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CLIMATE PROOFING

An instrument for taking into consideration climate change and its impacts in the projects and programmes of Welthungerhilfe

IMPRINT

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FOREWORD

The central tasks of Welthungerhilfe include supporting people in developing countries overcoming emergency situations and promoting their efforts to achieve a self-determined development. In pursuing these tasks Welthungerhilfe aims to achieve sustainable effects and secure development successes. The aim is to recognise possible risks as early as possible and to counter them.

Climatic changes and extreme weather events have an immediate impact on the availability of water and on agriculture. Sustained food security means facing up to the challenges of climate change. This not only applies to agriculture but also to (re)construction of communal infrastructures, such as schools and bridges.

Non-governmental organisations are important actors in development cooperation. This is increasingly not only being recognised by government development agencies of industrialised countries but also by governments in countries of the South. We believe that non-governmental organisations are capable conveying complex interrelationships in comprehensible language and replicable action, thanks to their proximity to grassroots organisations. They can work towards involving the rural population in government programmes for development, for poverty reduction and also for adaptation to climate change, trying to ensure that government programmes are suitable for the requirements of the respective population and that the population is capable of actively participating in these programmes and sharing their benefits.

The existing method for climate proofing primarily serves to provide an instrument for employees of Welthungerhilfe and their local partners, to enable them to define promising strategies for adaptation to climate change during the planning of regional and country programmes and to identify effective options for action during the planning of individual projects. The climate proofing is becoming an integral part of Welthungerhilfe's impact-oriented project cycle management.

Mathias Mogge

Executive Director Programmes

PREAMBLE

The methods presented here for climate proofing were developed with the support of the Federal Ministry for Economic Cooperation and Development (BMZ). It is designed to address the needs of Welthungerhilfe, but also includes know-how from other German and international organizations and is designed in such a way that it can be adopted by other German non-governmental organisations or be used as a basis for their own approach.

Welthungerhilfe has commissioned the German Committee for Disaster Reduction (DKKV) with the task of drafting the climate proofing methods. The DKKV is the national platform for disaster reduction in Germany within the framework of the International Strategy for Disaster Reduction (UNISDR) of the United Nations. As a network used by its members it has ensured the interdisciplinary exchange of information between government organisations and non-governmental organisations from the scientific community and those operating at a practical level on the issue of disaster reduction. This creates the basis for a broad anchoring of the results of the climate proofing, which extends beyond the framework of individual organisations and institutions. Within the course of drafting the methods two inter-institutional meetings were organised in Bonn to discuss the methods with different actors. Further comments and proposals were gathered through written contributions or in phone conversations.

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Welthungerhilfe involved staff from home and abroad as well as representatives from Peru, Nepal, India and Tajikistan within the framework of two validation workshops and written commentary: Mathias Mogge, Arturo Bellot, Philippe Dresrüsse, Jörg Heinrich, Silka Lange, Kirsten Lautenschläger, Juvenal Medina, Bärbel Mosebach, Doris Salazar, Joachim Schwarz, Carlos Steinmetz, Nivedita Varshneya and Jeannette Weller.

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ABBREVIATIONS

ADPC	Asian Disaster Preparedness Center
BMZ	Federal Ministry for Economic Cooperation and Development (Germany)
CDEMA	Caribbean Disaster Emergency Management Agency
CEPRENAC	Centro de Coordinación para la Prevención de Desastres Naturales en América Central
CORDEX	Coordinated Regional Climate Downscaling Experiment
CRED	Centre for Research on the Epidemiology of Disasters
CSC	Climate Service Center (Germany)
DANIDA	Danish International Development Agency
DFID	Department for International Development (United Kingdom)
DKKV	German Committee for Disaster Reduction
EC	European Commission
ECHO	European Commission – Humanitarian Aid & Civil Protection
EMDAT	Emergency Events Database
FG WIB	Knowledge Innovation Consultancy Unit (Welthungerhilfe)
GEF	Global Environment Facility (UNDP)
GTZ/GIZ	Deutsche Gesellschaft für Technische Zusammenarbeit (since 2011 GIZ: Deutsche Gesellschaft für Internationale Zusammenarbeit (Germany))
IDS	Institute of Development Studies (United Kingdom)
IFRC	International Federation of Red Cross and Red Crescent Societies
INGC	Instituto Nacional de Gestão de Calamidades (Mozambique)
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
LDC	Least Developed Countries
NAPA	National Adaptation Programme of Action
NGO	Non-Governmental Organisation
NORAD	Norwegian Agency for Development Cooperation
OECD	Organisation for Economic Cooperation and Development
OFDA	Office of U.S. Foreign Disaster Assistance
PIK	Potsdam-Institute for Climate Impact Research (Germany)
PPEW	Platform for the Promotion of Early Warning (UN ISDR)
PRECIS	Providing Regional Climates for Impact Studies
REDD	Reducing Emission from Deforestation and Degradation
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UN-Habitat	United Nations Human Settlements Programme
UNISDR	United Nations International Strategy for Disaster Reduction
UN-OCHA	United Nations Office for the Coordination of Humanitarian Affairs
WMO	World Meteorological Organisation

INTRODUCTION

1.1 Objective

Climate change can already be felt in many places. And poor people in developing countries particularly suffer from the negative impacts, such as water shortages, rise in sea levels, extreme precipitation and storms. This is because climate change aggravates their already existential problems, for instance in subsistence farming. They also have the worst prerequisites for facing up to new challenges or even making use of the rare positive changes.

Welthungerhilfe helps people in developing countries to secure food for their families, to escape poverty and to protect themselves against threatening natural events. In many project regions climate change worsens the situation of the population and jeopardises any successes that are achieved. Therefore, even if the consequences of climate change are not yet clearly foreseeable, Welthungerhilfe takes up the challenge of climate change, in order to help people to permanently improve their living conditions even under changing climatic conditions. This requires an improved ability to adapt to long-term changes (for instance rises in temperature) and an improved resilience in facing up to increasing extreme events (for instance heavy rainfall).

Many of Welthungerhilfe's projects, for instance for improving the social infrastructure, for sustainable management of natural resources, for disaster risk reduction or for strengthening civil society structures already represent a valuable contribution towards adaptation to climate change. But how can climate change in future be systematically and as effectively as possible be taken into consideration in all relevant measures implemented by Welthungerhilfe?

The methods described here primarily pursue the objective of improving the quality and sustainability of projects from the various sectors of development cooperation, including development-oriented rebuilding through systematically intensified consideration of climate change.

In addition the methods can help to

- develop specific project proposals for adaptation to climate change and
- draft and present the contribution which the new projects make towards adapting to climate change.

The latter is important in order to be able to cope with the increasing demand by public funding donors to find answers to climate risks within the framework of project proposals for new schemes.

1.2 Political-institutional context

Many organisations throughout the world have already recognised that climate change must be taken into consideration in development cooperation as a matter of principle. Increasingly adaptation to climate change is introduced as a cross section issue, and specific projects for adaptation and mitigation are being financed. Numerous documents have already been produced on conceptual issues and practical possibilities.

For integrating climate change into development cooperation the key challenge is to identify the specifically correct adaptation strategy when planning projects on the basis of frequently vague climate forecasts. Several organisations have therefore developed proposals for climate proofing. The BMZ – in agreement with the German adaptation strategy¹ and in coordination with its European and international partners² – has taken up the issue of the requirements for such an instrument, and in 2009 published a corresponding guideline for organisations implementing the bilateral German development cooperation.³ This document calls for climate proofing, in order to use systematic consideration of climate change in planning and implementation of all German development cooperation for reducing vulnerability of the population in view of the impacts of climate change and for improving the sustainability of the development investments and successes. Further aspects of the BMZ guideline are the integration of climate change in sector concepts, as far as possible to reduce climate damaging greenhouse gases (Emission Saving) and raise the awareness of staff involved in German development cooperation regarding the issue of climate change and to provide them with suitable advanced training.

Welthungerhilfe is also facing up to the challenges which climate change poses for its programme countries and their development projects. The basis for this is provided by the strategy paper “The challenge of climate change. Welthungerhilfe Policy Recommendations”⁴ which were adopted in February 2010. This envisages that in future adaptation to climate change will be taken into consideration in all regional and country programmes and integrated into project implementation according to requirements. This will also take into consideration the potential for reducing climate-damaging greenhouse gases and hence contributing towards mitigation.

In addition to integration as a cross section issue, specific projects for adaptation to climate change and for mitigation are also to be initiated. New models for financing adaptation to climate change and environmental services could be used for this purpose. With regard to this issue Welthungerhilfe has decided to develop a climate proofing method adapted to its own working approach and focal points of this work. The method was drawn up with financial support from the BMZ and takes into consideration existing German and

¹ German strategy for adaptation to climate change: resolution by German federal cabinet on 17.12.2008.

² European Commission (2009) Adapting to climate change: Towards a European Framework for Action. White Paper. Brussels; OECD (2009) Integrating Climate Change Adaptation into Development Cooperation. Policy Guidance. Paris

³ BMZ (2009) Leitlinie für Klimaprüfung in der Entwicklungszusammenarbeit (Guideline for climate proofing in development cooperation). 10.07.2009. See also BMZ (2009) Strategie zur Anpassung der Entwicklungsländer an den Klimawandel (Strategy for adaptation of development countries to climate change), draft from July 2009.

⁴ Welthungerhilfe (2010) Strategy Paper “The Challenge of Climate Change”, Welthungerhilfe Policy Recommendations. Bonn. February 2010.

international initiatives and experience. Despite being designed to address Welthungerhilfe's requirements, the method is conceived in such a way that it can also be helpful for other German non-governmental organisations and can be adapted for their own purposes. The document was subjected to comments by experts from Welthungerhilfe, the German Committee for Disaster Reduction (DKKV) from the scientific community and people involved in practical implementation as well as from other German organisations. It was also tested in two workshops with representatives of Welthungerhilfe and partner organisations in Nepal und Peru. The existing version can be further adapted on the basis of the first experiences gained through using it and supplemented in case studies.

1.3 Addressees

The most important addressees of this document are the employees, partner organisations and short-term experts of Welthungerhilfe who are involved in designing regional and country programmes and the planning of new individual projects. They receive help to enable them to efficiently compile information on the impacts of climate change on projects and on the project region and to take these impacts into consideration.

The method also represents an orientation for Welthungerhilfe employees, who are responsible for implementation, monitoring and evaluation of individual projects or who draft the sector policies for those issues which are particularly affected by climate change (for instance food security, reconstruction). Furthermore, it is also important for external consultants who are used for planning and implementing or evaluating projects and hence have to know Welthungerhilfe's requirements for adaptation to climate change.

Finally the document is also indirectly aimed at Welthungerhilfe's donors and the interested public, who want to find out how the organisation is facing up to the challenge of climate change and what methods it is deploying. Other non-governmental organisations can adopt the method or adapt it to their requirements.

1.4 Structure and instructions for using this document

If an employee or partner is faced with the task of taking into consideration climate change in drafting a regional or country programme, this raises the following six fundamental questions:

- How do we know whether or to what extent climate change is at all relevant for our region, our country or our project region?
- How great is the uncertainty of the climate forecasts and how can I deal with it?
- How does the climate proofing function and how do I integrate it into my planning process?
- Whom do I involve in the climate proofing?
- How much effort/cost does climate proofing involve?
- How do I recognise the necessary or ideal adaptation strategies for my programme or project?

The description of the method for climate proofing provides answers to these questions. In the main part the approach for taking into consideration climate change makes a differentiation between regional or country programmes (Chapter 2) and individual projects (Chapter 3). The two chapters are primarily independent of each other, which means the reader can read Chapter 2 or skip it and start reading Chapter 3 immediately in accordance with requirements.

In addition the document contains supplementary information in five modules. The reader can use these independent of each other in accordance with the respective interest and requirements. Module A is designed to explain the terms used (for instance vulnerability, risk, etc.) and their importance for the climate proofing. Module B provides a series of orientation aids, in order to assess the risks and opportunities relevant to a region and to be able to identify options for taking action for adaptation and mitigation. Module C examines the relevance of the proofing for projects of different sectors and provides instructions on the amount of time and resources that have to be invested. Module D describes several participatory tools which are particularly suitable for assessing risks at community level. Module E finally lists the methods and additional literature as well as websites which were used for drawing up the climate proofing and which could possibly be of interest for providing supplementary information.

Module A Conceptual bases

- A.1** Composition of the climate risk
- A.2** Adaptation to climate change
- A.3** Glossary

Module B Orientation aids

- B.1** Information requirement and sources for adaptation to climate change
- B.2** The impacts of climate change
- B.3** Vulnerability analysis and adaptation options, focussing on the sectors agriculture, resource management and basic infrastructure
- B.4** Possible contributions towards mitigation
- B.5** Criteria for prioritising options for action

Module C Relevance and efforts of climate proofing for different sectors

- C.1** Different relevance for different sectors
- C.2** Preliminary estimate of the relevance and efforts
- C.3** Agenda proposal for climate proofing workshops

Module D Participatory tools for community level

Module E Sources

- E.1** Bibliography
- E.2** Websites

TAKING INTO CONSIDERATION CLIMATE CHANGE IN DRAFTING REGIONAL AND COUNTRY PROGRAMMES

In order to organise Welthungerhilfe's support in its programme countries as effectively and coherently as possible, common objectives and priorities are defined in regional and country programmes. The programmes are generally developed for four years and provide the basis for further developing or redesigning individual projects in the region or country. They should therefore already contain references to necessary or possible consideration of climate change.

In drafting the regional or country programmes it is not yet necessary to implement detailed climate proofing. But fundamental issues should already be addressed and the information taken over in the programme. Here the focus is on securing an overview of the impacts of climate change expected in the region or country, being able to assess the importance of these impacts on Welthungerhilfe's work and identifying initial fundamental consequences for the promotion priorities and individual projects. Table 1 (→ **Module B**) lists the most important issues and assigns them to chapters of the format of Welthungerhilfe for drawing up regional and country programmes, where the information is to be collected. Here the issues of risks, opportunities and mitigation potentials should be initially separately addressed, in order – for instance – to also identify climate mitigation potentials in countries which will hardly experience climate change.

Table 1: Considering climate change in regional and country programmes

Issue	Chapter of the format for regional and country programmes
Has climate change already had effects on the region or country? Are effects expected for the coming decades? If yes, what kind of effects? Do they represent threats or opportunities for the population?	Chapter 1.2 (framework conditions)
Are there relevant potentials for contributing towards mitigation? If yes, what?	Chapter 1.2 (framework conditions)
What population groups, sectors and elements relevant for Welthungerhilfe will probably be affected by negative impacts of climate change? Is the risk for them regarded as high, medium or low?	Chapter 1.3 (risks)
Do the probable consequences of climate change jeopardise the successes of the individual targets of Welthungerhilfe?	Chapter 1.3 (risks)
What is the government policy with regard to climate change (e.g. NAPA)?	Chapter 2.1 (development objectives of the government)
How do other important national and international actors (donors, NGOs, etc.) take climate change into consideration in their development policy?	Chapter 2.2 to 2.4 (initiatives of other national and international actors)
Does Welthungerhilfe already have climate-relevant experience in the region or country? If yes, what?	Chapter 3.2 (experiences from previous years)
What conclusions should Welthungerhilfe make regarding objectives and priorities of its work in the programme countries?	Chapter 4.1 to 4.5 (future commitment)

For the planned individual projects of Welthungerhilfe this can then be used as a basis for determining whether it is worthwhile or necessary to take into consideration climate change. A project idea can also be drawn up for a special project for adaptation to climate change or mitigation.

The regional and country programmes are drawn up by employees in the respective regional offices. For the climate proofing within the framework of drawing up the programme the following is recommended:

- As far as possible Welthungerhilfe itself should carry out the proofing in the regional or country team or at least accompany it, in order to strengthen the necessary awareness and know-how for the future project design. Ultimately, however, it depends on the personnel constellation and the complexity of the expected impacts of climate change at a local level, whether in particular the compilation of existing information on climate change as well as existing local policies and initiatives is forwarded to a partner or officially appointed expert/specialist institute.
- As far as possible national partners should be involved, who frequently already have impressions of whether and how climate change has already become evident in the main focal areas of Welthungerhilfe (for instance changed precipitation behaviour). The quality of scientific documentation on the impacts of climate change can differ greatly. It can therefore be useful to involve a regional/national climate change expert. The participation of national partners can provide important information on microclimate and the specific consequences for people.
- The climate proofing should be used for raising awareness. In addition to procuring and validating information, a workshop for debating the above issues can contribute towards raising awareness. In addition to key personnel at the partner organisations, addressees are for instance political decision makers or contact persons in specialist ministries and local authority administrations. This provides an important basis for accepting and taking into consideration climate change in ongoing and new projects.
- A climate advisor should be appointed in the regional, respectively country team: In certain regional and country offices it can be useful to appoint an employee responsible for the issue „climate change“. Possible tasks of this person would be (a) maintaining contact with regional/national specialist institutions and updating information on climate change, (b) advice for preparing new individual projects for climate proofing and (c) the exchange of information and experience with the climate expert in the Knowledge Innovation Consultancy Unit (FG WIB) at Welthungerhilfe headquarter.

Example Nepal Country Programme*

(Preliminary version, since the country programme has not yet been completed)

Chapter 1.2 (Framework conditions)

In Nepal there is a great variety of climatic conditions for which the impacts of climate change have not been individually researched. However, at the same time climate change is already clearly being felt: many valleys are threatened by flooding through glacial lakes bursting their banks due to melting glaciers. Permafrost soils are melting deeper in the ground, and erosion and landslides are leading to an accelerated destruction of landscapes. In the medium term water inflows to the rivers Ganges, Indus and Brahmaputra are at risk because 80% of this water comes from Himalayan glaciers: these rivers are not only essential for life in lower lying parts of the country but also for India and Pakistan. Furthermore, the receding glaciers also cause a growth in the glaciers because of weight loss (isostasy) and the seismic activity of the mountains and the risk of earthquakes increases. Monsoon patterns are changing and threatening food security through long periods of drought and extreme precipitation. In the past ten years annual rainfall varied so much that farmers have become increasingly uncertain about what crops to choose and the time to sow seeds. It can be assumed that monsoon rains will become even more variable.

Nepal contributes very little towards greenhouse gas emissions. However, within this limited framework there are possibilities for mitigation, for instance in forestry and agriculture (particularly reforestation or avoiding deforestation).

Chapter 1.3 (Risks)

Up to now small-scale farmers in mountainous regions have been particularly affected by the impacts of climate change. Their harvests are jeopardised by altered precipitation patterns. In the medium-term they are threatened by water shortages, just like a broad section of the population as a whole. In recent years natural disasters have become more frequent (floods, earthquakes, landslides, droughts and fires), which are increasingly destroying human lives, houses and productive goods. People living below glaciers are threatened by flash floods from glacial lakes. Altogether these events threaten food security and sustainable development in the project locations of Welthungerhilfe. The development of disaster reduction based on local communities and local adaptation to climate change are consequently becoming increasingly important there.

Chapter 2.1 (Development objectives of the government)

The government takes the issue of climate change very seriously: on the one hand Nepal is trying to promote renewable energies and to initiate reforestation programmes (REDD). On the other hand in November 2010 the Ministry for the Environment, Science and Technology adopted the National Adaptation Programme of Action (NAPA) under the auspices of the Climate Framework Convention, in order to stipulate the urgent immediate measures for adaptation to climate change. The focus is on local adaptation measures in agriculture and the forestry industry.

Chapters 2.2 to 2.4 (Initiatives of other national and international actors)

Various donors support Nepal in drafting and implementing NAPA and in environmental issues related to climate change, including UNDP/GEF, DFID, DANIDA and NORAD.

Chapter 3.2 (Experience of recent years)

Welthungerhilfe's projects focus on the links between climate change and food security. Through promoting the responsible use of land (diversification of agricultural and forest products, development of agroforestry systems) CO₂ emissions caused by erosion and deforestation are reduced. Farmers cultivate vegetables, fruit and fodder plants which grow in winter – a time when the land would otherwise be left fallow. This improves food supplies and household incomes. At the same time the land becomes more resistant to landslides and mudslides and the soil stores more carbon. Community forest groups are supported, to avoid excessive use of forests and prevent illegal logging. For protecting the forest energy-saving technologies (organic briquettes, energy-efficient cooking stoves) are promoted. This ensures the creation of natural carbon sinks and new sources of income.

Chapter 4.1 to 4.5 (Future commitment)

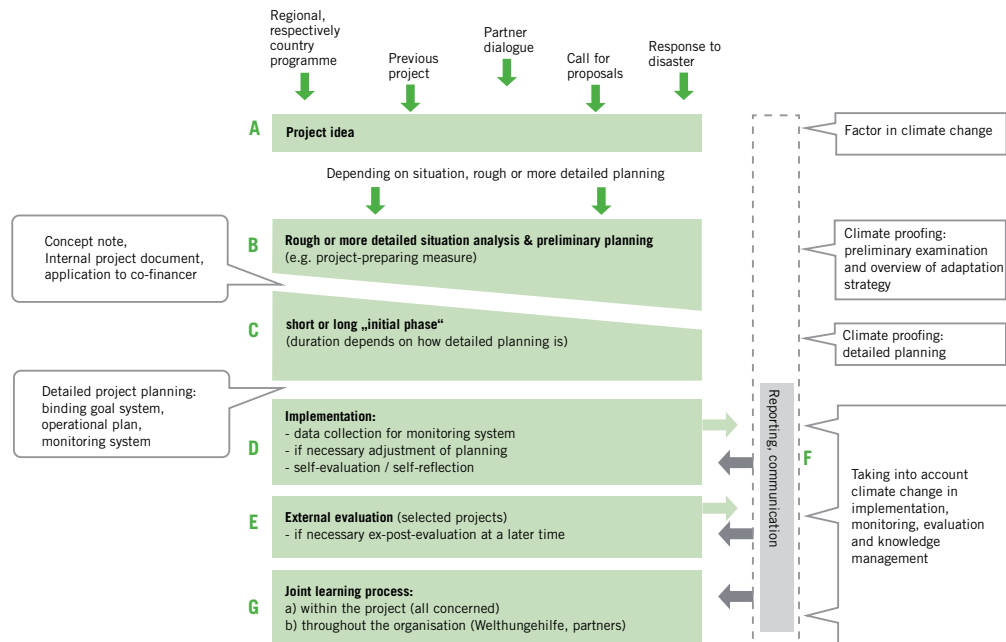
When planning new projects, in each case the impacts on the specific project areas should be thoroughly investigated and a climate proofing implemented. Here attention should be particularly paid to the following: (a) Adaptation requirement in agriculture to cope with changed precipitation patterns, (b) requirement for disaster reduction measures for flooding and landslides, and (c) possible contributions towards mitigation in agriculture and the forestry industry (see 3.2).

CLIMATE PROOFING AS AN INTEGRAL PART OF PLANNING INDIVIDUAL PROJECTS

3.1 Integration into the project cycle of Welthungerhilfe

To enable a project to appropriately respond to the forecast impacts of climate change, this must be taken into consideration from the very outset. If the project idea (A) already contains a reference to climate change because of its background, this makes it easier to get started. However, the decisive factor is systematically taking it into consideration during project planning. The climate proofing is therefore an integral part of the project planning process, which Welthungerhilfe subdivides into a preliminary planning (B) and a detailed planning (C).

Figure 1: Overview of Welthungerhilfe project cycle⁵



Here the following applies:

1. The course of project planning can greatly vary, depending on who provides the initiative (for instance partner, regional office or donor) and what framework conditions exist (for instance time frame). In order that the climate proofing doesn't remain an isolated task but, instead, is a constructive component in the planning process, it can therefore be adapted to the respective approach in terms of depth and effort/expense and appropriately integrated into the individual steps. Here it is important that it is not only integrated into the preliminary planning but also into the detailed planning.

⁵ The graph was taken over from Welthungerhilfe's "GUIDELINES: OUTCOME AND IMPACT ORIENTATION in the projects and programmes of Welthungerhilfe" from 2008 and adapted. See for instance Part I, page 10.

2. Since climate change still represents an issue which is difficult to comprehend for many participants, the climate proofing can also be used as an ideal instrument for raising awareness and conveying knowledge within the framework of analysing and planning. The participation of representatives from the target group, from partners and from political decision makers in analysing and planning is an opportunity to raise their awareness of potentials and options and hence provide an important basis for subsequent implementation.
3. To achieve the most competent and appropriate results possible, traditional and local knowledge should be linked with national and scientific know-how (→ **Module D**).



Traditional knowledge and local know-how are essential for developing an optimal adaptation strategy, because

- observers can only recognise real changes and consequences of climate change if they assess them on site,
- the population feels changes and frequently has traditional adaptation strategies,
- local knowledge helps to understand interaction between climate change and development processes and identify existing capacities and resources which can be used as a basis for adaptation.

Traditional knowledge of the target group is above all important if climate change exacerbates known problems (for instance water shortages). However, little importance can be attached to traditional knowledge if the people are confronted in future with new phenomena, which they are not yet able to deal with (for instance droughts in tropical/sub-tropical zones). The task facing the scientific community and government institutions is also to coherently organise local experience, potentials and adaptation requirements into the bigger picture, make forecasts for future climate development and introduce new comprehensive, interrelated adaptation strategies.

The measures prioritised within the framework of planning adaptation to climate change or climate mitigation and are accordingly incorporated in the project strategy and put into practice during implementation of the project (D). As an integral part of the project planning they are also taken into consideration during monitoring and, if necessary during evaluation (E). The experiences are integrated into the project's internal learning processes and the inter-country learning processes of Welthungerhilfe (G).

3.2 Overview of the working steps of climate proofing

The climate proofing consists of three important working steps, which are carried out during every planning process:

1. Risk assessment: Information on the impacts of climate change, affected groups of population, their vulnerability factors and potential damage and losses are compiled and evaluated.
2. Options for action: Possibilities of reducing risks (adaptation) are identified and discussed.
3. Prioritisation: The options for action are carefully considered on the basis of agreed and coordinated criteria, and consequences are drawn for the project design.

Figure 2: Overview of working steps of climate proofing

1st STEP: RISK ASSESSMENT				2nd STEP: OPTIONS	3rd STEP: PRIORITISATION	
Identifying effects of climate change: A. Hazards: e.g. rise in sea levels, increase in extreme events B. Opportunities: more rain in dry areas	Identifying affected population groups and assets, such as infrastructure, agriculture, etc.	Identifying reasons for vulnerability of these groups and elements, e.g. poverty, unsafe construction, lack of information on climate, including relevant strengths	Description of risks, e.g. loss of life or harvest, and evaluation of risk (high, medium or low)	Identifying options for action A. Adaptation: e.g. early warning, conservation of resources, drought-resistant cultivation methods, consolidating slopes against landslides. B. Contribution to mitigation: e.g. maintaining CO ₂ sinks through nature reserve management	Evaluation of options for action according to degree of effectiveness, feasibility, sustainability, cost-benefit analysis, etc. and its prioritisation	Integration into the project planning, e.g. indicators

The analysis of climate risks and measures for risk reduction are in the foreground of climate proofing. Nevertheless, positive consequences of climate change (opportunities) and the potential for mitigation should also be taken into consideration when identifying and evaluating options for action.

The following provides a more detailed explanation of the three working steps of climate change adaptation.

3.3 Step 1: Risk assessment

The first step of climate proofing is the risk assessment. The identification (Step 2) and prioritisation (Step 3) of the options for action is based on this, and is then implemented within the framework of the project.

Risk assessment contains four sub-aspects, which build on each other and should be discussed and worked out (→ **Module A**):

1. The impacts of climate change which are already tangible or expected in the project region,
2. the population groups, infrastructures or other resources affected by these impacts,
3. the vulnerability factors and strengths of these groups and goods as well as
4. the description and evaluation of the risks arising from points 1-3 of suffering damage and losses because of climate change.

The risk assessment is best carried out in a comprehensive group debate based on the following table:

Table 2: Format „risk assessment“ with key issues

Risk assessment			
Effects of climate change	Affected population groups and assets	Most important sensitivity factors and strengths	Risk (description and evaluation)
Has climate change already had effects on the project region? Are effects expected during the next few decades? If yes, then what effects? Do these represent threats or opportunities?	Are important population groups and assets in the project area affected by the negative effects? Could the target group benefit from the positive effects? If yes, who and how?	Why will the affected population group, respectively asset, probably suffer damage or losses due to the effects of climate change, respectively why won't they benefit from positive effects? Which of their strengths and resources can help in reducing risks, respectively adaptation to climate change?	What negative impact (damage and losses) will the population group or asset probably suffer due to the effect of climate change? Is the risk rated as „high, „medium“ or low“? Which identified risks are particularly relevant for the success and the sustainability of the project? Are there potential positive impacts (opportunities) to benefiting from the positive effects relevant to the target group and/or success of the project?

Regarding column 1 – effects of climate change (→ Module A+B)

The starting point for processing the information should be the effects of climate change relevant for the project region. These can be experienced in the short or long-term and can constitute hazards or – in individual cases – also present opportunities for society. The most important effects of climate change are

- more frequent, stronger or new incidences of extreme weather events,
- changed precipitation patterns: generally lower and less reliable precipitation, in some regions increased precipitation,
- rise in sea levels,
- higher air and water temperatures.

In compiling the effects of climate change on the project area it is also important to take into consideration the following aspects in identifying the type of impact:

- The potential spatial dimension: Is the entire project area affected or just part of it?
- Indirect effects: For instance, does the temperature increase in a neighbouring country melt glaciers, which can lead to flooding of rivers in the project area and water shortages in the medium term?
- The probability of occurring: For instance, how frequently are hurricanes and cyclones expected to hit the project area in the future?
- The intensity of the change: How big will the rise in sea level be?

Regarding columns 2+3 – Affected population groups and assets and their sensitivity factors and strengths (→ Module A+B)

Following the identification of probable effects of climate change on the project region, there is an analysis of who, respectively what is affected by the impacts and why. Based on the project idea, here in particular there is a focus on whether the project's target group (for instance subsistence farmers or disadvantaged children and young people) will suffer from the effects or, respectively can also benefit from climate change. In addition to addressing the issue of affected population groups, there should also be a debate on any possible impacts there might be on assets important for the success of the project (for instance water resources, roads or social infrastructure).

If negative consequences are expected for relevant population groups or assets (for instance death or destruction, economic losses), it is important to determine the reasons for their vulnerability. These reasons can be wide-ranging and based on physical characteristics, socio-cultural structures, economic conditions or underlying politico-institutional conditions. Analysing vulnerability helps to identify the decisive starting points for risk reduction and adaptation to climate change. However, this also involves not only looking for weaknesses but also trying to identify existing resources and strengths (for instance human and natural capital, infrastructure, traditional know-how), i.e. capacities which can be used for risk reduction and adaptation.



Women in developing countries are regarded as more vulnerable than men to the impacts of climate change and have less adaptation capabilities because they

- are more frequently poor,
- more frequently depend on agricultural work and natural resources which are affected by the weather,
- have poor access to land, new technologies, loans, etc.,
- have less access to education and information,
- have less influence on societal processes.

Consequently households run by women are also particularly vulnerable.

Regarding column 4: Description and evaluation of risk

Finally in the fourth column the risk of the affected population groups or assets suffering damage and losses due to the impacts of climate change is described as specifically as possible. Apart from describing the risk, at this point it is also important to evaluate whether a specific risk is rated as „high“, „medium“ or „low“. This subsequently helps in identifying and prioritising options for action for the project. Here it may frequently be sufficient to keep the evaluation short and to the point („high“, exclamation mark, underlining, etc.). In complex situations with several risks which are not so easy to evaluate, the evaluation should be carried out in a separate fifth column and specified in more detail. Possible evaluation criteria are for instance:

- the number of affected people,
- the probability of damage and losses occurring, and
- the significance of the risk in terms of achieving the project objective.

Table 3: Example of a risk assessment (excerpt Sunderbarn, India)⁶

Risk assessment			
Effects of climate change	Affected population groups and assets	Most important vulnerability factors and capacities	Risk (Description and evaluation)
Seawater level rise 1,3 mm/year	Island dwellers (homogeneous)	Fragile ecosystem, environmental degradation	Food/Nutrition insecurity (high)
Cyclones increase in frequency and intensity	Fishermen/ women	Poverty of the population (little carrying/ coping capacity)	Loss of lives/livestock/ flora/fauna/assets (high)
	Farmers		
Monsoon patterns are disrupted	Biodiversity Flora/ Fauna	Remoteness and weak governance	Disruption of cropping patterns (high)
Weather conditions getting extremes	Embankments	Lack of alternative livelihood options	Breaching of embankments (high)
River water flow erratic	Infrastructure	Low human development (health/ diseases)	Salinisation of land and water (high)
	Fields and ponds	Strengths: traditional skills (embankment repair), variety of crops and fishery, resilience/ adaptive capacity)	Stress migration (high)
			More and new diseases (human/livestock) (medium)
			„Climate refugees“ lead to conflicts (low)

3.4 Step 2: Identifying options for action

In climate proofing the vulnerability and impact assessment is followed by the identification of options for action. This relates to possibilities for increasing the target group's resilience and adaptation capacities and hence reducing their risk, but also taking advantage of any possible climatic improvements. Here proposals are developed for this sustainability, which ensure the planned investments and effects of the project even under changed climatic conditions.

Since developing countries have up to now only made a limited contribution towards climate change but are particularly suffering from its impact, adaptation to climate change is a priority for Welthungerhilfe for development cooperation in its programme countries. Nevertheless, in some projects there are potentials for contributing to mitigation through reducing emissions (→ **Module A+B**).

Options for action are not automatically additional activities!

Changes in the overall strategy of introducing qualitative criteria (for instance resistance to hurricanes and cyclones in school construction) can also be regarded as worthwhile!

⁶ This example is from the second validation workshop for the climate proofing in March 2011 (Nepal). The table was drawn up on the basis of a project which is already being implemented

The options for action should be described as specifically as possible and should be focussed on the risks and opportunities which were previously rated as most important. This makes it easier to identify and prioritise suitable options for action and consequently increases the impact orientation and efficiency of the climate proofing.

Table 4: Format „Identifying options for action on the basis of the risk assessment“ with key issues

Risk assessment (Step 1)				Options for action for the adaptation (also any possible contributions to mitigation)
Effects of climate change	Affected population groups and assets	Most important vulnerability factors and capacities	Risk (Description and evaluation)	
				What measures are suitable for reducing the climate risks rated as most important? What measures are suitable for benefiting from relevant opportunities arising from the climate change? Can measures which contribute towards mitigation be appropriately integrated into the project?

3.5 Step 3: Prioritisation of options for action and their integration into project planning

Once possible options for action for adaptation and mitigation have been compiled, they should be checked on the basis of agreed criteria to determine their suitability for the planned project. If alternative options for action or even a broad number of measures are identified, these should be prioritised. The selected approaches are then integrated into project planning.

Table 5: Prioritising options and integrating them into project planning

Risk assessment (Step 1)				Options for action (Step 2)	Prioritisation of the options for action	Integration into the project planning
					Are the identified measures suitable for the project? Why? If alternative measures are considered: Which alternative measures are most suitable and why?	In which chapter of the proposal do the results of the investigation have to be incorporated? Are additional agreements (for instance climate advisor) necessary, to ensure that climate change has been appropriately taken into consideration in the project implementation?

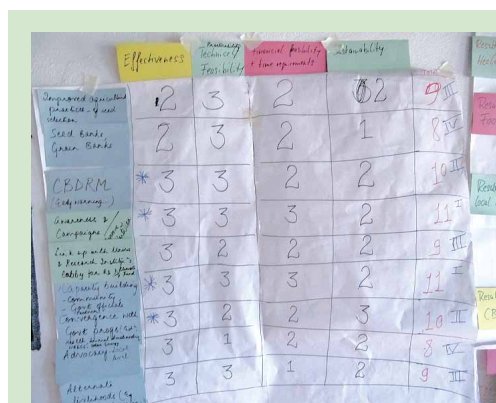
For evaluating, respectively prioritising the options for action the assessment criteria (effectiveness, technical and financial feasibility in the proposed project term, sustainability, etc.) that are important for the project should first be defined. The significance of the criteria may vary from project to project. Therefore (in the climate proofing) all relevant criteria should be discussed and then either a selection or a rating list should be drawn up for the evaluation of the options for action (→ Modul B).

If the evaluation criteria have been defined, these can be used for measuring the identified options for action. Each measure is given an evaluation regarding each criterion, regarding whether it does not (0), scarcely (1), partly (2) or completely (3) fulfil the criterion. This produces not only an overview but a total value (sum total), which helps to decide whether a measure is suitable for the project, or which of the alternative options should be given preference.

Table 6: Prioritisation of options for action based on selected criteria

Measure	Criterion 1	Criterion 2	Criterion 3	Criterion 4	Criterion 5	Total / ranking
For instance:	Effective-ness	Technical feasibility	Financial feasibility	Socio-cultu-ral feasibility	Sustainability	

In the table the measures which should be included in the project planning can be subsequently marked.



Example of prioritisation of adaptation options

Example from the second validation workshop (Nepal).

In the right column the point number of each option can be seen in red, and next to this the ranking is shown in Roman numerals.

On the left those measures that should be integrated into the project strategy are marked with a *.

The results are transferred to the main table (Table 5). The measures ultimately chosen for the planning are then taken over in the planning documentation. The results of the climate proofing are not only reflected in the draft project at the end of the preliminary planning but also in the detailed project proposal. Depending on the importance which adaptation to climate change has for the project, they are taken over in the following parts of the project proposal:

- In all project planning the possible impacts of climate change should be addressed in the description of the starting situation and the risks posed to the achievement of the objective. If no effects are expected, this can be pointed out.
- If worthwhile measures for adaptation to climate change or for mitigation are recognised, these are integrated into the project strategy (activity level).
- If adaptation to climate change is very important for the project, it should be reflected in the objective/purpose and output level. It can be expressed in one or several purpose and output indicators or under certain circumstances even be cited in the project purpose itself.

Examples of target indicators

Example 1: Health stations are built in a region where floods are expected to increase.
Indicator: The choice of location, construction and equipment of the health stations take into account the flooding scenarios for the next 30 years, in order to also be able to ensure access and functionality in an emergency situation.

Example 2: The agricultural production methods are improved in a semi-arid region. Climate forecasts anticipate a further reduction in precipitation.
Indicator: With the new cultivation methods and the new types or cultures the farmers achieve an x% bigger harvest, and can also maintain this increase in productivity even if there is an annual average 10% reduction in available water.

If adaptation measures or also contributions towards mitigation are an integral part of project planning, they are also included in the implementation and recorded in monitoring and reports. This particularly applies if one or several indicators contain the approach. However, since adaptation to climate change and also mitigation does not yet represent a familiar field of work for many employees, the following additional recommendations are made:

1. Training at the beginning of the project:

At the latest when the project begins – depending on requirement – the employees, partners and representatives of the target group which are involved in implementing and monitoring should be made aware of the effects and impacts of climate change and provided information on the relevant adaptation and mitigation measures.

2. Regular examination of risk assessment:

Within the framework of the impact monitoring of each project it should be regularly scrutinised whether the information basis for the impacts of climate change or the vulnerability profile of the affected population has changed since the planning. Perhaps more precise investigations are available or there have been changes in the climate forecasts. A changed risk assessment can lead to adaptation of the project planning.

3. Appointment of a climate advisor:

To ensure the issue continues to be taken into consideration within the further course of the project and to provide specialist support for employees for whom the issue is new, it may be worthwhile appointing a climate advisor in the project, who can, for instance, have the following tasks:

- Raising the awareness of colleagues and providing them with specialist support,
- regular updating of the information base on climate risks and presentation of this information within the framework of project monitoring,
- integration of relevant information on activities, challenges and experiences in the project reporting,
- communication with the senior advisor for climate change at the headquarters of Welthungerhilfe (FG WIB) for a mutual exchange of information.

3.6 Information on implementation of climate proofing

The course of the climate proofing depends on the specific project planning process. This, for instance, determines how intensive the situation analysis is in the preliminary planning and how intensive the target population is involved in the different planning phases. These framework conditions also apply to the climate proofing.

Independent of this, the following applies to the climate proofing:

1. It requires a preparatory document analysis:

Generally the partners and employees do not have the necessary knowledge about the forecast effects and risks of climate change. In order to facilitate a well-founded basis for a debate, it is therefore important to compile appropriate information and, if necessary, evaluate it.

2. It is integrated into the analysis and planning processes at community level:

Independent of whether there is a broad involvement of the target population in the planning process right from the outset or if it is later first involved in the detailed planning, climate change can be taken into consideration in each case. A series of participative analysis and planning instruments can be used for recognising specific climate risks on site, evaluating them with people and discussing adaptation possibilities.

3. A workshop for climate proofing is an integral part of the strategic planning process at Welthungerhilfe and partners:

The analysis of the information which is used for assessing climate risk and leads to identification of options for action in a further process, should as far as possible be conducted in a workshop for climate proofing. Depending on how deep-reaching the specific situation analysis is planned and depending on the importance which climate change is expected to have for the project, the climate proofing should be accordingly designed: it can be integrated into a broader-reaching planning workshop as a unit lasting approximately three hours. However, it can also be staged as a workshop lasting 1-2 days. Here it is important to involve all those who will later be important for implementing measures related to climate change and in doing so try to obtain a balanced participation of both genders.

(→ Module B (1.), Module D (2.) und Module C (3.))

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