

**Advancing  
Integration  
series**



Australian Government  
Department of Foreign Affairs and Trade

# Existing knowledge

**Integrating disaster risk reduction, environment and  
climate change into development practice**

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# Preface: Advancing Integration

Donors supporting developing countries in the pursuit of sustainable development know that not all risks and eventualities can be predicted, managed and accounted for. Yet it is important to try and reduce these risks by understanding: the complexity of the context in which aid dollars are spent; and the routes to achieving better development outcomes, by adding value to what is already being done by partner governments.

In 2012, Australian aid\* and the Overseas Development Institute (ODI)

established a partnership to strengthen the way natural hazards, environment and climate change risks are considered in development programmes and decision-making processes. Tools, guidance and new evidence was generated to improve integration of disasters, environment and climate change adaptation and mitigation (DEC) in aid programming. The Advancing Integration programme (2012–2014) began with an assessment of *Existing knowledge* and consideration of *How to measure*

*progress*. This draws on the latest evidence on how best to integrate DEC and provides staff managing overseas aid programmes with guidelines on how to identify opportunities for making further progress on integration.

Policy priorities and programme strategies are set within a complex web of relationships between donor headquarters, donor country offices and recipient country governments. Development priorities are identified in country programmes; and it is here that the opportunities and barriers to DEC

## A map of our journey

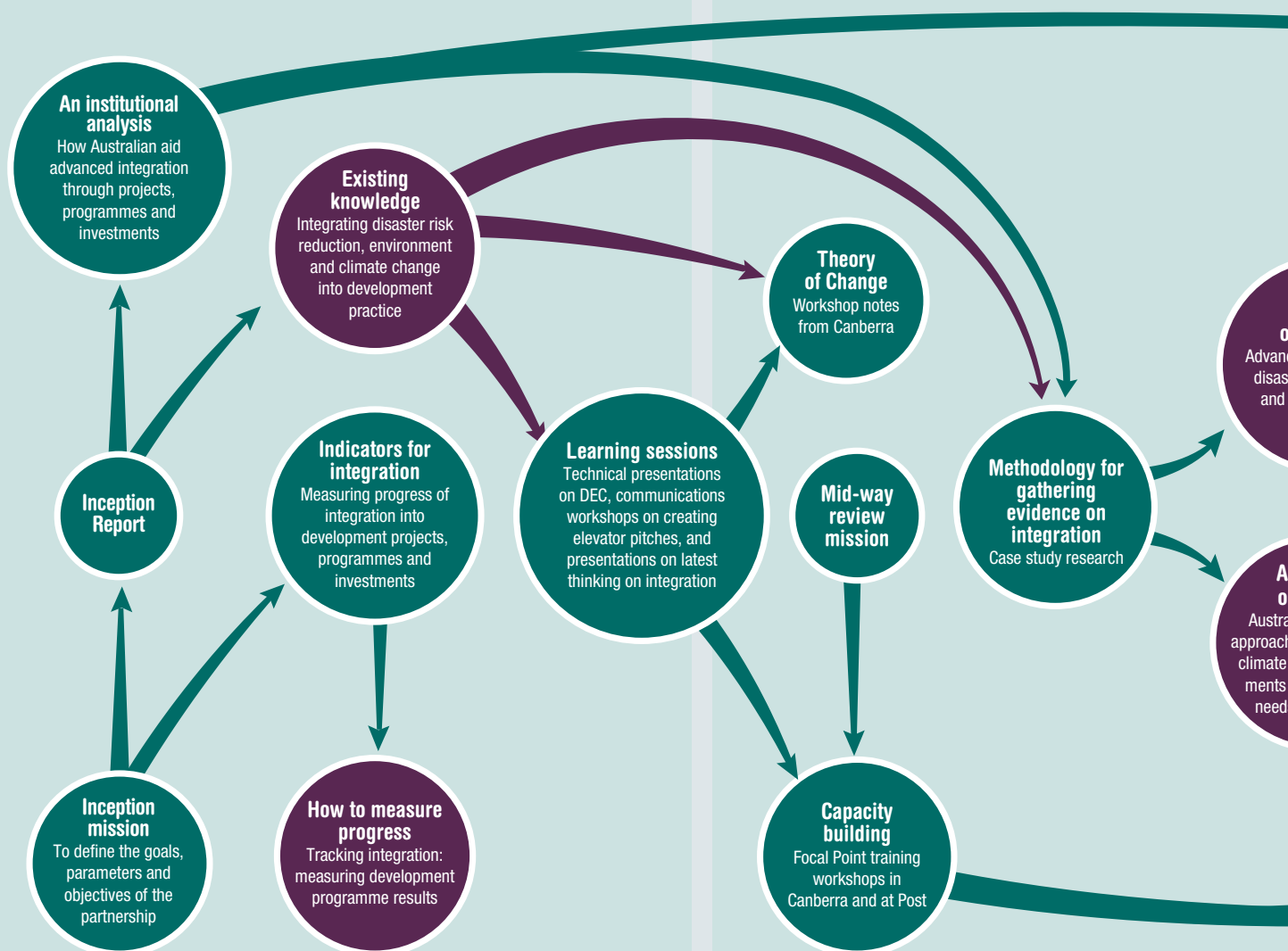
Integrated approaches to development: disaster risk reduction, environment and climate change adaptation and mitigation (DEC integration)

### FIRST

Investigate and learn from past experience to make the most of existing knowledge and define how to measure integration

### SECOND

Challenge existing knowledge through grounded research a



integration need to be considered. Original research was thus undertaken in a number of locations, including: *The case of Vanuatu* and *The case of Viet Nam*, as well as secondary research putting *A spotlight on South Asia* and *A spotlight on Kiribati*. Together, this material helped to ground and inform a set of products (see map of our journey) which reflect the reality of aid programming in a range of different, complex contexts.

A set of tailor-made tools and guidance notes have been created to enable staff managing Australian aid to strengthen DEC integration and

improve the sustainability and effectiveness of development programmes.

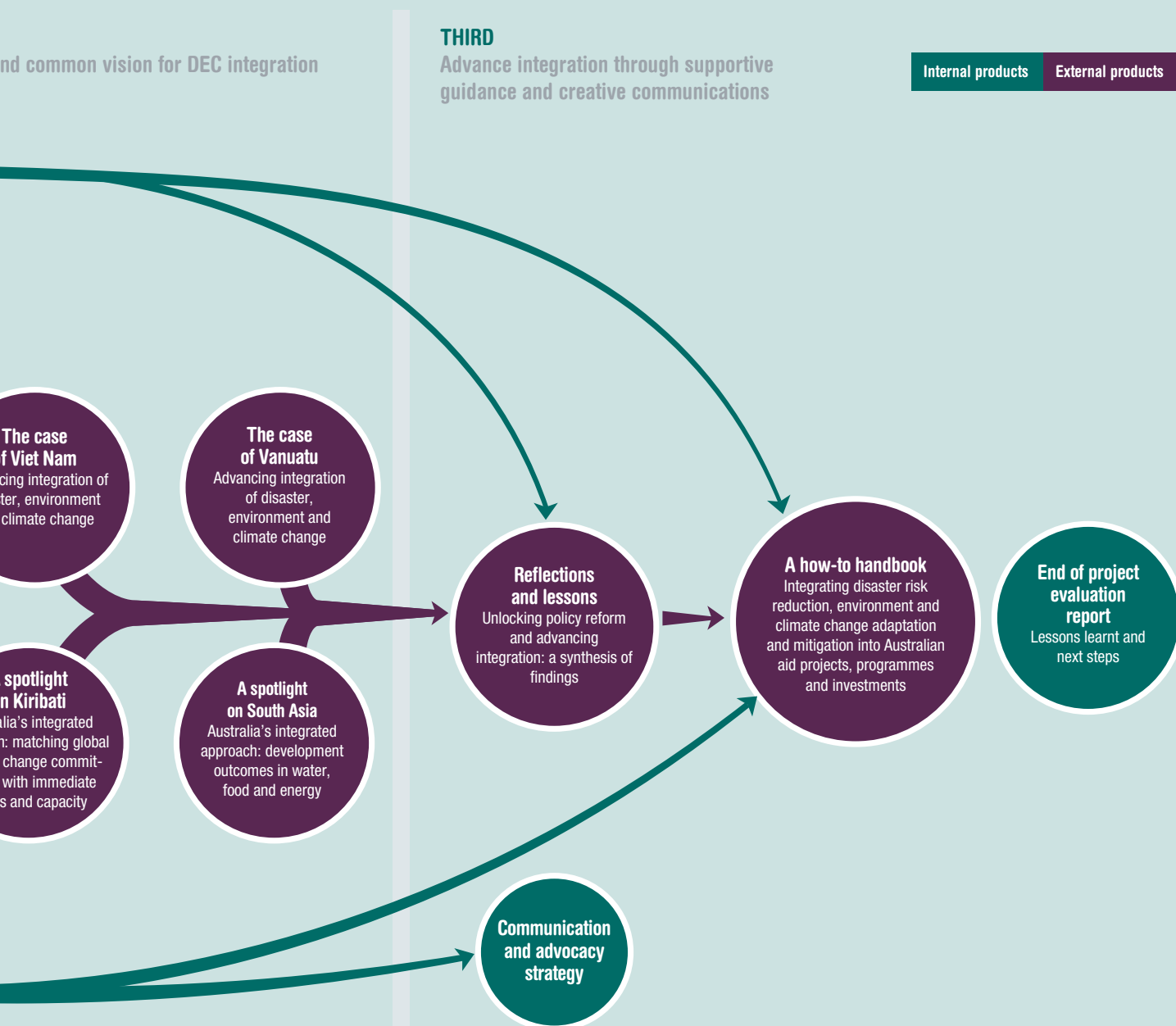
A *how-to handbook* for integration, for example, guides staff through assessment, analysis and action, and includes a directory of tools for further resources.

As the Department of Foreign Affairs and Trade (DFAT) harness opportunities to integrate DEC in the future, the journey and progress made over the duration of the partnership will provide valuable insights into the lessons and challenges of integration for like-minded donor governments. A

synthesis report of *Reflections and lessons* provides useful insights for others searching for a more systematic way to incorporate disasters, environment and climate change issues in their work.

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\*Australian Agency for International Development (AusAID) was the Australian Government's implementing agency at the time the programmes were reviewed and since 1 November 2013 is incorporated with the DFAT.



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# Acronyms

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ACDI-VOCA	Agricultural Cooperative Development International/ Volunteers in Overseas Cooperative Assistance
ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Centre
ALGAS	Asia Least-Cost Greenhouse Gas Abatement Strategy
AusAID	Australian Agency for International Development
BMZ	German Federal Ministry for Economic Cooperation and Development
CBA	Community Based Adaptation
CCSAP	Climate Change Strategy and Action Plan
CDKN	Climate and Development Knowledge Network
CEAP	Community Environmental Action Planning
CFU	Climate Funds Update
CLIMAP	Climate Change Adaptation Programme for the Pacific
COP	Conference of Parties
CVA	Climate Vulnerability and Adaptation
DEC	Disaster risk reduction, environment and climate change adaptation and mitigation
DEFRA	Department for Environment, Food and Rural Affairs
DFAT	Department of Foreign Affairs and Trade
DFID	Department for International Development
DRR	Disaster risk reduction
ECHO	European Community Humanitarian Office
EIA	Environmental Impact Assessments
ELAN	Ecosystem and Livelihoods Adaptation Network
EPA	Environmental Protection Agency
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
FAO	Food and Agriculture Organization
GDP	Gross domestic product
GERES	Groupe Energies Renouvelables, Environnement et Solidarités
GHG	Greenhouse gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GNDR	Global Network of Civil Society Organisations for Disaster Reduction
GRRT	Green Recovery and Reconstruction Training Toolkit for Humanitarian Aid
HFA	Hyogo Framework for Action
HIV/AIDS	Human immunodeficiency virus/Acquired immunodeficiency syndrome

ICLEI	International Council for Local Environmental Initiatives
IDS	Institute of Development Studies
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
NAMAs	Nationally Appropriate Mitigation Actions
NAPA	National Adaptation Programme of Action
NBSAP	National Biodiversity Strategies and Action Plans
NFP	National Forest Programmes
NGO	Non-Governmental Organisation
OCHA	Office for the Coordination of Humanitarian Affairs
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
PfR	Partners for Resilience
PPCR	Pilot Programme for Climate Resilience
PRSP	Poverty Reduction Strategy Paper
PVA	Participatory Vulnerability Assessment
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RSES	Environment and Social Safeguards Division
SPRs	Strategic Programme Reviews
SREX	Special Report on Extreme Events
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNGA	United Nations General Assembly
UNISDR	United Nations International Strategy for Disaster Reduction
UNSDKP	United Nations Sustainable Development Knowledge Platform
USAID	United States Agency for International Development
WB	World Bank
WWF	World Wide Fund for Nature

# Abstract

Disasters, environmental degradation and climate change pose significant and increasing threats to development. The relationships and overlaps between these threats and development trajectories are complex, with climate variability, for example, raising the magnitude, intensity and frequency of extreme weather events and triggering more disasters. At the same time, while infrastructure investments could reduce the impact of disasters and climate change on lives and livelihoods, they could also have negative environmental impacts, which in turn weaken the resilience of socio-ecological systems.

Until recently, however, disaster risk reduction, environment, climate change adaptation and climate change mitigation (DEC integration) were dealt with through separate policies and implemented by different agencies, both in national governments and donor organisations. The integration of these policy areas is therefore challenged by a limited understanding of the risks and the relationships between these issues, as well as institutional and capacity constraints, and lack of evidence regarding the benefits of integration.

Consultations on a follow-up agreement to the Hyogo Framework for Action (HFA) (2005-2015) reveal considerable support for development strategies that include measures to manage environmental resources and reduce current levels of disaster risk, while at the same time taking steps to adapt to new patterns of climate risk and extreme events that are already locked into place (UN/ISDR 2013a). In discussions around a successor agreement to the Millennium Development Goals (MDGs), there have been calls to address these socio-environmental concerns both through individual goals and as cross-cutting issues in other goals (Mitchell and Wilkinson 2012).

At the same time there is a growing awareness of the biophysical constraints to economic growth, and this is promoting measures to include the costs of energy and resources in macroeconomic models and policies (Carbon Tracker and Grantham Research Institute 2013, Galaz et al. 2012, Raworth 2012).

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the UK Department for International Development (DFID), the Asian Development Bank (ADB) and other donors and multilateral institutions have already developed policies and programmes to manage disaster risk, mitigate and adapt to the impacts of climate change and promote environmental sustainability. Many have also taken steps towards integrating these issues in other areas of work. Some of these experiences are reviewed in this paper in an attempt to illustrate the motives, methods and outcomes of efforts to mainstream DRR, environment, and climate change adaptation and mitigation into development. In each case, there have been considerable challenges, but there are also important lessons to be learned about overcoming these obstacles.

This paper does not, however, promote DEC integration for its own sake. The authors provide a balanced view of national and international experiences with more joined-up (integrated) development work, while noting that documented experiences of working this way on DRR, environment, and climate change adaptation and mitigation are limited. The evidence base for integration is therefore supplemented by an empirical study of donor experiences integrating these issues within their organisational structures and through their work with national governments in developing countries. The aim of the paper is to provide an overview of these efforts and the lessons learned, and highlight key challenges for all those initiating or advancing integrated approaches to DRR, environment, and climate change adaptation and mitigation. Hence, it serves as a background document for donors and other stakeholders keen to pursue more sustainable development pathways and find synergies between existing programmes, and explore options to improve the effectiveness and efficiency of their development programmes.

# 1 Disasters, environment and climate change

This chapter sets the scene for the integration of disaster risk reduction (DRR), environment, and climate change adaptation and mitigation in development and sectoral programmes. It provides an introduction to these issues outlining why each is considered a constraint on development progress, before moving into a more detailed discussion of the relationships and overlaps between these issues, as well as their compounding effects on society, the economy and the environment. The chapter then concludes by outlining the rationale, methods and experiences of mainstreaming other social issues, such as gender, into development practice, laying out the benefits of tackling cross-cutting issues in an integrated way but also highlighting the challenges of this kind of approach.

The most common argument for integrating DEC in development practice is based around reducing risk. The opportunities that accrue from integrating these elements into development initiatives have also been stressed through strategies such as green growth, climate compatible development and climate smart agriculture. However, the outcomes of these approaches are difficult to quantify and most donors, NGOs and other development actors have framed their policies and approaches primarily around a risk narrative. This is reflected in the growing interest in resilience thinking, as well as new frameworks for climate smart development, as described below. Overall, the significant problems created by - and the overlaps between - these issues suggest a rationale for their consideration in broader development strategies. Policies to tackle these socio-environmental issues, and experiences with integrating these in development programmes, are dealt with in subsequent chapters.

## 1.1 Disasters, environment and climate change as development issues

Disasters, environmental degradation and climate change can have negative impacts on development programmes, trajectories and outcomes, including in the following ways:

- Climate change is undermining livelihoods and increasing the magnitude, intensity and frequency of climate-related hazards. It is estimated that poor countries will see between 12 and 17 million additional people living on less than \$2 a day across South Asia and Sub-Saharan Africa as a result of climate change and extreme events (Anderson 2006).
- Disasters have a negative impact on development gains and the poor are often the most vulnerable to disasters. Between 1992 and 2012, 4.4 billion people (64% of the total world population) were affected by disasters, the majority in developing countries (CDKN 2013). Asia and the Pacific account for over 90% of the global population exposed to flooding (UNISDR 2011a).
- Disasters and climate change also pose serious constraints to economic growth, both in the short- and long-term. In 2010 alone, economic losses due to climate change were estimated to be close to 1% of global GDP (\$700 billion) (CDKN 2013) while over the last 25 years, economic losses from disasters have risen by 200% in real terms (Munich Re 2012).
- Environmental degradation can undermine economic development, and poverty is both a cause and effect of environmental problems (World Commission on Environment and Development 1987). With 60% of the world's poor in ecologically vulnerable areas, the cost of environmental degradation is disproportionately borne by those in poverty, and achieving poverty

alleviation that is environmentally sustainable remains a huge global challenge (IFAD 1995).

The interrelated nature of these three issues is an additional challenge for the development community. Climate change is increasing the frequency and intensity of natural hazards (IPCC 2012), while environmental degradation is undermining livelihoods, contributing to climate change, and destroying natural barriers and protection against disasters.

At the international level, UN bodies and frameworks have been set up to tackle these issues, including the Intergovernmental Panel on Climate Change (IPCC), Agenda 21 and the UN International Strategy for Disaster Reduction (UNISDR). Development aid is similarly being refocused to include DRR, environment, and climate change adaptation and mitigation as discrete issues and through mainstreaming or integrated approaches. The UK's Department for International Development (DFID), for example, is mainstreaming climate change throughout all its aid investments (see section 4). In practice this means moving the debates and issues beyond the individual government departments that traditionally deal with these issues, and into the domain of strategic and economic planning.

In addition, a number of international policy processes currently underway offer prospects for strengthening synergies in the post-2015 era. In particular, the follow-up to the MDGs and the next iteration of the HFA pose a unique set of opportunities for incorporating unaddressed concerns about sustainable development, climate change and disaster risk management (Ranger and Fisher 2013). These issues are also increasingly being brought together in resilience thinking – the zeitgeist of the post-2015 arena. This is what we turn to next.

## 1.2 How does the resilience approach help deal with development challenges?

Despite its varied multidisciplinary origins (Bahadur et al. 2010), 'resilience' has become a central concept through which the development community is attempting to implement more holistic approaches to tackling development challenges (ECHO 2012, USAID 2012, World Bank 2006). In the context of extreme events, resilience is defined as 'the ability

of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions' (IPCC 2012: 5). The Humanitarian Emergency Response Review (DFID 2011) conducted for the UK government in 2011 highlighted the need to do more than simply respond to crisis, and prompted a series of more joined-up approaches to development aimed at building the capacity of communities to deal with a range of shocks and stresses (see AusAID 2012, DFID 2011). Meanwhile, 'resilience thinking', conceptualised in the DFID approach paper *Defining Disaster Resilience*, has been taken up and adapted by United States Agency for International Development (USAID), European Union, United Nations Development Programme (UNDP), World Bank and UN Office for the Coordination of Humanitarian Affairs (OCHA), and has become part of development thinking and strategies around the globe (Folkema et al. 2013)..

The resilience agenda has therefore gone some way towards achieving two important goals: firstly, creating a unifying analytical approach for different communities of practice to 'work across silos' in development and humanitarian initiatives (Levine et al. 2012); and secondly, in taking into account multiple shocks and stresses that can undermine the attainment of development goals.

## 1.3 Green growth and low carbon growth

A second development agenda that has gained significant traction amongst policy makers in recent years has been that of green growth, and its climate-change-specific counterpart: low carbon growth. According to the Organisation for Economic Co-operation and Development (OECD) (2013), rapid growth in developing countries raises the stakes for investments in development but also the opportunities to choose how to develop. Green models offer an alternative development path that relies on and values the natural assets that are essential to the well-being and livelihoods of people in developing countries.

Green growth is usually defined as patterns of growth which are both environmentally sustainable and socially inclusive (Ellis 2013), and is based on evidence of a strong dependence and interrelationships between natural resources, the

economy and livelihoods of many of the poorest in developing countries. Natural resource exploitation contributes to GDP in many poorer countries and natural resources provide food water and energy, but pollution caused by their exploitation has major impacts on human health when unregulated. Moreover, the poorest are the most dependent on natural resources in most developing countries and also the most vulnerable to climate change (OECD 2013). Thus, natural resource use and environmental considerations deserve a central place in economic investments and development policies.

This approach has gained traction in many developing countries, most notably Ethiopia and Rwanda, where entire national environmental strategies have been developed around green growth, incorporating climate change as a central consideration. Ethiopia's Climate Resilient Green Economy Strategy was developed not by the Environment Ministry, but by the Prime Minister's office, and represents one of the boldest steps towards addressing environmental issues in a developing country through policies that promote economic growth.

Rwanda's National Strategy for Climate Change and Low Carbon Development, released in 2011 (UNSDKP 2013), takes a similar approach. The strategy represents a critical step towards achieving sustainable economic growth based on building climate resilience linked with deliberate low carbon production and lifestyle patterns. The strategy sets a framework for mainstreaming climate change and the green growth approaches in national socio-economic planning. It also provides for mechanisms to mobilise funding to finance programmes identified in the process, including initiatives to boost employment, especially for youth and other groups with high levels of vulnerability to climate change.

## 1.4 Climate compatible/climate smart development

Both climate smart development and climate compatible development have a similar conceptual foundation. Climate compatible development refers to development that minimises the harm caused by climate impacts, while maximising the many human development opportunities presented by a low emissions, more resilient, future (Mitchell and Maxwell 2010). Climate smart development helps countries to take up a development path that

produces a better life for their people while limiting their emissions of climate-changing gases (Thomson-Reuters Foundation 2013). These approaches seek to achieve 'triple wins' in terms of development, adaptation and mitigation.

These approaches have been adopted at the sectoral level – most notably on climate smart agriculture (FAO 2013, Lamboll and Nelson 2011), which has gained traction as a way of examining climate change, food security and other development goals together. Conceptually this is tidy, but the reality is difficult: institutions are siloed and significant institutional and policy challenges are needed to address this. Climate smart agriculture, alongside the wider climate smart development, has been hindered by the ideal of addressing mitigation, adaptation and development (or food security) simultaneously. A recent study of four countries assessed the reality of triple wins of climate adaptation, mitigation and development and found a very low evidence base to support any conclusions that this approach is effective. While this approach is important conceptually, and a good strategic aim, it requires intelligent application to specific contexts in order to be effective.

## 1.5 Interrelationships of disasters, environment and climate change issues

Disasters, environmental degradation and climate change overlap in their causes, manifestations and consequences for development. Development initiatives that address one area alone may be undermined by knock-on effects in another. A better understanding of these interrelationships during planning will help ensure achievement of development outcomes, allow potential opportunities to reduce multiple risks to be exploited, and reduce uncertainties and negative impacts in the future. These relationships are explored in this section, providing the basis for a discussion in the next chapter on how the issues have been addressed by national governments.

### 1.5.1 Relationship between environmental degradation and disasters

There is now a wide body of evidence demonstrating how environmental degradation and disasters are inherently linked (Dolcemasclo 2004, UNEP 2005, Kreimer and Munasinghe 1990). Environmental

degradation can cause disasters, but disasters themselves can erode natural resources and destroy ecosystems. This relationship is therefore characterised by a high degree of complexity (Mucke 2012). Understanding this link is of vital importance because of our heavy dependence on environmental services and the devastating impact of disasters on the lives of vulnerable populations across the world.

Floods are among the most frequently occurring natural disasters. In 2011, they accounted for 44% of all disasters in Asia and were responsible for over 54% of all disaster deaths in the region (UNISDR 2012). Floods have different causes but environmental degradation is recognised to be an important one (Dolcemascolo 2004). Erosion of the top soil leads to the increased siltation of rivers and this in turn results in lower carrying capacity, causing rivers to spill their banks (Dolcemascolo 2004, Kreimer and Munasinghe 1990). Also, deterioration in the quality and extent of vegetative cover can reduce the capacity of soil to retain water. This increases the levels of runoff leading to excess flow into rivers and greater flood risk (UNEP 2005). Environmental degradation, such as the loss of tree cover, is also a significant contributor to landslides, which in turn can block the flow of rivers, causing floods upstream leading to the formation of unstable dams that can wreak havoc downstream. The destruction of the natural environment can also exacerbate other hazards. Research conducted after the Asian Tsunami of 2004 found that in many areas mangroves and coral reefs had helped reduce wave energy and protected populated coastal areas, while in places where natural barriers had been eroded, there was greater damage (UNEP 2005, Welle et al. 2012). Similarly, healthy coastal ecosystems

have been seen to reduce the destruction caused by cyclones (Welle et al. 2012). Drought has also been widely linked to degradation of forest areas. In many areas, the lack of groundwater - not rainwater - appears to be the central cause of drought, and deforestation reduces the soil's capacity to retain water and increases run-off, which means rain brings little benefit to crops (Kreimer and Munasinghe 1990).

Conversely, disasters can lead to environmental degradation by, for example, generating large amounts of waste, which can have substantial, long-term impacts on the natural environment (UNEP 2005). Disasters can also affect vital ecosystems: data gathered through remote sensing in Thailand, for example, revealed the manner in which the 2004 tsunami destroyed swathes of mangrove forests along different parts of the country's coastline (Beck et al. 2012). Environmental degradation due to disasters in turn leads to further disasters: it is not uncommon for windstorms to be accompanied by landslides and for floods to be followed by drought (Kreimer and Munasinghe 1990).

This narrative on the complex relationship between environmental degradation and disasters would be incomplete without a look at the impact on human systems. People living in poverty often rely on natural resources to cope with external shocks such as war, disasters and climate variation (Sayer and Campbell 2004). Disasters can increase the reliance of the poor on ecological services, exacerbating environmental degradation, which in turn can lead to disaster. Thus, there is a vicious circle of poverty, environmental degradation and disaster in which the poor are both victims and agents of change (Suda 2002). Looked

## CASE STUDY

### The Agusan river, Mindanao, Philippines

SOURCES: PFR 2012

Large-scale mining and logging along the Agusan River and Lake Mainit have led to a loss of vegetative cover. This has given rise to soil erosion resulting in the enhanced silting of the river that in turn has reduced the river's capacity to carry floodwater during the monsoon season. This situation has been exacerbated by a number of humanitarian organisations battling floods in the region but not tackling the underlying environmental factors contributing to floods. Partners for Resilience (a collaboration of CARE Netherlands, Cordaid, the Netherlands Red Cross, the Red Cross/Red Crescent Climate Centre, Wetlands International and 30 civil society partners in the global South) are attempting to correct this by engaging with natural resource managers and representatives from the forestry and mining sectors to restore the regulatory role of wetland ecosystems and to stabilise hill slopes through reforestation.

at in another way, environmental degradation and disasters destroy schools, clinics, livestock and infrastructure, reversing development gains and deepening levels of poverty (Mucke 2012).

### 1.5.2 Relationship between environmental degradation and climate change

Climate change affects the environment in multiple ways, including through the degradation of natural resources (Raleigh and Urdal 2009, Raleigh and Urdal 2007). Environmental degradation on the other hand can generate greenhouse gas (GHG) emissions and is often seen as a cause of climate change (DEFRA 2005). There are a number of different ways to study this complex relationship, but this section focuses on how climate change interacts with water resources, soil and air.

Climate change is set to influence water resources in a number of different ways. Precipitation patterns in many parts of the world are likely to shift with a changing climate (Calow 2011). In South Asia for instance, rainfall is likely to become more seasonal and sporadic, and individual rainfall events are expected to become more intense. This in turn will impact river flows as well as lake and wetland levels. It will also further deteriorate water quality as more intense rainfall can contribute to soil erosion, which subsequently can increase the contamination of ground and surface water sources (Calow 2011, Bates 2008). Closely linked to this is the likely impact on rivers and river flows. There are gaps in our understanding as to the exact nature of the changes, but 'best estimates' predict that river flows in certain parts of the globe may reduce by up to 20% by 2100 (Calow 2011). With changes expected in rainfall patterns and river systems, groundwater too is susceptible to the impacts of a changing climate. Increasing intensity of rainfall and higher evaporation (as a result of higher temperatures in certain areas) will result in greater irregularity of groundwater recharge. Saltwater intrusion in aquifers is also expected to negatively impact groundwater resources in coastal areas (Calow 2011). Indirectly, as climate change will impact surface water (e.g. river flows) the extraction of groundwater may increase, leading to its enhanced depletion. Remedying the declining quality of water through desalination or filtration is energy intensive and these processes can contribute to increasing levels of GHG emissions, in turn contributing to the climate change problem (Bates 2008).

Soil is another critical element of the environment and climate change is expected to result in degradation of this vital resource (Meadows and Hoffman 2002, DEFRA 2005). Increasing rainfall intensity will aggravate leaching - a process by which water-soluble nutrients are drained - while sea level rise in certain coastal areas will lead to more perennially or seasonally saline soils, and to erosion of vital and productive lands along coasts (Brinkman and Sombroek 1996). Soil moisture, critical to agricultural production, is also set to suffer as higher temperatures lead to greater amounts of evaporation and drier soils (DEFRA 2005, Meadows and Hoffman 2002). Changes in soil moisture also contribute to erosion because drier soils, or soils without adequate nutritional value, are hostile to vegetation; and lack of vegetative cover contributes to erosion of soil cover (Meadows and Hoffman 2002, Brinkman and Sombroek 1996). Climate change affects the soil, but soil degradation also contributes to climate change, with declining soil quality leading to deforestation, which in turn generates GHG (DEFRA 2005).

Just as with water and soil, climate change is likely to have a detrimental impact on air quality, increasing people's exposure to ozone, higher levels of particulate matter in the air, increased amounts of mercury, and changes in ventilation/circulation patterns (DEFRA 2007, EPA 2011, Jacob and Winner 2009). In many regions of the world, changes in air temperature due to climate change are likely to alter the chemistry associated with ozone formation, increasing average ozone concentrations and lengthening the ozone season (DEFRA 2007, EPA 2011). Particulate matter is evacuated from the atmosphere by rainfall, and therefore more sporadic rainfall in many regions will lead to higher levels of suspended particulate matter in the atmosphere. This phenomenon will be further exacerbated by the problem of wildfires that is set to worsen in certain areas due to rising temperatures and declining soil quality (leading to degradation of forest cover) (Jacob and Winner 2009).

The degradation of water resources, soil and air will have concomitant impacts on human and social systems, including through a reduction in the quantity and quality of water, affecting health. It will also have economic impacts; for instance the relative importance of fisheries to national economies and diets makes many African, Asian and Pacific countries highly vulnerable to warming of oceans, a

## Niger Delta

SOURCES: UYIGUE 2007

The Niger Delta is the world's second-largest delta and is home to 25% of the Nigerian population. The Delta is suffering the impacts of a changing climate in a number of different ways. There is evidence from across the world that climate change is leading to sea level rise and the Delta is no exception to this trend. This has resulted in soil degradation through coastal erosion and the inundation of low-lying areas. This in turn has uprooted communities and damaged economic assets such as oil wells (one estimate predicts that the Delta will suffer losses to the tune of \$9 billion due to sea level rise). Depending on which scenario one looks at, the Delta is set to lose 2,846 to 18,803 square kilometres of land due to sea level rise. Moreover, while climate change in northern Nigeria is expected to lead to aridity and desertification, the Delta is witnessing enhanced rainfall-induced flooding. Apart from causing infrastructural damage, this flooding is also leading to a reduction in water quality and increased vulnerability of the local population to water-borne diseases such as malaria, dysentery, cholera, and diarrhoea.

problem exacerbated by limited opportunities and adaptive capacity (Bell et al. 2011, Allison et al. 2009, Johnson and Marshall 2007). Land degradation will affect agricultural production, which could drive up poverty and internal and cross-border migration, and contribute to increasing conflict if action is not taken to mitigate these impacts (Brinkman and Sombroek 1996, Raleigh and Urdal 2009). Reduced air quality has health implications, including respiratory and cardiac problems, and higher exposure to ozone in extreme situations can be fatal (EPA 2011).

### 1.5.3 Relationship between climate change and disasters

The influence that climate change has on the frequency and intensity of disasters has been the subject of much debate. Despite critical gaps in data, climate change and some natural hazards are believed to share an intrinsic relationship (IPCC 2012). Heat waves, precipitation, floods and storms have received particular scrutiny (Anderson and Bausch 2006, Van Aalst 2006).

The European heat wave of 2003 marked a watershed in the discourse on climate change and disasters, creating agreement that this linked to anthropogenic climate change and that similar events would become more frequent in the future (Anderson and Bausch 2006). An increase of half a degree in average summer temperatures strongly influences the occurrence of a dramatic heat wave, and human-induced climate change has already doubled the risk of a heat wave like the one that occurred in 2003 (Van Aalst 2006). Overall, most regions of the world have experienced an increase in the length/number of

warm spells, including heat waves, since the middle of the last century (IPCC 2012).

Extreme precipitation and related flooding is another type of hazard influenced by climate change (Anderson and Bausch 2006). In many regions, precipitation events are getting more severe and rainfall patterns are shifting, resulting in the increased likelihood of flash floods as well as drought. The IPCC (2012) places a 'medium confidence' level on anthropogenic climate change causing extreme precipitation and on increases in heavy rainfall contributing to increases in local flooding in many regions. Even in places where the average amount of rainfall is declining (such as the Mediterranean), incidences of heavy rainfall are rising, and over the past 50 years total rainfall has increased globally by 7% (Huber and Gullede 2011). Coastal floods and glacial lake bursts are other types of floods (not necessarily connected with precipitation) that climate change is likely to exacerbate, due to sea level rise and glacial retreat, respectively (IPCC 2012). That said, climate change is only one of many factors that can contribute to increased likelihood of flood events. Land use is also a key component.

The link between hurricanes and climate change is less clear, although an increase in the intensity has been suggested (IPCC 2012, Anderson and Bausch 2006). Some estimates claim that hurricanes will become 5 to 10% more intense over the course of the 21st century. Also, available data indicates that rising hurricane intensity could lead to a 30% increase in the most intense storms by 2100 in certain regions (Anderson and Bausch 2006). The frequency of

hurricanes, however, is set to remain unchanged or decline as a result of climate change.

It is estimated that losses from climate-related disasters are already doubling globally every 12 years (UNEP 2006). There have been 3.3 million disaster-related deaths, with a substantial proportion of these attributable to hydro-meteorological disasters that are influenced by climate change (WB/UN 2010). Climate-related extreme events cause disruption to communities and societies through the loss of life and livelihoods, as well as economic losses at household, sectoral and macro-economic scales (IPCC 2012), and developing countries with low incomes are particularly vulnerable to climate change (WB/UN 2010) and disasters (Handmer et al. 2012). In 1999

alone, disasters caused damage to the tune of \$100 billion and more than 90% of that was in poor countries (UNFPA 2007). Within these countries it is often the poorest populations that suffer the most from natural hazards for many reasons but particularly because they live in areas that are more exposed (for example, low-lying and flood-prone areas) and they have scarce safety nets (e.g. savings) to fall back on and help them to recover.

## CASE STUDY

### European heat wave 2003

SOURCES: IPCC 2012

While there is considerable uncertainty regarding the manner in which climate change will influence some disasters such as cyclones and hurricanes, there is much more clarity as to its relationship with heat waves. In many regions there is recorded growth in both hot and cold extremes and an increase in average temperature over the past century (Anderson and Bausch 2006, Van Aalst 2006). The impact of this was seen most graphically in the first half of August 2003 when temperatures far higher than the historical norm were recorded across Europe. France was particularly badly hit: maximum temperatures in Paris ranged from 35 to 40 degrees centigrade. The event was responsible for 35,000 deaths and damage to the tune of EUR 13 billion. Some estimates peg the mortality figure over the entire summer season at 70,000 with an additional 14,800 deaths in France alone.

## 2 The case for integration of cross-cutting issues

Integration of DEC is new to the development community, but policymakers and practitioners have experience with mainstreaming and integration of other issues that are considered to be cross-cutting, from which important lessons can be drawn. The environment has been considered a cross-cutting issue for several decades because of the links between biodiversity, land use, water quality and poverty (UNDP 2007c). More recently, DRR has been described as a mainstreaming issue (UNDP 2007a), while climate change is described by the IPCC as a cross-cutting issue with implications for all eight MDGs (IPCC 2007). Still, the longest-lived and most widespread experience of integrating a cross-cutting social issue in development is with gender mainstreaming. This section reflects on experiences with environmental and gender mainstreaming before reviewing NGO efforts to integrate DEC into development programmes. Collectively, these experiences generate important lessons for donors and other development actors keen to produce more joined-up policies in these areas.

### 2.1 Early experiences in environmental and gender mainstreaming

Environmental mainstreaming has been undertaken by development organisations since the 1980s. Developing economies and poor people are highly dependent on natural resources and ecosystem services for their livelihoods, and the recognition of this in multilateral environmental agreements plus growing awareness amongst constituents persuaded policymakers to consider environmental issues in national, local and sectoral development policies (Dalal-Clayton and Bass 2009). Nonetheless, the lessons and experience from environmental mainstreaming approaches are only now becoming clear. Benefits include improved environmental

management techniques and new opportunities to enhance sustainable development through natural resource management. Mainstreaming of environmental issues can also help to facilitate greater participation of communities and other stakeholders in policies and planning around natural resource use (Dalal-Clayton and Bass 2009, UNDP 2007c).

The MDGs have also provided opportunities for more joined-up approaches to environmental management (UNDP 2006). MDG 7 (ensure environmental sustainability) requires cross-sectoral approaches and those developing countries that have succeeded in moving towards mainstreaming environmental issues into development policy and practice are performing better against the MDGs and other environmental and development targets (UNDP 2006). In the Asia-Pacific region, areas of mangrove and planted forest have expanded in Bangladesh, Indonesia, Nepal, Papua New Guinea, Sri Lanka and Thailand and there have been significant increases in investment in the environment in China and Vietnam (UNDP 2006).

The Fourth UN World Conference on Women held in Beijing in 1995 focused attention on the mainstreaming of gender equality. Since then, there have been many attempts to mainstream gender issues by governments and NGOs. A positive example of gender mainstreaming is found in Indonesia's Ministry of Health, which has been tackling MDG 5 (improve maternal health) through a national strategy to reduce maternal mortality through gender relations (Making Pregnancy Safer 2001-2010). By adopting a holistic approach to addressing the gender inequality that underlies maternal mortality rates, the plan has improved aid effectiveness by creating of new models of partnership across government and civil society (Kindornay and Morton 2009).

Oxfam has produced a manual for NGOs to assess their competence at gender mainstreaming in development practice (Oxfam 2010) and argues that tackling gender inequality will help to reduce vulnerabilities and build resilience (Oxfam 2013). Their Resilience through Economic Empowerment, Climate Adaptation, Leadership and Learning programme in Bangladesh worked to ensure landless women and marginal women producers gained access to land rights and markets. Increasing women's empowerment in this way has contributed to building resilience and DRR in poor and flood-prone communities of Bangladesh.

## 2.2 NGO experiences with integration

Many important insights and lessons can be taken from NGO efforts to mainstream social and environmental issues in development programming. With more flexible, agile organisational structures and procedures than most donors and development banks, NGOs have arguably progressed further on integrating cross-cutting issues into their programming structures and internal processes. In addition to gender and environmental mainstreaming, development NGOs have, since the early 2000s, begun to consider other socio-environmental issues in programming, including DRR, environment, climate change adaptation, and to a lesser extent, climate change mitigation. NGO engagement with these issues is traditionally undertaken through different types of activities such as advocacy, awareness-raising through knowledge exchange and education, and stand-alone environmental, disaster preparedness and response or humanitarian assistance programmes. The specific approach depends to some extent on the mission of the NGO, whether that is emergency relief, development work or both. But the last ten years has seen a significant shift towards more integrated programmes, whereby one or more of these issues is incorporated into broader development planning. Common advocacy and awareness-raising approaches are discussed briefly below, before examining in more depth the methods, practices and lessons learned from attempts by NGOs to integrate these policy issues into their development programmes. The list below is not exhaustive, nor examples presented, but rather an indication of the types of activities that NGOs have been engaged in to reduce the impact of disasters, environmental degradation and climate change on vulnerable communities.

### 2.2.1 Advocacy on integration

Development NGOs often represent some of the most vulnerable and marginalised sections of society, working at community level, but they can also be very effective in pushing for more equitable and effective policies and practices at the international level. Many international NGOs working on these topics play an advocacy role in relation to one or more of DRR, environment, and climate change adaptation and mitigation. With successors to the HFA and MDGs on the horizon, and a new climate agreement also expected in 2015, NGOs are playing an important role in advocating greater integration of these issues in development agendas.

### 2.2.2 Raising awareness on integration

Large NGOs are often members of international networks for knowledge sharing, such as UNISDR's Global Network of NGOs for Community Resilience to Disasters, the UNDP-UNEP Poverty Environment Initiative, or the Climate and Development Knowledge Network (CDKN). Networks of this kind have been instrumental for sharing evidence and learning lessons, as well as accelerating progress towards mainstreaming of DRR, environment, and climate change adaptation.

Several NGOs have devised programmes specifically aimed at educating children about disaster risk. One innovative example is ActionAid's (2005-2010) DFID-funded project in seven countries that aimed to make a total of 167 schools in high disaster risk areas safer, but also for them to act as loci of change for implementing the HFA within education systems (ActionAid 2011). Save the Children implemented similar programmes aimed at education and the role of children in climate change adaptation and DRR in flood-prone areas of Cambodia.

### 2.2.3 Mainstreaming through programming and practice

NGOs have taken several approaches to mainstreaming DRR, environment, and climate change adaptation and mitigation into programming and practice. These include the development of tools and guidance, provision of training for staff and partners and expansion of technical capacity, inclusion in Monitoring and Evaluation (M&E) methods, and best practice research. Many NGOs have developed tools for risk assessment and management across the domains of DRR, environment and climate change adaptation.

For example, ActionAid uses the Participatory Vulnerability Assessment (PVA) to establish links between their emergency and development work on DRR, while CARE International in Vietnam has mainstreamed climate change adaptation at both strategic and operational levels in accordance with their organisation handbook (CARE 2009). At the strategic level, mainstreaming climate change adaptation means consideration of climate-related risks in budgets, technical capacity and human resources. Progress towards mainstreaming is monitored using a traffic lights system to assess the level of institutionalisation whereby climate change risks are fully absorbed into the development agenda at multiple levels and in multiple sectors. At the operational level, a 7-step Climate Vulnerability and Adaptation (CVA) Pathway has been applied across country programmes including emergency response, natural resource management, economic development and health and sanitation. Elsewhere, International Union for Conservation of Nature (IUCN) have developed a toolkit and guide for practitioners called Community Environmental Action Planning (CEAP) to foster culturally appropriate and community-led environmental resource planning and management (Wandago et al. 2011). The Asian Disaster Preparedness Centre (ADPC) has published a range of available guides and manuals that have been developed for use by NGO staff and partners. The Green Recovery and Reconstruction Training Toolkit for Humanitarian Aid (GRRT) has been developed by WWF to raise awareness and knowledge of environmentally sustainable disaster recovery and reconstruction (Randall and Jowett 2010). The toolkit includes training materials, guides and technical content to support staff and partners in building capacity for such approaches.

NGOs have incorporated mainstreaming into their own M&E strategies as well as sharing methodologies with partners and other agencies. For example, Tearfund has developed targets and indicators to help NGOs integrate DRR into emergency relief and development work (LaTrobe and Davis 2006). Similar to ActionAid's traffic lights system, the purpose of the tool is to benchmark NGO progress towards mainstreaming DRR. Similarly, Mercy Corps has recently published guidance on M&E of climate change adaptation and mitigation programmes, citing its work on sustainable resource management in Cambodia after Cyclone Nargis as a case study (Mercy Corps 2012). To integrate the environment into projects, Oxfam and others carry

out Environmental Impact Assessments (EIA), with indicators and targets for monitoring and evaluating environmental performance, while at the programme level, Strategic Environmental Assessments (SEA) are often conducted, which include M&E strategies.

Best practice in ecosystem management at both the community and policy levels has been supported by the IUCN Ecosystem Management Series. More recently, this approach has been applied by IUCN to best practice in climate change adaptation that is environmentally sustainable, supported by the Ecosystem and Livelihoods Adaptation Network (ELAN) (Perez et al. 2010). Meanwhile, climate change adaptation and mitigation are newer fields with less evidence at the community level on what works then for DRR and environmental issues. However, recent international meetings have galvanised efforts to document and assess best practice in these areas. For example, a Guide to Best Practice: Integrating Adaptation to Climate Change into Development Projects has been developed by Groupe Energies Renouvelables, Environnement et Solidarités (GERES 2012) and others which includes a review of state-of-the-art practices among NGOs covering technical knowledge and methods of analysing vulnerability and capacity to adapt to climate change (GERES 2012).

## 2.2.4 Integrating DRR & climate change adaptation

Several decades of initiatives in disaster management, particularly in the emergency relief NGOs, have generated a body of evidence and best practice in understanding local contexts and building capacity for DRR. The UN International Decade for Natural Disaster Reduction in the 1990s followed by the 2004 Tsunami have led to a significant level of awareness and progress towards mainstreaming in this area. Prior to this, DRR activities had been carried out by NGOs but were often not labelled as such.

DRR has been part of NGO institutions and programming for some time, whereas climate change adaptation is conceptually a relatively new area (Harris and Bahadur 2011). Widely recognised as an integral area of work, climate change has risen on NGO agendas as a strategic issue. Those NGOs with emergency relief and development mandates were the pioneers in addressing climate change concerns. For example, Tearfund began thinking about how climate-related risks may affect their programmes

as early as 2002. With the publication of the IPCC's Fourth Assessment Report, several others including Oxfam and Practical Action picked up on the issue in 2006. Since then, others have been making rapid progress thanks to improved networking and information sharing through fora such as CDKN.

Historically, climate change considerations were often incorporated into existing DRR programmes, capacity and budgets. In a 2008 survey of 13 international NGOs (Tiempo 2013), 11 had integrated climate change adaptation into their DRR work. This was seen as a 'no regrets' option to increase resilience to climate variability through DRR. For example, Oxfam, an early pioneer of climate change mainstreaming, treats climate change and DRR as a combined policy area, committed to integrating climate change adaptation and DRR strategies into its programmes in contexts where climate change and disasters are significant drivers of poverty and suffering.

### 2.2.5 Mainstreaming climate change mitigation

For NGOs, climate change adaptation is typically strategically more important than climate change mitigation in both programme and policy work. A number of international NGOs do audit and reduce their own emissions while lobbying externally for climate change mitigation on grounds of social equity. For example, the Catholic Agency for Overseas Development (CAFOD) undertakes advocacy work around climate finance, the role of the private sector and access to clean energy for the poor. However, it does not address climate change adaptation in its programming.

### 2.2.6 Mainstreaming DRR/climate change adaptation with environmental sustainability

NGOs often frame environmental sustainability in terms of livelihoods, food security, ecosystem services, health and sanitation, depending which issues are core to their mission and strategies. For example, Islamic Relief aims to integrate the principles of sustainable development into all projects by preventing or reversing the loss of environmental resources where they relate to sustainable livelihoods, emergency relief and disaster preparedness (Islamic Relief Environment Policy 2009). Islamic Relief also thematically combines climate change adaptation and DRR activities.

In other examples, environmental sustainability has been integrated with either climate change adaptation or DRR strategies (or both). The potential of ecosystem-based solutions for mitigating disaster risk and climate variability is rising on the development agenda (Renaud et al. 2013). IUCN, for example, runs the Mangroves for the Future programme which provides a collaborative platform for many countries, sectors and NGOs to work towards the restoration of these ecosystems which offer buffering capacity to coastal areas. Similarly, ecosystems can offer solutions to climate change mitigation through carbon sequestration and many NGOs are active in the Reducing Emissions from Deforestation and Forest Degradation (REDD+) schemes.

Few NGOs have tried to mainstream DRR, environment and climate change adaptation and mitigation simultaneously. Plan International's Disaster Risk Management Strategy 2009-2013 explicitly recognises the overlaps between disasters, climate change and environmental degradation (Plan 2010), but there is little documentation of how these three have been integrated.

### 2.2.7 Lessons learned from NGO mainstreaming approaches

While NGOs can have greater flexibility as organisations than governments or aid agencies, allowing them to develop more responsive and adaptive development initiatives, they can also be significantly constrained in terms of capacity and financing. Scaling up approaches to DRR, environment or climate change adaptation from the project level to country programme level and beyond can be difficult. Some NGOs have tried however to make this a priority, ensuring mainstreaming policy reaches country programming. For example, ActionAid International works with country programmes and supports partners at local and national levels to define specific implementation priorities and monitor progress on an individual country basis (ActionAid 2006).

A range of tools and methodologies have been developed to mainstream DRR, but there are still many gaps in implementation. This is improving over time as institutional experience and capacity grows. In 2008, for example, of 13 international NGOs surveyed, only Water Aid, Practical Action, CARE and Mercy Corps had an explicit policy to mainstream

climate change adaptation across operations. Now several more (nine) of those surveyed have adopted policies. There are now increasing moves towards climate-screening of portfolios and climate-proofing. For example, Christian Aid's Climate Change and Livelihoods Toolkit uses analyses of climate risk at country programme level in planning, climate-proofing and climate-screening.

NGOs have cited several factors as crucial to achieving sustainable and effective mainstreaming. First is the role of champions within the organisation, raising awareness and driving efforts forward. Secondly, membership of networks and coalitions, such as the Interagency Resilience Working Group and CDKN, helps promote these agendas. Thirdly, framing issues in ways that relate to organisational priorities would appear to be key to mainstreaming any issue into programming.

## 2.3 Generic and specific challenges to integration

This section outlines some of the challenges specific to DRR, environment and climate change adaptation and mitigation integration, but also to the integration of any cross-cutting issue into broader development and sectoral policy arenas. There is very little in the way of detailed formal analysis of integration or mainstreaming processes from which to draw lessons, so much of what is set forth below is based on general observations found in the grey literature, as opposed to rigorous academic studies on this topic.

### 2.3.1 Lack of awareness

One of the key barriers to integration of any issue in development policies and programmes is lack of awareness of the issue being promoted. Officials in any given department of national government, donor agency or NGO are unlikely to be aware of issues traditionally dealt with by another department, or of the possibilities and potential benefits of integration. Experiences with DRR mainstreaming suggest that even in those countries that have made the most progress, awareness among policy-makers and development practitioners about these issues and how these relate to development priorities is extremely low (UNDP 2008).

Even where officials are aware of the importance of different cross-cutting issues, they may not accept that it is their responsibility to address them. They

have their own agendas, and efforts to try and drive a new agenda will face resistance (UNDP 2008). In development agencies 'mainstreaming fatigue' may also occur, where staff see new issues to be mainstreamed as likely to result in a considerable amount of extra work for them. Previous attempts to mainstream gender awareness and environmental sustainability have probably already put pressure on staff to change their working patterns (La Trobe and Davis 2005).

### 2.3.2 Governance

Related to a lack of awareness within organisations are institutional problems which favour 'business as usual'. For example, historically the environment has been seen as external to development work and treated as an add-on as a result (Dalal-Clayton and Bass 2009). Shifting dominant discourses of this nature is a long and often slow process, especially where political will is lacking. Lack of enforcement of regulations and an absence of centralised governance structures can also hinder effective mainstreaming throughout an organisation (IBRD/WB 2009).

Recent evidence claims that implementing gender mainstreaming is accompanied by a decline in specific women-focused policies and programmes, as there is an assumption gender issues have been taken care of (Alston 2013). Moreover, emerging research suggests that climate change will have significant gender-specific impacts, but climate change adaptation and mitigation policies and practice fail to incorporate gender issues. This is a symptom of attempting to mainstream two interlinked cross-cutting issues in isolation and a reminder that specific dedicated measures are still necessary under certain circumstances (OECD 2009).

### 2.3.3 Political economy

There are also political economy factors inhibiting the effective horizontal and vertical coordination of policies across government agencies (Wilkinson 2008, 2012). Even where cross-sectoral policies are developed, they are often implemented separately by different government agencies (World Bank 2012). Ensuring collaboration across agencies to address cross-cutting issues is often problematic as each agency operates within its own institutional mandate (Lal 2011, Christopolos et al. 2009, Mitchell et al. 2006, Eriksen et al. 2007). For example, those working on poverty reduction, infrastructure and health may be aware of the potential impact of climate extremes on their work, and even have

their own internal DRR programmes, but have no means of coordination across agencies; they face considerable political constraints on sharing resources to work on cross-cutting issues (UNDP 2008). More generally, encouraging a broad range of stakeholders from the public and private sector and civil society to come to the table to discuss and coordinate efforts will usually face serious cultural constraints (see Deo and McDuie-Ra 2011).

Political economy issues can also be overlooked in programming. For example, a lack of appreciation for cultural and social norms can lead to failure. Attempts to mainstream gender in HIV/AIDS programmes in sub-Saharan Africa have failed to tackle issues of gendered power relations, dealing only with the superficial, practical aspects of the problem (Tiessen 2005).

### 2.3.4 Lack of evidence and capacity

Throughout the experiences of NGOs, developing countries and donor organisations described in the previous sections of this paper, the lack of technical or financial capacity and limited data are both cited as significant challenges in advancing integration efforts. Staff should have the technical skills to make decisions in programming and technical support from other areas within the organisation is often needed. Building human and technical capacity has proven to be a long-term process and should be supported with adequate guidelines, methods and tools (UN-OSAGI 2002).

While significant progress has been made in disaggregating gender data, for example, the process of implementing M&E to gather data useful at organisational or international levels can be painstakingly slow and challenging. For example, many important factors in gender inequality are inherently qualitative and difficult to capture (Bastia 2000). Often, existing M&E frameworks are not up to the task. Coordination between multiple stakeholders where assessment of jointly financed and/or implemented activities is required also has implications for M&E activities. M&E tends to be weaker under these circumstances compared to when carried out by one agency (UNDP 2008).

### 2.3.5 Specific integration challenges

#### Integration of policies separately

Lack of salience is a particular barrier to mainstreaming these types of socio-environmental issues in development practice. In developing

countries where resources are scarce, DRR, environment and climate change adaptation and mitigation are often not considered priority areas, compared to health, education and basic service provision. Even in places that have experienced a climate extreme recently, other problems may take centre stage – such as law and order and reconstruction efforts (Wilkinson 2008, 2012). Creative methods are therefore needed to link DRR, environment and climate change adaptation and mitigation to other social issues (UNDP 2008).

Lack of personnel, expertise and capacity to operationalise integration of these policies is also a problem. Often, DRR, environment and climate change adaptation and mitigation are successfully integrated into policies but these policies are not translated into the practices of different stakeholders because they lack the technical skills to carry out risk assessments and the administrative or organisational skills to change their working practices (Wilkinson 2012).

Differences in spatial and temporal scales used by DRR, environment and climate change adaptation and mitigation practitioners, and their respective data and knowledge needs, are among the key challenges to combining two or more of these policy areas (Birkman and Teichman 2010). DRR is increasingly being implemented at sub-national levels, while climate change issues have, until recently, been analysed from a global perspective. Climate change initiatives adopt a longer-term perspective when assessing risks, whereas DRR policies focus on existing risks, although they should also look to the future (Birkman and Teichman 2010).

DRR policies also focus - at least on paper - on vulnerability reduction, often using historical impact data to determine current levels of vulnerability. On the other hand, a top-down science-based approach to calculating potential losses has characterised climate change scenarios and policy responses (Wilby and Dessai 2011, Dessai et al. 2004). Climate data is usually not at a scale that can be used easily to determine vulnerability of a specific sector or community. In natural resource and environmental management, there may be mismatches in the scales and timeframes over which human and biophysical processes occur. For example, ecosystem services may operate on a scale that is different to that of their users (Legendre and Fortin 1989, Turner et al. 1989). Such differences in perspectives create some

challenges when attempting to integrate two or more policy areas.

### Trade-offs

The nature and extent of the trade-offs between DRR, environment and climate change adaptation and mitigation strategies are difficult to assess, particularly given the different temporal and spatial scales involved in development, environmental and climate change processes. However, large-scale climate compatible development projects such as bio-energy production, for example, clearly create trade-offs with food security and biodiversity objectives (Kok et al. 2008, Sow and Saint Sernin 2005, Sokona et al. 2003). There are also trade-offs between pursuing current food security needs and adapting to projected climate change scenarios (FAO 2011).

Other examples of trade-offs can be found in the promotion of biodiversity conservation objectives, such as through strictly protected areas, which prioritise conservation for biodiversity rather than for maintaining ecosystem goods and services for poverty reduction. And finally, perhaps the biggest trade-off in promoting any of these issues is the likely constraint on economic development, at least in the short-term. DRR, environment and climate change adaptation and mitigation will only really make inroads into development practice when decision-makers are convinced of the longer-term and sustainability benefits of taking action to reduce disaster risk, manage the environment, reduce GHG emissions and adapt to negative climate change impacts.

## 2.4 Towards integration

Despite the numerous challenges identified above, there are many examples of NGOs, donors, development banks and UN agencies making progress on integrating these socio-environmental issues in their development policies. However, existing models and frameworks have tended to be constrained by particular framings around compliance in the case of environmental sustainability, and risk management in the case of DRR, climate change adaptation and mitigation, and this might limit the persuasiveness of integrated approaches. Debates leading up to the creation of a new set of international policy frameworks on development, disasters, environment and climate change in 2015 offer opportunities for reshaping existing agendas and development paradigms to make DEC integration more attractive. The effectiveness of existing DRR, environment and climate change adaptation and mitigation policies are under scrutiny and more integrated frameworks will be needed to address the interrelationships between these socio-environmental issues and promote more sustainable development outcomes (Mitchell and Wilkinson 2012). The resilience agenda described in Chapter 1 is also gaining ground, and methods for implementing more holistic, integrated development programmes that anticipate environmental and other shocks and stresses are beginning to emerge as a result.

# 3 Progress on policy integration in developing countries

This chapter examines some of the DRR, environment and climate change adaptation and mitigation policies being adopted by developing country governments and the extent to which international frameworks and agreements have influenced these policies. In particular, progress on integrating policies into broader development and sectoral planning is assessed.

National governments are central to supporting development efforts, reducing disaster risk, managing natural resources and responding to climate change. They are responsible for formulating national development plans as well as poverty reduction, DRR, environment and climate change adaptation and mitigation strategies, which guide actions at sub-national, sectoral and community levels. Traditionally, however, these policy areas have been addressed by different arms of the government, with specific mandates to address different dimensions of vulnerability to these shocks and stresses. For example, environment departments deal with environmental conservation issues, while national civil protection or disaster management offices focus on preparedness and post-disaster response and recovery. Climate change mitigation and adaptation issues are often dealt with separately in several departments, including finance, environment or agriculture and planning departments. Such agencies operate under their own sectoral plans guided by respective national instruments that also reflect key international commitments. This fragmentation reflects - and is reinforced by - the UN structure in which policy issues are managed separately with little harmonisation (El-Ashry 2004). For example, the risks associated with natural hazard related disasters and conflict are treated as distinct despite their association (Harris et al. 2013, Kellett and Peters 2014).

This situation is slowly changing and there is a growing recognition that environmental, climate change and disaster policies may be inefficient, ineffective, inequitable and unsustainable if they do not consider development processes and the root causes of vulnerability (Cardona et al. 2012, IPCC 2007, UNDP 2007b, Yohe et al. 2007). Key components of international frameworks on DRR, environment and climate change adaptation and mitigation are described below, along with an assessment of progress at the national level towards integration in development processes and addressing the root causes of vulnerability.

## 3.1 Disaster risk reduction

### 3.1.1 Influence of international policy frameworks

Over the past two decades there has been an important shift in the way natural hazard-related disasters are conceptualised, and this is beginning to have an impact on the types of policies adopted to reduce disaster losses. Instead of being thought of as one-off, unpredictable and natural events, disasters are now understood to be socio-ecological events that occur because people are vulnerable to particular hazards (Wisner et al. 2004). Early warning systems have been effective in reducing loss of life, and combined with other preparedness measures have also reduced the cost of relief and protected people's livelihoods from damage (Rogers and Tsirkunov 2010). In East Asia, the Pacific and OECD countries, for instance, the loss of life has been reduced even though exposure is increasing in some of these areas (Mitchell et al. 2012). This success is primarily due to investment in early warning systems and preparedness, and implementation of effective social protection measures. However, more needs to be done

to reduce the causes of vulnerability (DFID 2011, 2005, UNISDR 2004, IISD et al. 2003, Pelling 2003).

Adopted by 168 governments at the World Conference on Disaster Reduction in 2005, the HFA provides a comprehensive framework to reduce risk over a ten-year period from 2005 to 2015 (UNISDR 2005). The HFA identifies five Priorities for Action: (i) make disaster risk reduction a priority; (ii) know the risks and take action; (iii) build understanding and awareness; (iv) reduce underlying risk; (v) be prepared and ready to act. These priorities have influenced national policy-making as governments have had to report their performance with respect to these aspects of DRR. Perhaps the greatest success of the HFA is in raising awareness and enhancing the political commitment of national governments to reduce vulnerability. At the national level, it has been effective in raising awareness among policymakers, while at the community level, increased engagement in DRR by local NGOs has shown that it need not require high levels of financial investment.

In many countries, new organisational systems have been established to promote DRR. In others existing systems have been modified to include a wider range of stakeholders. The number of national HFA Focal Points has also grown significantly, clearly demonstrating the strong interest of governments (63 in 2006; 192 in 2011) (UNISDR 2011a). Another encouraging indicator of a growing commitment to DRR - that can be directly associated with the guidance provided in the HFA - is legislative reform. Countries that have passed new, or updated, laws include India and Sri Lanka in 2005, El Salvador in 2006, Gambia in 2007, Indonesia in 2008, the Philippines in 2009 and Zambia in 2010; while the number of national platforms increased from 38 in 2007 to 73 in February 2011 (UNISDR 2011a). Sri Lanka's Disaster Management Act, for example, provided the legal basis for a new DRR system. It established a new high-level National Council for Disaster Management, chaired by the president, and set up a new Ministry of Disaster Management.

The HFA has also promoted a substantive shift in thinking on how to treat disasters. The HFA moves away from the top-down science and technological solutions promoted during the International Decade on Natural Disaster Reduction 1990-1999, favouring participatory, community-based approaches (UNISDR 2005). Despite good intentions however, this has not happened as effectively in practice. Activities

promoted under the HFA by the UNISDR system have focused on strengthening government policies and capacities, paying less attention to encouraging community participation in decision-making. Overall, there is limited evidence of systemic approaches to reducing vulnerability, and Priority Area 4, concerned with 'reducing the underlying risk factors' has seen the least progress, according to reviews conducted across different geographical areas (UNISDR 2009, 2011b and 2013b, GNDR 2011).

### 3.1.2 Integrating DRR in development and sectoral planning

In many countries, single civil protection agencies continue to be responsible for measures to reduce risk, and there is little crossover into other sectoral activities. The HFA has promoted public policies to deal with disasters, but it has had little influence on private sector activities that are responsible for generating disaster risk, such as building in unsafe areas. For example, in Mumbai, India, land-use regulations were bypassed by developers, resulting in the narrowing and congestion of the Mithi River and the construction of informal settlements adjacent to the river. In July 2005, rain led to flooding in low-lying areas of Mumbai, causing nearly 600 deaths and seriously affecting more than a million people (UNISDR 2009).

Some countries have successfully developed DRR plans that are linked to their national development and poverty reduction strategies (see Table 1), but most have struggled to implement these plans (ESCAP and UNISDR 2012, UNISDR 2011c, Hay 2011, DFID 2005, UNDP 2004). The main problem appears to be operational, associated with the cross-cutting nature of DRR and mismatches with existing governance structures: government departments are not used to working collaboratively on issues that are not their core area of expertise. In addition, it has proven difficult to maintain political support and funding for DRR mainstreaming across government.

## 3.2 Environmental sustainability

### 3.2.1 The influence of international policy frameworks

Multilateral, international and regional environmental agreements today cover a wide range of areas relating to environmental sustainability, including: air pollution and air quality; biodiversity; chemicals and wastes; climate change; energy; forests; freshwater;

oceans and seas; soil, land use, land degradation and desertification; and environmental governance (UNEP 2012). However, the relationship between environmental sustainability and development was highlighted as early as 1987 by the World Commission on Environment and Development in the report *Our Common Future* (UNGA 2012). Also known as the Brundtland Report, the paper defined sustainable development as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’, and the Brundtland Commission pushed for the idea that environment and development should be

considered in relation to each other. After releasing the report, the commission called for an international conference where more concrete initiatives and goals could be mapped out. This resulted in the 1992 UN Conference on Environment and Development, the Earth Summit hosted in Rio de Janeiro (World Commission on Environment and Development 1987).

The agreements reached in Rio provided a framework for efforts to integrate environmental, social and economic development, internationally, nationally and locally, through:

TABLE 1

## Examples of strategic level actions taken in addressing disaster risks and lessons learnt in China, Colombia, Nigeria and Sri Lanka

SOURCE: UN/ISDR 2008B

Country	Lessons learnt	Reference
<b>China</b>	Successful in devising strategies and coordinating action for disaster preparedness and response. Challenges were faced in operationalising DRR and making development investments resilient to the impact of disasters due to governance and funding issues.	National Committee for Disaster Reduction (China)
<b>Colombia</b>	Colombia decentralised DRM to the local levels and institutionalised and mainstreamed risk management into development policies with very positive results, in spite of complex social problems. But sustainability of such programmes over time depends very much on the commitment of the local level administrations towards disaster risk management as a priority.	Sistema Nacional para la Prevencion y Atencion de Desastres (Colombia)
<b>Nigeria</b>	Nigeria was successful in integrating DRR in national development instruments and in some practices. The process emphasised the importance of continued mobilisation and building of capacities among decision-makers, implementers at all levels, and all sectors and spheres of society. Challenges faced included: initial institutional resistance to change; a lack of sufficient political support for change; and priority given by local people to short-term relief.	The National Platform for Disaster Risk Reduction (Nigeria)
<b>Sri Lanka</b>	Ownership and buy-in for Sri Lanka's strategic national action plan was achieved because of the involvement of multiple stakeholders at all levels and support from both national and international actors. The blend of local knowledge and international expertise helped achieve progress in moving from a disaster response-oriented national system to a risk-reduction approach. Key challenges faced were in maintaining the momentum with all stakeholders, ensuring longer-term sustainability, and increasing resource mobilisation for priority projects.	National Disaster Management Coordination Committee

- Agenda 21
- Rio Declaration on Environment and Development
- Forest principles
- The United Nations Framework Convention on Climate Change (UNFCCC)
- The United Nations Convention to Combat Desertification (UNCCD), and
- The Convention on Biological Diversity (CBD).

The resolution, referred to as ‘The future we want’, was then adopted at the United Nations Conference on Sustainable Development in 2012 (Rio+20), reaffirming the importance of promoting economically, socially, and environmentally sustainable development. Meanwhile, the relationship between environment and development has also been recognised in the post-2015 development agenda, as noted in section 2.1 (UNGA 2012).

### 3.2.2 Integrating environmental sustainability in development and sectoral planning

In addition to the international agreements outlined above, national governments have also taken the initiative on mainstreaming environmental concerns into development policies. Based on studies of environmental policy integration in 30 OECD countries, the instruments used can be classified into three categories (Jacob et al. 2008):

- Communicative instruments, such as inclusion in strategies, requirements for sectoral strategies, obligations to report performance, and external and independent reviews of performance.
- Organisational instruments, such as combinations of departments, green cabinets, environmental units within sectoral departments and independent working groups.
- Procedural instruments, such as veto or obligatory consultation rights for environmental departments, green budgeting and impact assessment.

Examples of where these instruments have been implemented at the national level include the National Forest Programmes (NFPs, encouraged by the UN Forum on Forests) and National Biodiversity Strategies and Action Plans (NBSAPs, the main instrument for implementing the Convention on Biological Diversity at the national level), which are intended to outline strategies for integrating environment issues in development

and sectoral policies (UNU-IAS 2010, McConnell 2008). Environmental impact assessments and strategic environmental assessments have also been incorporated widely into development programming.

Overall, however, implementation of these approaches has been limited (Adelle and Russel 2013, Ahmad 2009). In particular, there is limited consideration of environment issues in Poverty Reduction Strategy Papers (PRSP) (FAO, 2010, UNU-IAS 2010, Bird and Dickson 2005), although improvements have been seen in some issues, such as water and sanitation (UNU-IAS 2010). Similarly, documents intended to promote integration, such as NFPs and NBSAPs, have often not been fully considered in national development priorities (UNU-IAS 2010, McConnell, 2008).

A number of policy, coordination and capacity constraints help explain this lack of progress. One of the major challenges is that separate institutions, policies, budgets and programmes have been established to work on environment and development objectives. In Vietnam, for example, cross-departmental work has been found to be weak (Bass et al. 2009). Better cross-sectoral coordination is needed to integrate environmental sustainability in development policy and break down barriers to sustainable development (Bass et al. 2009). This has been highlighted in recent efforts to tackle deforestation (Brickell et al. 2012, Graham 2011, Kissinger 2011), and more broadly, in relation to the increasing coordination within and across organisations (Dornisch 2008). Even where formal coordination structures exist, these are hampered by political and technical barriers (ODI 2012). For example, at the technical level, planning tools often differ, while high-level political support, necessary to create an incentive for coordination, is often lacking (Watson et al. 2013). In Vietnam, efforts to link environment and development needs have been undermined by cultural norms and market systems creating short-term financial incentives that do not take into account environmental concerns (Bass et al. 2009). Overcoming these institutional challenges will take time (Brickell et al. 2012, Bass et al. 2009; Sayer and Campbell 2004) and will require more effective evaluation and feedback mechanisms (Watson et al. 2013, UNU-IAS 2010, Mickwitz et al. 2009).

### 3.3 Climate change adaptation

#### 3.3.1 Influence of international climate change adaptation policy frameworks

At the international level, efforts to coordinate adaptation policy rest primarily with the UNFCCC. Despite reluctance to promote adaptation in the early phases of the UNFCCC process - seen by many as detracting from an emphasis on mitigation - a focus on supporting vulnerable countries to adapt has steadily gained momentum in recent years (Ayers and Forsyth 2009). The UNFCCC's main instrument for supporting developing countries in planning for adaptation is the National Adaptation Programme of Action (NAPA) and under the NAPA process the poorest countries, known as the Least Developed Countries (LDC) group, are tasked with identifying vulnerable sectors and selecting priority activities to respond to climate change.

As of May 2013, 48 countries had submitted their plans to the UNFCCC - each ranking a list of proposed adaptation projects across all sectors (UNFCCC 2013). For example, Bangladesh was one of the first to complete a NAPA in 2005, highlighting 15 proposed projects, many of which had strong overlaps with existing development activities (see Table 2 for examples of top-ranking NAPA projects). The total cost of implementing each of Bangladesh's NAPA projects equates to roughly \$77 million.

More importantly, the NAPAs lay out a pathway for the plan's preparation and implementation, with ownership resting solely with national governments.

Despite initial acclaim, the NAPA process has largely failed to get off the ground. Few of the hundreds of identified projects have secured funding, and fewer still have effectively embedded the NAPAs activities and processes into development planning (Lebel 2012). In light of this shortfall, a number of wider initiatives have sought to complement the NAPAs and fill the void. An important example is the Pilot Programme for Climate Resilience (PPCR), administered by the World Bank.<sup>1</sup> The PPCR aims to demonstrate ways in which climate risk and resilience may be integrated into core development planning and implementation by providing incentives for scaled-up action and initiating transformational change (CFU 2013). Considerable financial resources have been set aside to implement the PPCR, with \$1.15 billion pledged by the fund - \$374 million of which had been approved as of May 2013. However, very little of this has actually trickled down into project implementation as of yet (CFU 2013).

<sup>1</sup> The PPCR is administered through the World Bank Group and various regional affiliates, such as the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development and the Inter-American Development Bank.

TABLE 2

#### Examples of ranked adaptation projects in selected NAPAs

SOURCE: UNFCCC 2013

Rank	Bangladesh	Tanzania	Lao People's Democratic Republic
1	Reduction of climate change hazards through coastal afforestation with community participation	Improving food security in drought-prone areas by promoting drought-tolerant crops	Strengthen the capacity of the National Disaster Management Committees
2	Providing drinking water to coastal communities to combat enhanced salinity due to sea level rise	Improving water availability to drought-stricken communities in the central part of the country	Promote secondary professions in order to improve the livelihood of farmers affected by natural disasters induced by climate change
3	Capacity-building for integrating climate change in planning, designing of infrastructure, conflict management and land-water zoning for water management institutions	Shifting of shallow water wells affected by inundation in the coastal regions of Tanzania mainland and Zanzibar	Continue the slash-and-burn eradication programme and permanent job creation programme

The UNFCCC and multilateral banks have been the primary vehicles for international support to adaptation, but they are far from the only significant actors. Increasingly, bilateral donor agencies, NGOs and civil society are playing key roles in funding and providing technical support to the design and implementation of adaptation policies. Indeed, some have bypassed national governments and focused on local actors and sub-national units of government. For example, the International Council for Local Environmental Initiatives (ICLEI) and C40 (an international network of large cities) form part of a powerful movement of support to municipalities and other urban actors in sharing experiences and driving forward commitments to reduce the risk of climate impacts. Another initiative, largely facilitated by international NGOs, is Community Based Adaptation (CBA) - a policy framework that seeks to empower local communities in using their own knowledge and decision-making (Ried and Huq 2007). Through initiatives such as these, it is clear that the international adaptation landscape has proliferated significantly in recent years. Whether they achieve similar levels of scale and influence as larger processes such as the UNFCCC will depend on their ability to leverage significant additional sources of finance, and to demonstrate overlap with development planning.

### 3.3.2 Integrating climate change adaptation in development and sectoral planning

The main challenges for integration of adaptation include understanding how to translate adaptation policy into practice and how it differs from ‘good development’. In its simplest terms, adaptation to climate change refers to activities aimed at moderating, coping with and taking advantage of the consequences of present and future climate (Livena and Tripak 2006: 8). Though the exact definition of adaptation is contested within the academic literature, these principles of adaptation are relatively straightforward and fall entirely under the scope of ‘good development’ (Heltberg et al. 2009). The climate change adaptation agenda adds impetus to the need for flexible and iterative processes in the design and implementation of development policy. Ensuring that climate change adaptation objectives are mainstreamed into wider development planning is therefore not only crucial to uptake but also to preventing duplication with other development approaches.

In terms of its practical application, climate change adaptation is often considered an extension of DRR, although it typically puts greater emphasis on creeping stresses and longer-term timeframes. The relevance of addressing current disaster risks is a good starting point for adapting to risks in the future (IPCC 2012). However, climate change adaptation and DRR are not well coordinated between different levels of government or horizontally across government agencies (Hay 2009). Much of this is due to the fact that delivery of adaptation objectives has fallen under the mandate of environment ministries (or their equivalents). The relatively low levels of power held by environment ministries within central government when compared to ministries of finance or planning have made it hard to scale up efforts to embed climate change adaptation objectives into wider development planning.

Given these challenges, and the failure of the international community to disburse the levels of climate funding once envisaged, a number of innovative nationally-owned initiatives have arisen in some countries. In Bangladesh, for example, the government launched its own Climate Change Strategy and Action Plan (CCSAP) in 2009 after priorities and projects identified within the NAPA largely failed to materialise. In focusing on medium- and longer-term actions, the CCSAP is a more comprehensive strategy committing Bangladesh not only to adaptation priorities, but to emissions reductions and technology development. The CCSAP has been successful in its ability to draw influential ministries into the design process - helping to secure \$100m of its own national budget towards implementation of the plan (Alam et al. 2011), although these funds have been slow to materialise. Nonetheless, the linking of adaptation priorities with other development agendas, such as green growth and resilience, has been partly responsible for greater cross-ministerial engagement - bringing with it the prospect of attracting more bilateral and multilateral funding to support implementation. Similarly, green growth strategies have become popular elsewhere, including Cambodia, Ethiopia, Rwanda and Vietnam, each of which have each set out ambitious goals aiming to ensure that domestic development trajectories are not only low-carbon, but climate-resilient. Continuing the move away from an isolated focus on smaller ministries towards larger narratives on green growth and resilience is key to successful adaptation.

## 3.4 Climate change mitigation

### 3.4.1 Influence of international policy frameworks

In spite of the considerable risks associated with climate change, there are also opportunities for developing countries to benefit from the climate agenda by harnessing climate finance and adopting green technologies. Governments also have the opportunity to build strategic relationships with the private sector and civil society in the pursuit of climate-compatible development.

The UNFCCC provides the framework for international agreements to address the challenges of climate change. The Kyoto Protocol adopted under the Convention in 1997 established binding emission reduction commitments for some industrialised countries (the so-called Annex 1 countries). Over time, the UNFCCC has evolved from an initial focus on climate change mitigation to include adaptation to climate change and support for developing countries for both mitigation and adaptation (see outcomes from COP 17 in Durban<sup>2</sup>). Most countries are now parties to the UNFCCC and as such are required to report on their climate change situation through national communications, which provide information on emissions, vulnerability to climate change, adaptation activities, policies, financial resources for action, and technology needs. Increasingly, the bearing of climate change on development strategies is being included in UNFCCC deliberations. At the same time, the responsibilities of all countries for mitigation and adaptation are being recognised under the Convention.

The UNFCCC objective to ensure a maximum 2°C average increase in global temperatures still stands, but so far it has been unsuccessful in securing commitments to emission reductions that would achieve this goal. Global emissions continue to rise and it is increasingly doubtful that the goal will ever be achieved. Under the UNFCCC, an international agreement on mitigation targets is now scheduled to be reached in 2015 and come into force in 2020. This is likely to contain mitigation obligations for all countries. For developing countries, which do not have mitigation commitments under the Kyoto Protocol, the UNFCCC promotes the development of Nationally Appropriate Mitigation Actions (NAMA),

which will contribute to mitigation and be supported by the nascent Green Climate Fund. NAMAs, which may range from single actions to national programmes or policy packages<sup>3</sup>, may also become the basis for bilateral or international financial institution climate change-related support. Similarly, as discussed previously, climate smart or climate-compatible development strategies include actions to reduce carbon emissions and generate other environmental benefits (ACDI-VOCA 2012, FAO 2011, Someshwar 2008).

### 3.4.2 Integrating climate change mitigation in development and sectoral planning

The potential benefits of integrating climate change mitigation into development planning - also known as mainstreaming or climate-proofing - are frequently highlighted in the literature (e.g. Adelle and Russel 2013, Ahmad 2009, Metz and Kok 2008, Mickwitz et al. 2009, OECD 2005), but the question of how to achieve integration is less well understood. Limited evidence is available on how to include mitigation actions in development policy beyond ad-hoc experiences and pilot studies, in part because this is a relatively new area for development policy and practice (Adelle and Russel 2013, Metz and Kok 2008, IPCC 2007). Nonetheless, climate change strategies in developing and developed countries do now at least acknowledge the importance of integration (Mickwitz et al. 2009, OECD 2005). Within the EU, there have been some concerted efforts, however, in general, progress is considered to be far from adequate (Ahmad 2009, Mickwitz et al. 2009, Metz and Kok 2008).

In one of the most comprehensive studies of integration of climate and development (with a primary focus on adaptation but also considering mitigation), was conducted by the OECD in Bangladesh, Egypt, Fiji, Nepal, Tanzania and Uruguay, and identified cross-cutting findings (OECD 2005). The project undertook an analysis of national development plans, PRSP, sectoral strategies and project documents (see Table 3). The analysis concluded that these documents generally pay little or no attention to climate change, and that when climate change is mentioned, specific operational guidance on how to take it into account is lacking.

Some progress has been made on integration since the

2 <http://www.un.org/wcm/content/site/climatechange/pages/gateway/the-negotiations/durban>

3 42 NAMAs and 34 feasibility studies were listed at [http://www.nama-database.org/index.php/Main\\_Page](http://www.nama-database.org/index.php/Main_Page) on 25 March 2013.

## OECD analysis of national policies and plans and donor-supported activities

SOURCE: OECD 2005

Policies and plans	Integration of climate change
<b>National documents</b>	
National policies and plans focused on climate change	The six case study countries had established varying numbers of domestic plans and institutional mechanisms to coordinate activities on climate change. All case study countries were judged to have made considerable progress on climate change mitigation, perhaps strongest in relation to climate change assessments and establishment of institutional mechanisms (spurred largely by the commitment to produce national communications under the UNFCCC). Institutional mechanisms were generally handled by environment ministries, with limited involvement from other ministries.
National development plans	Most of the case study countries had general development plans, often five-year plans but sometimes with a longer horizon. In general, even long-term national planning documents did not mention climate change. Current climate risks were occasionally mentioned, but generally with no explicit consideration of how to account for them in meeting development objectives.
Poverty reduction strategy papers (PRSPs)	Climate change considerations and how they might affect the achievement of poverty alleviation objectives did not appear to be an explicit priority in the drafting or review of PRSPs.
Sectoral policies	Some sectoral policies have synergies with climate change responses (though not necessarily as a consequence of explicitly integrating climate change considerations). In a few instances, sectoral policies explicitly take climate change considerations into account. Some potential for conflict between sectoral development policies and climate change considerations also exists.
<b>Donor strategies and activities</b>	
Country assistance strategies and sectoral strategies	Donor country assistance and sectoral strategies generally did not recognise climate change. High-level policy documents of the principal multilateral and bilateral donors for the case study countries frequently recognised the impact of current weather risks on development prospects, but offered no discussion of the implications of climate change on such problems.
Donor-supported projects	Some development cooperation projects reviewed within the case study countries are synergistic with, or implicitly include, adaptation to climate change. The report made no mention of the extent to which projects consider climate mitigation.

OECD project was carried out, for example, through the development of Low Carbon Development Strategies, but the challenge of integration continues to be highlighted in relation to climate mitigation. For instance, discussions focused on reducing emissions from deforestation and forest degradation (known as REDD+) have highlighted an urgent need to strengthen coordination and integration (Watson et

al. 2013, Williams 2013, UN-REDD and FCPF 2012, Peskett and Brockhaus 2009).

While in many cases it may be possible to identify win-win approaches or 'no regrets' options to mitigation that also enhance development, there may also be potential trade-offs (Adelle and Russel 2013, Mickwitz et al. 2009, Metz and Kok 2008, IPCC

2007). Within the literature different approaches are identified, such as ‘development first’ or ‘climate first’, referring to potential priority that might be given in cases where trade-offs exist (Ahmad 2009, Mickwitz et al. 2009, Metz and Kok 2008). Institutions seeking to integrate climate change mitigation within their programming will need to consider how to balance different priorities and agendas, where potential trade-offs are identified.

# 4 Donor definitions and experiences of integration

Few detailed studies exist of donor experiences with integrating DRR, environment and climate change adaptation and mitigation into their programmes. In order to capture information about the range of approaches used by donors and multi-lateral institutions, primary data was collected on these experiences through interviews with key informants. This section outlines the methodology used to collect and analyse data then presents the results of the empirical study, drawing together broad lessons of relevance for all organisations interested in pursuing DEC integration.

## 4.1 Methodology

Insights and experiences of integration (and other related activities not referred to as integration or mainstreaming) were sought through semi-structured interviews with two donors (GIZ and DFID) and one multilateral institution (ADB). Representatives of these organisations and other key informants with relevant insights on integration were interviewed: Head of Climate Change at ODI; Climate Change Research Fellow at the Institute of Development Studies (formerly DFID); Environment Specialist at the ADB (seconded to AusAID<sup>4</sup>); Climate Change Advisor at GIZ; and Head of Climate Protection for Developing Countries at GIZ. Interview questions focused on how integration of DRR, environment, climate change adaptation and mitigation came on to the agenda, the approach adopted and internal and external processes influencing progress within these four organisations. The discussions summarised here do not represent every activity undertaken by donors that could be defined as integration, but rather the

most significant processes or activities from which lessons can be drawn. The analysis is based on the reflections and perceptions of key informants and does not necessarily reflect official explanations or evaluations of the motives behind or outcomes of efforts to integrate these issues into development programmes.

## 4.2 The drivers behind integration

### 4.2.1 The rationale

Environmental mainstreaming has been on the donor agenda since the early-1980s, followed by sporadic attempts to integrate DRR (e.g. DFID in 2002), climate change mitigation (e.g. ADB in mid-1990s) and climate change adaptation (e.g. DFID in 2006 and GIZ in 2008) into organisational structures and programmes. Broadly, these efforts have been driven by international and domestic support in developed countries, promoted by the need to protect investments. A better understanding of climate change impacts, an increased focus on the cost effectiveness of aid, and the instrumental rationale to future-proof programme delivery have all pushed forward these agendas.

Within DFID (2010), pragmatic commitments to increase funding, such as the 2004 pledge to fund DRR through humanitarian work, served to lock in DRR as a sub-set of the UK's humanitarian approach, rather than treat it as a core development issue in DFID's organisational structure. This decision was later called into question as a consequence of the 2011 Humanitarian Response Review, which focused attention on the need to build resilience through emergency response and recovery. Environmental sustainability and climate change adaptation, on the other hand, have generally been seen as agendas that

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<sup>4</sup> AusAID was the Australian Government's implementing agency at the time the programmes were reviewed and since 1 November 2013, incorporated within the Department of Foreign Affairs and Trade (DFAT).

need to be integrated across programme portfolios by DFID staff. In the past few years, DFID has also pursued a much more joined-up approach to DRR and climate change adaptation as well as greater commitment to fund DRR, particularly at country level, driven by the resilience agenda and the publication of the IPCC Special Report on Extreme Events (SREX).

On environment policy, ADB cited the US Environmental Protection Act as a significant influence in thinking on the integration of environmental sustainability in the early 1980s with a growing commitment to ‘do no harm’ to the environment. As a result, ADB, the World Bank and others began to develop their environmental policy and mandatory environmental assessments as well as tools and methods for their enactment. In the 1990s, a growing global focus on climate change mitigation provided donors with good loan opportunities aimed at GHG abatement projects. For example, after the Asia Least-Cost Greenhouse Gas Abatement Strategy (ALGAS) was implemented across 11 Asian countries (Agrawala 2007), financing could be used by development banks to improve the efficiency of brick manufacturing and thermal power plants in Bangladesh.

The rationale for integrating both climate change mitigation and adaptation into development practice was later provided through a series of meetings and reports produced during the early 2000s. The momentum behind the G8 Summit and the OECD Ministerial Declaration on Policy Coherence for Development in 2005, alongside the 2008 UK Climate Change Act, had a heavy influence on DFID’s thinking behind climate change integration. Similarly, the Bali Action Plan was instrumental for the German Federal Ministry for Economic Cooperation and Development (BMZ), which in 2008 mandated all German development organisations to integrate climate change and the environment into their practices. Meanwhile, economic arguments made by the 2007 Stern Review on the Economics of climate Change resonated particularly with loan-oriented organisations such as the ADB.

International NGOs have also played a significant role in facilitating learning and action about mainstreaming climate change adaptation, as outlined in section 2. For example, the IIED Up in Smoke report (2005-2006) and the Tearfund report Institutional Donor Progress with Mainstreaming

Disaster Risk Reduction (2007) both influenced DFID’s approach. At this time, there was strong political will from the incumbent government to tackle climate change, with the introduction of the Climate Change Act.

#### 4.2.2 Demand from partner organisations and beneficiaries

Interviewees reported that while there was not much resistance to integration efforts by DFID, there was initially little demand from partner organisations or beneficiaries to integrate cross-cutting issues such as environmental sustainability or climate change adaptation across development programmes. They attributed this to a lack of confidence from partner governments in the potential results that this approach could deliver as well as a limited understanding of programmatic risk and how mainstreaming could actually be implemented in order to reduce this. Even in 2011 with the Bilateral Aid Review (DFID 2011), there were few countries within DFID’s portfolio that returned suggestions for climate change adaptation interventions. Similarly, it was only following a successful prototype ‘climate-proofing’ scheme in Vietnam that GIZ partners were convinced by the logic that climate risk might threaten development projects. ADB, on the other hand, reported strong demand both from donor countries and DFID as a partner organisation. This was credited as a significant driver of integration of climate change into ADB’s work.

Overall, donors reported varying degrees of engagement or resistance from developing countries, citing Vietnam and Bangladesh as examples of a greater appreciation of mainstreaming, with Pacific nations, for instance, lagging behind. India and China were mentioned as examples of governments averse to integration as an exploratory process, demanding evidence before they bought in to the idea. One interviewee noted that there may have been more demand at country level than donors recognised but that this was not voiced effectively.

#### 4.2.3 Role of champions

Interviewees agreed that the integration of any new concept requires a number of enabling factors: strong support from political and organisational leaders, a number of highly experienced, well-networked staff leading the organisational change process, and internal space to allow expertise to grow. In all the organisations interviewed for this study, specific champions were identified and tasked

with embedding the integration agenda. For climate change integration at DFID, these champions were the Climate and Environment Advisors, who were spread across the organisation in support of the policy development around the UNFCCC. The number of these advisors increased more than tenfold between 2008 and 2010. Importantly, board members and leaders, such as the present Director General at DFID, chaired the new 2008 Champions Group on Climate Change and the then Head of Profession for Climate and Environment was instrumental in setting up initiatives such as CDKN. Additionally, country level climate advisors who travelled between country posts and the DFID headquarters in London were important conduits for information on how to go about integrating climate into country programmes.

Similarly, at ADB, senior members of staff played key roles. The former Director of the Environment, now Vice President, chaired the senior Knowledge Management and Sustainable Development group and handpicked individual champions at different levels within the organisation and across sectors. At GIZ, the Competency Centre for Climate was established in 2008 and worked to raise awareness across the organisation, and the Climate Circle, a group of cross-sector regional departmental leads, was convened bi-monthly for several years to promote the agenda across the organisation.

## 4.3 Processes and tools used for integration

### 4.3.1 Operationalising integration within donor organisations

In 2010, the concept of climate smart development was endorsed by the UK Secretary of State, committing DFID to adopt this approach in its development programmes (DFID 2011). The process of implementing this approach was guided by a number of research centres including the Institute of Development Studies (IDS) and Cranfield University, which produced guidance notes for DFID advising on how to integrate climate change issues into a range of sectors and most policy and programming areas. These focussed not only on raising staff awareness and capacity to take on new measures but also the internal cultural changes needed. The Climate Smart Programme focused on two areas:

1. DFID's own carbon footprint and its consideration for climate change and the environment. Staff carbon footprints were

addressed within the organisation to help individuals appreciate this way of working and consider carbon in their day-to-day working lives.

2. A champions group on climate change was established which included senior staff. The group personalised the agenda by attaching importance to climate change in its work and was instrumental in promoting consideration of climate change more widely.

The programme was tasked with mainstreaming climate change across the organisation, and a Climate Learning Hub was set up to think about how to integrate DRR and climate change, build coalitions between these groups of actors within DFID and engage in iterative learning phases across country programmes. The Climate Learning Hub was originally intended as a peer support group with four themes: 1) Approaches to Planning; 2) Tackling Poverty; 3) Low Carbon Energy; and 4) Difficult Environments (DFID/IDS 2012). It has now become DFID's Future Fit programme, which works with the private sector to help think through the impact climate change and resource scarcity on poverty reduction.

In terms of tools, new DFID staff now receive inductions on climate change including a Future Scenarios learning package. Screening and assessment tools were developed, including Opportunities and Risks of Climate Change and Disasters (ORCHID), a process-based tool to be used by donors as a screening process for disaster and climate risk, which then became the Strategic Programme Reviews (SPRs), a portfolio review through a climate change lens. The process fostered staff engagement in shared learning, reinforced by a staff annual retreat to focus on climate change. Other organisations have also taken part in these retreats, building solid relationships between partners. These activities have all helped to overcome the tick-box nature of screening and assessment processes, encouraging compliance and engagement in integration.

By 2012, DFID's Climate and Environment Department Operational Plan (DFID 2012a) had set out a strategy for integration building on knowledge and evidence of what works in supporting developing country capacity in climate change adaptation and mitigation while promoting economic growth, conserving the natural environment and tackling poverty. DFID is helping developing countries

to measure the results and the effectiveness of national and sector plans related to climate and environment through programmes such as the PPCR (DFID 2012b). DFID is now looking again at its environment and natural resources policies (rather than climate change) with a view to ‘greening’ the development process and promoting sustainable natural resource management in its development work. However, there is no clear process yet on how to integrate climate change into this as well.

At ADB, as a project-oriented organisation with no grant funding, climate and environment integration has been taken forward through loans. Integration was initiated by targeting divisions that were keen to get on board, such as transport, where climate and environment risk could be easily quantified in programmes through scenario analysis and planning. These exercises provided the evidence needed to incorporate climate change adaptation and environment in projects in order to meet development objectives.

Mainstreaming of environmental issues requires organisational change and in 2003 a reform process was initiated to retrain and reorganise staff (ADB 2003). Today over 100 full-time staff are involved in environmental risk assessments. The Environment and Social Safeguards Division (RSES), the knowledge unit responsible for the implementation of environmental policy at ADB, has recently taken on a similar role with respect to climate change, as both issues now fall under the remit of the same group at ADB and are thus managed together.

In 2002, ADB launched a regional technical assistance programme to support its Climate Change Adaptation Programme for the Pacific (CLIMAP). The adaptation programme aimed at integrating climate change adaptation and DRR into development planning (Gigli and Agrawala 2007) through detailed project designs, performance indicators and targets, and monitoring mechanisms. Technical assistance was developed to ensure mainstreaming at two distinct levels: (i) within ADB, where climate change is to be integrated into ADB strategy, programme and project operations; and (ii) at the country level.

The integration of climate change adaptation in ADB was assisted by a \$2.6million award from DFID in 2009, which was then topped up to \$3.6 million by the Japan International Cooperation Agency. DFID

had a very clear vision for integration in ADB and agreed a range of activities, such as a climate change implementation plan for each department, training for staff, the creation of a small fund of \$1million for 10 projects on what climate issues are, and how to deal with them in development planning. Knowledge products were commissioned throughout, shared and integrated into the various communities of practice, which was an easy process in a technically-focused organisation such as ADB. For DRR integration meanwhile, tools have been developed for combined climate and disaster risk screening, but the use and development of these are contentious because responsibility for DRR and environment and climate change fall within different divisions and coordination has not been easy.

The integration of climate change and environmental issues in sectoral policies occurred simultaneously at GIZ, promoted by moves away from focusing on climate change mitigation towards adaptation activities. It was recognised that the latter was a cross-cutting issue rather than sectoral one, and after a pilot transitional phase, where the Climate and Environment Assessment procedure was voluntary, it became mandatory to integrate climate change adaptation and environment.

GIZ’s internal Climate Change Strategy prepared the ground for integration by explaining the case for mainstreaming environment and climate change. However, individual protagonists and groups of people from different units within the organisation, such as the Climate Circle, were particularly important in galvanising support and driving the agenda forward. Training courses were introduced to educate staff on the subject, and a Help Desk, manned by people from each sector is responsible for providing advice on implementing the Climate and Environment Assessment procedure. Internally, however, there have not been significant structural changes within the organisation but rather some modest reforms to the programme preparation stage and tracking processes.

## 4.4 Outcomes

### 4.4.1 Tools and approaches

The variety of tools and approaches used by donor organisations for the integration of DRR, environment and climate change adaptation is very broad, addressing different aspects of integration,

from management, communication and screening to assessment, implementation and M&E. All the interviewees considered face-to-face interaction vital to the successful integration of any new concept. For instance, the intense learning and review processes that takes place during the DFID annual retreats. Also highlighted was the key role of leaders in integration within each organisation.

The most successful approaches involved the application of several tools, tailored to specific character of the organisation, country or individual programmes. At GIZ, for example, internal resistance to the climate-proofing procedure - which was viewed by some as a box-ticking exercise - was overcome through the incentive of extra funding: those programme managers that apply the Climate and Environment Assessment procedures correctly and follow internal M&E protocols have preferential access to climate finance. At ADB, integration of adaptation is not mandated but risk assessments can be completed alongside environmental assessments, which are mandatory. Reacting to demand from ministries of finance, GIZ has now included cost-benefit analysis to be used alongside climate and disaster risk scenarios.

## 4.5 Challenges and incentives to integration

### 4.5.1 Internal resistance to integration

Within donor organisations, resistance to integration comes from different departments and sectors. For example, within sectors which are not easily aligned with climate change, such as education and governance, the rationale for integrating climate change adaptation in core programming is less compelling than within the water, agriculture and infrastructure sectors. However, in other cases, agricultural programmes which have traditionally helped farmers to cope with environmental stresses do not necessarily see the added value in new integrative procedures for climate change adaptation. Interviewees felt that mainstreaming new concepts would always be resisted by those not directly affected or bought in. For example, where staff are focused on the short-term delivery of natural disaster response, it can be challenging to think 30 years ahead to plan for future uncertainty.

At ADB there was initially significant internal

resistance to the integration of climate and environmental issues. This has been addressed through activities such as conducting a portfolio of internal studies on climate risk, examining all of its sector and geographic investments. Where risk was identified as acute, staff were more likely to buy in to integration. Furthermore, the internal competitive culture at ADB was cited as a factor in ensuring that new approaches are swiftly adopted, even if there is residual resistance to how they are implemented. In DFID, where there were champions, clarity on what to do, and good brokering partners, the integration of climate change went more smoothly.

### 4.5.2 Organisational structures

The close positioning of climate change and environment groups within donor organisations was cited as being beneficial to integration. DRR has historically been relatively separate, housed under a conflict and humanitarian grouping, with less desire by management to integrate with teams such as environment and climate change. In this sense, DRR integration has not always benefited from the well-worn paths of environment and climate change integration (20 years and 7 years respectively at ADB). In DFID, this position has now been largely addressed by the Humanitarian Response Review of 2011, which made it clear that disasters were a development and resilience-building issue. However, where silos remain and no integration champions are in place, successful integration of DRR remains difficult.

Despite the existence of a DRR policy in ADB, this largely focuses on ADB's response to government requests for support in times of disaster, and as such there are no compliance issues. Thus its integration into development planning has been much harder to achieve. On climate integration, there have been organisational changes with the Climate Change Programme and RSES moving to the same Regional and Sustainable Development group to facilitate a closer working relationship. Integration within ADB has also been boosted by management staff who were fully on board with the climate change agenda.

## 4.6 From risk management to new opportunities

Interviewees agreed the search for opportunities is important and has been neglected to date in the practical implementation of climate and environment

assessment procedures. For example, there are a number of locations in which climate change may result in more rainfall, an opportunity for agricultural production. One reason for this lack of attention to seeking out opportunities in what are normally considered to be socio-environmental problems is the lack of private sector involvement in development activities. Private sector companies are naturally cautious about investing in social or environmental issues unless they perceive them to be of direct relevance to their interests, and therefore it is difficult to persuade them to invest in climate change adaptation unless it has added value for their business. Consideration of (business) opportunities may provide the incentive that's needed, and GIZ is updating its programme design and integration support manuals to include the search for opportunities.

In summary, the two donors and the regional development bank analysed in this section appear to have made substantial progress on integrating aspects of DRR, climate change adaptation and environment in their development activities. Less attention appears to have been paid to integrating climate change mitigation into development programming, although this is not to say that reducing the carbon footprint

is not a high-profile stand-alone activity for donors. In terms of a typology of integration, interview data suggests that these donors have favoured integration that a) places DRR and climate change adaptation elements together under one team; b) uses risk screening for climate change adaptation and safeguards for environmental impact; and c) pursues DRR, environment and climate change adaptation under a higher goal, although these policies are not always integrated systematically into outcome areas.

Environmental mainstreaming has been underway for longer with more recent sporadic attempts at incorporating DRR and climate change adaptation separately and collectively in development strategies. Overall, efforts have been driven by international and domestic political will for risk management and aid effectiveness. Bilateral donors appear to have suffered from a lack of demand from partners while multilaterals have experienced differing levels of demand from country partners. Overall, the role of champions was universally agreed to be a critical factor in initiating an integration process, while management buy-in and cultural change within the organisation have been crucial for maintaining enthusiasm. Organisational reforms such as bringing teams into the same department or strategy area, have also played a key role in bringing about more integrated approaches within organisations and in their external activities.

# 5 Discussion

Both in isolation and in combination, disasters, environmental degradation and climate change have negative effects on poverty and development outcomes and policies to address these issues are becoming better articulated. Included in these trends is the desire among development practitioners to integrate DRR, environment, and climate change adaptation and mitigation policies into broader development strategies and sectoral plans. Negotiations leading up to new post-2015 development, DRR and climate change agreements offer the opportunity to strengthen synergies between these policy areas, and the resilience agenda provides a unifying analytical approach for more streamlined, joined-up development.

Calls for more unified approaches are not unwarranted given the overlaps and negative reinforcement mechanisms that exist between disasters, environmental degradation and climate change. Disasters and environmental degradation are incontrovertibly linked with feedbacks in both directions. The poor are most vulnerable to disasters and more reliant on environmental services; hence they are adversely affected by deforestation, soil degradation, floods and drought. Climate change is affecting the environment and the provision of ecosystem services, while environmental degradation can lead to increased GHG emissions, thus exacerbating climate change. There are gaps in the data but studies suggest that climate change and natural hazards like heat waves, precipitation, floods and storms are intimately linked. Thus, climate change can be expected to have significant negative impacts on human well-being and economic development. Given these overlaps and the commonalities between approaches and tools developed to deal with these issues there would seem to be cost savings and effectiveness benefits from

considering DRR, environment, and climate change adaptation and mitigation measures collectively in development planning, implementation and M&E.

Despite these overlaps and the potential benefits of joining up policies, it has not always been easy to get departments within a donor organisation or government to work together, particularly as each is guided by different national instruments and/or international agreements. In fact, getting any cross-cutting issues integrated into development strategies poses a real challenge, with staff often complaining of mainstreaming fatigue, and organisational cultures favouring ‘business as usual’.

NGOs have been active in policy and advocacy, raising awareness and mainstreaming in programming and practice. Due to the humanitarian mandates of many international NGOs, DRR integration has been a fertile area. However, this approach often fails to recognise the longer-term impacts of climate change. Confusion over definitions, scaling-up of community-level projects and lack of evidence and resources all pose constraints to integrating these issues.

In national governments, the HFA has raised awareness and policy commitment to reducing disaster impacts and increasing civil society engagement. New organisational structures have been established with moves away from top-down science and technology solutions of the 1990s. However, there is limited evidence of systematic approaches to decreasing vulnerability and its underlying risk factors. Some countries have developed DRR plans linked to national development and poverty reduction strategies but have struggled to operationalise these. Overall, implementation of more integrated approaches to DRR has been challenged by the

mismatch with existing governance structures, lack of funding and political will.

Despite broad international policy frameworks for promoting sustainable development, progress on integrating environmental issues into national development and poverty reduction strategies has been limited, although there have been some improvements on particular issues like water and sanitation in a number of countries. There remain considerable capacity and coordination constraints to promoting environmental issues through national development agendas.

Progress on integrating climate change adaptation in national government policies has been hindered by the overarching UNFCCC focus on mitigation. Although 48 countries have completed NAPAs, the main national instrument, these have largely failed to take off and it remains difficult to secure funding for implementation and embed the NAPAs in national development planning. Climate change adaptation is often considered an extension of DRR, depending on the line ministry responsible, but linking climate change adaptation to broader national priorities such as green growth in some countries has been beneficial in getting climate change adaptation more integrated in development agendas.

Climate finance, green technologies and greater public-private sector engagement offer opportunities to developing countries to engage in climate change mitigation. But Kyoto and UNFCCC have failed to secure GHG emissions reductions, and targets are unlikely to be met. Like the NAPAs, the NAMAs have not been fully integrated into national development or poverty reduction strategies. Developing country governments remain reluctant to move climate change mitigation up the development agenda and lack the resources to do so.

Donors, NGOs and national governments alike have all found integration policies to be difficult to roll out even where the case for integration is accepted. The common challenges identified in the literature and through empirical research include the lack of capacity (technical and financial), difficulty in distinguishing integration from 'good development', limited knowledge of how to put integration into practice, and lack of prioritisation of these issues among development practitioners.

Interviews with donors illuminated the process of integration, offering insights into the barriers and difficulties of governance, capacity and coordination evident in the literature review on NGO and national government experiences. The intractable and complex nature of disasters, environmental degradation and climate change in isolation is contributing to the conceptual and practical difficulties in combining them in development programmes. Adaptation and mitigation aspects of climate change alone cause confusion, while the multifaceted dimensions of environmental sustainability are technically challenging to grasp.

Mainstreaming these issues is still in the early stages and gender mainstreaming since the 1980s suggests that this is a long-term task, even when the benefits and opportunities are largely accepted. Coordination and communication across government departments or between donors and partners is challenging and this is as much due to cultural differences between these actors as resistance to integration. Nonetheless, NGOs and some donors now have considerable experience facilitating integration of DRR, environmental sustainability and climate change adaptation (albeit less so climate change mitigation), experimenting with approaches and tools and networking across development organisations. These experiences need to be fully documented, to provide lessons and guidance to others on how, when and where to pursue joined-up approaches to tackling socio-environmental problems and to seek out opportunities for more sustainable development pathways.

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