



**Introduction to Climate Change Adaptation:
A Learning Companion**
**Oxfam Disaster Risk Reduction and Climate Change
Adaptation Resources**

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Learning Objectives

After reading this Companion, you should:

- Have a theoretical overview of CCA (including definitions for key terminology) and understand why it is important;
- Understand how Oxfam approaches CCA and how this fits in with international approaches and processes;
- Understand how to integrate CCA at each stage of the project cycle;
- Have an idea of the range of CCA interventions across the contexts in which Oxfam works; and
- Know where to go to learn more about integrating CCA into your work.

1. About this Companion

Climate change adaptation (CCA) and Disaster Risk Reduction (DRR) are corporate priorities for Oxfam GB. This companion is the fifth in a series that covers key topics for programme staff. It aims to support Oxfam's programme staff to integrate CCA into their work; it provides a theoretical overview of CCA; and it will direct you to additional resources and practical tools. The companion assumes that you already have an understanding of project cycle management within Oxfam, and it should be read alongside the DRR Programme Policy and the CCA Programme Policy Guidelines. If you would like more information, please contact phd@oxfam.org.uk.

2. Why is climate change adaptation important for Oxfam?

Climate change is already affecting many of the communities with which Oxfam works; undermining their livelihoods through gradual, insidious, changes in temperature and rainfall patterns, and increasing the frequency and/or intensity of natural hazards such as floods and droughts. The poorest communities in developing countries around the world are being hardest hit because they are:

- More dependent on their climate-sensitive natural resources and ecosystems, such as agriculture and fishing;
- More likely to live in areas that have greater exposure to climate hazards, such as urban slums and flood plains;
- Less able to respond to climate change because of limited human, financial, and institutional capacity.¹

Even if global emissions are cut rapidly, starting today, the impacts of climate change will continue to worsen until at least 2060. For those already being affected, the need to adapt to the unavoidable impacts is already urgent.

Climate change effects and impacts:³

- **Livelihoods** By 2020, yields from water-fed agriculture in Africa could be down by 50 per cent.⁴
- **Disasters** Almost 250 million people around the world are affected by climate-related disasters in a typical year. By 2015, this number could grow by 50 per cent to an average of more than 375 million people.⁵
- **Food security** The most optimistic authoritative prediction says that between 740 million and 1.3 billion people may be chronically hungry by 2080.⁶
- **Water** If supplies from the Himalayan glaciers begin to fail, millions of people in South Asia will face water shortages this century; the basin of the Ganges alone is home to half a billion people.⁷

As a result, Oxfam GB and Oxfam International have made climate change a corporate priority. This decision recognises that we can only fulfil our mission to overcome poverty and suffering if we address the underlying causes of climate change, and deal with the unavoidable consequences. Integrating climate change adaptation (CCA) into all our work is therefore essential if we are to help prevent increasing the poverty and suffering of those whom we seek to support, and all of the evidence suggests that 'development as usual' is not enough.²

Development, equity, and urgency:

- It's a development issue: climate change threatens to stall – and then reverse – progress made to achieve the Millennium Development Goals.
- It's an equity issue: poor women and men in developing countries are those worst affected by climate change, yet are the least responsible for causing it.
- It's an urgent issue: the impacts of climate change are already having an impact on women and men living in poverty; they undermine livelihoods and increase weather-related disasters, and this trend is set to worsen.



Puspa Rani Roy prepares her belongings before moving to new ground, Hashail, Munshigonj, Bangladesh. She lived here for fifteen years with her husband, two children and her mother-in-law: 'This is our own land and it will go to the river by tomorrow. I have many memories with my family members here. It is such a pain that we never get back this land and surely become landless like refugees.'
Photo: Abir Abdullah/EPA

The weather is changing

Over the past three years, Oxfam staff across East and South Asia, all over Africa, and throughout Latin America have been hearing farmers explain how they see the weather changing. The results are striking because of the extraordinary consistency that they show across the world. John Magrath, Oxfam programme researcher, says 'Farmers are all saying very similar things: the seasons are changing. Moderate, temperate seasons are shrinking and vanishing. Seasons are becoming hotter and drier; rainy seasons shorter and more violent. We think that "changing seasonality" may be one of the most significant impacts of climate change for poor farmers, and that it is happening now.'

Mohammad Lliasuddin of Telkupi, Shibganj, in Bangladesh, tells Oxfam 'I know I am supposed to sow by a certain date or time. That is what my forefathers have been doing. But then for several years the temperature and weather does not just seem right for what we have been doing traditionally. It is exasperating, as I do not know how to cope with the problems.'

Willington Wamayeye, managing director of Gumutindo Coffee Co-operative in eastern Uganda, says 'I've lived near Mount Elgon all my life and I have never known the weather to be so unpredictable. Rains now fall heavily for a short period, and our dry season is much longer. The coffee plants are badly affected; flowering has stopped. Last year alone (2007) we lost about 40 per cent of our production. As a result, people struggle for everything.'

*Source: Oxfam report 'What Happened to the Seasons?'*⁸

3. Key terms

- **Adaptive capacity** The potential of individuals, communities, and societies to be actively involved in the processes of change, in order to minimise negative impacts and maximise any benefits from changes in the climate. Adaptive capacity therefore strengthens resilience and reduces vulnerability to a wide range of climate-related changes.
- **Climate change** A change in climate that persists for decades or longer, arising from human activity that alters the composition of the atmosphere (i.e., greenhouse gas emissions).
- **Climate-compatible development** Development that takes into account possible or predicted climate hazards and impacts, and is sustainable over time in light of these changes.
- **Climate variability** Natural variations in the climate that are not caused by greenhouse gas emissions (e.g., it rains more in some years and less in others).
- **Climate change adaptation** Actions that people and institutions make in anticipation of, or in response to, a changing climate. This includes changes to the things they do, and/or the way they do them.
- **Resilience** Where adaptive capacity relates to the ability to influence and respond directly to processes of change (to shape, create or respond to change), resilience is the ability to absorb shocks or ride out changes.
- **Vulnerability** The characteristics and circumstances of a community, system, or asset that makes it susceptible to the damaging effects of climate change and other hazards.
- **Mitigation** Measures to reduce greenhouse gas emissions (note that the term 'mitigation' is used differently by DRR practitioners, who use it to mean reducing or limiting the adverse impact of hazards and related disasters).

4. How is climate change adaptation approached globally?

United Nations Framework Convention on Climate Change (UNFCCC)

The UNFCCC is the multi-lateral mechanism tasked with co-ordinating international action on climate change. Institutionally, interest in CCA began with the first meeting of the Conference of the Parties to the UNFCCC in Berlin in 1995. Since this first meeting, work has been slow to progress. The Thirteenth Conference of the Parties, held in Bali 2007, and later meetings have now cemented adaptation's place in the international negotiations for a post-2012 treaty, but much work still has to be done. Most recently, in negotiations leading up to Copenhagen in 2009 (COP15), Disaster Risk Reduction (DRR) has featured more prominently, as policy makers and practitioners recognise DRR as an effective approach to climate change adaptation.

National Communications

As part of the UNFCCC, countries are required to report on steps that they are taking in order to address climate change (mitigation) and its adverse impacts (adaptation).¹⁰ Submitted reports are called National Communications, and the chapter dedicated to adaptation contains information on climate-related disaster effects and responses, health, environmental problems such as coastal erosion and water management, and financial services such as insurance. National Communications can act as an important catalyst for countries to begin

mainstreaming adaptation into development planning.

National Adaptation Programmes of Action (NAPAs)

In 2001, at the Seventh Conference of Parties held in Morocco, a decision was made to provide financial and technical assistance to the Least Developed Countries (LDCs) to help them to identify priority activities to respond to their urgent and immediate needs to adapt to climate change. The main content of the National Adaptation Programmes of Action (NAPA) is a list of ranked priority adaptation activities and projects, as well as short profiles of each activity or project, designed to facilitate the development of proposals for implementation of the NAPA. However, to date, only a small number of projects outlined in the NAPAs have been funded.

The Hyogo Framework for Action (HFA)

The HFA is a ten-year strategy (2005-2015) to reduce disaster risk that was agreed in Hyogo, Kobe, Japan in 2005, by 168 governments. The Framework aims for 'the substantial reduction of disaster losses, in lives and in the social, economic, and environmental assets of communities and countries.' As part of its text, governments agreed to integrate CCA and DRR through: the identification of climate-related disaster risks; the design of specific risk-reduction measures; and the improved and routine use of climate-risk information by planners, engineers, and other decision makers.

5. Oxfam’s approach to climate change adaptation

Oxfam believes that lifting people out of poverty and overcoming injustice is central to our mission, which is why tackling climate change is a major priority for our humanitarian, campaigning, and long-term development work.

Oxfam’s Vision for Disaster Risk Reduction and Climate Change Adaptation states that:

“Oxfam and the communities and partners with which we work become able to factor climate change and disaster risks into development and humanitarian programmes, influence significant international funding availability, and support the national implementation of Disaster Risk Reduction and climate change adaptation policy and practice.”

Oxfam GB’s current Strategic Plan¹² and corporate objectives also state that Oxfam will:

- Reduce vulnerability to disasters and assist adaptation to climate change;
- Advocate for a major transfer of international funds toward DRR and CCA which are implemented in an equitable, pro-poor, and gender-sensitive manner; and
- Incorporate DRR and CCA into organisational strategy and processes, as well as build capacity to implement them.

All Oxfam International affiliates are committed to assessing climate change vulnerability across their programmes and initiating adaptation measures where climate change is a major driver of poverty.¹³

5.1 An approach centred on sustainable livelihoods, disaster risk reduction, and natural-resource management

Adaptation cannot be viewed in isolation from Oxfam’s broader work on development. This is because, like any other driver of poverty and suffering, climate change does not act in isolation, but instead amplifies existing vulnerability and inequality.

Oxfam’s approach to CCA focuses on the core areas of Disaster Risk Reduction, livelihoods, and natural-resource management, ensuring that gender is addressed as a crosscutting issue. Where possible, this work should be harmonised for greater impact. This approach is broadly consistent with National Change Strategies that prioritise climate change adaptation.

Generic measures to reduce vulnerability and specific measures for local risks:

<p>Examples of generic measures to reduce vulnerability:</p> <p>Livelihoods diversification to spread risk</p> <p>Increased power in markets to increase income</p> <p>Policy environment e.g., agrarian reform, social protection, irrigation policy</p> <p>Increase soil organic content to improve water retention and drainage</p> <p>Reforestation to protect embankments, reduce local temperature, and provide food and fodder in times of scarcity</p>	<p>Agriculture and livelihoods</p>	<p>Examples of measures for specific impacts:</p> <p>Salinisation in costal areas: salt-tolerant crops, water for irrigation, household and livestock</p> <p>Decreased and unpredictable rains: appropriate forecasts, crop diversification, farming techniques that reduce crop water needs</p> <p>Increased temperature: heat-tolerant crops</p> <p>Increased risk of floods, cyclones and storm surges: district-level contingency plans; PCVA; increasing understanding of risk reduction; cyclone/flood shelters; stockpiling and Early Warning Systems</p>
	<p>Disaster Risk Reduction</p>	
	<p>Natural-resource management</p>	



Working at multiple levels (household, community, provincial, national, etc.)

Disaster Risk Reduction and climate change

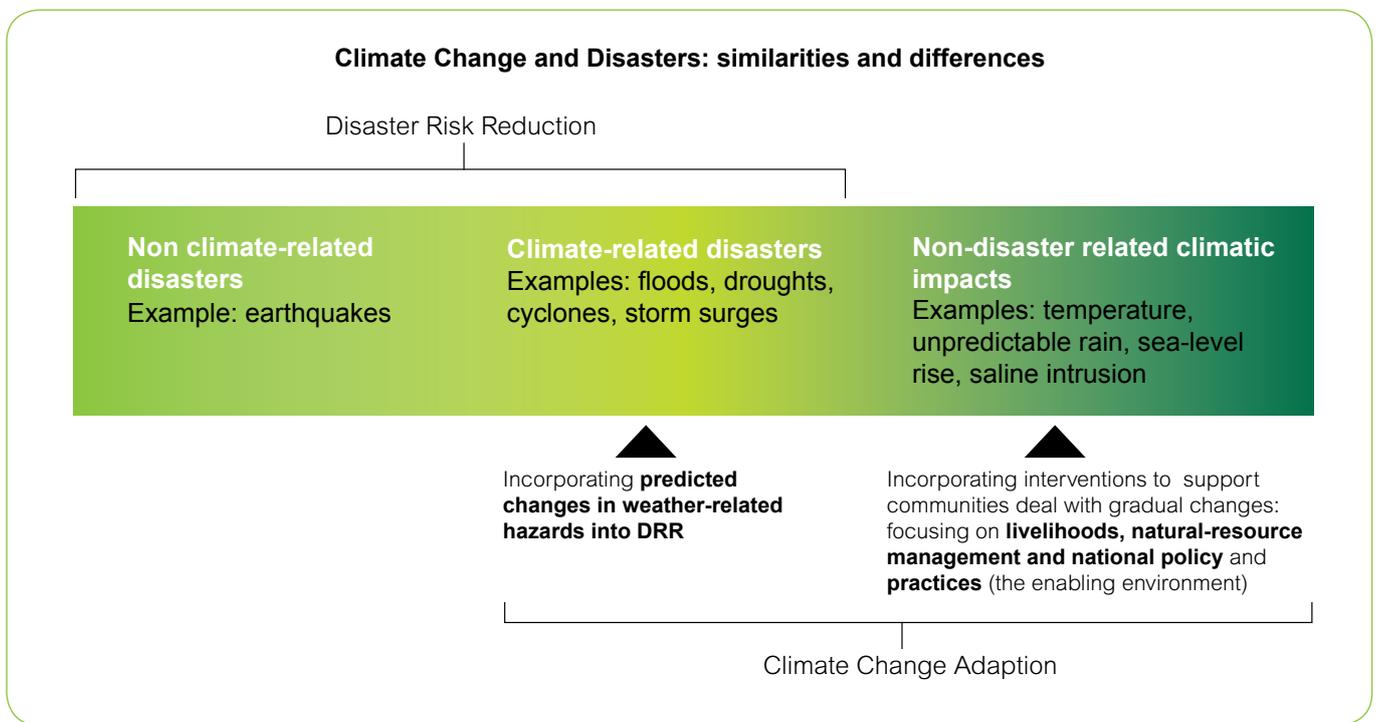
Disaster Risk Reduction (DRR) is an approach that attempts to reduce people’s vulnerability to hazards through:

1. Ensuring that DRR is both a national and a local priority with a strong institutional basis for implementation;
2. Identifying, assessing, and monitoring disaster risks and enhancing early-warning systems;
3. Using knowledge, innovation, and education to build a culture of safety and resilience at all levels;
4. Reducing the underlying risk factors; and
5. Strengthening disaster preparedness for effective responses at all levels.

Because climate change is increasing the frequency and/or intensity of weather-related hazards for many communities, DRR is central to supporting many communities to adapt to climate change. However, not all DRR is about climate-

related hazards (other hazards include earthquakes) and, equally, not all climate change impacts are hazards (such as saline intrusion exacerbated by rising sea levels, increasing temperature, unpredictable rainfall patterns, and changing seasons, all of which are more long-term, insidious, changes). There are also some areas where hazards won’t change (or may even decrease in frequency or intensity), such as flooding on the Zambezi in Mozambique. Making DRR relevant to climate change means that the way that climate change alters hazards must be understood and incorporated into programme design. For example, if it is known that climate change is likely to increase the severity of flooding threefold (so, for example, a ‘once-in-50-years flood’ will happen every 16 or 17 years), then the design of flood shelters (etc.) should take this into account. Where such precise climate change predictions are unavailable, then a ‘precautionary’ approach can be taken; in other words, look at the most severe climate change prediction and base programming decisions on that.

The relationship between DRR and CCA can be visualised as:



Sustainable livelihoods and climate change¹⁴

Livelihoods approaches are based on the understanding that poverty, and the ability to move out of poverty, reflects the (lack of) capabilities and assets available to those affected. This includes material assets such as access to land, other natural resources, financial capital and credit, tools, and inputs into productive activities. It also reflects human capabilities (the knowledge and skills of the family), and social and political factors, such as the ability to negotiate fair and adequate outcomes in the market chains within which people buy and sell goods and services.

Sustainable livelihoods programmes typically assess the barriers that people face in improving their livelihoods, and design programme interventions to overcome these. Some of these are not directly affected by climate change (for example, people’s power to negotiate fair prices for products and services). However, many are directly affected by climate change, particularly those concerning the ability of producers to produce. For example, when rising temperatures increase crop water demand and weather is ever more unpredictable; farmers struggle to know when to cultivate the land, sow, and harvest. Rainfall even within the rainy season is becoming concentrated



Local people rebuild the river embankment, which protects their village, Kholishabunia, near Gabura, Shatkhira district, Bangladesh. Embankments on tidal rivers are feeling the twin strain of larger volumes of water coming downstream, and higher tides and increased wave intensity from the coast. Many embankments are being breached, or are close to breaching, with people losing lives and homes as a result.

Oxfam is working with partners LEDARS (Local Environment Development Agricultural Research Society) in this region to raise community awareness on climate change – what it is and how to adapt. They also support tiger widows through income raising activities, provide relief after floods, and model storm resistant houses. Photo: Shehab Uddin/DRIK/Oxfam GB

into more heavy downpours punctuated by dry spells (which alone can reduce crop yield by between 30 and 70 per cent), and heavy, unseasonable downpours are damaging crops. These types of impact are almost universal, but they often have clear potential solutions (see section 6). Strategies for implementing these solutions need to be rooted in an understanding of how people sustain their livelihoods, and be implemented alongside the existing strategies that aim to overcome the barriers that prevent people from improving their livelihoods.

Natural-resource management and climate change

Climate change makes the wise management of natural resources – water, soils, and trees – even more important as a way of supporting communities to adapt to climate change. This is first because climate change increases resource scarcity. For example, in areas that are becoming drier, and in coastal areas suffering from saline intrusion, there is a reduction in the availability of water for household and productive use. Second, the role that natural resources play in buffering communities against extremes of climate becomes more important as climates become more adverse. For example, increasing soil's organic content improves water retention and drainage that can help crops as rain becomes more concentrated into heavy downpours (even when there is no change

in the overall rainfall each year), and reforestation can reduce local temperatures, provide additional income, protect against soil erosion, landslides, and local flooding, and provide food and fodder in times of scarcity.

Gender and climate change

While climate change affects everyone, it is not gender neutral. It magnifies existing inequalities, reinforcing the disparity between women and men in their vulnerability to climate change, and their capability to cope with it.¹⁵ Women, who form the majority of the world's poor, tend to be more vulnerable to the effects of climate change¹⁶ and are being affected in their multiple roles as food producers and providers, as guardians of health, care givers, and economic actors. They are more likely to become direct victims (through death and injuries) of climate-related disasters, such as hurricanes and flooding, because they are less likely to be able to swim, and are more likely to be at home when such events occur.¹⁷ Drought, deforestation, and erratic rainfall cause women to work harder to secure resources (such as food, water, and fuel) and mean that women have less time to earn an income, get an education or training, or participate in decision-making processes. Families affected by poverty, many of which are headed by females, often live in more precarious situations: on low, flood-prone lands or on steep slopes.



Villagers tend their vegetables as part of Oxfam GB's Farmer's Field School, designed to reduce the effects of climate change in West Timor. Oxfam is using the Farmers Field School approach to home gardening, which teaches farmers to grow vegetables utilising appropriate farming technology with low and natural external inputs such as green manure, compost and local seeds to ensure sustainability and restore soil fertility. The project directly benefits 7,500 vulnerable people who are selected on the basis of need and motivation. Photo: Tom Greenwood/Oxfam GB

5.2 An approach that includes working at multiple levels¹⁸

Climate change is rapidly moving communities beyond their capacity to cope, and so while working at a community level is necessary, on its own it is not a sufficient response to support effective adaptation. In addition, climate change is a long-term issue for people living in poverty, irrespective of the outcome of international negotiations, and so the state will play an increasing and fundamental role in reducing communities' vulnerability to climate change. To give some examples:

- Increasing temperatures will soon take some crops beyond their physiological limits (e.g., maize in Southern Africa). Developing heat-tolerant varieties is not something that can be done by each community, and so influencing agricultural research and extension to develop varieties that are appropriate for smallholders will be a critical part of adaptation.
- Rains and seasons are becoming increasingly unpredictable, meaning that traditional techniques for deciding when to cultivate, sow, and harvest are becoming increasingly ineffective. Supporting meteorological services to work with farmers to allow access to reliable, appropriate, and appropriately communicated forecasts can play an enormous role in maintaining and increasing smallholders' yields.

Listed below are ways of working that could take place with local and national government and at an international level to help enable communities to adapt to climate change (there are of course other levels, such as provincial and regional, but it may not be feasible to work at all of these at the same time).

Local government

Working with local government (such as municipal or district) is critical because it is this level that implements (and to some extent influences) many government policies. It is also the level at which the impacts of climate change are most clearly manifested. Based on an analysis of climate change impacts and the adaptation interventions that will help communities, Oxfam can help integrate local adaptation through:

- Collation of local information on climate impacts and local adaptation responses to raise awareness of the issues and solutions;
- Provision of human, financial, and technical resources and services to support local adaptation.

National government

This is the level at which strategic decisions are taken to create an enabling environment for affected communities. It is also at this level where medium- to long-term development and poverty-reduction strategies are established. To facilitate the integration of adaptation nationally Oxfam should advocate for a number of priority actions to be taken. These include:

- Commissioning national assessments of climate change impacts, vulnerabilities, and adaptation options;
- Working with different parts of government to support a 'whole-government' approach (climate change is typically the formal responsibility of the Ministry of Environment, which often has little influence over other parts of government);
- Incorporating considerations of climate change risks within long-term visions, and strategies for poverty reduction and sustainable development;

- Holding government to account for the development and implementation of adaptation policies for vulnerable communities;
- Ensuring that vulnerable people, and especially women living in poverty, are represented in decision-making.

International level

Oxfam has focused its international campaigning and advocacy work on the UNFCCC Conference/Meeting of Parties in Copenhagen (December 2009). This is the meeting that has the potential to agree a global reduction in greenhouse gas emissions (mitigation) and the size and management of funding for adaptation. Whether a successful deal is reached or not, holding the international community to account for providing adequate adaptation funds will for decades remain a vital and continuing part of reducing poverty and vulnerability, either for Oxfam directly or for local civil society networks that we support that are working on climate change.

5.3 An approach that has a range of interventions

The precise impacts of climate change on any one geographical area aren't known absolutely (and,

for technical reasons, can't be known with absolute certainty). That means that the types of interventions that will support communities to adapt to climate change will need to combine interventions that focus on both:

Impacts: When specific impacts are known with a degree of certainty, then interventions can be designed to help communities deal with those. For example, in most parts of the world, temperatures will rise by between one and 1.5 degrees over the next 20 years, directly affecting crop production and increasing crop water demand by about 10 per cent; saline intrusion will increase in low-lying coastal areas over the same period. Interventions that introduce heat-resistant and drought-resistant varieties, increase soil water retention, and provide water for household and productive use will help communities faced with these problems.

Vulnerability Where the impacts remain uncertain, measures that reduce communities' underlying vulnerability to any shocks and trends will also be needed, such as: women's rights, empowering poor and marginalised communities to be involved in decision making, provision of healthcare, etc.

Effective climate change adaptation for Oxfam:

- Manages and reduces risks associated with changes in the climate.¹⁹
- Involves planning for the long-term future while simultaneously helping communities cope with present circumstances, by reducing vulnerability and increasing their capacity to act.
- Hinges both on addressing vulnerability through 'climate-compatible development' (for example, ensuring that existing agricultural practices are sustainable where there is more likelihood of drought in the future) and developing specific responses to climate change impacts (for example, specific responses such as building sea walls in low-lying islands to stop erosion).²⁰
- Needs to be flexible enough to cope with uncertainty, and with meeting different needs that might rapidly change.²¹
- Is appropriate to the local social, economic, and climatic context.
- Involves working at different levels (such as: community, district, national, and international)
- Is integrated into development and humanitarian programming (including livelihoods, DRR, natural-resource management, and governance programmes) to build on Oxfam's extensive and existing good practice in these areas.

Climate change adaptation for Oxfam is not:

- Just about 'good programming'. The threat of climate change across Oxfam's programmes means it must be considered in context analyses (for example, building a flood shelter that fails to take into account the changed flood risk would not constitute effective adaptation). Analysis needs to take into account the changing dynamics of risk in the light of climate change so that interventions are sustainable for generations to come.
- Relabelling existing work: if climate change impacts are not explicitly analysed, or adaptation objectives are not set at the start of a programme, we cannot be sure that programmes are supporting communities to adapt to climate change, nor can we be certain that they will not increase future vulnerability.
- A 'one-size-fits-all' approach. CCA needs to be context specific, in terms of people's livelihoods and their cultural norms.
- The same as coping strategies, which are generally short term and not sustainable over time.

6. Programme cycle management and CCA

6.1 Identification: assessing and analysing climate risk

Programme identification involves defining the change that Oxfam wishes to bring about, exploring the issues to be addressed, and considering our capacity to respond to them. At the same time, we need to be sure that our proposed piece of work is strategic, represents a good use of Oxfam's resources, and is consistent with Oxfam's beliefs, values, and objectives.

Identify climatic hazards from scientific and community sources²²

In order to decide whether or not climate change should be part of any strategy, programme, or project we first need to identify whether or not climate change is a significant contributor to poverty and suffering within the context in which we are operating. We can do this by gathering available and relevant information and using it form an overall picture that can be analysed before making decisions. As a minimum, we need to:

- Talk to communities about what's changing, and what impacts those changes are having (using standard participatory tools such as focus-group discussions, seasonal calendars, etc.);
- Look at the scientific evidence to find out what's changing, what those changes could be (direction and magnitude), and identify where there's uncertainty; and
- Talk to other organisations and governments about their understanding of climate change and the work that they are doing and planning around adaptation.

Questions to ask communities include:

- What changes in climate are already being observed:
 - Seasonal shifts?
 - Changes in rainfall patterns and availability of water?
 - Extreme-weather events?
- How are different people be affected by climate change in different ways, in terms of their:
 - Household workload (women)?
 - Livelihoods activities (women and men separately)?
- What are the underlying causes of vulnerability to climate change?
 - Which livelihoods strategies are more vulnerable or more resilient to climate change, and why?
 - What strategies are currently being (or could be) employed to deal with these problems, and which have the potential to assist them in adapting to climate change?
- What types of support are needed to facilitate adaptation at the individual, household, and community levels?

Questions to ask scientists and governments include:

- What are the most important climate change hazards facing your particular area?
- What information is there, and what do you know, about past and present changes regarding (for example):
 - Annual and seasonal rainfall, average temperatures, storms, and flooding;
 - Occurrence of mudslides, landslides, and wildfires;
 - Frequency of drought recurrence;
 - Fresh water availability and quality;
 - Seasons?
- Is there information available about projected changes in the above for the next five, 10, and 50 years?
- What actions are local and national institutions taking to develop the capacities of communities to adapt to climate change?
- Who would be the key targets for advocacy efforts around climate change?
- Who are the key partners and allies for climate change adaptation?
- What capacity exists and what types of support are needed to facilitate adaptation at the institutional and national policy levels?

By doing this we can get a better overall picture of what's happening in your country or region and collate the information we receive to see where there are commonalities, in order to make better-informed decisions about priority areas for intervention.

6.2 Planning and design: integrating CCA

Programmes that take into account current and predictable impacts of climate change

When planning and designing CCA interventions, it is important to remember that they will not normally be 'stand-alone' programmes or projects. The current and predictable impacts of climate change need to be taken into account within poverty reduction and humanitarian programmes, so that:

- Communities are empowered to understand climate change, identify solutions, and hold decision-makers to account;
- Programmes contain elements that support communities to adapt to current and predictable impacts of climate change. Where information is not available or

is lacking, plans should identify options that reduce the vulnerability of women's and men's livelihoods, vulnerability to disasters, and that protect ecosystems, whatever the specific local effects of climate change turn out to be;²³

- Programmes include explicit responses to the identified vulnerabilities, needs, and capacities of women, marginalised groups, indigenous communities and ethnic minorities, those affected by HIV and AIDS, and people with disabilities;
- The capacity of national institutions and systems is strengthened to develop and implement measures to tackle climate change, focusing on the most vulnerable;
- Specific objectives and indicators are established for CCA and DRR, in consultation with partners and communities, to measure, monitor, evaluate, and communicate the impact of our work.

Programmes that link with others to achieve political commitment and action

Oxfam should not aim to work alone on climate change, as we do not yet have the resources or capacity to deal with climate change on the scale required. However, we can have more impact if we work with others, including:

- Working with allies and partners at multiple levels (for example: community, district, national, and international) and across functions (programming and campaigning) to ensure that pro-poor, gender-sensitive national policy and practice supports communities' own efforts;

- Working for adaptation to be integrated into national development planning processes and backed up with the budgets needed;
- Seeking to influence the funding policies of multi-lateral, bi-lateral, and national institutions and other donors, so that funding for adaptation is adequate, reliable, and easily accessed by those who need it most.

Programmes should aim to grow organisational capacity to understand and address climate change

An important component of Oxfam's work on climate change is ensuring that we have the human and financial capacity to be effective in our efforts. We can do this by:

- Making sufficient human and financial resources available for developing organisational capacity for climate change adaptation, including access to appropriate training and other forms of capacity development.

6.3 Implementation and management: CCA in practice

While many of Oxfam GB's development, humanitarian, and advocacy programmes have contributed to sustainable development and CCA for many years, it has only been most recently that we have been purposely involved in CCA programming and have prioritised climate change as a corporate objective. As a result we are rapidly growing our skills, knowledge, and expertise on programming. Our hope is that in the next two to three years we will have developed a whole suite of programmes across countries and regions that are effectively assisting communities and national governments adapt to climate change.

Lelya Kayere, 76, selling her tomatoes. The Oxfam funded Mnembo Irrigation scheme has helped to improve the lives of 400 families by transforming their traditional small low-yield crops into year-round, high volume harvests that provide continuous food and a source of income. The community are now totally self sustainable. Photo: Abbie Trayler-Smith/Oxfam GB



The following table includes some examples of CCA activities that you might like to consider. The list is not exhaustive.

Change	Impact	Programme activity examples
Temperature increase on land and water	Heat stress on crops	Access to heat-tolerant crops
	Increased crop water demand	Access to drought-tolerant and fast-maturing crops and varieties
		Increase soil organic content
		Water-conserving crop-management practices
		Maximise water capture and storage
		Advocacy on securing rights of access to water supplies for small-scale farmers
	Heat stress on livestock	Tree planting (shade and fodder)
		Change to more heat-tolerant livestock (e.g., shift from cattle to goats)
	Worsening availability of fish stocks	Conservation of coastal mangroves and other vegetation
Sustainable aquaculture such as fish farming in ponds.		
Sea-level rise	Saline intrusion	Provision of water for households and productive use
	Coastal erosion	Sea defences built
	Increased frequency/severity of storm surges	DRR approach, ensuring that increased risk is built into project design across the five priority areas for action (making DRR a priority; know the risks; building understanding and awareness; reduce risks; and preparedness)
Changed seasonality	Farmers uncertain about when to cultivate, sow, and harvest	Appropriate, accessible, and reliable weather forecasts
		Crop diversification and crop mixing
	Crops damaged by dry spells within growing season	Appropriate, accessible, and reliable weather forecasts
		Crop diversification and crop mixing
		Water capture and storage; access to fast-maturing/drought-tolerant varieties; soil and crop management to conserve water
	Crops damaged by unseasonal heavy downpours	Appropriate, accessible, and reliable weather forecasts
		Flood-tolerant varieties
Crop diversification and crop mixing		
Increase in intense rainfall or large increase in annual rainfall	Increased frequency/severity of floods	DRR approach, ensuring that increased risk is built into project design across the five priority areas for action.
Decrease in annual rainfall in arid/semi-arid areas	Increased frequency/severity of drought	DRR approach, ensuring that increased risk is built into project design across the five priority areas for action.
		Drought-cycle management and/or integrated community water-management approaches.

Case study: 'Jasmine Rice in the Weeping Plain'- Climate change adaptation in Thailand

Oxfam has been working with the local organisation Earth Net Foundation (ENF) since 2004, promoting organic agricultural production and fair-trade marketing with farmers in Yasothorn Province. A combination of scientific findings and observed changes by communities and programme staff prompted Oxfam to take action. In consultation with farming communities and ENF, Oxfam decided to implement an initial one-year pilot CCA project for organic rice. Fifty-seven out of the 509 organic-farming households decided to join the scheme.

Activities

1. Climate change awareness and participatory decision making

Men, women, and children were educated about climate change and its potential impacts in Thailand. Using this information, participants shared ideas about how they could adapt their farming practices to cope with these changes, and they designed their own on-farm water-management systems.

2. Provision of loans to project participants

A fund was established which provided loans of up to 30,000 baht (\$880) to each household, to assist in the construction of on-farm water-management systems. The loans are offered at low interest rates (between one and three per cent) for one to six years. The fund lent money to all 57 project households: 1,400,000 baht (\$41,000) in total.

3. Implementation of on-farm water-management systems

In total, 23 stock ponds, 24 wells, 44 water-drainage systems (ditch, sprinkle, pipe), and 14 water pumps were designed, built, and installed. Because of the uncertain impact of climate change on rice production, farmers also diversified their food crops. Many farmers, especially women, grew vegetables and planted fruit trees as alternative crops, earning households between 500 to 1,500 baht (\$15 to \$40) per week.

4. Farmers as catalysts

Female and male farmers who took part in the project met with other farmers and households to share their experiences, in order to help others to find better solutions to the problems posed by a changing climate. Several workshops took place, including: one on agricultural models and techniques to reduce climate risks; three on the impact of climate change on female farmers' roles; and three on on-farm product management and seed management for female farmers.

A windmill is used to pump water into a large storage tank to supply water to Manoon Phupa's farm. This pump is one of many designed and installed as part of an Oxfam project to help rice farmers adapt to climate change in northern Thailand.

Photo: Tul Pinkaew and Supaporn Anichiracheeva/Oxfam GB

Key Outcomes

1. Food security

After harvesting, it was found that all 57 households were more food-secure than they had been before the start of the project, with more than 90 per cent of the rice, meat, and vegetables consumed grown by the families themselves.

2. Decline in rice production halted

Despite the year's harsh conditions, 51 out of the 57 programme participants were able to maintain an output of rice that was at least sufficient for their own household consumption, with 14 producing a surplus to sell at market. Only six households suffered losses in rice yield, because their water systems were not established in time. Overall rice production fell by almost 16 per cent, in stark contrast to farms that did not take part in the project, whose production fell by 40 per cent.

3. Diversity of crops

Programme participants adopted crop diversification as an additional way to reduce the risk of food and economic insecurity. Farmers, especially women, planted fruits and vegetables during and after rice cultivation, selling the produce not consumed by their households at local markets, earning them around 500 to 1,500 baht (\$15 to \$40) a week.

4. On-farm water-management systems

More than 90 per cent of participants agreed that the water-management systems reduced the impacts of drought. Almost 90 per cent believed that the systems were appropriate for women and children to use, and they were already finding ways to improve their water-management systems.



6.4 Monitoring, evaluation, and learning

Given the innovation needed within Oxfam's work to tackle the unavoidable impacts of climate change, an integral part of this work includes monitoring, evaluation, and learning (MEL) to demonstrate the difference and impact of Oxfam's CCA actions. This will not only provide improvements in programme design and implementation for future activities within programmes, but will also provide opportunities for organisational development and motivate staff.

Monitoring, evaluating, and learning is doubly important within CCA because climate change is taking communities, local and national governments, and other stakeholders outside the customary range of climate. This means that all stakeholders will need to learn what does and does not work, and build upon successful strategies.

Wherever possible Oxfam should aim to:

- Facilitate a 'safe space' for communities and other stakeholders to experiment with different ideas and solutions without putting themselves at greater risk;
- Ensure that stakeholders (communities, government authorities, and other organisations) are actively involved in monitoring and evaluating the outcomes of the actions they implement;
- Build on what works and what doesn't work, in order to improve CCA programming for the future.

This approach is the same as the programme management cycle, with the components of experimentation and MEL being explicitly addressed and prioritised.

To ensure wider learning within Oxfam, please send copies of all your evaluation reports to the Programme Resource Centre (PRC). You can also contact the PRC for support in documenting or disseminating your learning, or to request the Rough Guide on Integrating Learning into Programme Cycle Management.

There is an Oxfam Adaptation and Risk Reduction Practitioners' email forum where you can share experiences and ask questions of other colleagues working in the field. Email your request to join this forum to phd@oxfam.org.uk.

7. Summary of key learning

- Climate change is a development issue that threatens to stall – and then reverse – progress made to achieve the Millennium Development Goals.
- Poor women and men in developing countries are those worst affected by climate change, yet are least responsible for causing it.
- The impacts of climate change will continue to worsen, and for those already affected the need to adapt is urgent.
- Oxfam is committed to tackling climate change in our humanitarian, campaigning, and long-term development work.

- The core of Oxfam's work on CCA focuses on DRR, livelihoods, and natural-resource management, ensuring that gender is addressed as a crosscutting issue.
- Effective CCA involves planning for the long-term future while simultaneously helping communities cope with present circumstances, by reducing vulnerability and increasing their capacity to adapt.
- Communities must be at the heart of efforts to build resilience to climate change, but their efforts will only be successful if backed up by national strategies and policies, and by international financial support – and we need to influence these.

8. How to further your understanding

For more advice about climate change adaptation, please see the online resources below, and/or contact the PPT Adaptation and Risk Reduction team in Oxford by emailing arr@oxfam.org.uk.

8.1 Key resources

Oxfam GB

Internal resources, including programme policies:

<http://intranet.oxfam.org.uk/programme/arr>

External resources, including policy papers and national reports on climate change: www.oxfam.org.uk/resources/policy/climate_change/index.html

WeADAPT

Online resource and learning guide for Oxfam staff: http://wikiadapt.org/index.php?title=Oxfam_Entry_Page

Intergovernmental Panel on Climate Change (IPCC)

The Fourth Assessment Report: www.ipcc.ch/ipccreports/assessments-reports.htm

United Nations Convention on Climate Change (UNFCCC)

National Communications:

www.unfccc.int/national_reports/non-annex_i_natcom/items/2979.php

National Adaptation Programmes of Action (NAPAs): http://unfccc.int/cooperation_support/least_developed_countries_portal/submitted_napas/items/4585.php

United Nations Development Programme (UNDP)

Adaptation country profiles <http://country-profiles.geog.ox.ac.uk>

Learning on adaptation <http://www.undp.org/climatechange/adapt/index.html>

8.2 Additional resources

Global Humanitarian Forum: *The Anatomy of a Silent Crisis*: www.ghf-ge.org/OurWork/RaisingAwareness/HumanImpactReport/tabid/180/Default.aspx

UN Human Development Report: *Fighting climate change: Human solidarity in a divided world*: <http://hdr.undp.org/en/reports/global/hdr2007-2008/>

UNISDR (2008) Climate change and disaster risk reduction. Briefing Paper 01: www.unisdr.org/eng/risk-reduction/climate-change/cc-information.html



Members of the Tukore Women's Group have set up a shop selling fabrics as a way of diversifying livelihoods in Lake Katwe, Uganda. Katwe offers nothing to live off except fish and salt from the salt pans. So although livelihoods can be profitable, they are also highly variable and vulnerable. Now climate change is increasing that vulnerability. Photo: John Magrath/Oxfam

9. Endnotes

- 1 UNDP (2007) Human Development Report 2007/2008 – 'Fighting climate change: Human solidarity in a divided world'. Pan Macmillan: New York.
- 2 UNISDR (2009) Global Assessment Report on Disaster Risk Reduction. Available at: www.preventionweb.net/english/hyogo/gar/report/index.php?id=1130&pid:34&pif:3. Last checked by author, 08 August 2009.
- 3 Global Humanitarian Forum (2009) Climate Change: The Anatomy of a Silent Crisis, and Oxfam International (2009) The Right to Survive: The Humanitarian Challenge in the 21st Century.
- 4 Dr Balgis Osman-Elasha, Higher Council for Environment and Natural Resources, Sudan, Copenhagen Science Conference, March 2009.
- 5 Oxfam Briefing Paper 130 (2009) Suffering the Science: Climate change, poverty and people. Oxfam International. The figure derives from a calculation of the historic increase in the number of disasters per year, factored with the increasing vulnerability of populations, according to a range of factors.
- 6 M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds. (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. Cambridge University Press, Cambridge, UK.
- 7 M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds. (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. Cambridge University Press: Cambridge. Chapter 10.
- 8 Jennings, S. and Magrath, J. (2009) What Happened to the Seasons? Oxfam GB Research Report. Oxfam GB.
- 9 Adapted from United Nations International Strategy for Disaster Risk Reduction (UN/ISDR) (2009) New 2009 Terminology on Disaster Risk Reduction, available at: www.unisdr.org/eng/terminology/terminology-2009-eng.html. Last checked by author, 08 August 2009; the United Nations Framework Convention on Climate Change definitions, and Practical Action.
- 10 Tearfund & IDS (2007) Overcoming the Barriers: Mainstreaming climate change adaptation in developing countries.
- 11 UNFCCC website: http://unfccc.int/cooperation_support/least_developed_countries_portal/submitted_napas/items/4585.php. Last checked by author, 08 August 2009.
- 12 Oxfam GB Strategic Plan 2007-10. Available at: http://intranet.oxfam.org.uk/about_oxfam/management/strat_plan.htm?searchterm=strategic+plan. Last checked by author, 08 August 2009.
- 13 Oxfam International (2008) Double Trouble: Overcoming obstacles to urgent and fair responses to global climate change for economic justice. Oxfam International.
- 14 International Institute for Sustainable Development, International Union for Conservation of Nature and Natural Resources and Stockholm Environment Institute (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. Winnipeg: IISD.
- 15 UNDP (2007).
- 16 WEDO (2007) Changing the climate: Why women's perspectives matter. WDO: New York.
- 17 Neumayer, E. & Plümpert, T. (2007) The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy.
- 18 This section adapted from OECD (2009) 'Policy guidance on integrating climate change adaptation into development cooperation'. Joint High-Level meeting of the OECD Development Assistance Committee and the Environment Policy Committee. 28-29 May 2009.
- 19 Text taken directly from IISD (2003).
- 20 Misselhorn, A. (2008) Adapting to climate change in Umkhanyakude district, KwaZulu-Natal, South Africa. Oxfam Australia: Melbourne.
- 21 Misselhorn (2008).
- 22 Adapted from Tearfund's CEDRA (Climate Change and Environmental Degradation Risk and Adaptation Assessment) tool (2009).
- 23 Adapted from Sperling, F. (2003) Poverty and Climate Change: Reducing the Vulnerability of the Poor through Adaptation, and Stern, N. (2006) The Economics of Climate Change, Cambridge: Cambridge University Press.

Disaster Risk Reduction and Climate Change Adaptation are corporate priorities for Oxfam GB. The Learning Companions are a set of articles, which provide accessible and practical guidance to Oxfam staff wishing to integrate DRR and Climate Change Adaptation approaches into programming. To find out about other resources on Disaster Risk Reduction and Climate Change Adaptation, and to give us your feedback on these resources, please contact the Programme Resource Centre. Email: phd@oxfam.org.uk

Front cover: Martina Longom (foreground) joins women from Caicaoan village collecting water from the traditional water hole. Because water is becoming harder to find, members of the local women's group have successfully campaigned for and helped to build a borehole close to the village. Instead of walking for up to seven hours to collect water, the women now make a 30-minute round trip. Photo: Geoff Sayer/Oxfam

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