Overview of the CEDRA process

0.1 Introduction

Climate change and environmental degradation are two of the biggest threats our world is facing. The pace of climate change is quickening and the poorest and most vulnerable communities are being hit the hardest. The CEDRA process is designed to help local humanitarian and development agencies (NGOs) take a structured approach to identifying possible impacts of climate and environmental change. It helps you access and understand climate and environmental science and compare this with communities’ experience. You will learn about the past, present and projected impacts of climate and environmental change where you work. You will assess the likelihood of these impacts occurring and their likely scale of impact. CEDRA will help you prioritise which impacts you can respond to, and how. You will also assess which impacts you want to make others aware of and encourage them to respond. This is all done with input from stakeholders and communities. The final stage is carrying out your planned responses and ensuring that your learning from the process informs your future work.

CEDRA’s purpose is to help organisations integrate adaptation into development and disaster risk reduction (DRR) work, moving towards an approach which sees projects intentionally designed to ensure that development, adaptation to climate and environmental change and resilience to disasters are addressed together – something we’re calling adaptive resilient development (see page 51 for a longer explanation of this term). It is intended to make existing work stronger and able to withstand environmental and climate change. It is a strategic tool, to be used across the whole of an organisation’s work rather than in specific projects or sectors. It is aimed at NGOs in developing countries, but may also be useful for other bodies such as national or local government.

CEDRA is designed to be approached flexibly. It involves seven different Steps and it is usually carried out in a number of Phases, beginning with a workshop. The diagram on the following page illustrates these Steps and Phases. You should adapt CEDRA to fit your context and requirements – which may mean that you do not follow these Phases or all seven Steps, or that you follow them in a different order or with a different emphasis.

At the end of CEDRA, you will produce a CEDRA Assessment and an Action Plan:

CEDRA Assessment. This document will:

- record current and projected climate and environmental changes in the places where you work
- summarise communities’ views and an assessment of their ‘adaptive capacity’ (their ability and resources to cope with future impacts)
- assess the likely climate and environmental impacts on communities and your projects
- rank and prioritise these impacts according to how important they are and how likely they are to happen
- identify ways to adapt your projects and, in some cases, identify new projects needed.
Diagram of the typical CEDRA Phases and Steps

Phase 1: Capacity-building workshop
Understand and plan the CEDRA process 2–6 days

Phase 2: CEDRA Assessment
Carry out CEDRA to understand, prioritise and plan responses to climate and environmental risks 18–28 days over 1–3 months

Phase 3: Follow-on workshop
Share findings and recommendations among wider network of stakeholders 2–4 days

Phase 4: Implementation
Make and embed changes within agencies, projects and communities Extended period eg 18 months

Step 1 Mapping p14
- Map locations
- Physical and socio-economic
- Causes and impacts
- Questions
- 2 days

Step 2 Science p21
- Stakeholder analysis
- Research and consultation
- 6 days across several weeks

Step 3 Community p32
- Consult communities
- 5–15 days across several weeks

Step 4 Risk assessment p43
- Assess projects
- Identify impacts
- Calculate risks
- 2 days plus consultation

Step 5 Adaptation p49
- Participatory assessment
- 2 days across several weeks

Step 6 Compile CEDRA p62
- CEDRA write-up
- Action Plan
- New projects
- Consultation
- 1 day plus consultation

Step 7 Lasting change p66
- Updating CEDRA
- Learning
- Evaluation
- 2 days per year

CEDRA is a process of seven Steps that typically take place over four Phases.

PHASE 1 is a workshop that trains people in the seven CEDRA Steps.
PHASE 2 implements Steps 1–6 and plans for Step 7.
PHASE 3 is a follow-on workshop that verifies Steps 1-6 with others.
PHASE 4 implements Steps 6–7.

These Steps may be undertaken in parallel and you may want to change their order. CEDRA is designed to be used flexibly.

On average, completing the CEDRA Assessment and Action Plan takes 25–40 days in total, but the work is best carried out alongside existing project work, such as needs assessment and project planning, over a longer time period. This reduces the number of hours needed to be allocated to CEDRA, but tends to extend the period over which the CEDRA process is undertaken.

The work is expected to be shared between members of staff, and preferably between a number of different agencies, and to take place over a period of eg three months. It is important to note that the timings shown are only a rough guide as the time CEDRA takes depends on many factors, such as how many staff are working on CEDRA, previous work already done, how far staff need to travel to consult communities, the depth of relationship already established with communities and other stakeholders, and how accessible scientific information is, etc.
CEDRA Action Plan  This document will:
- record the actions you decide to take in response to the findings of your CEDRA Assessment
- record the actions you would like to encourage others to take.

We hope, however, that CEDRA will contribute to outcomes far beyond these two documents as organisations understand the impacts and risks posed by climate change and environmental degradation, and choose a better strategic direction for their work.

This document includes a series of exercises, examples and case studies to help you complete the CEDRA Steps and the resulting CEDRA Assessment and Action Plan. Before you start CEDRA, please look through this whole document because you may well find that you have already completed some of the stages in your existing project work.

0.2 Why use CEDRA?

CEDRA helps local NGOs in developing countries to work out whether their projects are strong or need to be strengthened to cope with the impacts of climate and environmental change. It can be used to inform an agency’s overall planning process – or to review the sustainability of existing projects – across all the locations and sectors worked in. Tearfund has produced several other resources that have different but related uses. These are listed and described in Appendix A. We encourage you to read through this list to check whether you think CEDRA is the right tool for you to be using at this time. You may also find that, if you do decide to do a CEDRA Assessment, these are useful resources to help you in that process.

Climate change cannot be addressed in isolation from environmental degradation as the two are closely interlinked. If risks from climate change and environmental degradation are not fully considered, there may be serious consequences for NGOs’ work:
- Development work may fail as communities are impacted by more severe storms, floods, drought or disease.
- Development work may prove less effective due to factors such as soil degradation and crop failures, mudslides, pollution, forced migration or conflict over natural resources.
- Development costs may increase as climate change and environmental degradation harm projects and programmes.
- Development work may unintentionally increase communities’ exposure to sudden disasters resulting from climate change and environmental degradation.
- Disaster risk reduction (DRR) responses may be ineffective if they do not recognise that environmental change can increase the intensity and frequency of disasters over time.
- Communities may lose confidence in an NGO that does not recognise the importance of the environment to their lives.

CEDRA helps NGOs understand and prioritise which environmental hazards may pose a risk to existing projects and project locations. The process enables them to make informed decisions about strengthening (adapting), initiating or even stopping projects.
A CEDRA Assessment can be undertaken at any time. However, assessing risks from and to the environment is not something to be done as an afterthought in development planning; it needs to be an integral part of project cycle management. Without it, development projects may fail.

0.3 Who should use CEDRA?

CEDRA can be used by anyone who wants to understand and respond to climate and environmental change, from the local to national level. CEDRA is designed to be used by local NGO practitioners. However, it has also been used (in part or in full) by local and national governments, communities, INGOs and academic institutions. Feedback suggests that this is because CEDRA is designed to be used by people who are not experts as well as by those with expertise. However, CEDRA normally begins with a facilitated capacity building workshop. The CEDRA website and the CD-Rom accompanying this book contain suggested timetables and materials for this workshop.

A CEDRA Assessment can be undertaken by consultants. However, it will be far more effective when skills are developed within local organisations. This is important because the risks from climate and environmental change are increasing rapidly, so we should not risk losing skills when consultants leave.

CASE STUDY
Uganda

Following CEDRA training, the National Development Secretariat of PAG (Pentecostal Assemblies of God) Uganda organised a ‘climate change sensitisation’ session for the national committee of bishops. As a direct result of this, climate change awareness is now being promoted through up to 5,000 churches across Uganda. The bishops identified many possible interventions with PAG for both disaster risk reduction and climate change adaptation, including: setting up kitchen gardens; water harvesting; alternative sources of fuel; production and use of Bio-gas; planting drought- and flood-resistant crops; and monitoring rain patterns to help communities forecast rain and adjust to ever-changing rainfall patterns.

Tearfund partner PAG Uganda

0.4 How do people use CEDRA?

We have received reports of CEDRA being used in the following ways:

- as a strategic assessment to inform annual or three- to five-year planning cycles
- as a risk assessment to review the sustainability of new or existing programmes
- as one piece of evidence for a National Adaptation Plan of Action (NAPA)
- to inform advocacy plans
- as an aid to help make all work resilient to climate and environmental change
- parts of CEDRA have been used to inform (I)NGOs’ own corporate-level and community-level climate change assessments
findings of CEDRA Assessments have been used to inform community participatory assessments – both in development and DRR.

CEDRA is a highly participatory, flexible process that you should adapt and change to suit your location or requirements. This document provides a structure; some users adapt it, whilst some follow the written guidance very closely.

This guide contains exercises to help you draw up your own CEDRA Assessment and a blank template is provided, along with other forms, as loose pages inside the back cover. Extracts of a real CEDRA Assessment, completed by Tearfund partners in the Democratic Republic of Congo (DRC), are included throughout this guide. Other examples and adaptation project case studies can be found on the accompanying CD-Rom and on our website at: www.tearfund.org/CEDRA

0.5 Understanding climate change and environmental degradation

0.5.1 Environmental degradation

*Environmental degradation* is a broad term to describe detrimental human impacts on the environment. This includes using natural resources, such as water and forests, faster than nature can replenish them. It also includes pollution of soil, air and water, for example as a result of certain agricultural or industrial methods, or inappropriate methods of disposing of chemicals and other waste products. Environmental degradation also refers to reduction in biodiversity – the variety of plants and animals – and damage to ecosystems. Ecosystems are the communities of plants, animals and other living things working together with non-living parts of the environment such as rocks, water and the atmosphere. In combination, this depletion and damage mean that too few of these vital resources will remain for future generations.

Environmental degradation impacts may include, for example:

- the destruction of forests – causing soil degradation, destroying biodiversity, threatening agricultural livelihoods, and leading to increased land-surface dryness which can affect rainfall patterns and increase risk of droughts
- the building of dams or diverting rivers upstream – causing water shortages, damage to local ecosystems and increased workloads to collect water
- the destruction of natural coastal protection (e.g. mangroves) – leading to coastal erosion, exposure to storm damage, waterlogging of soils, loss of biodiversity and relocation of communities
- pollution of water, air or soil by factories – harming plants and animals and causing ill health in humans.

0.5.2 Climate change

The climate of the earth has been changing naturally for many millions of years, from ice age to ice age with warm ‘interglacial’ periods in between. However, since the industrial revolution
(end of the 18th century), human activities are affecting this natural cycle. Carbon dioxide and other greenhouse gases are released through burning fossil fuels (coal, oil, natural gas) in generating energy and fuelling cars, and through changes to land use such as deforestation and certain methods of agriculture. Greenhouse gases form a layer in the earth’s atmosphere that traps heat and keeps the earth warm (known as the greenhouse effect). By increasing the concentration of these gases, the greenhouse effect becomes stronger and causes an increase in the average global temperature.

Thus, the term climate change is usually used to refer to a long-term, significant change in the climate over time, caused by these human activities. Climate variability is different from climate change and refers to natural, short-term changes. A warmer climate has a variety of impacts on weather patterns and they won’t be the same across the world – some areas will experience more extreme changes than others. Some examples of these changes are as follows:

- unpredictable rainfall patterns resulting in more rain in some places (which in turn leads to an increase in flooding) and less rain in others (leading to an increase in drought). This results in lack of access to safe water for human or animal consumption, for crops and for sustaining local ecosystems
- rising temperatures and drought, leading to crop failure and food insecurity and harming biodiversity
- rising temperatures causing the polar ice caps to melt and sea water to heat up and expand, leading to sea-level rise, causing flooding and coastal erosion
- increased likelihood of hazards, such as floods and landslides and more severe cyclones (hurricanes/typhoons), leading to more disasters.
Climate change could be considered as a sub-set of environmental degradation as the climate is part of the environment. However, as climate change is so substantially harmful to all life on earth, and therefore of great importance to all of us, we refer to it alongside environmental degradation.

It is not always possible to determine which changes are due to environmental degradation and which are due to climate change or climate variability. The important thing is to understand what is changing and to plan an appropriate response – and that is what CEDRA aims to help organisations to do.

### 0.6 Finding out more

The Impacts and Options Checklist in the pocket at the back of this book gives more examples of the most common impacts of environmental degradation and climate change on our communities and projects. The Tearfund publication, *ROOTS 13: Environmental sustainability*, gives further information on the subject. Tearfund’s website www.tearfund.org/tilz includes a number of policy reports and other useful documents on the causes and impacts of climate change and on the action needed in response.

**CASE STUDY**

**Farmer Field Schools**

The two-year severe drought in the Northern Mara region of Tanzania has caused acute food shortages and malnutrition, especially among women and children. After very poor rainy seasons in 2009, when food and cash crop production plummeted by 50 to 70 per cent, the annual long rains in 2010 faltered across much of the country. About 85 per cent of maize, millet, sorghum and cassava crops were affected. There were also serious water shortages, lack of pasture and massive loss of livestock. Children stopped going to school and families sold whatever they had to buy food. Some young girls were being forced to marry into wealthy households so that their families could buy food with their dowries, while others were turning to prostitution. People were eating seeds intended for planting then travelling to other areas to look for work.

Tearfund’s partner, Africa Inland Church (AIC), is helping communities to establish their own sustainable food security solutions through the use of Farmer Field Schools (FFS). Communities have already adopted improved farming methods on a wide scale, including soil conservation, improved fertility and planting techniques, and the use of drought-resistant seeds.

Each village-based FFS of ten to 20 small-scale farmers is trained in demonstrating improved farming methods to the whole community. This includes land preparation techniques, boosting fertility, crop spacing, planting calendars and rainwater harvesting. Communities are learning to network and establish partnerships with other stakeholders, such as the government and other NGOs. This has empowered them. In Kabasa, for example, the community asked the local government to ensure middlemen adopted the government-instituted price increment, which they did.

http://tilz.tearfund.org/foodcasestudies
0.7 Key principles of CEDRA

0.7.1 Adaptive resilient development for long-term sustainability

Tearfund is very concerned that climate and environmental change are having the greatest impact on the poorest, most vulnerable communities by increasing the scale and frequency of disasters and reversing development gains. We therefore encourage the partners, networks and communities we work with not to treat climate change as a new sector and we suggest that adaptation projects should not be undertaken separately from development and DRR projects. Instead, we suggest climate and environmental change should be addressed in an integrated way, together with other projects. Tearfund believes that all projects should be designed to ensure development, adaptation to climate and environmental change, and resilience to disasters. We refer to this as adaptive resilient development.

Within this approach, we encourage development and humanitarian workers to avoid working in ‘silos’ or isolation. For example, an NGO may have one team working on WASH (water, sanitation and hygiene) projects, another on food security projects and another on DRR. Time is short and the multiple pressures we face (from climate and environmental change to food insecurity and conflict) mean it is no longer possible to address issues in isolation. Communities do not think in ‘sectors’: they simply want to develop in a way that improves the whole of their lives. We strongly encourage CEDRA users to work together to design community-led projects that address multiple problems together. However, we recognise that many organisations do still work in ‘sectors’ and so CEDRA is designed to be useful both to organisations who do integrated projects addressing many areas, and to those who work in one or several specific sectors. It is also important that we do not just assume our development work will automatically address climate and environmental change; projects in response to climate and environmental change often look like our existing projects. However, the reasons for doing them are different, as they are based on research and scientific evidence.

0.7.2 Participatory decision-making

It is extremely important that you involve a wide range of stakeholders throughout the CEDRA process, particularly communities and scientists. It is vital to ensure that both scientists with access to detailed knowledge and also those who are most vulnerable and often least consulted are heard – in particular women and children, and minority groups.

Most of the exercises within CEDRA are best carried out through focus group meetings with a range of stakeholders. These stakeholders help us identify sustainable adaptations and by involving them, we help them develop a strong sense of ownership of decisions made. This should also encourage further valuable sharing of knowledge. We strongly recommend that power dynamics such as gender equality are considered from the outset. Please see Step 3 for more information and guidance on participatory approaches. If you are new to the idea of...
participatory approaches, we recommend that you seek training before beginning your CEDRA Assessment.

0.7.3 Gender equality

Climate change affects women and men differently. It is important that, when you consider the impacts of climate and environmental change, and plan your responses, you consider gender issues at every stage. This involves looking at the different impacts on men and women, as well as looking at the power relationships (which are often unequal) between women and men. It is often appropriate to speak to groups of men and women separately. Likewise, in developing your responses, you need to include girls, boys, women and men. Gender relations are context-specific, change over time and interact with other social variables such as ethnicity, caste or wealth.

It is also important to ensure that the team carrying out CEDRA includes both women and men and has women in senior positions. As well as being right in principle, it can be an excellent way to ensure women’s voices are heard, and will give a diversity of viewpoints to your group. Some useful resources on gender and climate change are listed in Appendix D.

0.7.4 Collaboration and knowledge-sharing

CEDRA is best used by a group of agencies working together. Advantages can include sharing workloads, skills and resources, and working together to influence policy change or encourage other agencies to engage with environmental issues. Before you start, consider whether there are other agencies you can work with. Though they may have a different vision or purpose, they will also have different knowledge and experience, and you can share resources and contacts.

Consider running a workshop and inviting different agencies, including local and national government, to find out who is doing what and to establish who would be interested in working together. Climate change and environmental degradation are huge issues, too large for one agency to tackle alone. You may also want to consider setting up a regular forum for NGOs, UN agencies and the government to share information and lessons learnt on these issues.

CASE STUDY

DRC partners working together in a ‘Partner Consortium’

Following a CEDRA workshop, staff from eight Tearfund partners in the east of the Democratic Republic of Congo (DRC) decided to form four geographical clusters to carry out CEDRA (in Bukavu, Beni-Butembo, Boga-Bunia and Aru).

- They shared field work to gather scientific and community information and developed a joint CEDRA Assessment, sharing their findings with local communities and stakeholders.
- A joint two-day follow-up workshop was organised to share learning and discuss challenges and technical issues. They helped each other develop Action Plans.
- They continue to share learning and carry out joint actions and adaptations.

This arrangement has proved very successful and enabled partners to achieve far more than they would have done individually. We use the example of the ‘Partner Consortium’ in the Diocese of Aru to illustrate the Steps and exercises throughout this book.

The full case study can be found on the CEDRA CD-Rom and at www.tearfund.org/CEDRA/ExampleAssessments
0.7.5 Monitoring and learning

It is important to ensure good monitoring and evaluation of the changes you make to projects as a result of the CEDRA process (see Step 7). But we also encourage continuous monitoring, reflection and learning as you carry out each individual Step in CEDRA. It is important to think what you want to achieve at the beginning of each Step, and about how you will measure the extent to which you have achieved it. The CEDRA process provides opportunities for learning in many areas (such as research, participation, planning etc), as well as wider issues such as organisational behaviour and gender dynamics within your team or organisation. We provide questions at the end of each Step to help you reflect on lessons learnt and think about what changes you may need to make as a result.