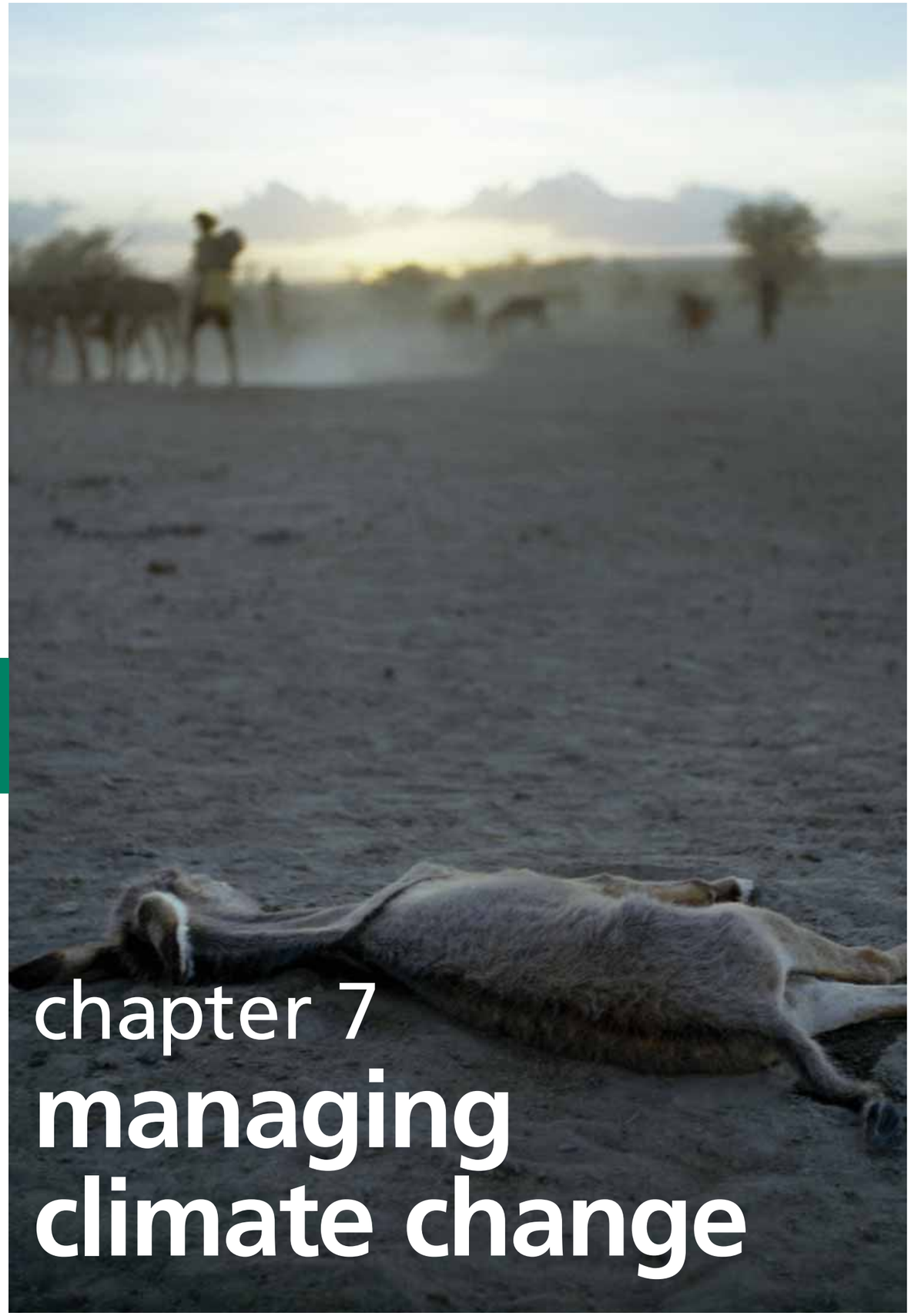
# working internationally to tackle climate change



chapter 7

# managing climate change



**Climate change poses the most serious long term threat to development and the Millennium Development Goals.**

**Developing countries must be part of a future solution to climate change.**

**Developing countries will need support to adapt. The costs will be huge.**

## The climate is changing…

**7.1** Climate change is re-shaping our world. It is a global problem, requiring a global solution. It will affect developing countries most of all because they have the least capacity to respond. All countries will need to work together to tackle global emissions of greenhouse gases, and to adapt to the impact of climate change.

**7.2** The Intergovernmental Panel on Climate Change (IPCC), and a growing body of independent research, have provided overwhelming evidence that the world is getting warmer, and that human activity is primarily responsible.[1] Burning fossil fuels, like oil and coal, and the changing use of land, including the destruction of forests, have increased the atmospheric concentration of 'greenhouse gases' (mainly carbon dioxide) – so called because they keep the world warm by trapping heat from the sun.[2] In the last 150 years, greenhouse gas emissions have increased so rapidly that during the 20th century the world became warmer at a faster rate than at any point during the past 1,000 years.[3] Due to time lags in the climate system, temperatures are already set to rise by one degree celsius over the next few decades. If the world does not act now to curb emissions, average global temperatures in 2100 could be between 1.4 and 5.8 degrees higher than they were in 1990.

**7.3** The greatest impact of the rising temperatures will be on the water cycle, which is a vital part of our whole climate system. The IPCC forecasts that rainfall will become less predictable over time – particularly in parts of Asia, sub-Saharan Africa and Latin America. Greater variations in rainfall, combined with rising sea levels and higher sea temperatures, are likely to lead to more frequent and more extreme weather events – such as storms, floods and droughts.[4]

**7.4** In 2005, under the UK's Presidency, the G8 focused on climate change along with Africa. The G8 agreed a Plan of Action that will help developing countries to access low carbon energy and adapt to climate change; and began an 'informal dialogue' with large

### Living on the edge

Abukar is a village elder who is experiencing climate change first hand. The number of droughts in the Somali region of Ethiopia has increased in the last decade, but people's ability to endure them has decreased. Abukar explains that "the droughts are killing our livestock. People are struggling to feed themselves. Because of this there have been more conflicts between tribes and even within villages. Without support from the Red Cross, human lives and livestock would have been lost."

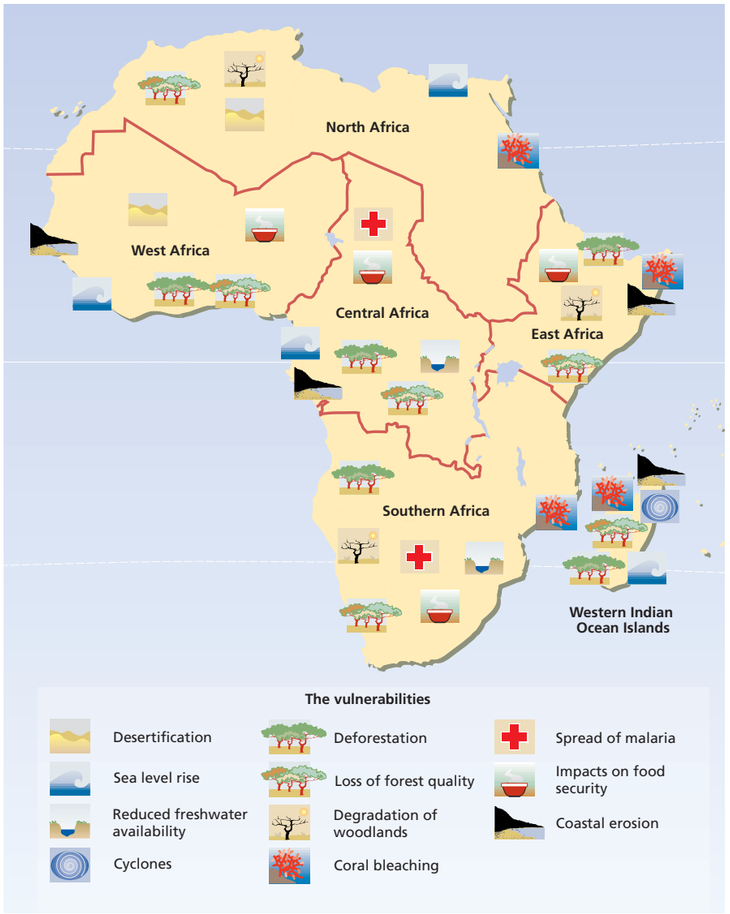
developing countries – Brazil, China, India, Mexico and South Africa - to promote international action.

## Climate change matters for development…

**7.5** Many poor countries already struggle to cope with extreme weather and variations in the climate. People in the poorest countries are most reliant on environmental resources for their livelihoods.[5] These resources are already under pressure and likely to be degraded further by climate change.[6] For example, in Africa, desertification (where fertile land becomes desert) in the Sahel is already shrinking the amount of agricultural land.[7] Declining rainfall and higher temperatures in sub-Saharan Africa will significantly shorten the growing season in many countries, resulting in lower crop yields and less pasture for livestock. The poorest regions are likely to be worst affected.[8] The OECD estimates that in six developing countries alone, climate change could undermine US$1.5 billion of development assistance – for example by damaging infrastructure as sea levels rise.[9]

**7.6** Climate change will undermine public health. Higher temperatures make it easier for diseases to spread. Longer rainy seasons have already started to increase malaria in parts of Rwanda and Tanzania. The worldwide risk of catching malaria could double by 2080.[10] More frequent floods, particularly in areas of poor sanitation, increase the risk of water borne diseases such as cholera.[11] Meanwhile, retreating glaciers and less freshwater from rivers will make it more difficult to provide drinking water and sanitation.

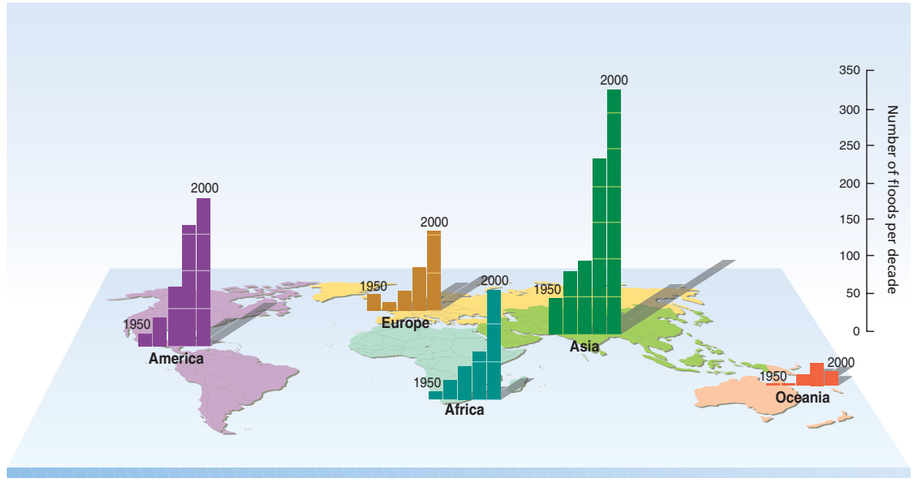
### Climate change vulnerability in Africa




**Source:** Vital Climate Graphics, Africa 2002, UNEP/GRID Arendal. Cartography by UNEP/GRID-Arendal, Norway http://www.grida.no/climate.vitalafrica



### Extreme weather is happening more often




**Source:** UNEP (2005) Millennium Ecosystem Assessment. Cartography by Philippe Rekacewicz UNEP/GRID - Arendal and Millennium Ecosystem Assessment www.millenniumassessment.org

**7.7** The effect of extreme weather on poor communities is devastating. Approximately three in four natural disasters – such as droughts, floods and cyclones – are weather related.[12] Ninety-seven per cent of deaths from natural disasters occur in developing countries. Poor communities struggle to recover as disasters become more severe and more frequent. And disaster prone regions struggle to attract investment, which further undermines their development prospects. In Mozambique, torrential rainfall in 2000 led to the worst flooding in 50 years. It directly affected 2 million people and forced 650,000 to leave their homes. It cost US$600 million and reduced economic growth from a target of 10% to below 4%.[13]

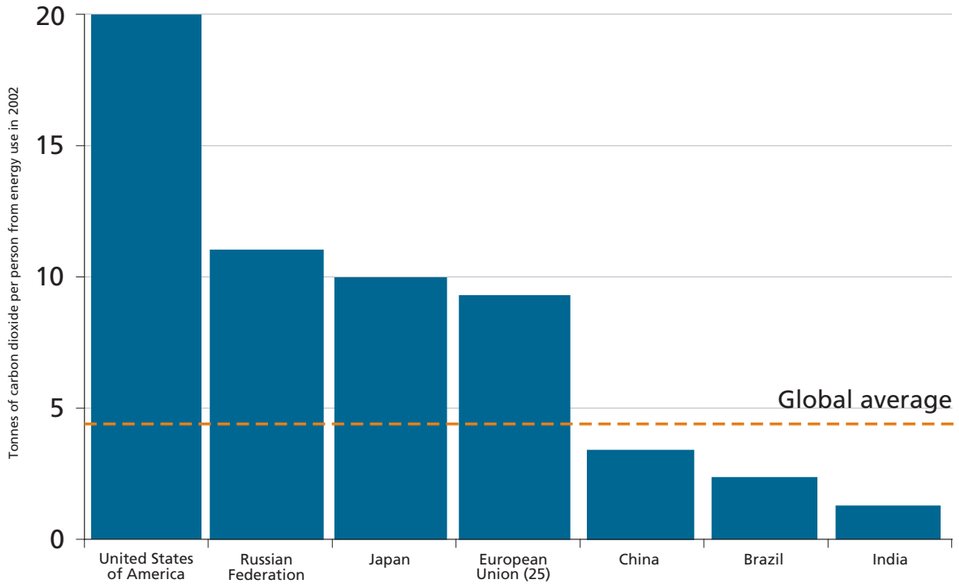
## Working for an international solution…

**7.8** The UK is working for international agreement on urgent action to prevent dangerous climate change. Getting the whole world to agree is difficult, but it is essential nonetheless. Countries fear they will be put at an economic disadvantage if they reduce emissions ahead of their competitors. The Kyoto Protocol set targets up to 2012 for the richest countries, which have historically contributed more to emissions. But in recent years, developing countries have started to account for an increasing proportion of overall emissions. By 2025, developing countries are predicted to overtake the energy emissions of developed countries.[14] Among them, China, India, Brazil and Mexico will be the most significant although their emissions per person will still be low compared to developed countries.

**7.9** In December 2005, at the Montreal UN Climate Change Conference, governments agreed to begin discussions about arrangements beyond 2012. The UK believes there is an urgent need to build a shared international understanding on the safe level of concentrations of greenhouse gases in the atmosphere – a level that will avoid dangerous climate change – and the action required to meet this. Any future agreement must ensure that developing countries, particularly the poorest, can continue to grow their economies. This will mean that as their share of global energy consumption grows, so too, initially, will their share of global emissions. And any future agreement must enable developing countries to access resources to reduce carbon emissions and help them adapt to the effects of climate change. At Gleneagles, the G8 launched an 'informal dialogue' with large developing countries in support of formal negotiations. Since 1997, the UK and other donors have helped developing countries build their capacity to negotiate on international trade. Negotiations on climate change will require a similar effort.



## Who is emitting the most carbon dioxide?




**Source:** World Resources Institute Climate Analysis Indicators Tool Version 3.0 (2006) www.cait.wri.org

**7.10** The cheapest way of stabilising the concentration of greenhouse gases, or meeting individual targets for reducing emissions, is by trading 'carbon credits' (or emissions permits). The EU Emissions Trading Scheme is the largest regional carbon-trading scheme in the world and has the potential to become the hub of a global carbon market. Further development of international, regional or domestic schemes could help developing countries – particularly large developing countries – to reduce emissions and generate resources for cleaner energy of up to US$120 billion a year.[15]

## The UK will

- Work for international agreement on:
  - A long term stabilisation goal to avoid dangerous climate change.
  - A way of reaching the stabilisation goal, which enables developing countries to grow, helps to fund the investment needed for clean energy and helps developing countries to adapt.
- Help developing countries to prepare for international discussions on a future climate change framework.
- Help developing countries take part in and benefit from mechanisms to reduce emissions, including trading schemes, as these evolve.

## Changing our behaviour

Climate change is a global problem that cannot be solved by governments alone. But governments can set the framework, and can set an example. The UK has set targets to make central government offices carbon-neutral by 2012. DFID is using 100% green electricity in our UK offices, making our overseas offices greener too, and committed to offsetting carbon emissions from official air travel through a Government Carbon Offsetting Fund. In addition, DFID will set a target to reduce emissions from air travel and will publish progress against this.

## Making the shift to cleaner energy…

**7.11** Reliable and affordable energy, including electricity, is essential for economic growth. Access to cleaner, non-fossil fuel energy can also help oil-importing countries that are affected by high oil prices. Initial estimates put the additional cost of meeting the energy needs of developing countries with cleaner, more efficient sources at over US$40 billion a year.[16] This is well beyond the scope of current and planned aid. The UK has set up a review of the Economics of Climate Change (the Stern Review) to look at the costs and benefits of making the transition to cleaner energy in the medium to long term.[17] A long term international agreement, with a stable price for carbon, will be essential to create incentives for private sector investment. But specific action will still be needed to overcome barriers to investment in developing countries. At Gleneagles, the G8 agreed to promote greater use of clean energy. The World Bank has launched the Energy Investment Framework which could increase investment in cleaner energy by several billion dollars each year.[18]

**7.12** Some technology transfer for cleaner energy is already taking place through the Kyoto Protocol, for example through the Clean Development Mechanism. This enables countries that have emissions targets to meet them by paying for equivalent reductions in developing countries. But resources are limited.[19] Proposals exist to expand the scheme and the UK is examining how we can guarantee a continued market for carbon credits up to and beyond 2012. Discussions on arrangements for the period beyond 2012 will also need to consider how more countries can get involved, and how to maximise access to resources and technology.[20]



## The UK will

- Support the World Bank's Energy Investment Framework to increase private sector investment in low carbon energy and energy efficiency in developing countries.
- Work through the UN to develop mechanisms linked to international agreements on cutting emissions that maximise investment in clean energy in developing countries.
- Work with the G8 and EU to develop and use clean energy technology in developing countries.

## Helping developing countries to adapt…

**7.13** Adapting to the impact of climate change is already an urgent priority for some developing countries – particularly the poorest and most vulnerable. It will soon become a priority for many more. Adaptation is about reducing the risks posed

by climate change to people's lives and livelihoods. Sustainable development would help poor countries become less vulnerable. Education, health, savings and access to markets are important. Economic diversification is one of the best defences against climate shocks. But specific action to manage the impact of climate change is also needed. Adaptation and financing for adaptation should be part of developing countries' development plans, such as Poverty Reduction Strategies. The G8 has agreed to develop, with the World Bank, ways of making sure that the impact of climate change is taken into account in the design of development programmes.

**7.14** Every developing country needs to know how climate change might affect poverty and economic growth, what it might cost, and the options for reducing the risk. It will be essential to understand the costs of adaptation now and the costs that will arise if no action is taken to reduce emissions ahead of negotiations on any future international agreement. For much of the developing world, these costs are currently unknown. The UN has set up funds – to which the UK has contributed £20 million over three years – to help poor countries develop strategies for adaptation. The World Bank is looking at the potential costs of adaptation and possible sources of funding.[21] As in the case of finance for cleaner energy, the costs are likely to be well beyond the scope of current and planned aid.

**7.15** Countries will also need reliable records on the climate and accurate projections of climate change for adaptation. In most poor countries there is inadequate information on the climate and insufficient capacity to use it. This is particularly true of Africa. The G8 has agreed to support the Global Climate Observation System to address these gaps in Africa. But greater investment is needed to build and use better local climate information, not only in Africa but also in South Asia and other regions.

**7.16** Reducing risk will mean diversifying the economy, investing in alternative crops and livestock or responding to changing disease patterns. Raising awareness about the impact of climate change, and improving consultation between all levels of government and civil society is essential. Through consultation with stakeholders, Bangladesh has prepared a National Adaptation Programme of Action to work out the implications of climate change. The Government of Bangladesh is now working with local communities to plant trees along the coast, educate children about climate change, and introduce fish that can live in inland water made more salty by rising sea levels. The Climate Change Adaptation in Africa programme will help governments develop different approaches to protect the livelihoods of the poorest people.[22]

**7.17** Adapting to climate change also means finding ways to manage existing variations in the climate, and pressures on natural resources – such as water, soil and forests. For example, water resource management is already critical due to population growth, urbanisation and greater demand for water-intensive products like paper and textiles. Water supplies need to be monitored and managed to meet priorities for development – including agriculture, drinking water and sanitation. Close co-ordination is needed between different branches of government, and sometimes with neighbouring governments. And better infrastructure is needed to store and distribute water. This is particularly important in Africa where the majority of agriculture is rain-dependent and the capacity to store water is inadequate.

**7.18** 'Disaster risk reduction' is a crucial part of adaptation and particularly important to vulnerable communities. Natural disasters are already claiming a growing share of aid. Emergency assistance was estimated to exceed US$6 billion in 2003 – around 8% of total aid, compared to around 5% a year in the early 1990s.[23] The UN Hyogo Framework for Action aims to reduce the risk of natural disasters, and the effect they have on the lives and livelihoods of the poor, over the next ten years.[24] Implementing the Framework will mean building awareness about actions that governments and people can take, such as building hurricane-proof houses, preparing for disasters by improving early warning systems, and putting supplies and people in place to respond quickly.[25] Such investment is well worthwhile. A Tearfund study in India found that preparing for disasters was up to thirteen times more cost-effective than responding to them afterwards.[26]

## The UK will

- Work with the G8 to implement the Gleneagles commitments on climate change.
- Work through the EU, UN and multilateral development banks to help developing countries work out how climate change will affect economic growth, the chances of reducing poverty, and their options for reducing risks.
- Support international efforts to generate resources to help developing countries adapt to climate change.
- Develop guidance with the multilateral development banks by 2008 to screen all development investments for the effects of climate change.
- As part of our doubling of research funding, significantly increase our support for research on identifying and adapting to the impact of climate change.
- Strengthen capacity to manage environmental assets that are important for the poor in developing countries.
- Help partner countries to develop sustainable, equitable ways of managing their water resources.
- Help developing countries reduce the impact of natural disasters on the poor, including by investing up to 10% of our response to each major natural disaster in preparing for future disasters.



## How change happens: Adapting to floods in Bangladesh

For people who live on Bangladesh's many Chars - low-lying, infertile islands in the north of the country – physical disaster is a way of life. Bangladesh already suffers from the effects of climate change, and chars are acutely vulnerable to floods, which often wash away homes and kill livestock. This vulnerability is set to increase as the effects of climate change on Bangladesh become more severe. Adapting to them will become increasingly important, especially for the poor, who are often the most vulnerable.

The DFID-funded Chars Livelihoods Programme is helping to bring about physical, social and economic improvements for 6.5 million of the poorest and most vulnerable char dwellers in Bangladesh. To help cope with flooding, plinths are being built to raise houses above the 100 year flood line. 10,500 have been built to date and the number is increasing every day. Raising houses like this will save lives, help people sustain precarious livelihoods, and reduce the losses caused by frequent floods.