Toolkit for Integrating Climate Change Adaptation into Development Projects

Digital Toolkit – Version 1.0 – July 2010

Valenda Campbell©CARE

For more information and contacts, see the Toolkit Team page at the end of this Manual, or email toolkits@careclimatechange.org.

Note: This is the same content as in the digital toolkit. In our global efforts to reduce our carbon emissions, please print only if necessary.

This Toolkit has been produced by CARE International, with technical input by the International Institute for Sustainable Development (IISD). CARE acknowledges the critical role played by IISD in all stages of Toolkit development.

iisd International Institute for Sustainable Development / Institut international du développement durable

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Welcome to the Toolkit for Integrating Climate Change Adaptation into Projects


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"Development" is about increasing goods and services, increasing access and opportunities, increasing freedom and choices, and sustaining these gains over time. Climate change can undermine or, in some cases, reverse the effectiveness and sustainability of development interventions. What's more, some interventions can unintentionally leave people even more vulnerable than before to worsening droughts and floods, changing rainfall patterns, sea-level rise and other impacts of climate change. Conversely, well-designed development activities can increase people's resilience to these impacts.

It is, therefore, critical to integrate, or "mainstream" thinking about climate change into development strategies, plans and programmes. This is especially true when pursuing goals that are most likely to be affected by the impacts of climate change, such as greater access to safe drinking water, healthy ecosystems or food security.

This Toolkit offers practical, "how to" guidance for integrating climate change adaptation into the design, implementation, monitoring and evaluation of development projects. Its step-by-step structure helps users build climate-resilient projects with *sustainable impacts*. The Toolkit also includes simple checklists to ensure that development activities don't increase people's vulnerability to climate change. It provides guidance and recommended tools for all stages of the project cycle, as well as tools, resources and practical examples from CARE projects around the world. Water resource management and agriculture projects are specifically highlighted, as they were targeted in the early tests of the Toolkit.

This interactive Toolkit is designed to be flexible. Users can tailor the process to meet their needs, priorities and available resources. Furthermore, we see the Toolkit as a 'living' document or resource. We welcome feedback on its structure, content and overall utility from users. We intend to update the Toolkit periodically as we receive this feedback and continue to learn more about the process of integrating adaptation into development projects.

Go to About the Toolkit to discover how this Toolkit can work for you.

This Toolkit has been produced by CARE International, with technical input by the International Institute for Sustainable Development (IISD). CARE acknowledges the critical role played by IISD in all stages of Toolkit development.

[Open **entire toolkit -** www.careclimatechange.org/files/toolkit/CARE_Integration_Toolkit.pdf]

About the Toolkit


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This Toolkit is designed to facilitate the integration of climate change adaptation into development projects. It is organised around the following, simplified stages in the project cycle: analysis, design and implementation. Information & knowledge management, including monitoring and evaluation, is treated as an ongoing function which is integrated into each of these stages. The strongest emphasis on monitoring and evaluation is found in the description of the "design" stage.

For each stage in the project cycle, key issues are identified and step-by-step guidance is provided, as are recommended support tools and resources. Case studies and examples from field testing the Toolkit on CARE projects in Africa, Asia and Latin America demonstrate how it can be used in practice. Checklists guide production of key project documents.

This Toolkit can be used to strengthen many different kinds of development projects. However, if your project is 'climate sensitive' – i.e. it addresses those resources, livelihoods, services or sectors that directly rely on climate for its viability – then this Toolkit was made for you. The Climate Sensitivity Check will help assess the degree to which your project is "climate sensitive." [1] Less vulnerable projects may still find it helpful to go through the process of are provided to Basic Project Screening.

This section also offers guidance on when to use the Toolkit and helps you understand what it will and won't do in Toolkit Uses and Toolkit Limitations.

Links across the top of each page allow you to navigate between different sections in the Toolkit. The side navigation bar indicates which section you are in and allows you to move through its different parts. Quick Links take you directly to tools, resources, checklists, case studies and frequently asked questions. You can return to a previous location at any time by clicking your browser's *back* button.

We have designed the Toolkit in an interactive format so that it can be used on your computer. Doing so will reduce paper and ink consumption. However, it is possible to print the entire Toolkit or specific sections.

[Open **About the Toolkit** section- www.careclimatechange.org/files/toolkit/Int_About_the_Toolkit.pdf]

What do we mean by integrating climate change adaptation?

"Integrating adaptation into development projects" is, quite simply, the process of identifying climate-related risks and adjusting activities/approaches to reduce these risks. This is different from a "targeted" Community-Based Adaptation project, where the explicit goal is to build vulnerable people's resilience to climate change.

By integrating adaptation into our projects, we can:

- Minimise the likelihood of climate change undermining or negating the effectiveness and sustainability of development interventions. This process is sometimes called "climate-proofing."
- Ensure that activities contribute to people's adaptive capacity, when possible, and don't inadvertently increase their vulnerability to climate change.[1]

"Climate-proofing" is primarily concerned with protecting development investments and outcomes from the impacts of climate change. It increases the sustainability of projects by:

- Analysing the risks that climate change poses to project activities, stakeholders and results; then
- Modifying project designs or implementation plans to reduce those risks.

For example, an increase in the frequency and severity of floods may require water pumps to be built above predicted flood heights in order to ensure the availability of safe water during emergencies.

The second objective of integrating adaptation recognises that many development projects have the potential to build people's adaptive capacity or inadvertently reduce it. By analysing peoples' vulnerability to climate change and adjusting project activities to maximise their contribution to resilience, the positive impact of development projects can be significantly increased.

For example, the selection of technologies and crop varieties can make a major difference in the impact of an agricultural project. In a changing climate, production-oriented, high input agriculture may actually increase vulnerability, as the varieties may not be suited to shifting rainfall patterns and the purchase of inputs may require credit – leaving farmers in a risky position in the event of crop failure. In this context, low-input techniques like conservation agriculture, and crop varieties suited to changing climatic conditions, may be more appropriate.

It should be noted that in some parts of the world, there is significant uncertainty about the impacts of climate change. In such cases, actions should focus on "no regrets" approaches that will increase resilience under a range of likely scenarios. As well, no project will ever be truly "climate-proof." The best we can do is understand the range of risks that a project may be exposed to, and make our best efforts to reduce those risks.

[1]Klein, R.J.T. *et al.* 2007. *Portfolio Screening to Support the Mainstreaming of Adaptation to Climate Change into Development Assistance.* Tyndall Centre Working Paper 102. Tyndall Centre for Climate Change Research, University of East Anglia, Norwich.

Climate sensitivity check

If climate change could undermine the effectiveness and/or sustainability of your project, then this Toolkit was made for you. For example, projects dealing with water resource management and smallholder agricultural will, often, be highly vulnerable to the impacts of climate change.

This Climate Sensitivity Check will help assess the degree to which your project is "climate sensitive." All climate-sensitive projects should identify relevant risks and adjust their activities/approaches accordingly. See Using the Toolkit for further details. Less sensitive projects can still benefit from Basic Project Screening.

You can also learn more in the Frequently Asked Questions section.

To determine if this Toolkit is right for your project, you should answer three key questions:

1. Geographic location: Will the project be implemented in an area that is highly exposed to the impacts of climate change?

Examples include:

- Higher latitudes in the Northern hemisphere, which are particularly vulnerable to increased forest fires and pests.
- Glacial mountains in all continents; the Sahel; the Horn of Africa; the Great Lakes region; Central and South-East Africa; Central, south and South East Asia; Central America and the western part of South America, all of which are vulnerable to floods and/or droughts (depending on how arid/semi-arid the ecosystems in the given region are).
- Sub-Saharan Africa; South Asia, particularly Pakistan and parts of India; South East Asia, particularly Myanmar, Vietnam and Indonesia, which are vulnerable to drought.
- Mozambique, Madagascar, Central America, the Caribbean, Bangladesh, parts of India, Vietnam and other South East Asian countries, which are especially vulnerable to cyclones/hurricanes.
- Mega-deltas such as the Ganges and the Mekong, which are highly vulnerable to changes in water flows, particularly related to changes in rainfall and glacial melt.
- Coastal regions, which are often vulnerable to sea level rise and increased coastal flooding.

The examples above are taken from the Intergovernmental Panel on Climate Change Fourth Assessment Report (2007) and the CARE/UNOCHA report on humanitarian implications of climate change (2008). While these reports paint the "big picture," you will need detailed information covering your project area. See Resources.

2. Project activities: Are project activities sensitive to climate change?

Some kinds of development projects are more readily affected by climate than others. This is especially true for those projects focused on natural resources and agriculture, where climate variables – i.e. temperature, precipitation, wind speed – and extreme events directly determine the availability, quality, distribution and productivity of outputs. Thus, if your project deals with the following, then climate change may threaten the effectiveness and/or sustainability of its impacts:

- Agriculture or livestock
- Fisheries
- Forest, water or soil management
- Other ecosystem goods and services

3. Project beneficiaries: Are the target groups for the project particularly vulnerable to climate change?

Vulnerability to climate change varies within countries, communities and even households. Understanding *who* is vulnerable and *why* requires a context-specific analysis of biophysical, socio-economic and political dimensions of vulnerability. That said, the following social groups are typically amongst the most vulnerable to climate change:

- People dependent on natural resource-based livelihood strategies, including agriculture (particularly rain-fed agriculture), fisheries and forest-based activities. One example is pastoralists.

- Poor women and other marginalised groups
- Landless people
- People with limited mobility
- Refugees and other displaced people

Any assumptions regarding the vulnerability of specific groups should be validated through field-based analysis.

Basic project screening

In many cases, projects that are not directly affected by climate change (such as HIV/AIDS, infant and maternal health and micro-finance projects) will still benefit from considering:

- How more frequent and/or intense extreme weather can impact project activities or target groups;
- How changing rainfall patterns, increasing average temperatures and extreme weather can affect the availability and accessibility of critical livelihoods and project resources;
- How changing climatic conditions can affect social structures and relations in target communities; and
- How climate change-related policies can support or constrain project implementation.

Based on this basic analysis, project teams should develop strategies that can help increase the resilience of natural and social systems, as well as sustain positive impacts, in the face of climate change, and budget accordingly. In particular, incorporating disaster risk reduction measures may be appropriate. Monitoring and evaluation (M&E) systems should be designed to include the tracking of climate conditions and climate hazards. Project risks and assumptions should be reviewed to see if any are affected by climate change.

All projects will benefit from the identification of key drivers of vulnerability and how these may affect their results and outcomes. Issues such as inadequate education, poorly designed and conflicting policies, gender inequality, social and economic marginalisation, conflicts and inadequate access to critical resources and services can exacerbate the vulnerability of target areas and communities to climate variability and change.

When should I use this Toolkit?

Ideally, the integration of adaptation into development projects will occur throughout the project cycle, beginning with the incorporation of vulnerability to climate change in the analysis stage, and following through to project design, implementation, and management of knowledge and information (including monitoring and evaluation).

In some cases, there may also be opportunities to integrate adaptation into ongoing projects. In this scenario, the effectiveness of the integration process will depend on the flexibility of the project to adjust its approach and on the availability of resources to modify, add or change activities in response to the climate analysis.

What will this Toolkit help me to do?

This Toolkit is designed to:

- Analyse vulnerability to climate change and adaptive capacity of your project's target area and communities, based on both scientific information as well as local information.
- Evaluate the risks that climate change may pose to the effectiveness and sustainability of your project.
- Identify options for new or different activities that will increase the sustainability of the project in the context of climate change, and the impact of the project on the adaptive capacity of target populations and the ecosystems on which these populations depend for their livelihoods.
- Implement project activities in a manner that takes climate change into account.
- Manage and use information and knowledge generated by the analysis, design and implementation stages of your project to apply adaptive management.
- Select tools to aid in the above processes.

What won't this Toolkit help me do?

This Toolkit will not:

- Facilitate the integration of climate change adaptation into development strategies or plans (e.g. national-level poverty reduction strategies, development programmes or strategic plans).
- Provide an exhaustive list of tools and resources available for integrating adaptation to climate change into projects. The tools and resources we cite have been identified as particularly relevant and useful for teams working on development projects.
- Facilitate the design of Community-Based Adaptation (CBA) projects. If this is what you're after, see CARE's **Toolkit for Community-Based Adaptation (CBA) Projects** (www.careclimatechange.org/toolkits)

Key Concepts for Integrating Climate Change Adaptation into Projects

This section presents key concepts. You can consult the recommended resources section for elaboration.

[Open **Key Concepts** section- www.careclimatechange.org/files/toolkit/Int_Key_Concepts.pdf]

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Climate Change

The Intergovernmental Panel on Climate Change (IPCC)[1] defines climate change as:

> *Any change in climate over time, whether due to natural variability or as a result of human activity.*[2]

When we discuss climate change in this Toolkit, we are referring to observed and projected increases in average global temperature as well as associated impacts (e.g. an increase in the frequency or intensity of extreme weather; melting icebergs, glaciers and permafrost; sea-level rise; and changes in the timing or amount of precipitation).

[1]The Intergovernmental Panel on Climate Change (IPCC) is a body set up to provide scientific, technical and socio-economic information in a policy-relevant but policy neutral way to decision makers.

[2]IPCC, 2007. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Annex I.*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 976pp.

Vulnerability to Climate Change

Vulnerability to climate change has been defined as:

> *The degree to which a system [natural or human} is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity.*[1]

In the context of this Toolkit, the systems we are referring to are primarily vulnerable communities. Since communities are not homogeneous, particular households or individuals within communities may have differing degrees of vulnerability.

The importance of biophysical vulnerability is acknowledged as well. Many poor people are directly dependent on ecosystems for their livelihoods.[2] Indeed, biodiversity is the foundation and mainstay of agriculture, forests, and fisheries. Natural forests, freshwater and marine ecosystems maintain a wide range of ecosystem goods and services, including the provisioning and regulation of water flows and quality, timber and fisheries. The "poorest of the poor" are, often, especially dependent on these goods and services.[3] For these groups, biophysical vulnerability means human and/or livelihood vulnerability.

Exposure to climate variation is primarily a function of geography. For example, coastal communities will have higher exposure to sea level rise and cyclones, while communities in semi-arid areas may be most exposed to drought.

Sensitivity is the degree to which a given community or ecosystem is affected by climatic stresses. For example, a community dependent on rain-fed agriculture is much more sensitive to changing rainfall patterns than one where mining is the dominant livelihood. Likewise, a fragile, arid or semi-arid ecosystem will be more sensitive than a tropical one to a decrease in rainfall, due to the subsequent impact on water flows.

[1]Intergovernmental Panel on Climate Change (IPCC) Working Group 2, 2001. *Third Assessment Report, Annex B: Glossary of Terms*.
[2]Task Force on Climate Change, Vulnerable Communities and Adaptation (IUCN, SEI and IISD), 2003. Livelihoods and Climate Change. Combining Disaster Risk Reduction, Natural Resource Management and Climate Change adaptation in a new approach to the reduction of vulnerability and poverty. International Institute for Sustainable Development, Canada.

[3]World Bank 2009. Convenient Solutions to an Inconvenient Truth: Ecosystem-based Approaches to Climate Change. Environment Department, World Bank.

Adaptive Capacity

Adaptive capacity is defined as:

> *The ability of a system [human or natural] to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with the consequences.*[1]

One of the most important factors shaping the adaptive capacity of individuals, households and communities is their access to and control over natural, human, social, physical and financial resources. Examples of resources affecting adaptive capacity include:

Human	Knowledge of climate risks, conservation agriculture skills, good health to enable labour
Social	Women's savings and loans groups, farmer-based organisations, traditional welfare and social support institutions
Physical	Irrigation infrastructure, seed and grain storage facilities
Natural	Reliable water sources, productive land, vegetation and trees
Financial	Micro-insurance, diversified income sources

In general, the world's poorest people often have limited access to those livelihood resources that would facilitate adaptation. Access to and control over these resources also varies within countries, communities and even households. It is influenced by external factors such as policies, institutions and power structures.[2]

For instance, women are often particularly vulnerable to the impacts of climate change due to their limited access to information, resources and services. Similarly, pastoralist men may find it easier than women to adapt to changing rainfall patterns because their culture allows for greater mobility amongst men. In other societies, more men than women may survive a flood, as many poor women do not know how to swim. However, it is important to note that adaptive capacity can vary over time based on changing conditions, and may differ in relation to particular hazards.

The approach to integration of climate change is grounded in the identification of vulnerable groups and targeting of adaptation strategies depending on both the human and natural ecosystem context.

[1] Intergovernmental Panel on Climate Change (IPCC) Working Group 2, 2001. *Third Assessment Report, Annex B: Glossary of Terms*.
[2] In some livelihoods frameworks, political capital is recognized as a sixth category of resources.

Resilience

Resilience can be defined as:

> *The ability of a system [human or natural] 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.*[1]

Resilience is a familiar concept in the context of disaster risk reduction (DRR), and is increasingly being discussed in the realm of adaptation. A resilient community is well-placed to manage hazards, to minimise their effects and/or to recover quickly from any negative impacts, resulting in a similar or improved state as compared to before the hazard occurred. There are strong linkages between resilience and adaptive capacity; consequently, resilience also varies greatly for different groups within a community.

[1]Adapted from: UNISDR, 2009. Terminology: Basic terms of disaster risk reduction and IISD et al, 2007. Community-based Risk Screening – Adaptation and Livelihoods (CRiSTAL) User's Manual, Version 3.0.

Hazard

In the context of disaster risk reduction, a hazard is defined as:

> *A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.*[1]

When we discuss hazards in the context of this Toolkit, we are referring both to shocks, such as floods (rapid onset), and to stresses, such as droughts or changing rainfall patterns (slow onset).

It is important to distinguish between the hazard (e.g. flood) and the effects of the hazard (e.g. death of livestock.) Some effects, such as food shortages, may be the result of a combination of hazards, including climate shocks and stresses, declining soil fertility and insecure access to markets. To effectively analyse vulnerability, we must understand the dynamic nature, causes, and interactions of hazards.

[1]UNISDR, 2009. Terminology: Basic terms of disaster risk reduction.

Sustainable Livelihoods

This Toolkit focuses on the analysis and integration of climate change adaptation from the perspective of the sustainable livelihoods approach (SLA).[1]

Livelihoods comprise the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from external shocks and stresses, and maintain or enhance its capabilities and assets now and in the future. Five core asset categories are typically identified in the SLA: Human, social, physical, natural and financial.

The approach helps improve understanding of the dynamic nature of livelihoods and what influences them. It builds on people's strengths and opportunities to support existing livelihood strategies. It examines the influence of policies and institutions on livelihood options and highlights the need for policies that address

the priorities of the poor. It encourages public-private partnerships and aims for sustainability. From our perspective, all these are important elements of effective adaptation to climate change.[2]

[1]Department for International Development, UK (DFID). 2001. *Sustainable Livelihoods Guidance Sheet*. Available at http://www.nssd.net/pdf/sectiont.pdf.
[2]Scoones, Ian (2005): The Sustainable Rural Livelihoods: A Framework for Analysis. Institute for Development Studies, University of Sussex. England. Available at http://www.sarpn.org.za/documents/d0001493/P1833-Sustainable-rural-livelihoods_IDS-paper72.pdf.

Adaptation to Climate Change

Adaptation to climate change is defined as:

> *An adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.*[1]

We see adaptation as a process focused on reducing vulnerability, which usually involves building adaptive capacity, particularly of the most vulnerable people. In some cases, it also involves reducing exposure or sensitivity to climate change impacts. In fact, adaptation is more than reducing vulnerability; it is about making sure that development initiatives don't inadvertently increase vulnerability.

Since reducing vulnerability is the foundation of adaptation, it calls for a detailed understanding of who is vulnerable and why. This involves both analysis of current exposure to climate shocks and stresses, and model-based analysis of future climate impacts. With this information, appropriate adaptation strategies can be designed and implemented. Monitoring and evaluating the effectiveness of activities and outputs, as well as sharing knowledge and lessons learnt, are also critical components of the adaptation process.

[1]IPCC, 2007: *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Annex I.,* M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 976pp.

Using the Toolkit

There are two different ways you can use the Toolkit, depending on what your project development process looks like. If you have time and resources available, and/or if your project is particularly sensitive to climate change, we suggest that you follow the detailed process of integrating adaptation into the project cycle.

If you have limited time or resources, you can still take steps to integrate adaptation by using the Project Document Checklists as a guide in developing key project documents.

[Open **Using the Toolkit** section- www.careclimatechange.org/files/toolkit/Int_Using_Toolkit.pdf]

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Using the Toolkit to Integrate Climate Change Adaptation into the Project Cycle

The project cycle is often used as the framework for integrating climate change adaptation considerations into project development. The project cycle is a way of illustrating the main stages in project development, the links between them, and their sequencing. The detailed structure of the project cycle varies between organisations, but the main stages are usually very similar, although they might be named differently.

In this Toolkit, we use the following three stages in the project cycle: analysis, design, and implementation. Information & knowledge management is treated as an ongoing function throughout the project cycle. In the Toolkit, the first three stages build on one another, while information & knowledge management, including monitoring and evaluation, runs throughout the other three stages. The strongest emphasis on monitoring and evaluation is found in the "design" section. This is presented in the Project Cycle Diagram.

Integrating adaptation into projects should ideally follow the same cycle, starting when projects are at the analysis stage. As previously mentioned, climate change adaptation can in some cases be integrated into ongoing projects already under implementation, also called retrofitting, if there are opportunities for modifying project parameters. Such opportunities can present themselves during periodic or mid-term project reviews or when designing the subsequent phase of a project.

Integration of climate change adaptation into a project requires the consideration of a new range of issues throughout analysis, design, implementation and information & knowledge management. The key issues that should be considered at each stage of the project cycle are summarised in the section Integrating Adaptation into the Project Cycle: Key Issues to Consider, and described in detail in the Step-by-Step Guidance for each stage.

Note that in the Toolkit we are assuming a high quality project cycle – we have focused on those issues that are specific to adaptation. However, the success of adaptation initiatives relies on many of the same factors as the success of development initiatives. The Toolkit is built on the assumption that basic issues such as stakeholder participation, accountability mechanisms and quality assurance are "business as usual" in the project cycle. Therefore, the issues identified here are additional to those considered in a typical project cycle.

For further information, please see the section on Integrating Climate Change Adaptation into the Project Cycle.

Using the Project Document Checklists

In reality, many projects do not follow the theoretical project cycle. Often, the project design process is driven by donor deadlines, and project teams face time and resource constraints in carrying out analysis and ensuring appropriate stakeholder engagement in the process. In this case, efforts to address key adaptation issues can still be made by using the Project Document Checklists.

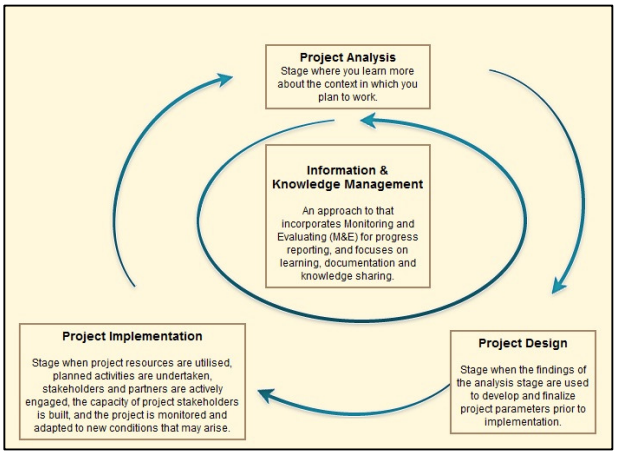
The checklists summarise the detailed framework for integrating adaptation to climate change into easy-to-use checklists that follow the format of typical documents produced during a project cycle – concept paper, proposal, project implementation plan, budget and progress reports. These are meant only as guides; not all projects will be able to address all of the issues identified in the checklists. The documents must be tailored to the specific context and scope of your project, and to the priorities and demands of the donor you are working with.

Integrating Climate Change Adaptation into the Project Cycle

Project Analysis
Stage where you learn more about the context in which you plan to work

Project Design
Stage when the findings of the analysis stage are used to develop and finalize project parameters prior to implementation.

Project Implementation
Stage when project resources are utilized, planned activities are undertaken, stakeholders and partners are actively engaged, the capacity of project stakeholders in built, and the project is monitored and adapted to new conditions that may arise.



Information & Knowledge Management
An approach that incorporates Monitoring & Evaluation (M&E) for progress reporting, and focuses on learning, documentation and knowledge sharing.

[Open **Project Cycle** section- www.careclimatechange.org/files/toolkit/Int_Project_Cycle.pdf]

Integrating Climate Change Adaptation into the Project Cycle: Analysis

The purpose of the analysis stage (also sometimes called project appraisal, holistic appraisal, or analysis and synthesis in CARE's project design framework) is to learn more about the context in which you plan to work. It involves collecting, organising and synthesising information on the project context (operating environment) in order to inform your project design. This includes collecting and analysing information on the social, political, economic and environmental factors that influence lives and livelihoods. It is important to understand the setting in which livelihoods are conducted in order to grasp the nature of the development problems, needs and opportunities, and subsequently design appropriate responses. The analysis stage commonly involves analyses such as: needs assessment, institutional assessment, stakeholder analysis, gender analysis, rights assessment, livelihoods analysis (often including environmental and socio-economic assessments) and causal/problem analysis.

This stage is also the best time for project planners to gather crucial information on the project's climate context, including climate risks affecting the project area and local communities, as well as local communities' current climate change vulnerability and adaptive capacity. This section guides you in what information is needed and also provides suggested tools and resources to help you.

An analysis intended for the integration of climate change adaptation into a development project should ideally be as the first stage in developing the project. This enables consideration and integration of appropriate adaptation options from the beginning of the project. However, in some projects, opportunities for integration of climate change adaptation may arise during mid-term evaluation, or during the development of subsequent phases of the project.

Gathering and analysing this information on climate risks, vulnerability and adaptive capacity is crucial for the integration of climate change adaptation considerations in the next steps of the project cycle, i.e. in project design, implementation and information & knowledge management. It is also the time to consider

existing coping strategies that are used in order to better understand opportunities and barriers to adaptation by different groups.

When planning the analysis stage, key issues to consider include the desired breadth and depth of the analysis, as well as the types of data and information required and available. This will determine the tools and methodologies that will be applied in the analysis. The amount of time and resources available to undertake the data collection and analysis should also be considered. In addition, the perceptions, attitudes and willingness of key informants (for primary data collection) should be taken into account while planning and conducting the analysis. The analysis team should ensure that participatory analysis does not interfere with local communities' activities, and that all actors are adequately represented in the process. It is important to analyse data and information obtained from a range of primary and secondary sources, and to validate the conclusions with project stakeholders. Documentation of the analysis process and the conclusions and recommendations are critical steps of the process.

Recommended Tools for Analysis

Climate Vulnerability and Capacity Analysis (CVCA) Handbook
The CVCA Handbook provides guiding questions, tools and resources for analysis of climate vulnerability and adaptive capacity at household/individual, community and national levels.

More details (www.careclimatechange.org/cvca)
Download the tool (www.careclimatechange.org/files/adaptation/CARE_CVCAHandbook.pdf)

Community Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL)
Module 1 of CRiSTAL provides a framework for organising information on climate change and livelihoods.

More details (www.cristaltool.org)
Download the tool (www.cristaltool.org/content/download.aspx)

Recommended Resources for Analysis

UNDP Climate Change Country Profiles (http://country-profiles.geog.ox.ac.uk/)
These country climate change profiles were developed for 52 developing countries. They are comprised of country-level climate observations and provide multi-model climate projections for different parts of each country featured.

World Bank Climate Change Data Portal (http://sdwebx.worldbank.org/climateportal/)
This Data Portal provides readily accessible country-level climate-related data to policy makers and development practitioners. Using a map interface, users can select their country of interest and access information on climate projections, climate change impacts on different crops and sectors, socio-economic data, and other relevant studies and resources for the selected country. The portal also provides access to a screening tool called ADAPT (Assessment and Design for Adaptation to Climate Change: A Planning Tool), which assists in the identification of activities sensitive to the effects of climate change.

National Adaptation Programmes of Action (NAPAs)
(http://unfccc.int/cooperation_support/least_developed_countries_portal/submitted_napas/items/4585.php)
National adaptation programmes of action (NAPAs) provide a process for Least Developed Countries (LDCs) to identify priority activities that respond to their *urgent* and *immediate* needs to adapt to climate change – those for which further delay would increase vulnerability and/or costs at a later stage. The NAPAs document climatic trends, and key vulnerabilities to climate change for relevant sectors. They list existing, as well as potential adaptation activities for each sector. The NAPAs also list and profile priority adaptation projects identified by the respective Least Developed Countries.

Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change
(http://www.ipcc.ch/ipccreports/ar4-wg2.htm)
This report highlights impacts of climate change in different parts of the world, on sectors and resources such as water, agriculture, human health and settlements among others. It describes factors that exacerbate vulnerability to climate change and provides adaptation options.

The Nature Conservancy's Climate Wizard (http://www.climatewizard.org/)
The Climate Wizard is a visual tool that allows users to view historic temperature and rainfall maps for anywhere in the world, as well as future predictions of temperature and rainfall in a given area. With this information, users can assess how climate has changed over time and project what future changes may occur.

National Communications to the United Nations Framework Convention on Climate Change (UNFCCC)
(http://unfccc.int/national_reports/non-annex_i_natcom/submitted_natcom/items/653.php)
These country reports document national circumstances, climate change impacts and vulnerability assessments by sector. They also list priority climate change mitigation and adaptation projects identified by respective countries.

Integrating Climate Change Adaptation into the Project Cycle: Design

Project design (also called 'focused strategy' in CARE's project design framework) is the stage when the findings of the analysis stage can be used to develop and finalise project parameters prior to implementation. This involves selecting problem causes to address and identify: the project goal, objectives and expected results; target areas, communities and people; appropriate interventions to address each selected problem cause; key assumptions; unintended project impacts and strategies for managing them; and human resource needs. This is also the stage at which the project budget is developed.

Because this Toolkit addresses integration of climate change adaptation into projects, we are assuming that projects have already identified the broad objectives they would like to achieve (e.g. improving access to safe water, or increasing incomes from agriculture), and have a basic idea of the types of activities that will be undertaken. Indeed, for the integration process to be effective, the ideal time to consider climate change adaptation in your project design is as soon as possible after basic priorities have been selected.

In the design stage, the climate risks identified in the previous stage can be compared against project parameters so that associated threats to (and opportunities for) the project and target communities can be assessed in detail. This assessment forms the basis for developing project activities that: a) reduce the climate risks facing a project and target communities; b) increase, or at least avoids decreasing, community resilience to climate change; and c) take advantage of opportunities that arise from climate change. This may yield a slightly different design than originally envisioned, but should remain true to the broad objectives as initially conceived (assuming those objectives are still valid in light of the analysis).

It is also during the design stage that project designers develop or review the project's information & knowledge management strategy, including the monitoring & evaluation (M&E) system. It is important to include specific indicators targeted at measuring both climate risks and changes in resilience or adaptive capacity in a given community.

There may also be cases where it makes sense to review a project that is further along in its design phase, or even one that is already being implemented. Midterm reviews or design of a next phase may provide opportunities, and flexibility, to modify the project design to take climate change adaptation into account. In this case, once your preliminary design has been reviewed to take into consideration climate change risks and to incorporate adaptation measures, these project modifications/revisions should become part of the project design and thereby be integrated into the rest of the project cycle, including project implementation

and information & knowledge management, including monitoring & evaluation. For this reason, having the space to make modifications in the project design is key, unless the objective of the review process is strictly for learning.

One of the key things that must be kept in mind in designing projects that take climate change into account is flexibility. The exact nature of climate change impacts on the timeframe of a typical project is uncertain. In order for the project team and stakeholders to manage this uncertainty, project designs must be flexible to consider changing conditions and the impact of extreme weather events. This may require project designs that are more process-oriented and less rigid than usual.

It must be noted that people implementing the project are not necessarily those who designed it, so effective documentation of the design process, including key decisions and rationale, is important to facilitate better implementation.

Recommended Tools for Design

Community Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL)
Module 2 of CRiSTAL focuses on planning and managing projects for adaptation. It identifies resources that are vulnerable to climate change, and those that are important to short-term coping. It also takes users through a process of adjusting project activities to increase longer-term resilience to climate change.

More details (www.cristaltool.org)
Download the tool (www.cristaltool.org/content/download.aspx)

Climate Change and Environmental Degradation Risk and Adaptation Assessment (CEDRA) Field Tool Checklist
Tearfund has developed CEDRA to help development workers to access and understand the science of climate change and environmental degradation and to compare this with local community experiences of climate change, providing a basis for planning adaptation measures. The Field Tool Checklist provides a broad list of possible impacts of climate change and environmental degradation, and suggests possible adaptation options. Section 3.2 provides guidance on how to choose between different adaptation options.

More details (http://tilz.tearfund.org/Topics/Environmental+Sustainability/CEDRA.htm)
Download the tool (http://tilz.tearfund.org/Topics/Environmental+Sustainability/CEDRA.htm)

Recommended Resources for Design

CARE Project Design Handbook
(www.careclimatechange.org/files/toolkit/CARE_Project_Design.pdf)
This very practical handbook is a guide to translating CARE's vision, principles and values into action through logical design of projects and programmes. The Handbook introduces a conceptual framework, or roadmap, to programme and project planning. Chapter 4 is particularly helpful in the design stage as it focuses on developing a focused strategy for the project to address the issues identified through the analysis stage.

Integrating Climate Change Adaptation into the Project Cycle: Implementation

After completion of the project analysis and design, project teams can start the implementation phase. This is the phase when project resources are deployed, planned activities are undertaken, stakeholders and partners are actively engaged, the capacity of project stakeholders is built, and the project is monitored and adapted to new conditions that may arise.

Assuming that the process of integrating adaptation into the design of the project has been effective, the implementation stage should follow the implementation strategy as planned. However, we highlight three key issues for implementation that may not be "typical" for a development project. First, there is the importance of partnerships, especially cross-sectoral ones, in the context of adaptation. Second, projects must be flexible enough to accommodate regular and systematic monitoring of changes to the context, particularly the climate context, and consequent updates to the implementation strategy. Third, the project implementation strategy should incorporate emergency preparedness measures to manage increasing risks of climate events to project activities and stakeholders.

Recommended Tools for Implementation

Climate Context Monitoring Tool
The Climate Context Monitoring Tool is a simple set of questions which can be used to track changes in the climate context over the life of the project, and to plan adjustments to the project in light of these changes. It can be used as part of regular progress reviews, and the resulting information can be integrated into project progress reports. Please note that this is CARE's first version in developing such a monitoring tool. CARE will continue to strengthen the tool during 2010 and 2011.

Download the tool (www.careclimatechange.org/files/toolkit/Climate_Context_Monitoring_Tool.pdf)

Recommended Resources for Implementation

The Basics of Project Implementation: A Guide for Project Managers
(www.careclimatechange.org/files/toolkit/CARE_Project_Implementation.pdf)
This manual by CARE International provides guidelines to project managers on managing relationships and risks, as well as ensuring flexibility.

Integrating Climate Change Adaptation into the Project Cycle: Ongoing Function - Information & Knowledge Management

The fourth component of the project cycle is Information & Knowledge Management, which occurs throughout the other three stages, as shown in the Project Cycle Diagram.

Project-related information is the data or facts that may be organised to describe a certain situation or condition in the target area. Knowledge can be defined as the comprehension and understanding of a situation or condition that results from acquiring and organising information. Knowledge is the application of information; the interpretation and application of information to increase understanding or undertake a task.

Information management means identifying what information is needed, who has the information, how it can be captured and stored, and finding the best method for its distribution and use. It involves seeing information as a strategic resource which can be used and reused to meet objectives, improve our decision making processes, learn and create new knowledge[1]. Similarly, knowledge management refers to the practice of comprehensively gathering, organizing, sharing and analysing knowledge to strengthen operational efficiency.[2] Because CBA is a relatively new area, it is critical that the I&KM system put in place mechanisms to facilitate the conversion of information to knowledge.

Information & knowledge management in development projects is often equated to the monitoring & evaluation (M&E) that we do for the purposes of donor reporting. In this Toolkit, we promote a broader approach to information & knowledge management, which incorporates M&E for progress reporting, but also focuses on learning, documentation, and knowledge sharing between project partners.
M&E of CBA projects requires us to consider indicators of achievement that may be new or different from the types of indicators we typically use to monitor & evaluate development projects. The nature of

adaptation as a process, not an end, can make the M&E of CBA projects more complex than for development projects. A further challenge is presented by the medium- to long-term timeline of climate change. This means that it is difficult to evaluate whether people are adapting to climate change, particularly on the timeline of typical CBA projects. Therefore, M&E systems in CBA projects will typically assess changes in adaptive capacity of target groups, using indicators that capture different elements of this capacity, as well as improvements in the enabling environment for adaptation at the local level. They may also assess how effectively people are managing current climate variability, as an indicator of capacity to manage longer-term changes in climate. CBA indicators are often more process-oriented than the usual project indicators.

[1]The Terminology of Knowledge for Sustainable Development: Information, Knowledge, collaboration and Communications (An IISD Knowledge Communications Practice Note) (2005), IISD.
[2]Project Management Information Systems: Guidelines for Planning, Implementing and Managing a DME Project Information System (2004), CARE International.

Recommended Tools for Information & Knowledge Management

Framework of Milestones and Indicators for Community-Based Adaptation (CBA)
CARE's Framework of Milestones and Indicators for CBA builds on the CBA framework, which presents a range of "enabling factors" which must be in place at household/individual, community/local and national levels in order for effective community-based adaptation to take place. The tool includes milestones and indicators that can be used in tracking progress towards the achievement of the enabling factors.

Download the tool (www.careclimatechange.org/files/toolkit/CBA_Framework.pdf)

Climate Context Monitoring Tool
The Climate Context Monitoring Tool is a simple set of questions which can be used to track changes in the climate context over the life of the project, and to plan adjustments to the project in light of these changes. It can be used as part of regular progress reviews, and the resulting information can be integrated into project progress reports. Please note that this is CARE's first version in developing such a monitoring tool. CARE will continue to strengthen the tool during 2010 and 2011.

Download the tool (www.careclimatechange.org/files/toolkit/Climate_Context_Monitoring_Tool.pdf)

National Adaptive Capacity Framework
The World Resources Institute (WRI) is leading the development of a new way of thinking about adaptation planning, using a framework called the National Adaptive Capacity (NAC). This framework was developed to assist in identifying strengths and gaps in adaptation capacities at the national level in different countries. This can act as a basis for identifying indicators of adaptive capacity at the national level.

More details (www.wri.org/project/vulnerability-and-adaptation/nac-framework)
Download the tool (http://pdf.wri.org/working_papers/NAC_framework_2009-12.pdf)

Recommended Resources for Information & Knowledge Management

CARE Project Management Information Systems: Guidelines for Planning, Implementing and Managing a DME Project Information System (www.careclimatechange.org/files/toolkit/CARE_DME_Project.pdf)
These CARE guidelines document the process for defining, locating, collecting, storing, analysing, sharing and using information to support decision-making, coordination and control in a project.

CARE Project Design Handbook
(www.careclimatechange.org/files/toolkit/CARE_Project_Design.pdf)
Chapters 5 and 6 give guidance on developing coherent information systems and on reflective practice.

Integrating Climate Change Adaptation into Projects: Key Issues to Consider

This section summarises the key issues to consider when integrating adaptation into the different stages of the project cycle. From this summary, you can click on each Key Issue to link to the Step-by Step-Guidance section providing more details on the issue.

[Open **Key Issues** section- www.careclimatechange.org/files/toolkit/Int_Key_Issues.pdf]

Key Issues to Consider: Analysis

STAGE	KEY ISSUES
Analysis	Collect, organise and synthesise information on: ▪ Past and current climate context (based on anecdotal information and/or meteorological records) ▪ Future changes to climate context due to climate change (primarily based on scientific projections and data) ▪ Livelihoods-climate linkages for different groups within the community ▪ Institutional and policy environment related to climate change (national, district and local level to fully capture the context) ▪ Underlying causes of vulnerability to climate change, including poverty, gender and marginalisation
Information & Knowledge Management	▪ Process of gathering data (both qualitative and quantitative), synthesising information and validating the analysis

Key Issues to Consider: Design

STAGE	KEY ISSUES
Design	Consider the following in identifying project parameters: ▪ Adaptation to climate change reflected in project objectives and expected results ▪ Assumptions and risk mitigation strategies in the context of climate change ▪ Climate-resilient livelihood ▪ Disaster risk reduction ▪ Developing local capacity on longer-term adaptation beyond immediate coping mechanisms ▪ Addressing underlying causes of vulnerability to climate change ▪ Project target groups ▪ Creating an enabling policy and institutional environment for adaptation, particularly at the local level, but also at the district and national levels, whenever feasible.

Information & Knowledge Management	▪ Project design process ▪ Design of effective knowledge sharing and monitoring & evaluation (M&E) strategies ▪ Development of indicators for monitoring changes in adaptive capacity for different groups during project implementation

Key Issues to Consider: Implementation

STAGE	KEY ISSUES
Implementation	Ensure the quality of project implementation by: ▪ Establishing appropriate partnerships to achieve expected results, particularly cross-sectoral ones ▪ Incorporating emergency preparedness measures
Information & Knowledge Management	▪ Monitoring context and adjusting project approach in response to findings and lessons learned ▪ Documentation and dissemination of project approach, results and lessons

Integrating Climate Change Adaptation into Projects: Step-by-Step Guidance

The following sections provide step-by-step guidance on integrating climate change adaptation into projects. The process is organised around the three stages of the project cycle – analysis, design and implementation – with information & knowledge management integrated throughout. For each stage, the Key Issues are elaborated with focus questions, explanations and examples. Where appropriate, specific questions or examples are provided for water projects and for agriculture projects.

For each stage, specific tools and resources are recommended, and these are included as part of the Toolkit. Links to other resources that may be useful for specific issues or steps in the process are provided throughout the section.

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Step-by-Step Guidance on Analysis

Analysis is the key to appropriate and effective project design, implementation and information & knowledge management. The following sections highlight and explain issues for consideration at the analysis stage when integrating adaptation into projects.

The links below take you to the recommended tools and resources for the analysis stage of your project. Links to other resources that may be useful for specific issues or steps in the process are provided throughout the section.

- Recommended Tools and Resources for Analysis

For further guidance on synthesising and documenting your project analysis, see the Project Document Checklists for concept papers, project proposals and project implementation plans.

[Open **Step-by-Step Guidance: Analysis** section- www.careclimatechange.org/files/toolkit/Int_Step-by-Step_Analysis.pdf]

Past and current climate context

Key Questions:

- What are the past and current climate hazards (events and conditions) affecting the target area? Are these hazards worse now than they used to be?
- What evidence of climate change is already being observed? Here document anecdotal information concerning past and current seasonal climate context, focusing on temperature and precipitation. Then complement this information and findings with information from meteorological records. This way, you will get a more accurate picture of how climate change has affected the target area in the past and present.
- Are there non-climate-related hazards that present important risks in the target area?

To properly integrate climate change adaptation into a development project, it is necessary to first understand the past and current climate context of the country, region or ecological zone. This includes climate variables and events. The key variables for most development projects will most likely be temperature and rainfall patterns. Events to consider would include heavy rains, droughts, floods, cyclones and hurricanes.

In many areas, the impacts of climate change are already being observed, both by scientists and by local communities. Analysis of these observations can provide a more informed analysis of potential future scenarios. This will generally require a combination of scientific observations such as meteorological records, along with local observations based on traditional knowledge and weather monitoring systems. The **CVCA Handbook** (www.careclimatechange.org/files/adaptation/CARE_CVCAHandbook.pdf) provides guidance on gathering local observations and on linking this community knowledge to climate science.

Keep in mind that climate change should not be treated in isolation. Climate change tends to aggravate other development pressures or changes. Communities may be facing a range of hazards which include non-climate hazards, and that these hazards can interact to increase vulnerability. Therefore, analysis of non-climate-related hazards, such as population growth and poverty, is also important at this stage.

Key Questions: Current climate context for *water* projects

- What are the observations for climate variables that may affect water resources, including rainfall, runoff and evapo-transpiration?
- How do climate hazards affect both quantity and quality of water resources? What are the causes and effects?
- What impacts of climate change on water resources have been observed by the community (both in the past and present)?
- Are there patterns of water stress (past and current) due to seasonal variations or other factors?

Key Questions: Current climate context for *agriculture* projects

- What are the observations and projections for variables that may affect agriculture, including rainfall, temperature and extreme weather events?
- How do current climate hazards affect agriculture?
- What impacts of climate change on agriculture have been observed by the community (both past and present)?
- What are the current seasonal food and income insecurity patterns?

Useful Resource:
Meteorological Services
Your national meteorological service may be a source of useful information on past and current climate conditions and events, including seasonal weather forecasts. Other useful sources include National Communication reports to the UNFCCC, National Adaptation Programmes of Action (NAPAs), and scientific reports, such as the IPCC reports.

Project Example: The **Global Water Initiative (GWI)** (www.careclimatechange.org/files/toolkit/CARE_GWI_Project.pdf). Sustaining School Children's Access to Safe Water project aims to provide sustainable access to safe water for school children in Garissa, Kenya. The project design document did not explicitly include an analysis of the current climate context but it did, however, note that water shortages are increasing in the area. Using the **CVCA Handbook** (www.careclimatechange.org/files/adaptation/CARE_CVCAHandbook.pdf), the project team explored community perceptions of recent changes in climate in the area. It is evident from the discussions that community members are aware that the weather is changing. Their observations included increasing temperatures and more frequent, severe and prolonged droughts, as well as strong winds and floods. This information provided a basis for consideration of future climate changes and their impact on project activities and stakeholders.

Future changes to climate context due to climate change

Key Questions:

- How will the frequency and intensity of climate events change in future based on climate change scenarios?
- How will climate conditions change in the future based on climate change scenarios?

In some cases, an examination of the current climate context may occur as part of the analysis process for a typical development project. However, in order to integrate adaptation, the analysis must examine both observed trends and future climate events and conditions. Observed trends – such as warming, shifting seasons – must be based on climate information collected over a few decades, not years. This is to avoid jumping to conclusions. For example, it is possible to have one year with an unusually cold summer but that is no indication that cold summers will now be the future norm.

Regarding future climate, your analysis should try to focus on broad trends and be aware of the uncertainties associated with projections. Your best source of data will likely be scientific projections and data, from sources such as Government institutions or universities. In terms of *climate events*, climate change is expected to generate an increase in the frequency and severity of extreme weather events, including droughts, floods, cyclones and hurricanes, among others. We can no longer assume that these events will occur as they have in the past, nor can we assume that communities will face the same hazards as they have in the past.

Changing conditions such as temperatures and rainfall patterns are less dramatic than climate events, but they can have a serious impact on livelihoods, particularly agricultural-based livelihoods strategies. Analysis of how these variables may change in future can support the identification of adaptation strategies that are appropriate to future conditions, or that build in flexibility to deal with uncertainty.

The Recommended Resources for Analysis provides several sources of further information on future climate scenarios.

Key Questions: Future changes to climate context for *water* projects

- What are the projected changes in hazards that will affect the quantity and quality of water resources based on climate change scenarios?
- How might impacts of climate hazards on water availability change in the future based on climate projections?

Key Questions: Future changes to climate context for *agriculture* projects

- What are the projected changes in hazards that would affect agricultural resources and production based on climate change scenarios?
- How might impacts of climate hazards on agriculture change in the future based on climate projections?

Useful Resource:
Humanitarian Implications of Climate Change: Mapping Emerging Trends and Risk Hotspots (www.careclimatechange.org/files/reports/CARE_Human_Implications.pdf)
This report by CARE International identifies the most likely humanitarian implications of climate change, including migration, over the next 20 to 30 years. It focuses on floods, droughts and cyclones and features maps of regions in Africa, Asia and Latin America that will be affected by one, two or all three of these disasters.

Project Example: The Promoting Local Management and Good Governance to Improve Water Supply and Sanitation Services for the Poor **(PASOS-III) project** (www.careclimatechange.org/files/toolkit/CARE_PASOS_Project.pdf) in Honduras aims to enhance access to potable water and sanitation facilities and improve municipal governance, leading to improved well-being of target populations. Given recent extreme weather events in the region, the project team has emphasised the immediate climate context and its short-term impacts in project planning and implementation. Through the Toolkit testing process, the team became aware of the need to improve analysis of the future climate context. They would then be in a position to analyse how these longer-term scenarios will impact the infrastructure built by the project, and to modify design of water and sanitation facilities accordingly. For example, the project is building water distribution systems from river sources. Consideration of climate change impacts such as changing river flows due to increasing rainfall variability in system design would result in more sustainable infrastructure.

Livelihoods-climate linkages for different groups within the community

Key questions

- Which social or economic groups within the community are particularly vulnerable to climate change?
- Which resources are most important to the livelihoods of different social groups, including men, women and marginalised groups?
- How do current climate hazards affect livelihoods and related resources of different groups?
- Which livelihoods resources are most vulnerable to climate change?
- Which livelihood resources are needed to cope with the immediate impacts of a climate hazard (such as a flood)?
- Are current coping strategies used by different groups to deal with climate hazards effective? Are they sustainable?
- Do current coping strategies differ from the ones used in the past? If yes, why?
- Which livelihood resources are needed to build longer-term adaptive capacity?
- What opportunities exist for diversification of livelihoods? What are the constraints to diversification for different groups?

The analysis of livelihoods-climate linkages aims to enhance greater understanding about the impacts of climate variability and change on important livelihood resources and activities in the project area. A key step is identification of particularly vulnerable livelihood groups and/or economic sectors. This process will ideally use a combination of secondary research and primary research, including participatory analysis. Particularly vulnerable economic sectors may include but not be limited to agriculture, fisheries and pastoralism. Identification of vulnerable groups must take into account socio-political questions which may shape people's ability to adapt to climate change. Particular attention should be paid to gender differences in adaptive capacity, but this should not preclude a focus on other factors that may increase vulnerability.

To sustain their livelihoods, people use a wide range of social, physical, natural, financial and human resources. To analyse livelihoods-climate linkages, those resources most important to livelihoods and short-term coping and longer-term adaptation must be identified, keeping in mind that different groups will rely on different resources. Using this information, you can then think about how the climate context described in the previous step affects livelihoods both today and in the future. This analysis must be considered for different economic and social groups within the community.

Adaptation strategies should build on existing coping strategies where appropriate. However, in many cases, the most vulnerable people are employing coping strategies which are neither effective nor sustainable over the longer term. This step of the analysis must incorporate identification of current coping strategies, and an evaluation of their effectiveness and longer-term sustainability. This will serve to identify those positive coping strategies which can be used as a foundation for adaptation, and to better understand the types of alternatives that are needed to adapt to a changing climate.

For example, investment in early warning systems and training are crucial elements of enhancing livelihood resilience; and financial resources, such as credit and insurance, are vital for recovery and long-term adaptation. This analysis also includes identification of potential opportunities for diversification of livelihoods, particularly to strategies that are not agriculture-based. Consideration of the impacts of climate change and of adaptation measures on natural resources will facilitate the identification of strategies that improve the resilience of natural systems as well as of people.

CVCA Handbook (www.careclimatechange.org/files/adaptation/CARE_CVCAHandbook.pdf) tools such as the hazard map and the vulnerability matrix are helpful in gathering this information from different groups within the community, and the **CRiSTAL tool** (www.cristaltool.org/content/download.aspx) provides a useful structure for organising and analysing this information.

Key Questions: Climate linkages for *water* projects

- What are the current water availability, collection and usage patterns for different groups within the community?
- Which groups within the community may be particularly vulnerable to water stress?
- What are the impacts of current climate hazards on water availability, quality and demand?
- How effective and sustainable are current coping strategies for water stress?
- How may water availability, quality and demand change in future as a result of climate change (based on scientific projections and data)?

Key Questions: Climate linkages for *agriculture* projects

- Which livelihood groups, crops, or species may be particularly vulnerable to climate variability and change?
- Which livelihoods resources are most important to agriculture and adaptation?
- What is the impact of current climate hazards (including changing conditions) on agriculture?
- How effective and sustainable are current coping strategies for livelihoods?
- What will be the impact of future climate hazards on resources important to agriculture and adaptation?
- What opportunities exist for diversification, both within agriculture and to non-agricultural livelihoods strategies?
- What resources may be necessary for different groups to diversify both within and outside agriculture?

Useful Resource:
CARE Household Livelihood Security Assessment Toolkit: A Toolkit for Practitioners (www.careclimatechange.org/files/toolkit/CARE_HLSA_Toolkit.pdf). This toolkit helps project practitioners analyse and understand the web of poverty and people's mechanisms for dealing with it. It is useful for understanding how people are using livelihoods resources, providing a foundation for analysing livelihoods-climate linkages.

Project Example: Initially, the analysis for the **LEAD Project** (www.careclimatechange.org/files/toolkit/CARE_LEAD_Project.pdf) in Ghana did not discuss specific crops or technologies being used by target populations and how these are or aren't appropriate to current and projected climate conditions. Using the **CRiSTAL tool** (www.cristaltool.org/content/download.aspx), the project team was able to break down livelihoods strategies to consider the resources that were most important to people, and how these resources are affected by climate change. They could then identify strategies, such as dry season gardening combined with micro-irrigation, that would increase sustainability of livelihoods even in the context of changing rainfall patterns and increasing droughts.

Institutional and policy environment related to climate change

Key Questions:

- Which policies and institutions (local, district and national) have the most impact in terms of facilitating or constraining adaptation?
- What capacity exists in government (local, district and national) and civil society organisations in the target area to plan and implement climate change adaptation?
- What disaster risk management policies and institutions exist in the target area?
- Is climate change adaptation effectively integrated into relevant policies and programmes (such as land use planning) especially at district and local levels?
- How strong are linkages between national adaptation-related policies and district and local implementation?
- Are resources allocated for adaptation activities at national, district and local levels? What types of activities are funded?
- What organisations may be potential partners and opponents in project activities?

Success of adaptation efforts at individual, household and community levels relies heavily on the existence of an enabling environment for adaptation. This enabling environment consists of government and civil society institutions (at national, district and local levels), with their respective mandates, capacities and policies for identifying and managing climate-related risks. These typically include institutions responsible for disaster preparedness and recovery, environmental protection and management, as well as economic development (agriculture, forests, energy, infrastructure, etc.).

In many countries, the first challenge is the establishment of a mandate by the government to address climate change. Once this mandate is in place, climate change often becomes the responsibility of the environment ministry. But integrating climate change adaptation into a project may require the analysis to consider institutions and policies that might not have been considered in the past. For example in the past the agriculture ministry might have been the main government contact for a given project, but integrating climate change into the project may now also require the support and input from agencies responsible for the environment and disaster management.

Effectively tackling climate change requires a wide range of expertise, including scientific expertise to analyse climate data, socio-economic research skills to understand the dimensions and underlying causes of vulnerability, and economic appraisal to determine the costs and benefits of different adaptation options. An

understanding of existing capacity in institutions involved in planning and implementing adaptation actions is helpful for partner identification and planning for capacity development efforts.

With a mandate in place, and appropriate technical capacities, governments and civil society are able to focus on integration of climate change into relevant policies and programmes. In some cases, existing policies may provide clear opportunities to build adaptive capacity, while others may prioritise actions which actually increase vulnerability to climate change. This step in the analysis is about trying to better understand these and understand what the design of the project should include in response.

Whether an extreme event turns into a disaster is highly dependent on the level of preparation of local and national institutions, as well as on the capacity of communities and individuals to manage the hazard. Disaster risk management (DRM) comprises preparedness, prevention, response and recovery. Monitoring threats and disseminating information on disaster risks, including through early warning systems, is a key element of the disaster management process. Given the implications of climate change for extreme weather events, strong DRM policies and institutions are a key element of an enabling environment for adaptation.

The existence of good policies at national level does not necessarily translate into action at the local level. The links between national policies and local implementation must be analysed to understand the challenges faced by local actors. In many cases, the primary challenge is resource allocation, suggesting that an understanding of how decisions are made on channelling of funding and human resources is important to plan appropriate strategies to support local institutions and communities. In addition, the district level, which is often supposed to serve as the mediator between the national and local levels, tends to be weak, both in terms of human and financial resources.

Opportunities and barriers to climate change adaptation should be identified at institutional level. Based on the results of the analysis, ways to strengthen existing partnerships, or formation of new partnerships should be recommended and undertaken by the project. This should facilitate integration of appropriate adaptation measures.

The **CVCA Handbook** (www.careclimatechange.org/files/adaptation/CARE_CVCAHandbook.pdf) provides guidance on undertaking institutional mapping and policy analysis related to adaptation.

Key Questions: Institutional and policy environment for *water* projects

- What are the key institutions involved in planning and implementation of water resource management (national, district and local level to fully capture the context)?
- Is climate change adaptation integrated in water policies and planning documents at national, district and local levels?
- How are water issues addressed in adaptation planning documents (national, district and local levels)?
- Are water resource management plans (local, district and national) sustainable in the context of climate change?

NOTE: While the key emphasis should be on analysing the local level documentation, it is important to understand the broader district and national context of which the project target area is part.

Key Questions: Institutional and policy environment for *agriculture* projects

- What are the key institutions involved in planning and implementation of agricultural development and land management (national, district and local level to fully capture the context)?
- Is climate change adaptation integrated in agriculture and land management policies and planning documents at national, district and local levels?
- How are agriculture issues addressed in adaptation planning documents at national, district and local levels?
- Are agricultural development and land management plans (local, district and national) sustainable in the context of climate change?

NOTE: While the key emphasis should be on analysing the local level documentation, it is important to understand the broader district and national context of which the project target area is part.

Project Example: The **Global Water Initiative (GWI)** (www.careclimatechange.org/files/toolkit/CARE_GWI_Project.pdf). Sustaining School Children's Access to Safe Water project seeks to empower communities in Garissa, Kenya to push for suitable policy changes that will address their vulnerability to water- related shocks in the context of climate change. However, the project team had not collected and analysed information on existing policies and how they may facilitate or constrain adaptation. Further, the project design did not identify specific activities geared towards community empowerment for policy change, and did not identify policies that would be targeted. Following the CRiSTAL analysis, the team indicated that the Water Users Associations would be strengthened to advocate for key issues affecting the community. Key policies that could be targeted include the Policy on Sustainable Development of Arid and Semi-Arid Lands, the Environment Policy, National Water Policy, and the National Disaster Management Policy.

Underlying causes of vulnerability to climate change, including poverty, gender and marginalisation

Key Questions:

- How do poverty, gender and marginalisation contribute to vulnerability to climate change?
- Do all target stakeholders have equal access to infrastructure and services necessary for adaptation?
- Do all target stakeholders have access to and control over critical livelihoods resources?
- Are there existing or potential conflicts over resources which may impede adaptation efforts?
- Do target stakeholders have a voice in local, district and national decision-making?

Many of the factors which shape people's vulnerability to climate change actually have nothing to do with the climate. Socio-economic, cultural and political factors can exacerbate vulnerability of certain groups to climate variability and change.

Concerning the importance of poverty, most of the world's rural poor communities are subsistence farmers who depend mainly on rainfall for their production. Their livelihood conditions, coupled with their dependence on local rainfall, make them very vulnerable to climatic variability, such as the unpredictability of rain, and disasters such as droughts and floods. For example, it is this dependence on local rainfall for food production that makes the impacts of drought so dramatic and widespread.

Access to critical infrastructure and services, such as roads, cyclone shelters and telecommunications, plays a role in people's adaptive capacity. Roads, for example, can facilitate access to markets and to financial services which can lead to income security, in turn leading to greater resilience. The existence of cyclone shelters can offer protection from these extreme events as they become more frequent and more intense. Telecommunications infrastructure facilitates access to information such as seasonal weather forecasts and market prices which can support decision-making for risk management. Similarly, services such as health, education, financial services, and agricultural extension support people in meeting their basic needs and reduce vulnerability to shocks and stresses.

Insecure access to other livelihood resources such as agricultural land, water infrastructure and money can limit people's ability or will to make decisions that would facilitate adaptation in the context of climate change. If farmers do not have secure land tenure, for example, they have much less incentive to manage the land sustainably, and to invest in good practices such as conservation agriculture and tree planting.

Violent conflicts generally leave people more vulnerable to stresses, including those associated with climate. The impacts of conflict such as injury and death, the destruction of critical infrastructure, ecosystem degradation, and the disruption or absence of public services and safety nets, threaten peoples' health, the viability of their livelihoods, and the social networks upon which they rely. As a result, people in post-conflict settings have a limited capacity to prepare for and recover from shocks and stresses, including hurricanes, floods and droughts.

Moreover, climate change may exacerbate some drivers of conflict – i.e. dwindling natural resource base – and overwhelm some societies' capacity to respond to and manage risk, reinforcing a cycle of vulnerability and conflict. Understanding how a project area has been affected by conflict, as well as identifying those drivers of conflict that may be affected by current and future climate trends, could help ensure a project builds adaptive capacity and does not increase vulnerability.

Finally, a lack of voice in local and national decision-making is a critical factor contributing to vulnerability to climate change, particularly for women and other marginalised groups. This is evidenced by policies and institutions that do not respond to the specific needs and priorities of communities in general, and of vulnerable groups in particular.

Key Questions: Underlying causes of vulnerability to climate change for *water* projects

- Who is responsible for securing water for household use?
- Who controls water resources in the household and in the community?
- Who is involved in decision-making on water management at the local level?
- Are there inequalities in access to water within the community?
- Are there differences in water demand and usage by different groups within the community?
- Is water a source of conflict in the community or the region?

- What is the level of household income?
- Are households forced to use a large percentage of their income on buying bottled water due to lack of access to clean water and sanitation infrastructure? Without access to safe water, poor households must often rely on bottled water, paying 5 to 10 times more than households that have piped water.

Key Questions: Underlying causes of vulnerability to climate change for *agriculture* projects

- Who makes decisions on planting and harvesting crops for the household?
- Who is responsible for agricultural labour?
- Who makes decisions on using or selling agricultural products?
- What are the constraints to innovation and/or risk management in agriculture, such as insecure land tenure or lack of inputs?
- What is the level of household income?

Useful Resource:
CARE's Adaptation, gender and women's empowerment brief (www.careclimatechange.org/files/toolkit/CARE_Gender_Brief_Oct2010.pdf) This CARE Climate Change Brief explains why gender is an important consideration in vulnerability to climate change, and identifies how gender roles, control over resources, and power play a role in people's adaptive capacity.

Additional briefing notes are being prepared concerning issues such as: adaptation and food security, adaptation and agriculture (including livestock), adaptation and water, and adaptation and disaster risk reduction (DRR).

Project Example: The **Global Water Initiative (GWI)** (www.careclimatechange.org/files/toolkit/CARE_GWI_Project.pdf). Sustaining School Children's Access to Safe Water project in Kenya identified vulnerable groups to include people suffering from HIV/AIDS, the disabled, infants and the elderly. This identification of vulnerable groups was based on water and sanitation needs. When vulnerability was analysed from the perspective of livelihoods and climate change, it became clear that women and girls are more vulnerable to water stress caused by climate variability and change, in particular because of their role in fetching water for household use. As water becomes increasingly scarce, it can increase the burden on women and girls. Incorporating a climate lens in the analysis led the team to insights on vulnerability that they might not have otherwise reached.

Information & knowledge management for project analysis: Process of gathering data (both quantitative and qualitative), synthesising information and validating the analysis

Key Questions:

- Did the analytical process incorporate information (both quantitative and qualitative) from a variety of primary and secondary sources, including through participatory analysis?
- Has the information been synthesized according to key adaptation issues?
- Has the context analysis been validated by stakeholders, including particularly vulnerable groups?
- Have gaps and uncertainties, validated conclusions and recommended actions been appropriately documented?

The ongoing value of a good analysis comes from how you use it to inform a better design and implementation. The analytical process is the foundation for this, and it must include information from primary sources such as key informants and project stakeholders, as well as secondary sources including research reports and statistical analyses. It is also important to gather both qualitative and quantitative data. Systematic synthesis of the information according to the major issues identified is key to its usefulness.

It is important to present results of the entire analysis to all actors to confirm the validity of conclusions drawn. This would also create awareness about the views of different stakeholders; promote dialogue, collective interpretation and ownership of suggested project modifications. Clarifications on how the results should be integrated into the project, and roles of partners should be agreed upon and documented. Triangulation of in particular key elements of the analysis is important to ensure accuracy.

It is vital to document the analytical process used, the sources of information and the validation process so that new information can be incorporated appropriately and checked as it comes to light. This is particularly the case in integrating climate change adaptation as climate change is a dynamic phenomenon and our understanding of it expands and changes over time; as such, the analysis will correspondingly change over time. So, in addition to documenting conclusions and recommended actions, we need to ensure that gaps in information and key uncertainties are documented. This will help to identify issues that may need further analysis and uncertainties that must be monitored as part of project activities.

Step-by-Step Guidance on Design

The design stage is when the results of the analysis are used to identify project goals, objectives and activities, as well as the project methodology, team structure, and management approach. It often includes the development of a logical framework for the project, including objectives, expected results and performance indicators. The budget for the project is generally developed at this stage.

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The links below take you to the recommended tools and resources for the design stage of your project. Links to other resources that may be useful for specific issues or steps in the process are provided throughout the section.

- Recommended Tools and Resources for Design

Further guidance on project design can be found in the Project Document Checklists. See in particular the checklists for project proposals, project implementation plans, and budgets.

[Open **Step-by-Step Guidance: Design** section- www.careclimatechange.org/files/toolkit/Int_Step-by-Step_Design.pdf]

Adaptation to climate change reflected in project objectives and expected results

Key Questions:

- Do the project objectives respond to climate-related challenges and the need for adaptation identified in the analysis?
- Do the project expected results include increased capacity to adapt to future climate challenges based on analysis of climate change scenarios?
- Do the project expected results address the underlying causes of vulnerability, including poverty, gender and marginalisation?

Integrating adaptation into a development project may result in objectives and expected results that are slightly different from those that we would strive for in a development project that doesn't take climate change into account. The aim is not to turn every project into an adaptation project, but to ensure that the objectives of our development projects are appropriate in the context of climate change.

When reviewing project objectives, project teams should particularly consider whether they respond to climate-related challenges identified during the analysis stage. This may lead to objectives related to building the resilience of target populations to climate hazards, or capacity of local organisations to plan and implement adaptation, for example. Ideally, expected results will include an increase in the capacity of target populations and institutions to adapt to future climate challenges, recognising that adaptation is a process, not an end.

In addition to focusing on climate-related challenges, consideration of underlying causes of vulnerability to climate change, such as gender and marginalisation, may help to ensure that the project contributes to adaptive capacity. CARE's **Framework of Milestones and Indicators for CBA** (www.careclimatechange.org/files/toolkit/CBA_Framework.pdf) provides some examples of the types of medium-term results that projects could aim to achieve.

Examples: Objectives and expected results for *water* projects

- Increased resilience and adaptive capacity to water stress
- Water infrastructure improved to withstand climate change
- Increased capacity of stakeholders to integrate adaptation into planning for water resource management

Examples: Objectives and expected results for *agriculture* projects

- Reduced impact of climate-related shocks on food security of target households
- Increased use of climate-resilient agricultural practices
- Increased capacity of agricultural extension workers to support farmers in adapting to climate change
- Improved planning and risk management in agriculture

Assumptions and risk mitigation strategies in the context of climate change

Key Questions:

- Do the assumptions include those related to strategies to increase adaptive capacity for future climate change?
- Are assumptions regarding impacts of project activities on different groups within the community documented?
- Are climate hazards identified as risks to project success (including future projections)?
- Do risk mitigation strategies include integration of disaster risk reduction strategies to address climate hazards?

The project should identify and document critical assumptions relating to impacts of project activities on the vulnerability of different groups to climate change. For example, the project may assume that by increasing incomes through income generating activities, people's adaptive capacity may increase. Analysis and testing of these assumptions is key to the success of the project. In particular, the project team must examine assumptions that relate to impacts of project activities on different groups. A strategy that is appropriate for one group may not work for another. Ensuring that the assumptions are clear and well-founded can avoid unintended negative impacts, and can improve the sustainability of project results.

In the context of climate change, it is no longer valid to assume that no major climate hazard will occur over the life of the project. In fact, in areas with high exposure to climate hazards, it is best to assume that a climate hazard such as a drought, flood or cyclone WILL occur, and to plan project activities and implementation strategies based on that assumption. This would logically lead us to incorporate disaster risk reduction strategies into project activities, and to ensure that an emergency preparedness plan is in place at the project office level (see the Implementation section for further details on emergency preparedness).

Climate-resilient livelihoods

Key Questions:

- Are livelihoods-related project activities sustainable and resilient to climate change?
- Do project activities support diversification of livelihoods by target groups, particularly diversification to non-agricultural activities or more climate-resilient agricultural practices?
- Do project activities include facilitating access to climate information for risk analysis and planning?
- Do project activities facilitate efficient use of available resources?
- Do project activities facilitate access to services, such as financial services or extension services which support adaptation?
- Does the project aim to influence local plans and policies to support climate-resilient livelihoods strategies?

Many development projects aim to increase livelihoods security for target populations, for example, by increasing agricultural yields or by supporting the development of water infrastructure. In order for these interventions to be sustainable in the longer term, projects must focus on supporting project stakeholders in pursuing livelihoods strategies that are resilient to climate variability and change.

Livelihoods strategies that are resilient to climate change should be appropriate in existing conditions in order to address current challenges, while at the same time developing capacity to adapt to future changes (based on available climate projections). These strategies should build on existing knowledge and capacities, and also innovate to address evolving challenges.

Climate risk screening is a process of evaluating proposed project activities based on their vulnerability to climate change (note that here we are looking at the vulnerability of project activities, not stakeholders – this is covered in the following sections). The **Community-based Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL)** (www.cristaltool.org/content/download.aspx) provides a systematic process for doing this.

Based on the outcomes of the climate risk screening, potential modifications to project activities, or identification of new activities should be done. This may involve minor changes, for example promoting a different crop variety, or more major changes such as modifying the design of water infrastructure. A feasibility assessment, (including technical, financial, social and environmental feasibility) of suggested modifications or new activities should be done before activities are finalised. It is important that this is done before the project budget is finalised so that modifications that have budget implications can be incorporated.

A key element of future adaptive capacity is for people to have a range of options available to them to sustain their livelihoods under different conditions. Therefore, diversification of livelihoods, both within agriculture and to non-agricultural (i.e. non-climate-sensitive) activities is a key risk management strategy. Diversification within agriculture could involve incorporating new crops or livestock species, particularly those that are adaptable to climate variability. Outside agriculture, income generating strategies that are not dependent on the natural resource base, such as handicrafts or small enterprises, can provide a source of security when agricultural strategies fail. When identifying and promoting climate-resilient livelihoods strategies, it is important to consider the interaction of hazards. For example, some areas may be affected by both droughts and floods, requiring consideration of both scenarios in order to build resilience.

One of the challenges faced by communities, and particularly vulnerable groups within communities, is simply a lack of access to information that would facilitate planning and risk management. Ensuring that communities are able to access critical information such as seasonal forecasts and early warnings, will support their efforts to manage their livelihoods in a context of uncertainty. Empowering them to use this

information is a key part of the process – target populations should be encouraged to adopt and adapt strategies in innovative ways based on current and future evidence, to give them not only the ownership but also the confidence to take leadership of the process.

Access to services that support adaptation of livelihoods is a key factor to be considered. For example, accessing credit for start up costs can make the difference for people in diversifying their livelihoods. Experience has proven that households with savings are better able to cope in times of crisis when their regular means of survival are not available to them. Therefore, ensuring that target groups have access to financial services such as savings and credit can bring about significant opportunities to build adaptive capacity.

In support of household and individual level adaptation, efforts must be made to ensure that local plans and policies provide opportunities for action by target groups. Within all of these efforts, recognition and prioritization of the specific needs and priorities of women and other vulnerable groups, and their empowerment, must be a particular focus.

Key Questions: Climate-resilient livelihoods in *water* projects

- Has water infrastructure been designed taking into account potential changes in water availability due to climate change?
- Has water infrastructure been designed to be sufficiently resilient towards potential impacts from climate change, such as soil erosion caused by floods or excessive rainfall?
- Have project activities taken into account that demand for water may change as a result of climate change?
- Does the project support integration of adaptation into planning for water resource management?
- Does the project build capacity of stakeholders to monitor water resources and adapt water resource management strategies to changing conditions?
- Will the project develop local capacity on longer-term adaptation beyond immediate coping mechanisms?
- Have project resources been allocated for such monitoring efforts?
- Do project activities promote efficient use of water resources e.g. through reuse, recycling and rationing so that supplies are able to withstand fluctuations in recharge (i.e. resulting from changes in rainfall)?

Key Questions: Climate-resilient livelihoods in *agriculture* projects

- Are the crop and livestock types being promoted by the project appropriate in the context of future climate projections for the target area?
- Are the agricultural practices promoted sustainable in the context of climate change?

- Does the project support integration of adaptation into planning for land use management?
- Do project activities build capacity of stakeholders to access and use weather and climate information for agricultural planning and risk management?
- Will the project develop local capacity on longer-term adaptation beyond immediate coping mechanisms?
- Have project resources been allocated for such monitoring efforts?
- Do project activities promote efficient use of resources for agriculture such as land, water and inputs?
- Does the project incorporate diversification to off-farm livelihoods strategies that may be less sensitive to climate hazards?

Project Example: To reduce the impact of droughts on crop production, the **Global Water Initiative (GWI)** (www.careclimatechange.org/files/toolkit/CARE_GWI_Project.pdf). Sustaining School Children's Access to Safe Water project planned to supplement rain-fed agriculture with irrigation. Taking into account the potential for increasing water scarcity as a result of climate change, the project team has proposed to use drip irrigation technology in order to increase efficiency of water use. This will also require increased water storage capacity to ensure a steady supply of water for the drip irrigation. The project team will also work with the community to test different crops that can withstand warmer temperatures and increased drought. These crops may include papaya, bananas and watermelons, among others. Diversifying to climate-resilient crops is intended to reduce the impact of drought on food production.

Disaster risk reduction

Key Questions:

- Do project activities promote saving of food, water and agricultural inputs?
- Do project activities support protection of key assets, including shelter, from climate events?
- Does the project facilitate development and implementation of disaster risk management plans by local stakeholders?
- Does the project support the establishment of functional early warning systems?
- Do project activities build capacity of local stakeholders to respond to disasters?
- Do project activities facilitate the transition from immediate coping in response to a climate-related disaster into building longer-term adaptive capacity?

In the context of climate change, we can assume that in most areas, the frequency and intensity of extreme weather events, such as floods, droughts, and cyclones, will be greater. Whether an extreme event turns into a disaster is highly dependent on the level of preparedness of local and national institutions, as well as on the capacity of communities and individuals to manage the hazard. If societies are unable to deal with today's climate-related disasters, then it is likely that disaster-related losses will be as great – if not greater – with future climate change. This means that integrating disaster risk reduction into development work becomes critically important.

Disaster risk reduction (DRR) is defined as "the concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events."[1]

In the context of a development project, key considerations would include ensuring that target populations have reserves of food, water and agricultural inputs so that these important resources are available to them in times of crisis. Protection of key assets such as shelter, livestock, and food reserves can greatly reduce the impact of climate hazards.

DRR strategies are needed at multiple levels and differential vulnerability in order to be effective. The development and implementation of disaster risk management[2] plans at community, district and national levels, can facilitate a coordinated approach to preparing for and responding to crises. Monitoring threats and disseminating information on disaster risks, including through early warning systems, is a key element of the disaster management process.

In the event of disaster, the ability of institutions (government and civil society) to respond to the needs of those affected will have a significant impact on their ability to recover from the event. This requires an understanding of how different people within communities and households may be affected by an event.. These considerations should be reflected in a project seeking to integrate climate change adaptation.

Finally, it is helpful to distinguish between the asset protection needed during a natural disaster and the asset building needed to withstand projected long-term gradual climate changes. Different constellations of assets are needed during different stages of a climate-change impact: before, during, in the immediate aftermath, and for long-term recovery and adaptation. For instance, investment in early warning systems and training are crucial elements of enhancing livelihood resilience, whereas financial resources, such as credit or insurance, are vital for recovery and long-term adaptation. Projects should try to enhance a specific mix of livelihood resources that will provide support to shorter-term coping as well as longer-term adaptation.

Key Questions: Disaster Risk Reduction in *water* projects

- Are water systems designed to withstand extreme weather events?
- Do project activities include disaster risk reduction strategies to reduce the negative impacts of hazards on water resources?
- Does the project have a strategy for ensuring access to safe water in the event of an emergency?
- Does the project aim to involve water management committees and other local institutions in disaster risk management?

Key Questions: Disaster Risk Reduction in *agriculture* projects

- Do project activities include disaster risk reduction strategies for agriculture, including early warning systems for climate hazards such as droughts and floods?
- Does the project include measures to protect crops and livestock from climate events?

- Does the project promote safe storage of seeds and other inputs to protect them from extreme weather events?
- Does the project support project stakeholders in establishing safe storage facilities for harvested products?

Useful Resource:
Red Cross/Red Crescent Climate Guide
(www.climatecentre.org/site/publications/85/red-cross-red-crescent-climate-guide)
This guide contains useful information on integrating disaster risk reduction into humanitarian and development programmes. The sections on disaster management (p. 77-90) and community risk reduction (p. 91-105) are helpful resources for thinking about disaster risk reduction activities at the community level.

[1] United Nations International Strategy for Disaster Reduction (UNISDR), Terminology on Disaster Risk Reduction, 2009.

[2]Disaster risk management comprises preparedness, prevention, response and recovery.

Developing local capacity on longer-term adaptation beyond immediate coping mechanisms

Key Questions:

- Does the project support the development of local capacity to build longer-term adaptive capacity beyond immediate coping mechanisms?
- Does the project develop capacity of local institutions to monitor, analyze and disseminate information on current and future climate risks?
- Does the project develop capacity of local institutions to integrate adaptation into planning?
- Do project activities promote participatory local governance?
- Does the project aim to strengthen services that are important to adaptation, such as financial services and social protection?

As part of a resource-based vulnerability analysis, it is helpful to distinguish between the resource protection needed during a climate disaster, such as a flooding, and the strengthening of resources needed to withstand projected long-term gradual climate changes. Different constellations of resources are needed during different stages of a climate change impact: before, during, in the immediate aftermath, and for long-term recovery and adaptation. For instance, investment in early warning systems and training are crucial elements of enhancing livelihood resilience, whereas financial capital, such as credit or insurance, is vital for recovery and long-term adaptation. Interventions should focus on enhancing the specific mix of livelihood resources that will provide the greatest resilience and adaptation given the local climate-related vulnerability context.

In many areas, communities rely on local government and civil society institutions to provide them with information and to support them in securing their livelihoods. Therefore, efforts to promote adaptation in communities must also consider the capacity of these institutions to support target groups in taking action on adaptation.

Local institutions face many of the same challenges as communities in terms of access to climate information and capacity to analyse this information and make recommendations. Facilitating this access and building

this capacity will enable local institutions to better support communities by providing them with accurate information, and recommending appropriate actions.

A key element of creating an enabling environment for household and individual adaptation is ensuring that local plans and policies are responsive to the needs and priorities of communities, and particularly of the most vulnerable groups within communities. Participatory and inclusive local governance is a key factor in this, not only for adaptation, but as a general principle of good governance. Ensuring that local institutions can not only facilitate participatory processes – from awareness-raising and consultation to joint decision-making and shared control – but also integrate climate risks and adaptation into these processes can go a long way towards increasing the adaptive capacity of communities.

Finally, as discussed previously, access to services such as financial services and social protection is a key element of adaptive capacity for households and individuals. Strengthening the ability of local institutions to provide these services can help to ensure that more people can effectively prepare for and recover from shocks and stresses in their lives.

Key Institutions: Local capacity development in *water* projects

- Community water management committees
- NGOs involved in water service delivery and/or watershed management
- Local representatives of water ministry and water service delivery agency
- Local representatives of natural resource or environment ministry engaged in watershed management

Key Institutions: Local capacity development in *agriculture* projects

- Farmer-based organisations or cooperatives
- NGOs involved in agricultural extension and development
- Local representatives of agricultural ministry and agricultural extension service
- Local representatives of ministry engaged in land use planning

Useful Resources:
Integrating Climate Change Adaptation into Development Co-operation: Policy Guidance
(www.oecd.org/document/40/0,3343,en_2649_34421_42580264_1_1_1_1,00.html)
Chapter 12 of the OECD Policy Guidance is focused on integrating adaptation at the local level. It identifies elements for successful integration, as well as key entry points for working with local stakeholders. Concrete examples are provided to demonstrate the recommendations in action.

Red Cross/Red Crescent Climate Guide
(www.climatecentre.org/site/publications/85/red-cross-red-crescent-climate-guide)
The Climate Guide contains a chapter on communications (p. 55-66) which provides useful advice on designing a strategy to communicate climate change to stakeholders. It includes real-life Red Cross and Red Crescent experiences and perspectives, followed by a "how-to" section with specific step-by-step guidance.

Addressing underlying causes of vulnerability to climate change

Key Questions:

- Do project activities help strengthen the livelihood resources of the targeted stakeholders to help prevent any further impoverishment from future climate impacts?
- Do project activities include gender-sensitive adaptation strategies?
- Do project activities address specific challenges faced by marginalised groups in securing their livelihoods and adapting to climate change?
- Do project activities address issues of access to and control over resources necessary for livelihoods and adaptation?
- Do project activities incorporate advocacy and social mobilization to address inequalities due to gender and marginalization?
- Do project activities seek to resolve current or future resource-based conflicts?
- Do project activities promote participation of communities, particularly vulnerable groups within communities, in local governance?
- Have appropriate indicators been developed to measure progress made in addressing these underlying causes?

People living in poverty are particularly vulnerable to the erosion of their resource base. During a sudden decline in resources, such as during a climate-related disaster, poor households often cannot achieve even low consumption levels without having to deplete productive assets even further, whether these are livestock, family health or children's education. Hence, strengthening the livelihood resources of poor communities and households is a "no-regrets" approach to good adaptation while working towards local development goals.

As previously discussed, vulnerability to climate change is determined not only by exposure and sensitivity to climate shocks, but also by capacity to manage those shocks in a way that minimizes the negative impacts on livelihoods and allows achievement of development goals. This capacity to adapt is shaped by access to and control over resources, as well as power to make decisions. Gender and marginalization are key factors in determining who has this power and who controls access to resources. Therefore, efforts to promote adaptation in communities must be gender-sensitive, based on the different roles, capacities and challenges that men and women face in sustaining their livelihoods in a changing climate.

These efforts must also address the specific challenges faced by marginalised groups in adapting. This may require different approaches and different adaptation strategies for different groups. It may also require advocacy and social mobilization to challenge inequalities due to gender and marginalization. This could include advocacy for equitable land tenure, or awareness raising on women's rights, for example. Please see CARE's **Adaptation, gender and women's empowerment** brief (www.careclimatechange.org/files/toolkit/CARE_Gender_Brief_Oct2010.pdf) for further information on gender-sensitive adaptation and women's empowerment.

Conflict, particularly resource-based conflict, is another cause that may impede adaptation efforts. Further, climate change impacts are likely to increase the pressure on resources which may exacerbate existing conflicts and/or start new ones. Integrating conflict analysis and resolution may be an important factor in the success of adaptation.

Many of the underlying causes of vulnerability of climate change result from women and other marginalised groups lacking voice in decision-making, in their communities, and sometimes even within their households. Marginalised groups should be empowered to lend voice not only to their challenges, but also their solutions. Empowering the most vulnerable to engage in local governance is key to ensuring that local plans and policies are responsive to their needs and priorities, and that they support their efforts to adapt.

Key Questions: Objectives and expected results for *water* projects

- Do project activities help strengthen the supply of and access to safe water resources of the targeted stakeholders to help prevent any further impoverishment from future climate impacts?
- Do project activities take into account gender roles in water management?
- Does the project seek to ensure equitable access to and control over water for marginalised groups?
- Does the project promote the role of women and other marginalised groups in community management of water resources?
- Does the project include strategies to resolve water conflicts within the community or between communities within the watershed?
- Do activities seek to ensure participation of communities, and of particularly vulnerable groups within communities, in planning for water resource management?

Key Questions: Objectives and expected results for *agriculture* projects

- Do project activities help strengthen the agricultural land base of the targeted stakeholders to help prevent any further impoverishment from future climate impacts?
- Do project activities take into account gender roles in agriculture?
- Does the project seek to ensure equitable access to and control over land and other agricultural resources for marginalised groups?
- Does the project include strategies to resolve conflicts over land and other agricultural resources?
- Does the project address challenges associated with access to markets and adding value to agricultural products?
- Does the project aim to facilitate access to financial services such as savings, credit and insurance?

- Do activities seek to ensure participation of communities, and of particularly vulnerable groups within communities, in planning for land use management?

Useful Resource:
CARE International Gender Equity Building Blocks
(www.careclimatechange.org/files/toolkit/Gender_equity.pdf)
This resource aims to facilitate the integration of gender equity considerations into project development. It contains tools that work and what they do, checklists on gender analysis and partnerships. It analyses impact on empowerment, and gender sensitive implementation.

Project Example: The **LEAD Project** (www.careclimatechange.org/files/toolkit/CARE_LEAD_Project.pdf) in Ghana has a strong in commitment to empowering women as community-based extension (CBE) agents, and in local governance. It also mentions that CBE systems will be "equitable" and socially inclusive. For this to be the case, CBE systems will need to ensure not only that women and other marginalised groups have access to the services, but that the strategies and technologies promoted by extension agents are appropriate to the specific needs of women and men or of other vulnerable groups. This may require different strategies for different groups based on their resources and capacity.

Creating an enabling policy and institutional environment for adaptation

Key Questions:

- Do project activities engage not only local, but also regional and national decision-makers on adaptation?
- Do project activities include advocacy for appropriate policies on adaptation?

Analysis of policies and institutions should yield information on the key actors and policies that may support or constrain adaptation by communities. To create an enabling environment, projects should engage decision-makers at higher levels. Depending on the country, this may be regional level or national level. This engagement should aim to raise their awareness of the adaptation challenges faced by vulnerable people and communities, to profile successful adaptation strategies and approaches, and to advocate for policies that support adaptation at the community level. A key element of the advocacy strategy should focus on strengthening the capacity of vulnerable individuals, households and communities, and the organisations that represent them, to effectively advocate for their own interests and rights.

Creating an enabling environment for adaptation in the *water* sector

- Working with policymakers at all levels to integrate climate change adaptation into water policies and programmes at their respective

levels

- Strengthening the capacity of institutions at local, regional and national levels involved in water resource management to analyze climate risks and plan adaptation strategies
- Strengthening treatment of water issues in adaptation strategies at local and national level

Creating an enabling environment for adaptation in the *agriculture* sector

- Working with policymakers at all levels to integrate climate change adaptation into agriculture and land use policies and programmes at their respective levels
- Strengthening the capacity of institutions at local, regional and national levels involved in agriculture and land use management to analyze climate risks and plan adaptation strategies
- Strengthening treatment of agriculture issues in adaptation strategies at local and national level

Useful Resources:
Advocacy Tools and Guidelines: Promoting Policy Change: Resource Manual for CARE Programme Managers
(www.careclimatechange.org/files/toolkit/CARE_Advocacy_Guidelines.pdf)
These tools provide a step by step guideline for planning advocacy initiatives, as well as advice for successful implementation.

Integrating Climate Change Adaptation into Development Co-operation: Policy Guidance
(www.oecd.org/document/40/0,3343,en_2649_34421_42580264_1_1_1_1,00.html)
Chapters 7 and 8 of the OECD Policy Guidance provide suggestions on national-level and sectoral integration of adaptation, including challenges and priorities for action.

Project Example: A recent analysis of climate vulnerability and capacity in the Liquica district in Timor Leste found that important improvements in food security could be reversed without adequate attention to the enabling policy and institutional environment. Rainfed maize is the primary staple food crop and is cultivated from approximately November to April, depending on the onset of rain. Sele is an improved maize variety that with normal rain conditions can yield up to 40 percent higher than the main local varieties. Under conditions of moisture stress (i.e. rain deficits prior to and around flowering), Sele outperforms all local varieties and all other improved varieties. In pre-release trials, Sele yielded 2.4 MT/ha in a season with severe rain deficits while the average of all other varieties was 0.8 MT/ha.21.

By facilitating the introduction of Sele, CARE is directly strengthening household capacity against the most frequent and most production-limiting climate hazard, rain variability. Once individual farmers have adopted Sele and are cultivating it in their fields, the close proximity of local varieties will lead to inevitable pollen drift. This annual genetic contamination will gradually decrease Sele yields and necessitate replacement with certified Sele seed once every 4 to 6 years. Individual farmers would currently find this replacement challenging in the absence of a reliable national production system.

By 2015 the individual farmers who are adopting Sele in 2009/10 will need to replace their seed. If the national system for production and certification is not yet reliably able to supply household needs, it is unclear what alternative would be available to them. This underlines the importance of the current collaboration between CARE and Seeds of Life in the Ministry of Agriculture through the Local Initiatives for Food Security Transformation – LIFT – project to ensure that Sele becomes available nationally.

Information & knowledge management in project design: Process

Key Questions:

- Is there a clear logic linking the analysis and the project objectives, expected results and activities?
- Have the process and rationale for decisions on project approach and activities been appropriately documented?
- Have project stakeholders, including particularly vulnerable groups, been effectively involved in the project design process?
- Has the process of integrating adaptation into the project been appropriately documented?

Documentation of the project design process is an important step in ensuring effective management and implementation of the project going forward. This is particularly important in the context of climate change, where the rationale for deciding on project activities and approaches may be more complex than usual.

The description of the project design process should clearly explain the logic that links the conclusions of the analysis stage with the project objectives, expected results and activities. Most projects won't be able to address all of the challenges, needs and priorities that arise from a holistic analysis, so there needs to be a clear rationale for the decisions on which approaches and activities to pursue. Further, those issues that can't be addressed by the project but which may have implications for its success should be documented as risks or assumptions.

The documentation should clearly explain how project stakeholders, including particularly vulnerable groups, have been involved in the design process. The **CVCA Handbook** (www.careclimatechange.org/files/adaptation/CARE_CVCAHandbook.pdf) (page 21) includes a description of different approaches to people-centred development. Sustainable and appropriate development theory suggests that project teams should aim for the highest standards of participation in project design.

The project design process description should also describe the process undertaken to integrate adaptation into the project. This should include the analysis of the vulnerability of the target communities and project investments to climate change, as well as the assessment and selection of viable adaptation options.

Information & knowledge management in project design: Developing effective knowledge sharing and monitoring and evaluation (M&E) strategies

Key Questions:

- Does the Information and Knowledge Management Strategy include systematic reflection and learning processes?
- Is there a clear strategy for building knowledge of staff, partners and target stakeholders on vulnerability and adaptation to climate change?
- Is dissemination of information and knowledge gained through the project undertaken as an integral part of the project approach?
- Are project stakeholders, including particularly vulnerable groups, involved in monitoring & evaluation (M&E) of project progress?
- Does the M&E system contain specific strategies for tracking results against identified indicators?
- Are the findings from the M&E process used to re-assess or adjust the project activities in response to changing circumstances (i.e. used for adaptive management)?

Information & knowledge management are critical components of project design, particularly in the context of climate change, where the context is constantly evolving, and where there may be necessary trade-offs between different objectives. For integration of adaptation to be effective, the project information & knowledge management strategy must incorporate systematic reflection and learning processes to provide opportunities for project teams and stakeholders to discuss the changing context, evaluate lessons learned from project implementation, and adapt the approach accordingly.

Further, as climate change is a "new" issue for many development practitioners and community members, the project approach must include a clear strategy for building knowledge of staff, partners and stakeholders on vulnerability and adaptation to climate change. The dissemination of information and knowledge gained should not be limited to the project team, but, whenever feasible, should be shared widely with other actors who can benefit from the experiences of the project.

Generally-speaking, a project monitoring and evaluation (M&E) system is focused on tracking project inputs, activities and results. It is often oriented towards donor reporting, however good M&E is more comprehensive than this, and should be designed to facilitate learning while monitoring and evaluating the project. A good M&E system will foster participation by project stakeholders in the design of the system, data collection and analysis, and processing in order to build local ownership and capacity and ensure that the system is grounded in reality. This will also ensure that a given M&E system or process is sustained beyond the lifespan of the project.

Participatory M&E systems must in particular ensure that they are sensitive to the needs and priorities of women and other marginalised groups, as they tend to be more vulnerable to the impacts of climate change. Creating a "safe" space for all stakeholders to provide their perspectives is important. It is also important that the M&E system includes clear and specific strategies for tracking results, and that it examines both intended and unintended impacts of project activities.

Information & knowledge management in project design: Developing indicators to monitor changes in adaptive capacity for different groups during project implementation

Key Questions:

- Do the performance indicators include indicators of adaptive capacity?
- Do the performance indicators include process indicators?
- Do the indicators include monitoring of the policy and institutional environment for adaptation?
- Are the indicators disaggregated to monitor results, particularly adaptive capacity, for different groups, including men, women and marginalised groups?
- Are the indicators effective in measuring what they were developed to do?
- Does the M&E system include tracking of both intended and unintended impacts of project activities?

Good monitoring is even more important in a changing climate. Thus, as always it is crucial to develop indicators that are effective in measuring project progress against the stated goals and objectives. A way to ensure that these indicators are indeed measured is to make an effort to develop indicators that are not only relevant, but also simple and inexpensive to measure.

But integrating adaptation into projects may require us to consider new and additional performance indicators. Because projects integrating adaptation tend to focus on increasing adaptive capacity, our indicators must examine those factors that will contribute to empowering target communities (and groups within communities) to adapt to climate change. This may involve indicators that are more process-oriented than our usual indicators, given that adaptation is about managing uncertainty and change. In keeping with our focus on creating an enabling environment for adaptation, indicators should also examine changes in the policy and institutional environment that may be attributed to project activities.

Finally, as in all development projects, disaggregation of indicators to track results for different groups is fundamental.

Framework of Milestones and Indicators for CBA
(www.careclimatechange.org/files/toolkit/CBA_Framework.pdf) provides examples of indicators that can be used at multiple levels to monitor and evaluate projects integrating adaptation.

Examples: Indicators of adaptive capacity in the *water* sector

- Equitable access to, and control over water resources
- Adoption of efficient water use and management practices
- Establishment of mechanisms for monitoring water availability, quality and use
- Development and implementation of watershed management plans

Examples: Indicators of adaptive capacity in the *agriculture* sector

- Use of weather and climate information for agricultural planning at different levels
- Adoption of sustainable and climate-resilient agriculture and land use management strategies e.g. conservation agriculture, efficient irrigation techniques, agroforestry, etc.
- Equitable access to and utilisation of appropriate agricultural knowledge, skills, technologies and resources by vulnerable groups e.g. soil conservation, seed selection etc.
- Mechanisms to monitor changes in the quantity and quality of agricultural produce, together with changes in weather and climate
- Establishment of safe storage for reserves of food and agricultural inputs
- Increase in incomes from improved market access and value addition to produce

Step-by-Step Guidance on Implementation

The implementation stage is when the project takes action to achieve its expected results. In the context of climate change, this may involve engagement of new partners, monitoring of context and adjusting the project approach, and incorporating emergency preparedness measures. Monitoring and documentation of project approach, results and lessons is an important element of the implementation stage.

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The links below take you to the recommended tools and resources for the implementation stage of your project. Links to other resources that may be useful for specific issues or steps in the process are provided throughout the section.

- Recommended Tools and Resources for Implementation

Further guidance on project design can be found in the Project Document Checklists. See in particular the individual checklists for project proposals, project implementation plans, and budgets.

[Open **Step-by-Step Guidance: Implementation** section- www.careclimatechange.org/files/toolkit/Int_Step-by-Step_Implementation.pdf]

Establishing appropriate partnerships to achieve expected results

Key Questions:

- Has the project formed partnerships to ensure appropriate scientific and technical input on climate change and other related issues?
- Has the project fostered cross-sectoral partnerships since climate change is a cross-sectoral challenge?
- Has the project allocated adequate resources for building capacity of partners on climate change vulnerability and adaptation?
- Has the project formed different types of partnerships to achieve different objectives?

In view of identified impacts of climate change affecting project activities, outcomes and communities, together with key capacity gaps identified during project review, it may be necessary to engage new partners in the project.

Key issues to consider in selecting and engaging with new partners include their complementary technical capacity and expertise e.g. on analysis and interpretation of weather and climate data and models. Other considerations include the partners' potential contribution to policy influence and change, which could be beneficial to the project. For example, engaging relevant government agencies and local government in project activities could facilitate integration of climate change adaptation into relevant policies and plans at local and/or national levels. New partners who may be considered could be those well placed to facilitate and support the scaling up and replication of successful adaptation interventions e.g. NGOs working in other regions could replicate adaptation interventions. This would help in spreading project interventions and

outcomes over a larger area. In addition, it may facilitate sustainability of project interventions in the longer term.

In selecting and developing partnerships for the project, it is also important to include partners from different sectors (such as land use planning, energy, transportation, infrastructure, water, and other natural resources), given that climate change is a cross-sectoral challenge.

Partnerships with local institutions (governmental and non-governmental) should explicitly seek to develop their capacity to analyze vulnerability and facilitate adaptation. Where appropriate, they should be guided to incorporate climate change into their plans. The lead organisation should also take advantage of partnerships to build its own capacity where appropriate.

It is important to identify capacity needs with respect to climate change adaptation integration, resource requirements; allocate funds and source for relevant technical experts on climate change, to conduct training workshops on climate change vulnerability, adaptation and integration into relevant projects and sectors. Training should be conducted among project teams and partners.

For capacity development to be effective and sustainable, the project team should allocate human, technological and financial resources to facilitate ongoing on-the-job training on identification of vulnerability and adaptation options to climate change, and the latter's integration into the relevant sectors.

Examples: Objectives and expected results for *water* projects

- Climate and hydrological modelling agencies
- Water supply agencies
- Water engineers
- Policymakers in the water sector
- Land use planners
- Environmental agencies in charge of other natural resources, such as forestry, fisheries and agriculture
- Disaster risk management agencies

Examples: Objectives and expected results for *agriculture* projects

- Meteorological department and/or other climate modelling agencies
- Agricultural researchers
- Suppliers and distributers of seeds and other inputs
- Policymakers in the agriculture and land use management sector
- Technical staff in the agriculture and land use management sector, including extension agents

Useful Resource:
The CARE Partnership Manual
(www.careclimatechange.org/files/toolkit/CARE_Partnership_Manual.pdf)
The Partnership Manual documents the main policies and principles of partnership. In addition, it describes various typologies of partnerships, and provides guidelines for crafting and operating partnership strategies. It also contains key issues to consider in selecting partners as well as the process of selecting and engaging with them.

Incorporating emergency preparedness measures

Key Questions:

- Does the project office have an emergency preparedness plan that staff and partners are familiar with?
- Are staff and partners trained in emergency response and humanitarian accountability?
- Does the project team have access to early warnings for hazards affecting the project area?
- Does the project strategy include a contingency plan for emergencies?
- Is there flexibility in funds and activities to respond to crises efficiently and with least disruption to ongoing activities?

The reality of climate change is that extreme weather events such as floods and cyclones are becoming more frequent and intense. Without adequate planning, these events can lead to disasters, which can cause major setbacks in progress of development initiatives, and divert precious human and financial resources from long-term development. All projects could benefit from ensuring that the possibility of disaster has been considered, and that the project team is prepared to deal with its consequences.

Effective integration of climate change adaptation into development projects must include appropriate emergency preparedness planning. This includes the development, and regular updating, of an emergency preparedness plan at the project office. All staff and partners must be familiar with this plan, and should be trained in responding to emergencies while upholding humanitarian accountability principles. Ensuring access to early warnings is helpful both to alert the target populations and to put measures in place to prepare for climate events. The project must make contingency plans to ensure that such emergencies do not completely derail planned project activities, outputs and outcomes.

For the above issues to be integrated into projects, it is assumed that that the required technical capacity, financial resources, and flexibility in project strategy, implementation and information management plans are available and accessible. Where resource constraints are experienced, it is assumed that the project can leverage adequate external and additional resources to support the incorporation of the issues described above into project activities.

Useful Resource:
Being Ready: A Guide to the Emergency Preparedness Planning Process
(www.careclimatechange.org/files/toolkit/CARE_Being_Ready.pdf)
This document by CARE International provides guidelines for emergency preparedness planning. This encompasses effective mitigation, preparedness and response to disasters that saves lives, diminishes further suffering and reduces the effects of disasters.

Information & knowledge management in implementation: Monitoring context and adjusting project approach

Key Questions:

- Does the project strategy incorporate monitoring of climate variables that may affect project success?
- Does the project strategy incorporate monitoring of the changing social, political and economic context that may have implications for climate change vulnerability?
- Are the project strategy and implementation plan reviewed regularly and updated to reflect changes in context, unexpected constraints or new opportunities?

Managing a development project in the face of a changing climate requires flexibility in management, resource allocation, and regular review of project performance. In addition, it is important to continuously monitor exogenous factors and conditions that would impact the project such as changes in climate, socio-economic trends, and demographic conditions. Given the uncertainties in climate projections, it is important for the project team to consider a range of adaptation options it could adopt under varied climate change scenarios. Project strategies and activities should be adjustable to achieve development and adaptation goals under changing contexts and conditions. It is important to consider and make provisions for emergencies in the project. In addition, the allocation of contingency resources should enable the project to take advantage of new opportunities presented by climate change.

Monitoring context and adjusting approach in water projects

- Regularly monitor changes in seasonal weather patterns and climate, and the impacts of these changes on water resources, such as surface and groundwater levels and recharge rates, and revise water management plans accordingly
- Monitor changing water demand and use patterns and revise water management plans accordingly
- Monitor the impacts of water and other relevant policies on water availability and accessibility for target populations

Monitoring context and adjusting approach in agriculture projects

- Regularly monitor changes in seasonal weather patterns and climate, and the impacts of these changes on agricultural production, including yields and quality of produce, and revise project activities accordingly
- Monitor the impacts of agriculture and other relevant policies on resource availability and accessibility among target populations

Project Example: The goal of the Local Initiatives for Food Security Transformation (LIFT) is to improve food security and strengthen the resilience of 3,000 vulnerable farming households in two western districts of Timor-Leste, thereby contributing to the Government's food security policy. A recent analysis of climate vulnerability and capacity in Liquica District, one of the target districts for the LIFT project, found very high degrees of micro-climate variability. The analysis found that late or reduced rainfall were rated as the most frequent climate hazard affecting production of maize, the primary staple crop, and that flooding in susceptible areas was perceived to have the most severe impacts.

It was also noted that poorer households are more dependent on maize production than other households. The context is complex, as there is little uniformity in the location, duration or severity of rain variability. The consequences on maize production are equally varied, evidenced by nearly every focus group and key informant discussion citing a different "worst year in the last 10." The reason and impact of these bad years also differed by location, even in villages 15 minutes apart at the same altitude on the same road. This high level of variability and the significance of the consequences for food security highlight the need for ongoing monitoring of the climate context and adjustments to project approach as a fundamental part of project implementation.

Information & knowledge management in implementation: Documentation and dissemination of project approach, results and lessons

Key Questions:

- Do project progress reports clearly indicate the results and impacts that can be attributed to the integration of climate change adaptation?
- Do progress reports document changes in context and measures taken to adjust the project approach?
- Do progress reports document process as well as results?
- Are key lessons summarized in reports and other documents?
- Are different types of media used to document and disseminate the project knowledge to different target users?

As integrating adaptation is a "new" area, documentation and dissemination of experiences is of utmost importance. Documentation involves recording not only results, but also the analysis, processes, methodologies and key project decisions. It should be accurate, relevant to user interests, timely, credible, representative of the target groups, and should clearly indicate what results are attributable to the project. One of the most important elements of a good information system is a clear and simple protocol for storing and disseminating information, whether electronically or in hard copy. All members of the project team need to know where information is stored, how they can retrieve it, and how to use it effectively.

In addition to the usual means of dissemination, such as conferences, journals and project publications, there are a number of relevant networks and websites that provide platforms for sharing information integrating adaptation. The box below provides more details.

Useful Resources:
Disseminating information and knowledge on adaptation
There are a number of adaptation-specific information sharing networks that may provide platforms for disseminating information and knowledge gained through the integration process. These include:

The Community-Based Adaptation Exchange – http://community.eldis.org/cbax
This website provides a platform for knowledge and information sharing on climate change adaptation. It has sections on tools, news, events, case studies, policy resources and videos on Community-Based Adaptation.

weADAPT - www.weadapt.org
This website is a collaborative knowledge platform that provides climate change adaptation guidance by pooling expertise from a wide range of organisations that contribute to adaptation science and practice. The weADAPT platform includes a suite of new and innovative tools and methods, datasets and experiences that is a resource for strengthening the capacity of those tasked with undertaking adaptation.

Adaptation Atlas - www.adaptationatlas.org
The Adaptation Atlas is a mapping tool that brings together data on the impacts of climate change and on adaptation activities, particularly focused on the themes of food, water, land, health and livelihoods. It is intended to help researchers, policymakers, planners and citizens to establish priorities and act on adaptation.

Adaptation Learning Mechanism (ALM) - www.adaptationlearning.net
The ALM is a collaborative knowledge-sharing platform. It seeks to provide stakeholders with a common platform for sharing and learning, drawing from experiences on the ground and featuring tools and practical guidance to meet the needs of developing countries.

AfricaAdapt - www.africa-adapt.net
AfricaAdapt is an independent bilingual network in French and English that seeks to facilitate the flow of climate change adaptation knowledge for sustainable livelihoods in Africa. It is for researchers, policy makers, civil society organisations and communities who are vulnerable to climate variability and change across the continent.

Quick Links

Tools for Integrating Climate Change Adaptation into Projects

There are a wide range of adaptation tools available, but many of them are not appropriate for use in community-level development projects. In this Toolkit, we recommend the tools that are most relevant and useful in this context. Tools provide practical guidance to users on different tasks within the overall process of integrating adaptation into projects. In this way, tools are different from resources, which are reference documents, websites or databases that provide information but don't guide you in using it.

Summary of Adaptation Tools and When to Use Them

	CARE Climate Vulnerability and Capacity Analysis Handbook (CVCA)	Community-based Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL)	CEDRA	Framework of Milestones and Indicators for Community-Based Adaptation (CBA)	Climate Context Monitoring Tool	National Adaptive Capacity Framework
Analysis	■	■				
Design		■	■	■		■
Implementation					■	
Information & Knowledge Management				■	■	■

Climate Vulnerability and Capacity Analysis (CVCA) Handbook

Download CVCA Handbook (www.careclimatechange.org/files/adaptation/CARE_CVCAHandbook.pdf)
The CVCA methodology, developed by CARE International, provides a framework for analyzing climate change vulnerability and adaptive capacity at the community level. Recognizing that local actors must have the opportunity to drive their own future, the CVCA places local knowledge on climate risks and adaptation strategies at the forefront of the data gathering and analysis process.

The main objectives of the CVCA are to:

- Analyze vulnerability to climate change and adaptive capacity at the community level. It provides guidance and tools for participatory research and learning, and a guiding framework of questions for analyzing the information. It also takes into account the role of local and national institutions and policies in facilitating adaptation.
- Combine community knowledge and scientific data to yield greater understanding about local climate change impacts.

The analytical framework of the CVCA is based on CARE's Community Based Adaptation (CBA) Framework. The Handbook includes guiding questions to examine resilience factors at multiple levels (national, local government/community, and household/individual levels). Field guides are provided for conducting participatory analysis with different groups within communities.

The CVCA Handbook is designed to be used in conjunction with other resources, tools, and analytical frameworks, and links to complementary resources are provided throughout the document.

Use it to:

- Guide a comprehensive and gender-sensitive analysis of vulnerability to climate change, covering all key issues for the analysis stage of projects seeking to integrate climate change adaptation.
- Provide practical evidence for advocacy on climate change issues.
- Complement analysis guided by other frameworks, including Gender and Diversity, Livelihoods Frameworks, and Rights Based Approaches.
- Compile a report on climate vulnerability and adaptive capacity based on the analysis.

Limitations:

- The CVCA assumes an established relationship with the communities that we engage with in the process. Without an existing relationship, the process of developing trust in order to undertake the participatory analysis can be time-consuming.
- The CVCA Handbook is focused on the analysis stage – it does not provide guidance on selecting and prioritizing adaptation options, beyond general suggestions of the types of activities that may be appropriate at different levels.

Further information and updates: www.careclimatechange.org/cvca

Community-Based Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL)

Download CRiSTAL Tool (www.cristaltool.org/content/download.aspx)
Download CRiSTAL User's Manual (www.cristaltool.org/content/download.aspx)

CRiSTAL is a screening tool designed to help project designers and managers integrate risk reduction and climate change adaptation into community-level projects. CRiSTAL was developed by the International Institute for Sustainable Development (IISD), the International Union for Conservation of Nature (IUCN), the Stockholm Environment Institute (SEI-US) and Intercooperation.

CRiSTAL is divided into two modules and four framing questions. Module 1 helps project planners and managers understand the links between livelihoods and climate in their project areas and it includes two framing questions:

- What is the climate context?
- What is the livelihood context?

Community consultations (required to fulfil Module 1) can be undertaken with different community sub-groups, thereby allowing the identification of differentiated vulnerability within a community.

Module 2 uses the information from this first module to help project designers integrate adaptation considerations into project design. More specifically, Module 2 helps project designers assess a project's impact on community-level vulnerability and make project adjustments to 1) enhance project impacts on community resilience to climate variability and change and 2) ensure that the project is sustainable with future climate change.

CRiSTAL is available in multiple formats (e.g., Excel, hardcopy) and languages (English, French, Spanish and Portuguese) and can be tailored to meet the needs of different sectors and communities. It can be used independently or as part of a suite of tools (e.g. vulnerability assessments, participatory action research). For example, it can be used in conjunction with the CVCA methodology. Community-level information collected with the CVCA methodology can be inputted into CRiSTAL Module 1.

Use it to:

- Organise and synthesise information on climate-livelihoods linkages.
- Make project planning and management decisions that support adaptation.
- Identify synergies and barriers to identified adaptation options.

Limitations:

- CRiSTAL Version 4.0 does not include any analysis of the underlying causes of vulnerability or of changing disaster risks (but it is expected that the next version of the tool will put greater emphasis on these aspects).

Further information about CRiSTAL and its various applications around the world: www.cristaltool.org.

Climate Change and Environmental Degradation Risk and Adaptation Assessment (CEDRA)

Download CEDRA Tool (http://tilz.tearfund.org/Topics/Environmental+Sustainability/CEDRA.htm)

Tearfund has developed CEDRA to help development workers to access and understand the science of climate change and environmental degradation and to compare this with local community experiences of climate change, providing a basis for planning adaptation measures.

The CEDRA Tool provides guidance to a sequential process of identifying climatic and environmental hazards from scientific and community sources, prioritizing hazards to address, selecting appropriate adaptation options, to identify what to do if risks to existing projects are unmanageable, considering new projects and new project locations and continual review.

The Field Tool Checklist provides a broad list of possible impacts of climate change and environmental degradation, and suggests possible adaptation options. Section 3.2 provides guidance on how to choose between different adaptation options.

Use it to:

- Systematically conduct a project risk assessment to determine the extent to which climate and environmental change may affect your project.
- Decide whether to adapt your project, stop it, or start a new one in view of risks posed by climatic and environmental change.
- Identify the most appropriate adaptation options to address various impacts of climatic and environmental changes within the context of your project.

Limitations:

- It doesn't guide users in prioritising the resources most important to adaptation.
- The tool does not deal with gender dimensions of vulnerability to climate and environmental changes and adaptation.

- It doesn't address policy and institutional issues that have implications for adaptation e.g. policies that support or constrain adaptation.
- It doesn't consider the capacities and partnerships required by government, civil society and communities to effectively implement adaptation strategies.
- It does not consider the real implications of the project management team's decision to adapt, stop or start a new project.

Framework of Milestones and Indicators for Community-Based Adaptation (CBA)

Open CBA Framework (www.careclimatechange.org/files/toolkit/CBA_Framework.pdf)

CARE's Community Based Adaptation (CBA) Framework presents a range of "enabling factors" which must be in place at household/individual, community/local and national levels in order for effective community-based adaptation to take place. These enabling factors are linked to four inter-related strategies:

1) Promotion of climate-resilient livelihoods strategies;

2) Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households;

3) Capacity development for local civil society and governmental institutions; and

4) Advocacy and social mobilization to address the underlying causes of vulnerability.

The Framework of Milestones and Indicators elaborates the CBA Framework with a set of milestones and indicators to plan activities and to track progress towards achieving the enabling factors. It also defines the set of indicators provided.

The framework is designed to show the range of results that adaptation projects could aim to achieve at household/individual, local government/community and national levels. No project will be able to achieve all of these results – the framework is intended to provide a "menu" of milestones and indicators to guide project teams in selecting specific indicators that are within the scope and focus of their project.

Use it to:

- Identify potential milestones and indicators for projects integrating adaptation.

Limitations:

- The framework does not identify the tools required to monitor progress towards achievement of the milestones and indicators. Project teams must identify appropriate tools to monitor and evaluate the selected indicators.

Climate Context Monitoring Tool

Open Monitoring Tool (www.careclimatechange.org/files/toolkit/Climate_Context_Monitoring_Tool.pdf)

The Climate Context Monitoring Tool is a simple set of questions which can be used to track changes in the climate context over the life of the project, and to plan adjustments to the project in light of these changes. It can be used as part of regular progress reviews, and the resulting information can be integrated into project progress reports. Please note that this is CARE's first version in developing such a monitoring tool. CARE will continue to strengthen the tool during 2010 and 2011.

The National Adaptive Capacity Framework (NAC)

Download NAC Tool / NAC Context Worksheet / NAC Answer Worksheet
(www.wri.org/project/vulnerability-and-adaptation/nac-framework)

The World Resources Institute (WRI) and partners have developed the NAC, which identifies a fundamental set of functions that all countries will need to perform to effectively adapt to climate change. The framework can be used to assess how well the functions are being performed, in order to identify opportunities and priorities for building adaptive capacity and implementing key activities. It also helps identify the strengths and gaps in a country's adaptation system.

The framework is based on the assumption that, while each country will need to adapt based on its specific context, there are a few "adaptation functions" that all countries will need to perform. The framework incorporates adaptation functions such as assessment, prioritization, coordination, information management, and climate risk reduction.

It comprises a comprehensive analysis of National Adaptation Functions that could support in country planning and capacity building processes. Each set of capacity function is accompanied by capacity questions and elements to look for. This enables users to gather information and evidence and decide whether each element is present and whether it is adequately addressed in their country. The framework incorporates assessment of biophysical, socio-economic and political issues that are pertinent to effective integration of adaptation. It also takes into consideration the cost and benefit analysis of adaptation.

Use it to:

- Examine opportunities and barriers to adaptation.
- Identify target issues for advocacy.
- Help in identifying priority areas for capacity building of national government stakeholders.

Limitations:

- Looks only at the functions and not at the capacities and assets which would be needed to undertake them.
- Only applicable at national level-doesn't assist with local level planning.

Further information and updates: www.wri.org/project/vulnerability-and-adaptation/nac-framework

Recommended Resources

Analysis

UNDP Climate Change Country Profiles (http://country-profiles.geog.ox.ac.uk)
"Climate change profiles" were developed for 52 of the world's poorest countries. The profiles provide country-level climate observations and multi-model climate projections for different parts of each country.

National Adaptation Programmes of Action (NAPAs)
(http://unfccc.int/cooperation_support/least_developed_countries_portal/submitted_napas/items/4585.php)
NAPAs document climatic trends and key vulnerabilities for sensitive sectors. NAPAs list existing and potential adaptation activities for each sector. NAPAs also list and profile priority adaptation projects.

Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change
(http://www.ipcc.ch/ipccreports/ar4-wg2.htm)
This report highlights impacts of climate change in different parts of the world, on sectors and resources such as water, agriculture, human health, and settlements among others. It describes factors that exacerbate vulnerability to climate change and provides adaptation options.

National Communications to the UNFCCC (http://unfccc.int/national_reports/non-annex_i_natcom/submitted_natcom/items/653.php)
These country reports document national circumstances, climate change impacts, and vulnerability assessments by sector. They also list priority climate change mitigation and adaptation projects identified by respective countries.

World Bank Climate Change Data Portal (http://sdwebx.worldbank.org/climateportal/)
This Data Portal provides readily accessible country-level climate-related data to policy makers and development practitioners. Using a map interface, users can select their country of interest and access information on climate projections, climate change impacts on different crops and sectors, socio-economic data, and other relevant studies and resources for the selected country. The portal also provides access to a screening tool called ADAPT (Assessment and Design for Adaptation to Climate Change: A Planning Tool), which assists in the idetnfication of activities sensitive to the effects of climate change.

The Nature Conservancy's Climate Wizard (www.climatewizard.org)
The Climate Wizard is a visual tool that allows users to view historic temperature and rainfall maps for anywhere in the world, as well as future predictions of temperature and rainfall in a given area. With this information, users can assess how climate has changed over time and project what future changes may occur.

Design

CARE Project Design Handbook
(www.careclimatechange.org/files/toolkit/CARE_Project_Design.pdf)
This very practical handbook is a guide to translating CARE's vision, principles and values into action through logical design of projects and programmes. The Handbook introduces a conceptual framework, or roadmap, to programme and project planning. Chapter 4 is particularly helpful as it focuses on developing a focused strategy for the project to address the issues identified through the analysis stage.

Implementation

The Basics of Project Implementation: A Guide for Project Managers
(www.careclimatechange.org/files/toolkit/CARE_Project_Implementation.pdf)
This manual by CARE International provides guidelines to project managers on managing relationships and risks, as well as ensuring flexibility.

Information & Knowledge Management

CARE Project Management Information Systems: Guidelines for Planning, Implementing and Managing a DME Project Information System
(www.careclimatechange.org/files/toolkit/CARE_DME_Project.pdf)
The guidelines document the process for defining, locating, collecting, storing, analyzing, sharing and using information to support decision-making, coordination and control in a project.

CARE Project Design Handbook
(www.careclimatechange.org/files/toolkit/CARE_Project_Design.pdf)
Chapters 5 and 6 give guidance on developing coherent information systems and on reflective practice.

Project Document Checklists

These checklists summarise the detailed framework for integrating adaptation to climate change into easy-to-use checklists that follow the format of typical documents produced during a project cycle – concept paper, proposal, project implementation plan, budget and progress reports. These are meant only as guides – not all projects will be able to address all of the issues identified in the checklists. The documents must be tailored to the specific context and scope of your project, and to the priorities and demands of the donor you are working with.

- **Concept Paper Checklist**
    - (www.careclimatechange.org/files/toolkit/Int_Concept_Paper.pdf)
- **Project Proposal Checklist**
    - (www.careclimatechange.org/files/toolkit/Int_Proposal.pdf)
- **Project Implementation Plan Checklist**
    - (www.careclimatechange.org/files/toolkit/Int_Implementation_Plan.pdf)
- **Project Budget Checklist**
    - (www.careclimatechange.org/files/toolkit/Int_Budget.pdf)
- **Project Progress Report Checklist**
    - (www.careclimatechange.org/files/toolkit/Int_Progress_Report.pdf)

Case Studies

The case studies are the result of field testing of the Toolkit in Kenya, Ghana and Honduras. They provide concrete examples of how CARE project teams have used the Toolkit to integrate adaptation into their projects, describing both the process and the results. You will also find specific examples from these field tests and others throughout the Step-by-Step Guidance.

Ghana Case Study: The **LEAD Project** (www.careclimatechange.org/files/toolkit/CARE_LEAD_Project.pdf)
In Ghana, the Toolkit was tested on the Local Extension Services for Agricultural Development (LEAD) project, which focuses on developing community-based extension systems for agriculture.

Honduras Case Study: The Promoting Local Management and Good Governance to Improve Water Supply and Sanitation Services for the Poor **(PASOS-III) project** (www.careclimatechange.org/files/toolkit/CARE_PASOS_Project.pdf)
The Toolkit was field tested on the Promoting Local Management and Good Governance to Improve Water Supply and Sanitation Services for the Poor (PASOS-III) project, a water and sanitation project in Honduras.

Kenya Case Study: The **Global Water Initiative (GWI)** (www.careclimatechange.org/files/toolkit/CARE_GWI_Project.pdf)
School Children's Access to Safe Water project aims to bring sustainable access to safe water in the Garissa District of northeastern Kenya.

Frequently Asked Questions

When integrating climate change adaptation into a development project, how can we deal with uncertainties associated with climate projections?
In view of the uncertainties associated with climate change projections, it is important to identify the range of short- to long-term climate scenarios that may occur in your project's geographic area. The project team should subsequently plan to integrate adaptation options geared towards addressing the impacts of current climate variability. At the same time, the team should develop contingency plans that would enable them to adapt the project to other climate scenarios. For example, a project in a drought prone area that could get wetter with climate change could put in place contingency plans to deal with floods. In this example, the contingency plans should clearly outline activities that the project would implement to deal with floods, identify the resources that would be required, indicate what resources are currently available, as well as potential sources of additional support that could be leveraged in the event of floods.

How long does it take to use this Toolkit?
The time required to use the Toolkit will vary, depending on various factors including: the composition of the project development team (especially the number and technical expertise of the team members), the technical and financial resources available for the analysis and design of the project (including access to required information and required technical support), the organisation and coordination of the analysis and design processes, donor requirements (for example the level of flexibility in donor requirements, deadlines for submission of project design documents to donors, the duration of donor commitment to fund the project).

In integrating climate change adaptation into projects, the analysis, design, and information and knowledge management are critical stages in the project development process. The duration of project implementation is normally determined during the design stage.

Can we use large scale climate projections for integrating climate change into development projects? How can we complement this information?
Yes, we can use large scale climate projections for integrating climate change adaptation into development projects. The large scale climate projections provide an indication of the general changes in the area's climate over time. This information can help project teams to identify important broad climate-related issues that they could aim to adapt to in the project (e.g. warming trends, shifting rainfall patterns, sea level rise, etc.).

However, given that the impacts of climate change are location and context specific, it would be important to obtain information on the impacts of climate change on the target area. This can be done using climate change vulnerability assessment tools such as the **Climate Vulnerability and Capacity Analysis (CVCA)** tool (www.careclimatechange.org/files/adaptation/CARE_CVCAHandbook.pdf). These tools enable the project team to collect information on climatic changes experienced in the project's target area. In addition, they would get a better understanding of the impacts of these changes on the community, as well as how vulnerable the community members are and the factors that contribute to their vulnerability to these changes.

What if I have no flexibility to make adjustments to plans and activities in my project?
If you have no flexibility to make adjustments to your project's plans and activities, it would be useful to document the process and results of the analysis and design stages. The identified potential climate change adaptation options, as well as the potential synergies and barriers to their effective implementation. This information would be useful if subsequent phases of the project are being developed, or when new projects are developed in the area in future. The information can be used to integrate climate change adaptation in the area. In addition, this information highlights climate change vulnerability and adaptation needs in the area, and can be used in advocacy, in order to inform policy formulation, review and implementation in relevant sectors.

Do I have to know a lot about climate change to use this Toolkit?
You do not need to be a climate change specialist to analyse and integrate adaptation into your project. However, it would be important to engage climate change experts into your project development. You could either seek to engage with, and obtain advice on scientific and technical aspects of climate change, e.g. climate analyses and its implications for your project's target area from meteorological experts. Alternatively, you could contract a consultant with the relevant expertise to support the team during the analysis and design stages.

What if the project costs me more if I integrate climate change?
The costs of integrating climate change adaptation into a project may appear to be higher. However, proper integration of climate change adaptation may yield good returns on investments and even result in cost savings in future. For example, an agriculture project that invests in crops and seed varieties that can grow under changing climatic conditions such as in shifting rainfall, and incorporates water efficient irrigation technologies, is likely to succeed even in the face of climate change impacts. In the same token, development projects that have properly integrated disaster risk reduction measures as part of their adaptation strategies may not need to divert additional resources to deal with climate- related emergencies.

What are the specific skills that project teams need to identify, select, integrate, implement, monitor and evaluate suitable adaptation options?
The specific skills that staffs need to identify, select, integrate, implement and monitor and evaluate suitable adaptation options include; skills in weather and climate analysis and interpretation to the local context, skills in the analysis of climate-livelihood linkages and vulnerability, skills in community mobilization and facilitation, skills in gender and diversity, skills in disaster risk reduction and disaster management, skills in capacity building, advocacy and policy influence at different levels, skills in economic analysis e.g. cost-benefit analysis of adaptation options, skills in project design, implementation and management (including financial management), skills in monitoring and evaluation, and skills in information and knowledge management (including synthesis of lessons).

What are the roles of project target groups and local institutions in adaptation?
Project target groups and local institutions should play a leading role in steering the process of adaptation. Ideally, they should identify impacts of climate change on their livelihoods, identify priority areas of need and focus, identify a range of potential adaptation options, mobilise available resources such as appropriate indigenous technologies and human resources, and actively engage in the implementation, monitoring and evaluation of adaptation strategies. They should also play a role in capacity building e.g. on indigenous knowledge that can inform adaptation, apply the learning by doing approach in the implementation of new adaptation options, and as appropriate, engage in information and knowledge sharing as well as policy influence.

Toolkit Team

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The Toolkit was produced by Tamara Plush, CARE International Climate Change Communications Officer (PECCN). The design and implementation were completed by Steen Jensen and Nguyen Van Ngoc Vinh.

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We welcome questions and feedback on the Toolkit. These should be addressed to: toolkits@careclimatechange.org.