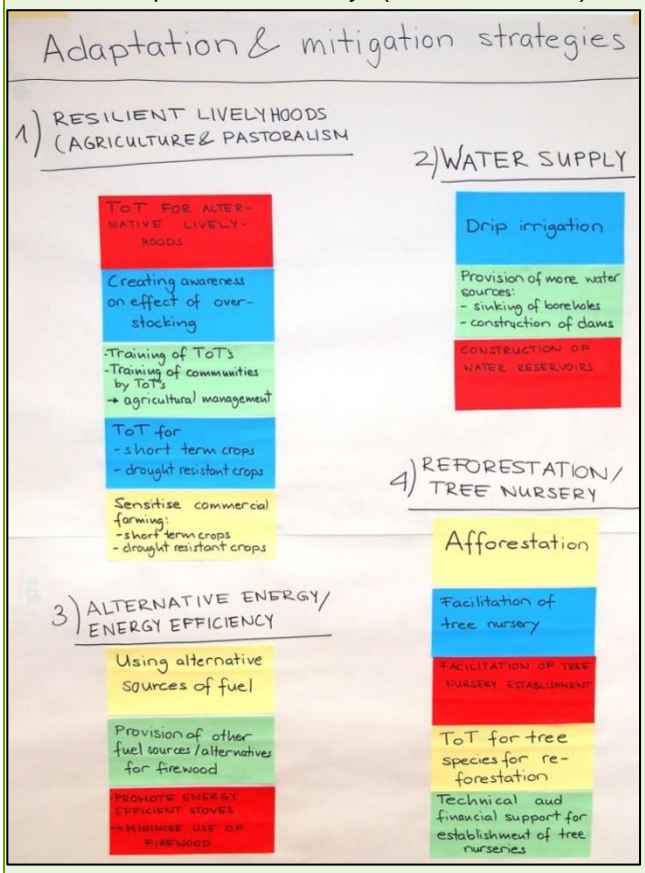


Figure 13: Clusters of adaptation strategies and votes (yellow = women, red = men) of farmers in DR Congo (Photo: G. Horneber)

Learning and discussion of results

1. Prioritization of strategies: Which strategies need to be implemented most urgently? Rank them by giving each participant 2-3 votes (e.g. coloured stickers or markers). To assure freedom of opinion and to distinguish female and male votes, it is necessary to keep the vote secret (e.g. turn flipchart). Ask each participant to come to the flipchart, give women a colour and men a different one without telling them and let them vote. At the end turn the flipchart and count the votes. Explain that women and men used different colours to illustrate their preferences. Rank the clusters as to received votes.
2. Discussion on the following questions:
   - Are these strategies feasible? Are some of the strategies technically or financially out of reach?
   - How effective and sustainable are these strategies as to climate change scenarios?
   - Can the organisation help the community to implement some of the strategies?
   - Which other stakeholders should be involved?

Module 5
Project Mitigation Capacities

The objective of this module is to identify the main impacts of existing or planned project activities on climate change. The analysis is simple, and will help project proponents and managers to become more conscious of their project's positive and negative impacts on GHG emissions. This can in turn facilitate improvements in the project's effects on climate change and foster sustainable development.

The analysis follows a list of potential emissions sources and carbon sinks (see pages 29-32). Users will estimate the way their project or the project area affects these sources and sinks. This will give them a sense of the global impact of the project on climate change. However, no exact measurements of GHG emissions are made.

1-2 hours

The information is gathered through the "project mitigation capacity (M5/E1)" exercise. Project staff identify the impact of project activities on GHG emissions and carbon sinks. Alternative mitigation strategies are identified.
Review the list of potential emission sources and carbon sinks on pages 29-32.
You might need more information on the basics of climate change. Refer to the Introduction to Terminology on page 7 ff.

The information should be gathered through consultations with the project staff.
If mitigation is of special interest in the project the information for this module can also be gathered through consultations with the local population in a mixed or separated group.

Tips for field work as well as a typical implementation programme can be found in annexes I and II.
If you don't screen a project, try to carry out the same analysis by indicating major potential sources and sinks in the area you analyse.
Some negative effects on climate change might be related to activities that are indispensable for local development. Thus, one always has to balance social, economic and environmental considerations.

M5/E1: Project Mitigation Capacities

Objectives

- To understand how project activities impact on GHG emissions and carbon sinks.
- To identify mitigation strategies to improve the project's impact on GHG emissions and carbon sinks.

60-120 minutes (exercise)

How to Facilitate

1. Prepare a table in advance (see example in figures 14 and 15). This can be done on sheets of paper (minimum size 50 cm x 100 cm).
2. **Project activities:** Review the list of potential emission sources and carbon sinks on pages 29-32 and **identify those that are appropriate for your project**.
3. **Describe the impact of your project:** Identify the impacts of your project activities on the carbon sources and sinks and evaluate the direction of the impact:

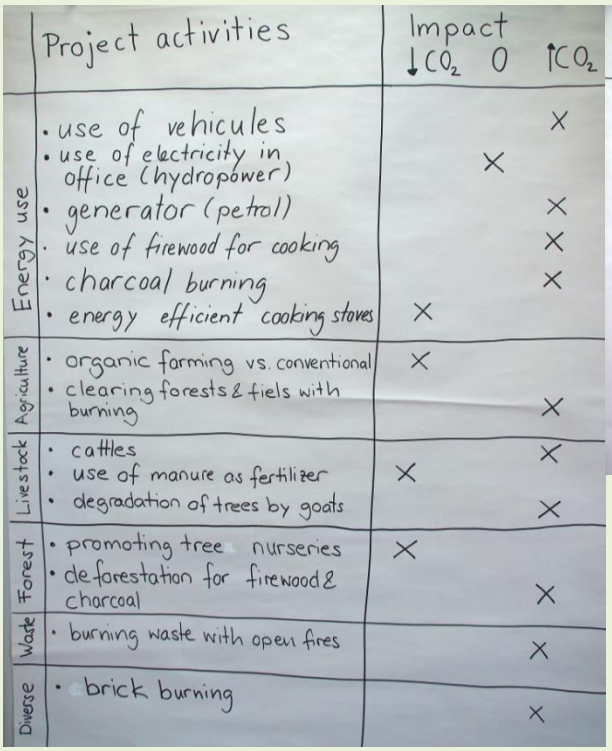
   positive = reducing emissions or improving sinks = ↓GHG

   neutral = no impact = 0

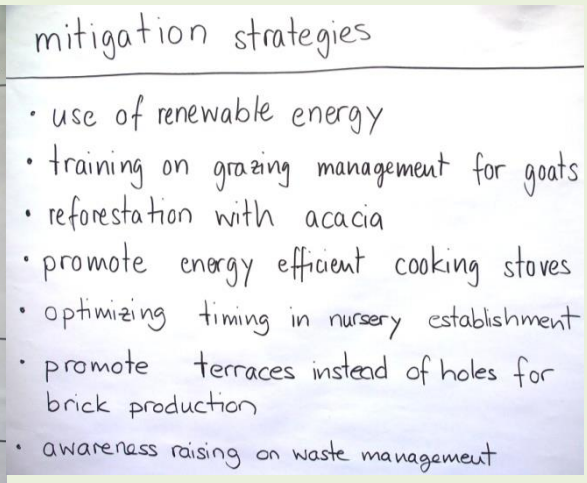
   negative = increasing emissions or reducing carbon sinks = ↑GHG

   The same activity can affect emissions in various ways and may have opposing effects. The net impact always depends on the local circumstances.
4. **Mitigation strategies:** Review the results of the exercises and identify strategies that improve your impact on emission sources and carbon sinks (whether by reversing negative impacts or enhancing positive impacts).

Figures 14 and 15: Identification of Project Mitigation Impact and Strategies in a workshop with project staff in Kenya (Photos: M. Künzler).



	Project activities	Impact ↓CO_2	0	↑CO_2
Energy use	• use of vehicules			X
	• use of electricity in office (hydropower)		X	
	• generator (petrol)			X
	• use of firewood for cooking			X
	• charcoal burning			X
	• energy efficient cooking stoves	X		
Agriculture	• organic farming vs. conventional	X		
	• clearing forests & fiels with burning			X
Livestock	• cattles			X
	• use of manure as fertilizer	X		
	• degradation of trees by goats			X
Forest	• promoting tree nurseries	X		
	• deforestation for firewood & charcoal			X
Waste	• burning waste with open fires			X
Diverse	• brick burning			X



mitigation strategies

- use of renewable energy
- training on grazing management for goats
- reforestation with acacia
- promote energy efficient cooking stoves
- optimizing timing in nursery establishment
- promote terraces instead of holes for brick production
- awareness raising on waste management

List of potential emission sources and carbon sinks

Activity	Description	↑GHG	0	↓GHG
Use of Energy	**The combustion of fossil fuels leads to emissions of carbon dioxide (CO_2), which is globally the most important human-induced GHG. A project can affect those emission sources.**			
Use of transport	Emissions depend on how much transport is used, how long the distances are and how fuel-efficient the vehicles are	Use of non-renewable energy for flights, cars, motorcycles, public transport (buses, trains)		bicycles, walking and the use of renewable energy (i.e. biogas or solar power) for cars and public transport, use of energy-efficient small cars, minimization of transport intensity and frequency
Use of electricity	Emissions depend on how much electricity is used, and where it comes from, i.e. whether it comes from renewable energy sources such as hydro, wind, or solar power, or from sources producing GHG emissions such as thermal plants or generators	Non-renewable electricity production (e.g. thermal power plants or generators operated with non-renewable energy sources: coal, petrol, gas, diesel, etc.)		use of renewable energy: hydro, solar or wind power, biogas
Use of energy in buildings	Potential sources include heating, cooling and cooking stoves. Emissions depend on how much energy is used in buildings and whether combustibles are renewable or not	(based on non-renewable energy sources) air conditioner, fan, refrigerator, laptop, light bulbs, cooking oven, water heater, (inefficient) use of firewood, inefficient house construction for heating or cooling etc.		solar water heater, solar cooker, solar lamp, energy efficient light bulbs, wind water pumps, energy-efficient cooking stoves, energy-saving house constructions with optimized insulation for heating or cooling
Agriculture	**Agriculture can affect climate change through several GHG, including carbon dioxide (CO_2), nitrous oxide (N_2O) and methane (CH_4). The amount depends on the use of soil, biomass, fertilizer, pesticides and energy for machines.**			
Use of soils	Soils perform an important function as carbon sinks. Degraded soils capture less carbon. Activities contributing to soil erosion tend to have negative effects on climate change, whereas those contributing to re-vegetation can be expected to improve carbon capture of soils.	Activities contributing to soil erosion, drainage salinization, acidification, excessive cultivation, deep ploughing, monoculture, deep water cultivation, e.g. rice		Activities contributing to re-vegetation, use of organic fertilizers, leaving crop residues on the fields, increasing soil covers, organic agriculture, tillage management

Activity	Description	↑GHG	0	↓GHG
Land use and land use change	Land use and land use change cover emissions and removals of greenhouse gases resulting from direct human-induced land use, land-use change and forestry activities. The extent and type of land use directly affects wildlife habitat and biodiversity. Human alteration of landscapes from natural vegetation to any other use typically releases carbon dioxide and results in habitat loss, degradation, and fragmentation, all of which can have devastating effects on biodiversity.	Deforestation, slash and burn, wetland changes, conversion of forest into agricultural land		Land restoration and conservation
Use of biomass	Burning biomass in fields contributes to climate change, whereas if it is used as a source of energy to replace fossil fuels, it can have positive effects.	Burning rice, sugar cane or other agricultural fields, burning organic matter, slash and burn	compost	biogas, organic matter as fertilizer
Use of fertilizers and pesticides	Synthetic fertilizers lead to GHG emissions during their production process and when applied in large quantities to soils. Replacing them with organic fertilizers tends to reduce emissions.	Use of synthetic fertilizer and pesticides	compost	organic fertilizer and pesticides, optimize timing of fertilizer application, reuse of nutritive substance
Use of energy for machines	Emissions depend on how much (thermal and electric) energy is used, and where it comes from, that is whether it comes from renewable energy sources such as hydro, wind, or solar power, or from sources producing GHG emissions such as thermal plants or generators.	(inefficient) machines using non-renewable energy		(efficient) machines using renewable energy, such as solar- or wind-powered water pumps, etc.
Livestock	**Keeping livestock can result in important emissions of methane and nitrous oxide depending on the use of feed, manure and land use and land use change.**			
Use of feed	Livestock generates important methane gas emissions due to enteric fermentation by ruminants. The total amount of emissions depends on the species and number of animals as well as on nutrition practices.	enteric fermentation, degradation and deforestation without grazing management		Optimized grazing management
Use of manure	Livestock manure produces GHG emissions, mainly nitrous oxide and methane gas. However, it can be used as a fertilizer and avoids emissions from producing and applying synthetic fertilizers.	Storing manure uncovered and under sunshine		Use manure as organic fertilizer, use for biogas, separate liquid and solid waste for storage
Land use and land use change	Land use and land use change cover emissions and removals of greenhouse gases resulting from direct human-induced land use, land-use change and forestry activities. The extent and type of land use directly affect wildlife habitat and biodiversity. Human or livestock activities change the carbon content of soil and also capacity of biomass as a carbon sink.	Burning fields for pasture, deforestation, slash and burn, overstocked grazing, degradation, no grazing land management		Grassland restoration and conservation, reforestation, improved grazing land management e.g. stocking rate management, rotational grazing

Fisheries	**Fishing activities can contribute in a considerable way to emissions depending on the use of energy, use of fish or shrimp ponds or use of fishing gear.**			
Use of energy	The use of fuel in fisheries results in considerable emissions of GHG. In commercial fisheries, fuel is used for activities such as on-board processing, refrigeration, and freezing, but in general the most fuel-consuming activity is vessel propulsion. Due to current levels of overfishing, vessels have to go further and fish deeper than ever before in order to catch fish, thus spending ever greater amounts on fuel.	Use of non-renewable energy for freezing, vessel, and transport by car, bus etc.		Use of renewable energy (i.e. biogas or solar power) for freezing, vessel, and transport by car, bus etc. Use of energy efficient machines.
Use of fish or shrimp ponds	Coastal marine habitats are fragile and are being destroyed to make way for fish and shrimp ponds by deforestation. Also, the use of chemical inputs for fish and shrimp production contributes to GHG emissions, whereas the use of organic inputs decreases them.	Deforestation of mangroves, use of chemical feed, fertilizer, pesticides and purifier, use of non-renewable energy for aeration		Use of organic feed, fertilizer, pesticides and purifier, use of renewable energy for aeration
Use of fishing gear	For fisheries on the same stock, different techniques can be used. A significant reduction of GHG emissions can be achieved by switching from fuel-intensive techniques to alternative techniques that use less fuel. Also, the most fuel-intensive fishing practices are often the most damaging to seabed habitats and reef formations. These climate-change-related impacts will place substantial additional pressure on fish stocks: a third of worldwide fish stocks are currently overfished (FAO 2011) and are therefore less resilient to climate impacts.	Dynamite fishing, overfishing, use of fishing techniques such as fine-meshed or mosquito nets, dredging, bottom trawling and beam trawling		Sustainable fishing management, protection zone set up for spawning grounds and young fishes, close season for fishing
Forests	**Like soils, forests capture carbon dioxide. Therefore, their destruction increases GHG concentrations in the atmosphere. The amount depends on the forest's characteristics and forestry practices.**			
Characteristics of forest (area, size, type)	*Area* of the forest and *size and type of trees*, which can be influenced through deforestation, reforestation and afforestation, which are in turn influenced by using land, firewood etc. Note that degraded forests can also become a source of GHG emissions.	Deforestation, degraded forests, intensively managed forest plantations		Reforestation/afforestation of natural forests, mangroves
Forestry practices	*Agroforestry* practices can allow agricultural use of lands without deforesting an area. This depends, however, on the type of forest.	Monoculture i.e. oil palm or eucalyptus plantations	Sustainable managed natural forest	Agroforestry systems

Waste	**Waste can lead to emissions of carbon dioxide and methane gases depending on the quantity of waste, type of waste and use of waste.**			
Quantity of waste	Quantity of waste taking into account recycling and the amount of consumption of products with a lot of packaging.	Plastic, packaging, PET, cardboard		Recycling of PET or glass bottles, paper and cardboard
Type of waste	Type of waste considering that plastic and other synthetic materials influence emissions negatively, whereas waste consisting of biomass could be used in organic fertilizer production.	Plastic, synthetic material, non-organic material.		Biomass for use as organic fertilizer
Use of waste	Use of waste taking into account the beneficial use of some waste products such as fertilizer, and the negative effects of burning waste.	Burning waste in open fires		Biomass for use as organic fertilizer, recycling of PET or glass bottles, paper and cardboard
Small Industry	**Small Industries (e.g. foundry, brick, tile, ceramic, tea, or textile industries) can lead to emissions of carbon dioxide, nitrous oxide and methane gases. The amount depends on the use of resources, processing and its transportation.**			
Use of resources	Degradation, drainage and mining of resources can release GHG emissions as deforestation and drainage release carbon dioxide. Peat, swamp and marsh areas also release nitrous oxide and methane gas.	Degradation of land, mining, peat, swamp and marsh area drainage		Restoration of land, peat, rewetting swamp and marsh land
Processing	Processing uses energy which is often based on fossil fuels or open fires. Inputs like chemicals and pesticides also release emissions during production and application.	Brick burning with firewood, open fires, use of chemicals and pesticides		Energy efficient stoves, renewable energy use, solar hot water
Transportation	Transportation of products releases emissions owing to the use of fossil fuels	Fossil fuels for cars, aeroplanes and boats		Bicycle, on foot

Module 6
Project Revision

Based on modules 1 to 5, this final part of the tool will allow you to identify recommendations to revise your project for the next phase and add new activities, which are designed to strengthen the adaptive capacities and resilience of your beneficiaries to climate change and to prevent disaster risks, and maybe improve your activities' impact on GHG sources and carbon sinks as well.

Based on module 1 to 5, you have collected the following results:

Project and Context	• Description of the project and its context
Participatory Climate Change and Hazard Analysis	• Scientific Climate Change Observations, and Scenarios • National Climate Policy, Plans, and Strategies • Climate Change Observations of stakeholders based on the Hazard Map and Seasonal Calendar or Alternative Exercise
Participatory Vulnerability and Capacity Analysis	• Vulnerability Matrix: Most vulnerable livelihoods, greatest hazard impact, important livelihoods for coping strategies • Hazards, Impacts, and Coping Strategies: effectiveness and sustainability of coping strategies.
Participatory Identification of Adaptation Strategies	• Prioritized Adaptation Strategies • Barriers and obstacles to implementation of these strategies
Project Mitigation Capacities	• List of potential emission sources / carbon sinks resulting from project activities and their impact • Mitigation strategies


4 hours to a day.


Based on the results of modules 1 to 5, complete participatory M6/E1 and M6/E2: project revision.


This module should be discussed in a meeting with project staff and (representatives of) the local population to increase participation and ownership.


In case you decide to conduct this module with the local population make sure that the results are gender- and minority-sensitive. It might be necessary to do this exercise in gender and/or minority separated groups.


Tips for field work as well as a typical implementation programme can be found in annexes I and II.

M6/E1: Compilation of assessment results

Objectives

- Drawing up of a table which compiles all essential results of the exercises to have an overview of the main results of the assessment.

2 to 4 hours

How to Facilitate

- Prepare a table in advance with 8 columns. This can be done on sheets of paper (minimum size 50 cm x 100 cm).
- Compile the most important outputs of each exercise:
  1. Most important **hazards** (M2/E1+3 and M3/E1)
  2. Most vulnerable **livelihood assets** (M3/E1)
  3. Most important negative **impacts** (M3/E2)
  4. Most effective and sustainable **coping strategies** (M3/E2)
  5. Most effective and sustainable **adaptation strategies** (M4/E1)
  6. Most effective **GHG mitigation strategies** (M5/E1)
- Complete the table with the following columns:
  7. Assess the **viability** of adaptation and GHG mitigation strategies as to current hazards and future climate change scenarios?
  8. What are the most important and relevant technical, political and financial **partners** to implement the project?

M6/E2: Project revision

Objectives

- To identify areas where action regarding adaptive and mitigated capacities is needed and recommend activities that should be considered in the next project revision or phase.
- To look at the coherence, feasibility and sustainability of the proposed changes.
- To agree on responsibility, time schedule and next steps for the follow up.

3 hours to half a day.

How to Facilitate

1. Recommend activities that should be considered in the next project revision or phase. The idea is to come up with a list of items requiring revised or new activities. The recommendations should be based on the following questions:
   - Which livelihood resources are most at risk (results of M3/E2) considering the future climate scenarios and their impacts on the project region (results of M2/E1-4)?
   - Which livelihood resources are most important to the implementation of the identified coping strategies (compare results of M3/E1)?
   - Where is action needed regarding adaptive capacities (results of M4/E1) or the project's impact on GHG emissions (results of M5/E1)?
   - Which identified coping strategies (results of M3/E1) and adaptation and mitigation strategies (results of M4/E1 and M5/E1) are most efficient and sustainable in terms of strengthening vulnerable livelihood resources, climate change resilience and improving your activities' impact on GHG sources and carbon sinks? Which strategies are feasible (results of M5/E1)?

2. Assess the coherence, feasibility and sustainability of the proposed changes. In particular, the following questions should be addressed:
   - Do the current and especially future climate, natural and human-made hazards affect the viability and success of the recommendations?
   - Are the revised or new activities consistent with local priorities?
   - Is there local capacity to plan, implement, monitor and essentially take ownership in order to help ensure the sustainability of the proposed project adjustments?
   - Are women and men/minorities equally enabled to participate, e.g. in decision making, project implementation, and its outcome?
   - Are there sufficient financial resources to implement the proposed project adjustment?
   - Is there political awareness of and support – at all levels – for the proposed project adjustments?
   - Are there local / regional / national institutions (community-based organizations; NGOs, schools/universities, research institutions, government departments, etc.) that could provide technical and social support in implementing the proposed adjustments?
3. Agree on the follow up:
   - Who is responsible for the follow up within the organisation (and the local population)? Who will monitor it?
   - What is the time schedule?
   - What are the next steps?

References

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Annex I: Tips for Field Work

This section contains some practical tips on stakeholder consultations, the main analytical method employed in this tool. The tips stem from experience with previous versions of this tool and the CRiSTAL tool, as well as the CARE Climate Vulnerability and Capacity Analysis (CVCA) Handbook. Consult the latter for further facilitation tips.

Before the Consultation

- Plan workshops carefully
- Decide on whom to consult, considering perspectives of gender and minority groups (age, occupation, livelihoods) and potential conflicts among certain groups. Conducting a number of different consultations allows the user to appreciate the broad range or perspectives, priorities and needs within a project community. Also, consider inviting participants for discussion on follow up activities as representatives of their community/district, etc.
- Decide on the geographical extent of your analysis, and make sure people from different locations in the area are consulted.
- Remember that the consulted people might be illiterate, which means you need to prepare the exercises accordingly. Participants also may speak a language you don't know. In this case, you need a competent translator to make sure that results are not distorted.
- Plan enough time for the consultations. Rushing is negative as people's opinions might be distorted, and because their own learning process is an important side benefit of the analysis, which might require some time. Experience with the previous version of this tool showed that around 6 hours might be needed for all the exercises explicitly recommended for stakeholder consultations.
- Remember also that you are using the participants' valuable time. You need to find a good balance between the benefits of participation and time.
- Make sure the consulting team includes both men and women, particularly when working with a women's group.
- You might need the following material for workshops: large wall, coloured sheets of paper, tape, pens/markers, maybe the option to draw on the floor with sticks or make sketches with stones, large sheets of paper (minimum size 50 cm x 100 cm) or flipcharts, a camera, notebooks as well as lunch/snacks/drinks.

During the Consultation

- Make sure the questions asked are well understood by the consulted people. Some of the concepts might be difficult for them to understand.
- Try to strike a good balance between ensuring correctness, necessary criticism and respecting the timetable on the one hand, without influencing the results of the analysis too much on the other.
- Make sure that women's and men's as well as minorities' contributions are considered and monitored systematically and consistently from the vulnerability analysis to the coping strategies and the realisation or revision of a project.
- Don't raise wrong expectations with the analysis. 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.

Annex II: Typical Implementation Programme

Project Analysis – Climate, Natural and Human-made Hazard Analysis

Country, Month 20XX, *date* to *date* in *name of village*

General Information

An analysis of climate, natural, and human-made hazards will take place in *name of village* in *Country* in *Month 20XX*, in a project operated by *name of organization*. The analysis will include two meetings with project staff, two workshops with project beneficiaries (either women or men), and a final meeting to discuss the results with female and male beneficiaries.

Project analysis team

- *Name of leader*
- *X* project coordinators or staff of *local organization* (maximum of 5 persons)
- *Name of translator*

Responsibilities and Organisation

Name of local organization must make sure the meetings and workshops mentioned below can take place as planned. They should invite participants (12 female and 12 male), assure the presence of project staff for meetings, workshops, and field visits and organize adequate facilities for these events (Room/space large enough for the participants to work in two groups), including the necessary material. If needed a translator must be organized.

Required Material for the workshops:

- Large wall
- Tape or pins
- Coloured Pens / Markers
- Large sheets of paper (minimum size 50 cm x 100 cm) or flipcharts
- A list of all participants.
- Map with boundaries of district/villages that the project is working in
- Lunch/snacks/drinks for participants and analysis team during the project analysis
- Camera and laptop to document results

Required Material for project staff meetings and workshops:

- Large wall
- Tape or pins
- Coloured Pens / Markers
- Large sheets of paper (minimum size 50 cm x 100 cm) or Flipcharts
- Lunch/snacks/drinks for project analysis team during the whole project analysis
- Camera and laptop to document results

Programme

Timetable		Remarks
Preparation	**Consultation of literature about climate change and hazards as well as the national political aspects in your country** The project analysis team studies either the Country guides on climate change elaborated by *Bread for All* (if available) or completes the exercises “climate change and hazards in literature” and “national political aspects”.	Project analysis team Corresponds to M2/E1+2
	Day 1	
Morning	**Travel from office to project analysis venue**	
Afternoon	**Introduction to PACDR** Analysis team will be trained to work with PACDR in the field by leader of analysis team	Project analysis team
	Day 2	

Morning	**Field visit** The project analysis team will get to know the project and its context through a field visit, on which they will have opportunities to talk to beneficiaries.	Project analysis team in community Corresponds to module 1
Afternoon	**Meeting with Staff** A meeting of about 2 hours will be held with project staff (up to 3-5 people) in order to gather some general information on the project and its context based on M1/E1	Project analysis team Corresponds to M1/E1
	Day 3 and 4 (same programme for both days but first day with women's and second day with men's group)	Project analysis team and either female or male beneficiaries
9:00-9:30	**Welcome and Introduction** Explanation of goals and objectives	
9:30 -11:00	Exercises in separate groups: • **M2/E3 "Hazard Map" in group 1:** Draw a hazard map of the community • **M2/E4 "Seasonal Calendar" in group 2:** Prepare a seasonal calendar for hazards and other events.	Corresponds to M2/E3+4
11:00-11:30	Coffee break	
11:30-12:00	**Discussion** (30') of results M2/E3+4	Corresponds to M2/E3+4
12:00-13:00	Lunch	
13:00-14:30	**M3/E1 "Vulnerability Matrix"**: • Complete the Vulnerability Matrix in plenum • Discussion (15')	Corresponds to M3/E1
14:30-15:00	Coffee break	
15:00-16:00	**M3/E2 "Hazard-Impact-Coping Strategies":** • Complete the Hazard, Impacts and coping strategy exercise (M3/E4) in plenum • Discussion (20')	Corresponds to M3/E2
16:30-17:00	Wrap up (Thank for participation, future use of analysis)	
	Day 5	
Early Morning	**Preparation of results**	By project analysis team
10:00 – 13:00	**Presentation of workshop results** • Present results of the workshops, particularly differences between both workshops; each module will be discussed separately; notes will be taken. • **M4/E1 "Adaptation Strategies"** • Explanations of next steps and follow up.	Project analysis team and all beneficiaries Corresponds to M4/E1
13:00-14:00	**Lunch**	
Afternoon	**Finalization of other modules** • Discussion of the project's impact on greenhouse gas (GHG) emissions and carbon sinks (**M5/E1 "Project Mitigation Capacities"**) • Discussion of recommendations for project revision (**M6/E1 and E2 "Project Revision"**)	Project analysis team Corresponds to M5/E1 and M6/E1
Late afternoon	**Travel back to office**	
	Follow up	
Follow up	**Finish the report and include the results of the "project revision (M6/E1+2)" in your project design**	Project analysis team and project staff