

Reducing the Risk of Disasters – Helping to Achieve Sustainable Poverty Reduction in a Vulnerable World: A DFID policy paper



Burkina Faso

Planting trees along a diguette, a line of stones
built to prevent run off and soil erosion.

© Panos Pictures

Reducing the Risk of Disasters – Helping to Achieve Sustainable Poverty Reduction in a Vulnerable World: A Policy Paper

Contents		Page
	Foreword – Secretary of State	1
I	Overview	3
II	The purpose of this policy paper	4
III	What makes a disaster?	5
IV	Why should DFID be concerned with disaster risk?	6
V	What does disaster risk reduction look like?	9
VI	Global developments	13
VII	DFID’s work in disaster risk reduction	15
VIII	DFID policy objectives for disaster risk reduction	17
IX	Financial resources	20
Annex A	Examples of disaster impacts on efforts to meet the Millennium Development Goals (MDGs)	21
Annex B:	Least developed countries (LDCs) at high risk of disasters	23
Annex C:	Examples of good practice in disaster risk reduction	24
Annex D	Hyogo Framework for Action and the role of the United Nations	28
Annex E	Acronyms	30

Foreword

2004 and 2005 saw some of the worst disasters in living memory: from the Asian Tsunami, to droughts in Africa, the hurricanes which devastated America's Gulf coast and Central America, and the Pakistan earthquake. These disasters claimed hundreds of thousands of lives, ruined millions of livelihoods and caused billions of pounds worth of damage. But many of the lives lost could have been saved had simple measures been in place, such as better constructed houses, schools and hospitals and effective early warning systems that could be used by local communities.

The number and frequency of disasters is growing. According to Munich Re, one of the world's largest reinsurance companies, the 1990s saw economic losses from disasters total over US\$608 billion – greater than losses over the four previous decades combined. The number of disasters will increase as climate change and global warming generate more severe weather-related events.

The links between disaster and poverty are clear. It is the poorest who are worst affected and suffer most. The capacity to cope and to reduce risk is much more limited in poorer countries. Disasters damage infrastructure and affect productivity and growth. Rarely do disasters just happen – they often result from failures of development which increase vulnerability. It is vitally important therefore that reducing disaster risk is of central concern to our development as well as our humanitarian work.

The international community needs to renew its effort to support Disaster Risk Reduction, and DFID will play a full part in doing so.



Hilary Benn,
Secretary of State for International Development

I Overview

DFID's policy on disaster risk reduction is underpinned by the following assumptions.

- A. Disasters affect poor countries and poor people the most.** Approximately half of least developed countries (LDCs) face high levels of disaster risk.
- B. Absolute levels of disaster risk are increasing due to various pressures, including climate change.** Economic losses associated with disasters almost doubled in real terms between the 1960s and the 1990s. But people's perceptions of the level of risk they face are lagging behind.
- C. Disasters pose a significant and growing threat to development.** They challenge prospects for achieving the Millennium Development Goals (MDGs), in particular the target of halving extreme poverty by 2015.
- D.** Although competing priorities and scarce resources mean that poor countries will not be able to dedicate the same resources to risk reduction as richer countries, **there are cost effective policy choices within the reach of even the poorest that can lower risk.**
- E.** National governments, donors and the international community have not done enough to tackle disaster risk. Because the costs associated with reducing risk are immediate and the potential benefits medium to long-term, **policy makers are often reluctant to dedicate appropriate resources.**

DFID should do more. The goal of our disaster risk reduction policy is to **contribute to sustainable development through reducing the burden of disasters on the poor and most vulnerable**. DFID's objectives for achieving this are to:

- (i) Integrate risk reduction better into development and humanitarian policy and planning** – this will include better integration into DFID's own programming as a regular part of country-office approaches to sustainable development in areas most affected by disaster risk.
- (ii) Support an improved international system and strong institutions at national and regional level aimed at reducing risk in disaster-prone developing countries** – including working with other donors and the international financial institutions (IFIs) to promote more effective financing for country-owned approaches.
- (iii) Reduce the vulnerability of the poor through building capacity and livelihood resilience to disaster risk** – including through support to civil society organisations and the private sector.

Details of how DFID intends to achieve these objectives are outlined in an implementation plan, to be reported on annually and updated every three years. We will ensure that DFID staff are well informed about this policy and have the right skills and tools to implement it. Wherever possible we will work through our existing development programmes.

II The purpose of this policy paper

- 1** This paper summarises DFID's policy on disaster risk reduction as it applies to natural and technological disasters. It sets out the key elements of disaster risk reduction and why it is important. The paper's aim is to provide guidance to DFID staff. It will also inform other UK Government departments and development partners.
- 2** This agenda is more relevant to some countries than others. The policy is for DFID offices where disaster risk poses a threat to sustainable development. It also relates to how DFID works at the regional level and within the international system.
- 3** This is not a wholly new approach. It reflects the increasing priority DFID and the rest of the UK Government accords to risk management. It also builds on DFID work including in disaster response, livelihoods, food security and social protection. More needs to be done to address disaster risk. There are concrete ways in which DFID can better contribute.
- 4** There are no internationally agreed minimum criteria for an event to be classified as a disaster. This is due to the variable manner in which physical hazards and other shocks impact on populations and economies. DFID characterises a disaster as including: (a) death toll; (b) population affected (through injury, homelessness, loss of livelihoods); (c) economic impact; and (d) overwhelmed coping capacity (of governments and populations in the area affected).

Definitions

Disaster

A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceeds the ability of the affected community or society to cope using its own resources.

United Nations

Disaster Risk Reduction

The systematic development and application of policies, strategies and practices to minimise vulnerabilities, hazards and the unfolding of disaster impacts throughout a society, in the broad context of sustainable development.

United Nations Development Programme (UNDP)

III What makes a disaster?

5 Disasters broadly have two causes: the degree of exposure of people, infrastructure and economic activities to a physical event or hazard; and the vulnerability of those exposed to the hazard or shock.

6 The potential for a hazard to become a disaster depends on a **population's vulnerability** or coping capacity. The poor, women, children, the elderly or the disabled, are often most vulnerable and therefore the worst affected. The level of vulnerability of an individual or group depends on levels of access to services and alternative coping options. Poverty results in reduced choice. For example, it is often the very poor who are forced to live in marginal, disaster-prone locations. In countries suffering from chronic levels of poverty, or where poverty is compounded by other factors such as conflict or HIV and AIDS, vulnerability to hazards is much higher, exacerbating disaster risks. HIV and AIDS makes Sub-Saharan Africa, where over 25 million people were living with HIV at the end of 2005, especially vulnerable.

7 Vulnerability also relates to the extent to which a **society is exposed to risk**, a particular problem for Small Island Developing States. In Grenada, after Hurricane Ivan, 90% of private dwellings were destroyed or damaged. Vulnerability to disasters relates to potential impacts on individual groups within society, but also, for example, to the degree that infrastructure is affected. Every year, large parts of Africa's transport network are affected by flooding. The Mozambique floods of 2000 resulted in damage to its roads, which exceeded \$32million and damage to its railways costing over \$7million. Yet as the Commission for Africa report highlights, transport infrastructure is crucial to bringing Africa out of poverty.

8 The **boundary between natural and man-made hazards is often blurred**. Hazards can range from an earthquake, which is of natural origin; to a landslide, which can be caused by a combination of deforestation, heavy rains and light earth tremors; to a chemical spill, which is man-made. Climate change is increasingly blurring the distinction between natural and man-made hazards. Although climatic hazard, such as droughts and floods, would occur regardless, global warming may increasingly modify these types of hazards.

9 The degree to which a discrete physical hazard can be said to have 'caused' a disaster varies widely. The disaster linked to the 2004 Tsunami was clearly attributable to an individual physical hazard (i.e. an earthquake and related tsunami). However, in other cases the triggers for disaster are far more dependent on the **processes surrounding vulnerability**, including asset depletion, destitution and adoption of extreme measures to physically survive. In Niger, the world's poorest country, high levels of vulnerability meant that relatively minor and routine shocks during 2004 (including below average rainfall, locusts and variances in regional markets) were enough to push significantly more families into a critical situation, culminating in a large-scale humanitarian response being required.

IV Why should DFID be concerned with disaster risk?

“Not enough is spent on prevention. Disasters have a huge impact on development. The challenge will increase as the impact of climate change becomes more widely felt”

Hilary Benn, 2004

10 According to the Centre for Research of the Epidemiology on Disasters (CRED), **the world is facing an unprecedented scale of disasters**. Nearly 25% of the world’s landmass and nearly 75% of its population is at risk. Disasters’ impacts are exacerbated by a series of dynamic processes, including population growth, increasing levels of vulnerability, poor planning, climate change and corruption.

11 The increasing threat of disasters coincides with a growing recognition that progress towards the **MDGs** is not fast enough. While supporting activities that move us towards achieving specific MDG goals is a priority, parallel efforts to address risks that constrain progress are also required. DFID’s 2004 study *Disaster Risk Reduction: A Development Concern* indicates how disasters impact upon each of the MDGs [see table at **Annex A** for an overview]. Disasters often damage environmental resources affecting environmental sustainability (MDG7). They exacerbate deforestation and soil erosion. Equally both natural and technological disasters increase the likelihood of pollution, including as a result of damage to industrial infrastructure. Disasters can disadvantage women and girls (MDG3). Where emergency programmes are not well designed they can actually increase the marginalisation of women. There is also greater potential for domestic and sexual abuse of women and girls with the breakdown of social structures following large-scale disasters.

12 Disasters affect poor countries and poor people the most. According to UNDP 24 out of 49 LDCs face high levels of disaster risk. Of these, six are hit by between two to eight large disasters every year [see table at **Annex B**]. Developing countries experience higher levels of mortality. The 6.5 earthquake, which hit central California in 2003, took two lives and injured 40 people. By comparison the 6.6 earthquake, which hit Iran four days later, killed over 40,000 people. Both events took place in areas with high-density populations.

13 Exposure to disasters increases the vulnerability of the poor, deepening their poverty and preventing them taking advantage of economic opportunities. In Aceh, Indonesia, the 2004 Tsunami is estimated to have increased the proportion of people living below the poverty line from 30% to 50%. A DFID study found that without the 2000-1 drought, poverty in Pakistan would have decreased by 13%.

14 Despite these statistics the full **extent to which disasters impact on the poor is not easily measured**. Data exists on loss of earnings and increased unemployment in the formal economy, but this does not capture the true impact in developing countries, where the majority of the workforce operates in the informal sector. The poor are also hit indirectly, via the destruction and impairment of assets, which deliver infrastructure or social services.

15 Disasters can be a trigger for **food insecurity**. However, even in ‘normal’ years when there are no shocks over 20 million people in Africa still rely on relief to meet their basic food needs and the numbers are rising. Yet the prevailing policy response of both governments and the international community is to treat this process as a series of unexpected disasters, through the provision of humanitarian relief. This represents an inefficient use of money and is only a short-term solution. The purpose of relief is to tackle immediate humanitarian needs. It does not, nor is it intended to, provide long-term solutions to

destitution or asset protection. Addressing these issues is crucial to addressing vulnerability to all shocks, including those caused by natural and technological hazards.

16 The UN estimates that by 2015 over 59 of the earth's cities will have populations larger than 5 million. As **urbanisation** continues, much of it poorly planned, the vulnerability of urban populations is of increasing concern. This is evident in Asia with more than half of the world's mega-cities. Higher population densities and more complex physical infrastructure will result in greater potential for large-scale impacts. At the same time, urban populations often have a poor understanding of their vulnerability.

17 Poor planning and lack of appropriate legislation is not only a problem for highly-populated urban areas. Lack of proper building codes in semi-rural north-west Pakistan is thought to have directly contributed to the high death toll in the 2005 earthquake. The **failure of critical infrastructure**, including schools and hospitals, had a particularly devastating impact, both directly in mortality caused by buildings collapsing, and indirectly, due to the resultant absence of critical facilities.

"The most widespread risk to settlements from climate change is flooding and landslides driven by projected increase in rainfall intensity and in coastal areas, sea level rise"

International Panel on Climate Change

18 About two-thirds of disasters are caused by climate hazards. There is growing evidence of the links between **climate change** and disaster risk. Global warming is expected to increase levels of variability and extreme events. The result would be changes in regional climatic patterns.

19 Poor governance influences the ability of a country to mitigate and manage disaster risk. This ranges from failure to address gaps in legislation related to risk management (such as quality assurance in the construction industry) to corruption (such as misappropriation of relief). Thus many so-called 'natural' disasters, such as droughts, are more 'political' than 'natural' regardless of the hazard that triggers them.

20 There are **structural reasons**, at all levels, why organisations do not effectively tackle disaster risk. Responsibility generally sits with humanitarian departments where the focus is on dealing with the aftermath of events. Such approaches tend not to be long-term. Government departments, even in disaster-prone countries, have often not thought enough about how to reduce risk.

21 Countries that are in, or emerging from, violent **conflict** present special challenges, both in terms of increased vulnerability of the poor and weak, or non-existent, governance structures. In such countries, tackling disaster risk is seen as a low priority when compared to meeting basic needs and re-establishing social services. Yet many face high levels of disaster risk which are an additional burden to progress.

The economic case for risk reduction

22 In the short term the **cost of disaster assistance** affects the development budgets of bilateral donors, IFIs, and recipient countries. Resources are often diverted from development programmes in times of crisis. In 2003, DFID provided £350 million in humanitarian assistance, approximately 15% of our total budget, making the UK the second largest bilateral humanitarian aid donor after the United States. Equally, provision of disaster assistance can also create a moral hazard, referred to by the International Monetary Fund (IMF) as a 'Samaritan's dilemma'. Decision makers, knowing that they can rely on provision of external assistance either from central government or from foreign donors, often underinvest in risk reduction.

23 The IMF estimated that the average economic cost for each individual large scale natural disaster event was over 5% of Gross Domestic Product (GDP) in low-income countries between 1997 and 2001; recent World Bank estimates have placed this figure in the range of 2-15% of GDP for low income countries. Furthermore, **macro-economic losses are rising**. Munich Re report that economic losses in the 1990s totalled more than those of the previous four decades combined. This goes beyond the costs of physical damage to infrastructure. Impacts include loss of economic growth and tax revenue, diversion of government funding from development programming to disaster response, reduction of direct foreign investment and loss of tourism income. As a result, the economic impacts of disasters have adverse medium and longer-term consequences for economic growth. Five years after Hurricane Mitch, despite exceptionally high donor pledges, Honduras's GDP was still 6% below pre-disaster projections.

24 There is growing evidence of the **economic benefits of interventions and policy choices aimed at reducing disaster risk**. Major efforts have been made in many small island states, where average annual damage relative to GDP has declined sharply since the late 1970s.

25 There are a limited number of studies that have assessed the relative costs and benefits of individual disaster risk reduction initiatives. There is large variation in the methodologies employed and hence in the estimated potential returns to disaster risk reduction investments. However, the majority of the studies indicate **high potential returns** with internal rates of return from 20% to 50%. A tentative interpretation of the results is that for every dollar invested in disaster risk reduction between two and four dollars are returned in terms of avoided or reduced disaster impacts [**Annex C** provides some practical examples].

26 Equally, there are indications that even when disasters do not occur mitigation initiatives can provide **additional benefits**. For example, flood-protection structures may also provide irrigation or drinking water and electricity. A polder system in Piura, Peru, diverted flood-waters into a retention basin. This has not only reduced the risk of flooding but also provided irrigation, which has positive spin offs for agriculture and livelihoods.

27 Thus DFID recognises the evidence supporting the case for increased investment in disaster risk reduction. But we also accept that more should be done to **expand and strengthen this evidence base**.

V What does disaster risk reduction look like?

28 Effective delivery of humanitarian aid is one important element for reducing the impact of a disaster. Following the 1999 cyclone in Orissa, the Indian Red Cross restructured its State response capacity. When a disaster strikes, pre-planned relief operations are now set in motion with state and district branches supporting rapid assessment of needs and dispatching of materials from stockpiles around the region, in addition to medical teams, money and trained relief volunteers. Almost two million volunteers have been trained in First Aid to help in an emergency.

29 But response is not designed to address the root causes of disasters and **over-reliance on relief results in a perpetuation of existing risks and a cycle of recurrent disasters**. Thus, while it is important to provide timely and appropriate humanitarian assistance, it is equally crucial that efforts are made to tackle the longer-term challenges associated with risk reduction. Furthermore, many natural and technological disasters are small scale, occurring on a regular basis, unnoticed by the world, leaving affected communities to suffer their impact unaided.

30 Disaster risk reduction is aimed at **tackling the fundamental elements of disaster risk: vulnerability, hazards (or shocks) and exposure**. Reducing disaster risk is not just about additional investments – it is also about ensuring that development interventions are sound. For example, ensuring appropriate construction of critical infrastructure in highly vulnerable areas.

31 Reducing vulnerability centres on understanding and addressing underlying processes of impoverishment, including events and processes associated with asset depletion and destitution. A key element is to make lives and livelihoods disaster resilient. This is in part about protecting existing livelihoods. For example ensuring that assets, such as harvested grain, are protected from floodwaters. It also includes diversifying livelihoods. In the Chars area of Bangladesh, which suffers from regular riverine flooding, recent programmes have focused on providing livelihood options that can function even during flooded periods. Households have been encouraged to construct fenced-in plots which allow for fish-farming during the flood season, which can last up to three months of the year, and produce fish to supplement diet and to sell.

32 Reducing vulnerability also means **building resilience** and can be achieved through simple, but effective, innovation. For example, a DFID-supported project at Warwick University has developed domestic rainwater harvesting for drinking and perennial crop cultivation, as well as livestock management. This has been successfully used to mitigate overexploitation of water resources and drought in parts of Ethiopia.

33 Reducing vulnerability to disasters, and other shocks, requires sustainable efforts to tackle **chronic food insecurity**. This reflects a move away from emergency relief towards budgeted national safety nets that deliver timely, adequate, predictable and guaranteed transfers. Safety nets better protect lives and livelihoods against destitution and increased levels of suffering, for example through avoidance of distress-selling of key assets.

34 Tackling the causes of a hazardous event can include reducing the likelihood of landslides through reforestation or ensuring appropriate cropping and water-use practices in drought-prone areas. These efforts should be coupled with action aimed at minimizing **exposure** to events through, for example, encouraging appropriate land-use planning in cyclone-prone areas and ensuring proper building codes are enforced in earthquake-prone locations. In Cuba, the Institute for Physical and Spatial Planning is responsible for the implementation of physical planning in the country, which includes the establishment of building codes and risk zoning to reduce the physical vulnerability of

households and critical infrastructure, especially in flood-prone areas. Its creation has strengthened the country's capacity to manage physical aspects of risk. A particular challenge is how to make critical infrastructure more resilient so that hospitals and schools do not collapse on children and the sick and are able to serve communities in the aftermath of disasters.

35 Better identification of risk and occurrence of a hazard, coupled with monitoring the levels of vulnerability of a population through the establishment of effective **early warning systems** is also fundamental. The Famine and Early Warning System Network (FEWSNET) is a good example of a regional initiative aimed at monitoring vulnerability. FEWSNET covers 17 countries in Sub-Saharan Africa, as well as Afghanistan. The network offers a range of information products, tools and services to provide decision-makers with the up-to-date information necessary to avert or mitigate the impact of food security shocks. The challenge is to ensure that early warnings result in prompt responses by governments and potentially the international community. It also requires that information is effectively disseminated down to the end user in an accessible form.

Institutional implications for effective disaster risk reduction

36 Disaster risk reduction is addressed by **integrating disaster preparedness and mitigation measures into longer-term development processes**. This means ensuring that risk reduction is incorporated into government planning for development, for example through poverty reduction strategies (PRSs). It implies a commitment to long-term processes, support for appropriate legislative frameworks and long-term budgetary provision. These are key indicators of success when pursuing disaster risk reduction approaches.

37 To be effective, disaster risk reduction requires integrated national strategies, which focus on ensuring that the **right institutional structures** are in place. Efforts should include a focus on capacity building. Because of its cross-cutting nature, disaster risk reduction calls for collaboration by a wide range of stakeholders. At government level this means ensuring cross-departmental co-ordination, while across society as a whole it requires better links between the government, non-governmental organisations (NGOs), the private sector and academia. In Bangladesh this understanding has resulted in institutional reform supported by UNDP and DFID. The aims of this include better co-ordination between key line ministries, strengthened capacity at district and central levels and better understanding of the longer-term implications of climate change on disaster risk for Bangladesh.

38 Disaster risk reduction efforts rarely show quick or highly visible results. As a result many national governments, donors and other stakeholders have tended to focus on responses, which are easier to quantify and politically expedient. This is particularly challenging in low-income countries, which are both more risk prone and face more competition for scarce resources. The most vulnerable are often the poorest members of society and as a result disaster risk reduction relates to issues surrounding social justice, implying a commitment by governments and politicians to **accept accountability to the most vulnerable**. In Venezuela during the landslides of late 1999, the poorest segments of the urban population, those living in unplanned and unrecognised slums, suffered the most. Many of these slums have grown up in the peri-urban areas around Caracas on marginal lands, along steep ravines, thereby increasing their vulnerability to flash flooding and mudslides.

39 However, there are also some examples of good governance, where the vulnerability of the poorest is recognised and efforts have been made to address this through policy reform. After floods, the Government of South Africa reformed its disaster management approach. This resulted in a new Disaster Management Bill in 2002, which places greater responsibility on provincial and local government authorities to undertake risk assessment activities.

What does disaster risk reduction look like? Elements of good practice

[Annex C provides practical examples of these areas]

Sustainable Institutional Structures and Good Governance

- Reform of national disaster management agencies and establishment of stronger co-ordination mechanisms between relevant line ministries
- Linking community-level experience with national-level policy making
- Improved environmental management and control mechanisms
- Efforts to reduce corruption to strengthen building codes and land-use

Risk Identification, Monitoring, Early Warning and Public Awareness

- Comprehensive multi-hazard risk, vulnerability and capacity assessments at all levels
- Management and dissemination of knowledge on risk
- Effective early warning systems, including for famine, drought, hurricanes and floods
- Communication and awareness raising about hazard threats

Technical and Physical Risk Mitigation

- Improved design and construction of physical infrastructure, particularly critical infrastructure
- Improved maintenance and repair of physical infrastructure
- Well-structured land use, planning and zoning systems
- Appropriate structural interventions to reduce risk e.g. maintenance of wetlands in flood plains
- Improved use of climate data to encourage more effective water management, agricultural planning and healthcare

Building Resilience, Promotion of Innovation, Knowledge and Education

- 'Disaster proofing' livelihoods to make them more resilient in disaster prone areas
- Use of science and technology to develop appropriate livelihoods for populations at risk
- Promotion of risk awareness through education at all levels
- Improving information on the likely impacts of climate change

Risk sharing and Risk Transfer

- Use of insurance and re-insurance instruments e.g. crop insurance for farmers
- Establishment of calamity funds for use in times of crisis
- Use of safety nets for the most vulnerable e.g. microcredit and cash transfers

Preparedness, Effective Response and Sustainable Recovery

- Community-level disaster preparedness incorporating a focus on safe behaviour and practices
- Well-resourced and prepared response systems with a focus on national and local capacity
- Ensuring recovery includes efforts to reduce underlying risk factors – including through engagement with decision-makers and the public on future efforts to reduce disaster risk

40 One of the challenges ahead is to **understand better the incentives for disaster risk reduction**. Part of this is a need to support the vulnerable to demand change themselves. At the community level, where non-governmental organisations (NGOs) and the International Federation of the Red Cross/Red Crescent are engaged, this is better understood. However, at national, regional and international levels we have a long way to go. There is much to learn from the private sector. Bangladeshi microfinance institutions have introduced innovative credit and savings products that help poor people maintain and restore their livelihoods in the face of floods and other weather-related shocks. The insurance and re-insurance industries have a long track record of looking into economic incentives and developing instruments for managing risk, although to date they have not been effective in reaching the very poor.

41 Work to define institutional and legal mechanisms for disaster risk reduction in many developing countries, including the Maldives, Sri Lanka and Pakistan, has shown a clear trend towards empowering local governments. Local governments and communities are the first line of response in any emergency: disaster risk reduction can therefore be a strong incentive for **decentralisation**. Local government also plays a crucial role in facilitating bottom-up planning and empowering local communities through knowledge transfer. The challenge is to match this with a delegation of resources, as well as to better understand and mitigate the potential for corruption at local level, for example in the enforcement of building codes and land-use planning permission.

42 Good disaster risk reduction strategies incorporate strong **public-private partnerships**. This often requires macroeconomic policies and regulatory reforms being reviewed to enhance the private sector role. A positive enabling environment for doing business, that stimulates small domestic enterprises as well as larger and foreign investors, is critical. The private sector provides livelihoods – 9 out of 10 jobs in developing countries are in the private sector – and is a key service provider. Increased financial and corporate transparency, and conditions that promote competition are needed if private companies are to play a positive and not a destabilising role that can increase risk.

VI Global developments

43 In 2005, major new **international commitments** to disaster risk reduction were made. At the World Conference on Disaster Reduction member states signed up to a comprehensive framework for action for tackling disaster risk in development over the next 10 years [**Annex D: Box A** outlines the key components]. The Gleneagles Summit resulted in the G8 committing themselves to incorporate this issue more effectively into development policy and planning. The Millennium Review Summit Declaration also makes reference to the importance of this issue. A number of international commitments related to climate change are also significant – these include additional commitments made at the G8 as well as the European Union (EU) Action Plan on Climate Change.

44 The emerging economic case for disaster risk reduction is reflected by recent developments in the **international financial institutions**. In 2003, the IMF produced a paper for its Executive Board, which looked at the impact of disasters on its lending portfolio. The IMF is establishing a shocks facility, but this is focused on ex-post response to disasters. The World Bank is increasing its focus on disaster risk issues. Former president, Jim Wolfensohn, argued that *“reducing disaster vulnerability may very well be the most critical challenge facing development in the new millennium”*. The organisation has recently undertaken a major review of global risk, identifying natural disaster hotspots, co-funded by DFID. This will be used as a basis for the Bank to ensure that risk reduction is more effectively integrated into country-level planning processes. Equally a number of regional development banks, including the Inter-American and Asian Development Banks, have become increasingly active.

45 At **country level**, disaster reduction issues are gradually being given more weight in national planning processes. For example, the latest draft of the Bangladesh PRS gives more emphasis to disaster risk than previous documents. The Government of Vietnam has set the goal of halving the number of people who fall back into poverty due to disasters, by 2010. The Government of Mozambique’s PRS highlights measures necessary for disaster management.

46 The **UN** is making efforts to strengthen its work in this area [**Annex D: Box B** provides a brief overview of some of the key UN organisations involved in disaster risk reduction]. It is vital that the UN shows leadership. During 2005 a major reform of the UN’s International Strategy for Disaster Reduction, the global framework for international efforts in disaster risk reduction, took place. Equally, individual UN agencies have become increasingly concerned with disaster issues. UNDP, for example, is enhancing its focus, including by recruiting additional advisory staff to increase its impact on disaster risk reduction at the country level. Good co-ordination between appropriate agencies is vital if the UN is to play an effective role.

47 **Other inter-governmental organisations**, particularly in the regions, have an important role to play. Their functions vary. Some, like the Mekong River Commission set up around a shared water resource, have very technical and focused objectives. Others, like the African Union (AU) and its New Partnership for Africa’s Development (NEPAD), deal with a range of regional issues including disaster risk reduction. In the wake of successive major natural disasters in the mid-2000s many inter-governmental organisations that have had a limited role to date, like the Commonwealth, are exploring what they can do to help their member states. The success of these initiatives depends on their impact at the national level, the willingness of member states to share information, and the extent to which they co-ordinate with other mechanisms, including the UN, to ensure that new initiatives add value and do not duplicate effort. Civil society also plays an important role.

48 A number of **donors** have for some time taken a proactive approach to disaster risk reduction, particularly at the country/regional level. These include the US, Australia, Germany and Japan. However, it is widely accepted that more could be done to tackle disaster risk reduction effectively – particularly with regards to integrating it into development. In the aftermath of successive disasters, including the 2004 Asian Tsunami, the Kobe Conference there has been a visible increase in the level of interest shown by donors to these issues, including amongst the Europeans. The challenge ahead will be to ensure greater donor harmonisation and support for country versus donor led approaches.

49 Public-private partnerships looking at providing more effective mechanisms for reaching the poorest are also being explored. In 2000, the World Bank launched the ProVention Consortium, which works towards more effective public-private dialogue on disaster risk. In insurance markets thinking has been taking place on how to improve LDCs and poor people's access to products; these may include the use of insurance or re-insurance instruments, such as crop insurance for small farmers. Risk sharing and risk transfer mechanisms must be considered through new, innovative perspectives that make them more attractive and accessible to the poor. Hedging schemes based on weather indices that benefit the poor are being piloted in a number of developing countries. New thinking, led by the World Bank, is taking place on how to make catastrophe insurance accessible to LDCs.

VII DFID's work in disaster risk reduction

50 DFID's public commitment to reducing disaster risk is grounded in the 1997 White Paper – *Eliminating World Poverty: A Challenge for the 21st Century*. A number of DFID policy papers also recognise the importance of effectively tackling this issue. Amongst these, *Eliminating Hunger: Strategy for Achieving the Millennium Development Goal on Hunger* acknowledges that disasters are a major cause of food insecurity.

DFID's White Paper on Development (1997)

- Recognises the burden of (recurrent) disasters on poor societies in terms of constraining sustainable development
- Clearly states that disaster risk reduction will be an integral part of DFID development co-operation programming.
- Stresses the importance of a principled and co-ordinated approach to promoting risk reduction by support to multilateral humanitarian actors (UN institutions, Red Cross/Red Crescent Movement, international NGOs).
- Highlights the need to work closely with EU, other member states and ECHO to ensure more consistent policies and approaches.

51 DFID has a good track record of providing prompt and appropriate humanitarian assistance in developing countries. DFID has also supported the activities of a number of international organisations tackling disaster risk reduction through core funding and institutional partnership agreements, including UN agencies and the International Federation of the Red Cross/Red Crescent. However, as recognised in a speech by the Secretary of State in 2004, both the international community and DFID should do more to invest in disaster risk reduction and link it with development programming.

Disaster Risk Reduction in the Secretary of State's Humanitarian Reform Agenda (2004)

Committed to:

- (i) increase the funding provided by DFID to international efforts to reduce disaster risk; and
- (ii) allocate 10% of the funding provided by DFID in response to each natural disaster to prepare for and mitigate the impact of future disasters, where this can be done effectively.

Encouraged:

- (iii) other bilateral donors to build disaster reduction into their development programming;
- (iv) the World Bank and regional development banks to consider how disaster risk can be incorporated into Poverty Reduction Strategies; and
- (v) the UN to look at how its institutional set-up could be more effective.

52 DFID's approach, as set out in this policy, reflects a broader commitment to effective risk management across DFID and the rest of UK Government. DFID is a risk-taking organisation working to achieve a set of ambitious targets to address world poverty. Our ability to respond to these challenges is dependent upon a combination of innovation, the right attitude towards risk-taking and systems to manage risks effectively. Natural and technological disasters are one set of risks, which have the potential to impact negatively on the achievement of this core business objective, and as such, need to be properly managed. DFID considers the integration of disaster risk reduction into our own broader

programming as a step in helping us, and our partners, to mitigate against, and manage this particular risk. DFID recognises that this will be a long-term process, requiring effort across the organisation, including within country offices where natural disasters occur regularly and have the potential to constrain sustainable development efforts.

53 The policy draws on experience and knowledge from a range of work that DFID has already undertaken. This includes project work at the country office level, including in Southern Africa, Asia and the Caribbean. It also reflects policy thinking including that contained in DFID's study *Disaster Risk Reduction: A Development Concern* and in a multi-agency paper on *Poverty and Climate Change*.

VIII DFID policy objectives for disaster risk reduction

54 Since the launch of the White Paper on International Development in 1997 there has been significant development in international thinking on disaster risk reduction. DFID no longer considers the impact of disasters as an occasional ‘interruption’ to development programming. Disasters do not just happen, they are a result of failures of development processes which increase vulnerability and reduce coping capacities, constraining development further in a ‘downward spiral’.

55 This policy paper aims to respond to this challenge by articulating DFID’s renewed commitment to disaster risk reduction. The goal of our disaster risk reduction policy is to **contribute to sustainable development through reducing the burden of disasters on the poor and most vulnerable**. Our overarching policy objectives for disaster risk reduction are to:

- (i) support an improved international system and strong institutional structures at the national and regional level aimed at reducing risk in disaster-prone developing countries;
- (ii) promote the more effective integration of risk reduction into development and humanitarian policy and planning; and
- (iii) reduce the vulnerability of the poor through building capacity and livelihood resilience to disaster risk.

56 This goal and series of objectives **are in line with DFID’s efforts to meet the MDGs**, all of which are both directly and indirectly affected by the impact of disasters. They will also help to contribute to the implementation of the Hyogo Framework for Action agreed at the 2005 World Conference on Disaster Reduction.

How will DFID achieve its objectives for disaster risk reduction?

57 DFID recognises the important role, which institutional partners play in disaster risk reduction, both at the national and regional level, and we will increase our support to them. We will support the strengthening of the international architecture in both disaster risk reduction and responsible humanitarian work.

58 We also acknowledge the value of bilateral donors addressing these issues in their own work at country and regional levels. This approach helps to provide greater traction with developing country governments in addressing challenging aspects of disaster risk reduction such as preventing corruption in the building or land-planning sector. Consequently, DFID needs to improve the way we manage disaster risk in our bilateral programmes in disaster-prone countries. We will engage bilaterally with countries in which more needs to be done. The focus will be on supporting partner governments. This will include ensuring that disaster risk reduction is better embedded into the PRS process.

59 It is for DFID Directors to decide in which countries and to what extent they should take up this work. Identification of countries in which DFID will support disaster risk reduction depends upon various factors including: government capacity; country risk exposure; effectiveness of existing national and regional efforts; and what other bilateral donors are doing. Disaster risk reduction interventions can provide additional benefits. But there are also opportunity costs in funding them. DFID country offices will need to weigh up competing demands of reducing the potentially major impact of future disasters and more immediate measures to reduce poverty. We will develop more tools to help with this process, including guidance notes on risk assessment. In disaster prone countries where there is a decision not to invest in risk reduction, an explanation must be included in the Country Assistance Plan.

60 In pursuing these objectives, DFID places particular importance on governance. This applies primarily to ensuring that national governments have the right institutional systems in place to manage disaster risk, including enforcement of codes, transparent procurement and ethical behaviour. It also relates to ensuring that international agencies, including in the UN, the International Federation of the Red Cross/Red Crescent, and national and international non-governmental organisations have the right capacity to support their developing country counterparts. Improved governance is also needed for the private sector, and can be promoted through strengthening the capacity of the central bank and other government agencies responsible for regulation.

61 DFID is committed to:

Integrating disaster risk reduction into development programming as a regular part of country-office approaches to sustainable development in countries and regions most affected by disasters. In line with National Audit Office recommendations, we will incorporate disaster risk concerns into DFID's country-office planning processes in disaster-prone countries. To do this we will ensure that DFID staff, including programme managers and advisers, are well informed about this policy and have the right skills and tools to implement it. Focal points will be nominated in relevant country offices to lead this process. Wherever possible DFID will work through our existing development programmes.

Promoting disaster risk reduction in national government development planning and programming as part of sustainable development efforts in regions most affected by disasters. We will focus on collaborating with developing country governments, regional organisations and the World Bank to consider how disaster risk can be more effectively incorporated into national-level planning processes. We will support UNDP's efforts to strengthen its capacity to work with governments in this area.

Strengthening the international system's capacity to reduce disaster risk and ensure that international commitments are translated into action. We will work with the UN, other donors and the EU to support international commitments on disaster risk reduction, including those agreed at the 2005 World Conference on Disaster Reduction and G8 Summit.

Facilitating an increase in the quantity and quality of funding provided to disaster risk reduction by national governments and donors. We will work with other donors, the EU and the IFIs to promote more effective financing for country-owned and led approaches. We will demonstrate our own commitment by increasing our funding to disaster risk reduction, through prioritisation of existing aid frameworks. We will explore the possibility of doing more through our country programmes, where it is appropriate, and increase our support to the international system. We will also support innovative work to address major knowledge gaps that prevent progress in our understanding and application of disaster risk reduction, including the area of incentives and the role of the private sector. This will include supporting the development of a stronger evidence basis for the economic impact of disasters and the benefits of disaster mitigation. To support this we will seek to foster stronger links between the private and public sectors aimed at developing alternative and strengthened options for risk mitigation.

Contributing to international efforts to help developing countries adapt to climate change impacts through effective incorporation of disaster risk reduction approaches into policy and planning. We will contribute funds to the United Nations Framework Convention on Climate Change for mainstreaming climate risk reduction into development. We will also focus on supporting the Africa Commission objectives on climate change, including seeking to enhance climate observation capacity.

Contributing to reducing the impacts of disasters on the most vulnerable by ensuring that community level knowledge and experience of disasters is more effectively fed into national-level decision making. We will focus on supporting the work of civil society organisations such as of the International Federation of the Red Cross/Red Crescent and other non-governmental organisations. Areas of particular interest include how NGOs can play a more proactive role in both advocacy and innovation for disaster risk reduction. We will aim to ensure that in international fora DFID promotes an understanding of vulnerability, coping capacities and strengthened livelihoods as key components of disaster risk reduction.

Moving away from relief for predictable chronic hunger to meeting needs with stable multi-annual resources delivered through national governments. In Africa this will be implemented through government-led safety net programmes. Emphasis will be placed on delivery of timely, adequate, predictable and guaranteed transfers to those we are taking out of emergency relief. A plan will be put in place to ensure that needs are met in transition in order that we do not leave gaps, and that the needs of those who fall through the safety nets are met. We are also committed to developing more comprehensive food security strategies and programmes that will help people, where possible, 'graduate' from the safety net – these strategies need to be placed within the context of countries' planning processes.

Support the strengthening of early warning systems and capacity, and in responding to disasters, seek to leave communities less vulnerable and better able to cope with future shocks whilst encouraging affected governments to take a more systematic approach to disaster management in the future.

DFID will support international efforts to strengthen existing early warning systems and address gaps where they exist, with a particular focus on ensuring that effective national and local level systems exist. In the event of a humanitarian response, DFID will seek to encourage national and international agencies to promote disaster risk reduction in the rehabilitation and recovery process. We will ensure that DFID staff have the right skills and tools to integrate disaster risk reduction into response programming. We will work with UN Office for the Coordination of Humanitarian Affairs (OCHA) to ensure that they have the capacity to do this.

IX Financial resources

62 Much can be done to reduce disaster risk without extra money. As the paper highlights reducing disaster risk will in part be achieved by ensuring that our ongoing development and humanitarian work, and that of our partners, effectively takes account of risk. For example, through ensuring that infrastructure is properly designed to withstand possible climatic and seismic shocks. Achieving this is more about the design of effective policies and programming than it is about additional financial resources.

63 However, achieving meaningful reduction of disaster risk will also require support for additional activities, which will require additional financing. There are **three strands to resourcing for DFID's disaster risk reduction policy**:

- A. Support global disaster risk reduction efforts** – financing for this work will come primarily from DFID's central divisions. This will include support to: (i) the UN system for disaster risk reduction and relevant agencies (as outlined in **Annex D**); (ii) global initiatives working to address different aspects of disaster risk including climate change; and (iii) the work of civil society to address global cross-cutting and cross-regional themes.
- B. Support efforts to reduce disaster risk at the country and regional levels** – funding for this will come from DFID's regional divisions and country offices. Our focus will be on the most disaster-prone countries. Interventions will be based on DFID country office priorities and capacity; level of national vulnerabilities and disaster risk; and level of government capacity. Funding in country will need to be identified through prioritisation of existing country aid frameworks.
- C. Ensure communities are left less vulnerable to future crises by using its response as an opportunity to engage with developing country governments** – DFID will allocate approximately 10% of the funding provided by DFID in response to each natural disaster to prepare for and mitigate the impact of future disasters, where this can be done effectively. This is likely to be particularly relevant for sudden onset disasters and will only apply to responses above £500,000. These funds will usually be managed by the relevant regional division or country office.

Annex A: Examples of disaster impacts on efforts to meet the MDGs

MDG	Direct Impacts	Indirect Impacts
1. Eradicate extreme poverty and hunger	<ul style="list-style-type: none"> ● Damage to housing, service infrastructure, savings, productive assets and human losses reduce livelihood sustainability. 	<ul style="list-style-type: none"> ● Negative macroeconomic impacts including severe short-term fiscal impacts and wider, longer-term impacts on growth, development and poverty reduction. ● Forced sale of productive assets by vulnerable households pushes many into long-term poverty and increases inequality.
2. Achieve universal primary education	<ul style="list-style-type: none"> ● Damage to education infrastructure. ● Population displacement interrupts schooling. 	<ul style="list-style-type: none"> ● Increased need for child labour for household work, especially for girls. ● Reduced household assets make schooling less affordable, girls probably affected most.
3. Promote gender equality and empower women	<ul style="list-style-type: none"> ● As men migrate to seek alternative work, women/girls bear an increased burden of care. ● Women often bear the brunt of distress 'coping' strategies e.g. by reducing food intake. 	<ul style="list-style-type: none"> ● Emergency programmes may reinforce power structures which marginalise women. ● Domestic and sexual violence may rise in the wake of a disaster.
4. Reduce child mortality	<ul style="list-style-type: none"> ● Children are often most at risk, e.g. of drowning in floods. ● Damage to health and water and sanitation infrastructure. ● Injury and illness from disaster weakens children's immune systems. 	<ul style="list-style-type: none"> ● Increased numbers of orphaned, abandoned and homeless children. ● Household asset depletion makes clean water, food and medicine less affordable.
5. Improve maternal health	<ul style="list-style-type: none"> ● Pregnant women are often at high risk from death/injury in disasters. ● Damage to health infrastructure. ● Injury and illness from disaster can weaken women's health. 	<ul style="list-style-type: none"> ● Increased responsibilities and workloads create stress for surviving mothers. ● Household asset depletion makes clean water, food and medicine less affordable.
6. Combat HIV and AIDS, malaria and other diseases	<ul style="list-style-type: none"> ● Poor health and nutrition following disasters weakens immunity. ● Damage to health infrastructure. Increased respiratory diseases associated with damp, dust and air pollution linked to disaster. 	<ul style="list-style-type: none"> ● Increased risk from communicable and vector borne diseases, e.g. malaria and diarrhoeal diseases following floods. ● Impoverishment and displacement following disaster can increase exposure to disease, including HIV and AIDS, and disrupt health care.

MDG	Direct Impacts	Indirect Impacts
7. Ensure environmental sustainability	<ul style="list-style-type: none"> ● Damage to key environmental resources and exacerbation of soil erosion or deforestation. Damage to water management and other urban infrastructure. ● Slum dwellers/people in temporary settlements often heavily affected. 	<ul style="list-style-type: none"> ● Disaster-induced migration to urban areas and damage to urban infrastructure increase the number of slum dwellers without access to basic services and exacerbate poverty.
8. Develop a global partnership for development	<ul style="list-style-type: none"> ● Impacts on programmes for small island developing states from tropical storms, tsunamis etc. ● Impacts on commitment to good governance, development and poverty reduction – nationally and internationally. 	
All MDGs		Reallocation of resources – including Official Development Assistance (ODA) – from development to relief and recovery.

Annex B: Least developed countries (LDCs) at high risk of disasters

Country	Human Development Index Human Development Report 2005	Annual frequency of large-scale disasters since 1985	Major disaster events affecting the country	Total affected 1985-2005	Total number of people killed 1985-2005
1. Bangladesh	139	8.07	Tropical Cyclones, Floods, Earthquakes	130,631,827	171,518
2. Nepal	136	2.85	Floods, Epidemics, Droughts, Earthquakes, Landslides	2,026,686	8,548
3. Afghanistan	N/A	2.85	Earthquakes, Drought, Floods, Epidemics	7,377,202	16,682
4. Ethiopia	170	2.8	Drought, Epidemics, Floods, Landslides, Famine	75,952,966	10,553
5. Tanzania	164	2.23	Epidemics, Drought, Floods, Earthquakes	11,298,992	6,298
6. Sudan	141	2.15	Epidemics, Floods, Earthquakes, Drought, Famine	18,754,081	7,762
7. Mali	174	1.77	Epidemics, Famine, Floods, Drought	343,147	5,185
8. Mozambique	168	1.67	Famine, Epidemics, Drought, Floods, Tropical Cyclone, Landslides	14,953,521	8,893
9. Uganda	144	1.62	Epidemics, Earthquakes, Drought, Floods	2,538,370	1,355
10. Haiti	153	1.53	Tropical Cyclones, Floods, Droughts, Epidemics, Famine	3,098,411	7,283
11. Niger	177	1.46	Epidemics, Floods, Tropical Cyclones, Drought, Famine	9,153,310	8,572
12. Malawi	165	1.46	Epidemics, Drought, Floods	22,953,009	2,554
13. Madagascar	146	1.38	Epidemics, Tropical Cyclones, Floods, Famine	6,330,730	3,203
14. Lao PDR	133	1.37	Epidemics, Floods, Tropical Cyclones, Droughts,	2,931,419	897
15. Somalia	N/A	1.31	Epidemics, Floods, Drought, Famine, Windstorm	4,143,582	8,153
16. Mauritania	152	1.23	Drought, Famine, Epidemics, Floods	1,252,287	2,417
17. Burkina Faso	175	1.15	Drought, Epidemics, Floods, Famine	2,854,030	11,087
18. Benin	162	1.07	Floods, Epidemics	794,155	1,372
19. Senegal	157	1	Floods, Drought, Epidemics, Tropical Cyclones, Famine	920,326	1,046
20. Vanuatu	118	0.93	Tropical Cyclones, Earthquakes, Floods	83,555	112
21. Zambia	166	0.87	Epidemics, Drought, Floods	10,324,414	519
22. Togo	143	0.85	Epidemics, Droughts, Famine, Floods	616,161	1,022
23. Guinea-Bissau	172	0.77	Epidemics, Drought, Windstorms, Forest Fires	151,231	1,637
24. The Gambia	155	0.69	Epidemics, Floods, Drought, Floods, Windstorms	47,684	200

Sources: UNDP 2001 Disaster Profiles of the Least Developed Countries and Centre for Research of the Epidemiology on Disasters (CRED) Emergency Disasters Database (EMDAT)

Annex C: Examples of good practice in disaster risk reduction

Area 1: Sustainable institutional structures and good governance

Example 1 Bangladesh – Since 2003 the government of Bangladesh, with significant support from UNDP and DFID Bangladesh, has developed an ambitious and holistic approach under its Comprehensive Disaster Management Programme. The purpose is to promote an effective government-led approach to risk management that balances the need for effective response capacity with longer-term efforts to reduce risk. It seeks to provide a strong platform for leadership by government into which bilateral donor support can be linked and thus provides a good vehicle for donor harmonisation. Its intended outputs include better co-ordination between key line-ministries, improved livelihoods in risk prone areas, strengthened response capacity at district and central levels and better understanding of the longer-term implications of climate change on disaster risk for Bangladesh.

Example 2 South Africa – After the flooding of the Cape Flats of Capetown in 1994, the government resolved to strengthen South Africa's ability to deal with disaster risk management. This initially involved a complete review of disaster management structures and policies and subsequently the development of a comprehensive national strategy for disaster risk management. This included reform of organisational structures and legislation related to this area. In 1999, a policy White Paper was developed. Key policy proposals included: integration of risk reduction strategies into development initiatives; development of a strategy to reduce community vulnerability; and the creation and implementation of a new disaster management act. This was followed by a disaster management bill in 2002, which was unanimously accepted by parliament and has generated greater involvement by provincial and local government authorities to undertake risk assessment activities.

Example 3 Caribbean Region – The Caribbean Disaster Emergency Response Agency, which operates throughout the region, has started to implement a Comprehensive Disaster Management Strategy with support from USAID/ Office of US Foreign Disaster Assistance (OFDA) and UNDP. This umbrella initiative aims to manage and reduce risks associated with natural hazards in the context of climate change. It addresses institutional, legislative and organisational issues; tools and methodologies for application; early warning systems and a cross-cultural network to promote exchange of experiences in disaster reduction amongst the Caribbean countries. Its main purpose is to enhance sustainable development in the Caribbean by integrating disaster risk reduction into the development process.

Area 2: Risk identification, monitoring, early warning and public awareness

Example 1 India – Coastal communities in Andhra Pradesh are vulnerable to cyclones and storm systems. Ham-radio sets have not always been a reliable form of communication for early warnings. As part of a European Community Humanitarian Aid Department (ECHO)-funded disaster preparedness programme started in 2001, mobile phones were distributed to 120 villages along a stretch of coastline in Andhra Pradesh. The phones are programmed to have restricted dialling and are distributed twice a year prior to the main cyclone season to disaster management committees. This phone system has proven to be more reliable, both for receiving warnings from outside the area, and also to pass on messages to neighbouring villages about impending events.

Example 2 Guatemala – Prior to Hurricane Mitch the communities along the Coyolate River in Guatemala had undertaken a joint flood map, established a high-rainfall alarm system and had constructed evacuation shelters. The result was that the impact of the Hurricane was substantially reduced upon the inhabitants and there was no loss of life.

Example 3 Sub-Saharan Africa – The Famine and Early Warning System Network (FEWSNET) is an initiative covering 17 countries in Sub-Saharan Africa, as well as Afghanistan. The network offers a range of information products, tools and services to provide decision-makers with the up-to-date information necessary to avert or mitigate the impact of food security shocks. Products include regular and ad hoc food security updates and briefings; analysis of remotely-censored and ground-based early warning data; baseline vulnerability assessments; and capacity-building for national and regional early warning systems. Areas of assistance include early warning techniques and tools, food security and vulnerability assessment methods, and contingency and response planning.

Example 4 Thailand – Prior to the 2004 Tsunami, one of the few places with an operational local level tsunami early warning system was the island of Simeulue off Aceh. Residents had developed an oral system since the previous tsunami a century earlier. If animals started behaving erratically and the sea drained off beaches – the precursor to a tsunami – everyone was told to flee to the hills. Although the earthquake and tsunami destroyed about 70% of the houses, only 23 people from the population of 78,000 died. In some other parts of Aceh, the death toll exceeded 90%.

Area 3: Technical and physical risk mitigation

Example 1 Cuba – In 1998, Cuba established the Institute for Physical and Spatial Planning. This is the responsible body for the implementation of physical planning in the country, which includes the establishment of building codes and risk zoning to reduce the physical vulnerability of households and critical infrastructure, especially in flood-prone areas. This has strengthened the country's capacity to manage physical aspects of risk.

Example 2 Turkey – In 2004 the government of Turkey used a World Bank loan to establish the seismic risk mitigation and emergency preparedness project. One aspect of this programme focuses on ensuring that public facilities are physically resistant to earthquake risk. The aim being to reduce the risk of future earthquake damage to infrastructure with a view to saving lives and ensuring the continued functioning of critical government services in the event of an earthquake. Work has included retrofitting of hospitals, schools and other priority public facilities and the adoption of innovative approaches to promote enforcement of building codes and compliance with land use plans.

Example 3 Philippines – Improved predictability and understanding of climate variability could help in deriving optimal operating policies for water and infrastructure management, as at Angat Dam in the Philippines. This multipurpose dam supplies 97% of Metro Manila's water requirements, irrigates approximately 30,000 hectares and generates 240 MW of hydropower. The El Nino of 1997-98 caused severe shortage in rainfall, which resulted in the dam being shut off for irrigation and hydropower generation. This resulted in several thousand farmers losing their crops and the power companies having to buy emergency coal on the international market at higher prices. Through better forecasting information and analysis of climate variations, better decision systems for water distribution can be put into place.

Example 4 Sub-Saharan Africa – Examples of ways in which governments can improve the rural economy are being put into practice in Africa. Modern methods of monitoring crop production from satellite are now routinely used in most regions of the continent. Coupled with seasonal climate prediction, these enable early yield estimation, extend the lead-time of food stock or relief decisions, and facilitate timely implementation of measures to help ensure local food security or cope with harvest surpluses. Knowing in advance the risk of food shortfall/surplus is vital information for central government economic advisers, and local government planners, in order to make contingency arrangements.

Area 4: Building resilience, promotion of innovation and education

Example 1 Ethiopia – Domestic rainwater harvesting for drinking and perennial crop cultivation/livestock management is used as a solution to overexploitation of water resources and drought-mitigation. In 2001-03 DFID supported a Warwick University project aimed at improving affordable rainwater harvesting technology for the very low cost market. This included models for rainwater harvesting ranging from simple opportunistic practices where the catchment may be a tree, the conveyance a banana leaf and the storage an earthen-ware pot to highly sophisticated systems with electronic monitoring at each stage of the process.

Example 2 Colombia – The Ministry of Education and University of Cauca, Colombia, taught children and college students how to prevent disasters by playing Riskland – a game created by the International Strategy for Disaster Reduction and funded by DFID. The children develop the game themselves by adapting it to apply to the threats and hazards which put their community at risk. They not only have to learn about their environment and how better to reduce risks, but also how to ensure risk management is incorporated into their everyday lives through sharing experiences and learning from each other. Their knowledge in turn feeds into the understanding of their broader community.

Example 3 Pakistan – Pilot activities as part of a five-year DFID-funded livelihood options for disaster risk reduction project resulted in improved economic opportunities for individual households and communities, as well as practical innovations for disaster preparedness. Recurrent flooding in parts of Jhang District in the Punjab meant that livestock had to be routinely moved a considerable distance to ensure adequate food through the weeks and months of high water. This pilot included development of a new form of solid feed block for livestock. Each block provides enough high-nutrient feed for one adult livestock for one month, thereby enabling villagers to keep cattle with them during flooding. This allows flood-affected families uninterrupted access to milk and other dairy products during the flooding season, which is particularly important for children and other vulnerable groups. It also reduces the risk of cattle, which are a highly valuable asset, being drowned or stolen during the move to high pastures far away.

Area 5: Risk sharing/transfer

Example 1 Mexico – A government crop insurance company, Agrosemex, formed in 1991, reinsures local private insurance companies/mutual insurance funds (FONDOS) in low-income regions of the country. The risks covered include: drought, excess moisture, frost, hail, fire, wind, plant infestations, livestock diseases, and accidents. The area insured has risen from 6.4k hectares in 1991 to 1.9 million in 2000 out of a total of 21.9 million cultivated. The ratio of indemnity to reinsurance averaged about 13% for the period 1991-96.

Example 2 India – The ProVention Consortium highlights micro-insurance initiatives for sudden-onset disaster risks, which are offered by NGOs in conjunction with insurance companies in two states. These schemes build on micro-insurance arrangements for independent risks, such as unemployment, fire, and accidents, by extending cover to loss of life, property or livestock due to natural disaster events. Coverage for property losses due to floods, earthquakes, cyclones and other natural disasters is offered to groups such as women with a minimum group size of 250, or to community groups for managing the impacts of disasters post-event. Furthermore, clients can engage in risk reduction training for a small fee.

Example 3 Ethiopia – The Ethiopia safety net provides regular payments of cash and food which meets peoples' food needs. DFID is providing £70 million over three years to support five million people formerly dependent on emergency relief every year. It also helps build their productivity where possible (e.g. through buying livestock, producing honey, or even renting labour to help them farm). Regular payments allow people to take risks that have potential to raise productivity in a way they do not with an unpredictable emergency response. We would like to scale up this approach with partner governments and the international community for countries affected by chronic hunger – in particular, Kenya, Malawi, Zambia, and Lesotho.

Area 6: Effective response and preparedness

Example 1 Albania – In 2004 the Government of Albania adopted a National Civil Emergency Plan which provides the legal base for disaster management. This links planning at national level to district level through a co-ordinated contingency planning process; it includes an emphasis on local level accountability and ownership. Linked to this was the establishment of a National Operations room, which serves as the prime information, coordination and monitoring centre of emergencies in Albania. The result is a comprehensive structure for better emergency planning and preparedness. This process was supported by DFID through a UNDP programme.

Example 2 India – the 1999 cyclone in Orissa and floods in 1998 have shaped the direction of the Indian Red Cross. When a disaster strikes, pre-planned relief operations are set in motion with state and district branches supporting the rapid assessment of needs and dispatching materials from stockpiles around the region in addition to medical teams, financial resources and trained relief volunteers. Almost two million volunteers are trained in first aid to help in an emergency. Communities particularly at risk are people in low-lying areas near rivers that flood annually, and those living on the cyclone-prone east coast, the high activity seismic zones and areas prone to drought. With greater awareness of how to reduce risks and develop coping strategies, these communities can take a more proactive role in deciding their own risk management programs.

Example 3 Honduras – simple disaster risk reduction activities, rooted within communities in hazard-prone locations, played a significant role in reducing the death toll during Hurricane Mitch. For example, there were no deaths in La Masica on the coast of Honduras, where external agencies, including UNDP, had supported a local capacity-building programme for risk reduction featuring a community-based flood early warning system linked to preparedness training (1996-98).

Annex D: Hyogo Framework for Action and the role of the United Nations

Box A: World Conference on Disaster Reduction outcome Hyogo Framework for Action: Summary of Commitments 2005-2015

Expected Outcome

The substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries

Strategic Goals

- The integration of disaster risk reduction into sustainable **development policies and planning**
- Development and strengthening of **institutions, mechanisms and capacities** to build resilience to hazards
- The systematic incorporation of risk reduction approaches into the **implementation of emergency preparedness, response and recovery**

Priorities for Action

- Ensure that disaster risk reduction is a **national and a local priority** with a **strong institutional basis for implementation**
- **Identify, assess and monitor** disaster risks and enhance **early warning**
- Use **knowledge, innovation and education** to build a culture of safety and resilience at all levels
- Reduce the **underlying risk factors**
- Strengthen **disaster preparedness** for **effective response** at all levels

Box B: Disaster risk reduction in the United Nations

This annex provides a brief overview of some of the key UN organisations involved in disaster risk reduction activities.

United Nations International Strategy on Disaster Reduction (UNISDR)

The umbrella framework for disaster risk reduction within the UN system. It is intended to link work of the UN Secretariat and UN agencies to broader disaster risk reduction community. It is serviced by the ISDR Secretariat, which sits under the Under-Secretary General for Humanitarian Affairs.

United Nations Development Programme (UNDP)

UNDP's work in disaster risk reduction is supported by its Bureau for Crisis Prevention and Recovery. UNDP's work on disaster risk reduction is particularly focused at the regional and country levels.

Specialised UN Agencies

A number of specialised UN Agencies also work on important elements of disaster risk reduction – these include:

- **World Meteorological Organisation** – work includes climatic early warning.
- **World Health Organization** – work includes contributing to capacity building of countries to manage health related crisis and with a particular focus on strengthening the resilience of the health system.
- **United Nations Educational, Scientific and Cultural Organisation** – work includes responsibility for the co-ordination of global efforts in tsunami early warning.
- **United Nations Environment Programme** – works on raising awareness about environmental threats.
- **Food and Agriculture Organisation** – works to improve food security including through building more resilient livelihoods and supporting food and agriculture related early warning.
- **World Food Programme** – work includes strengthening country and regional capacities to address acute hunger and chronic malnutrition with a view to improving long-term food security, protect livelihoods in crisis situations and enhance resilience to shocks.

Office for the Coordination of Humanitarian Affairs

Work includes coordination of early warning, contingency planning and humanitarian response.

Annex E: Acronyms

AU	African Union
CRED	Centre for Research and Epidemiology on Disasters
ECHO	European Community Humanitarian Aid Department
EU	European Union
FEWSNET	Famine and Early Warning System Network
GDP	Gross Domestic Product
IFIs	International Financial Institutions
ISDR	International Strategy for Disaster Reduction
IMF	International Monetary Fund
LDCs	Least Developed Countries
MDGs	Millennium Development Goals
NEPAD	New Partnership for Africa's Development
NGOs	Non-Governmental Organisations
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNDP	United Nations Development Programme

DFID's headquarters are located at the addresses below:

DFID
1 Palace Street
London SW1E 5HE
UK

Website: www.dfid.gov.uk
email: enquiry@dfid.gov.uk
Public enquiry point: 0845 3004100
From overseas: +44 1355 84 3132

Abercrombie House (2/North Wing)
East Kilbride
Glasgow G75 8EA
UK

Tel: 01355 843337
Fax: 01355 843338

03/06 3K Produced for DFID by Stairway Communications
Produced on recycled material containing 80% post-consumer waste
and 20% totally chlorine-free virgin fibre
ISBN 186192 751 7