id21 highlights

climate change

research findings for development policymakers and practitioners

Disaster risk reduction and climate change adaptation
Closing the gap

There is significant overlap between the practice and theory of disaster risk reduction and climate change adaptation. However, there is limited coherence and convergence in institutions, organisations and policy frameworks. Both struggle to be incorporated into regular development planning and this aspiration is slowed down by duplicated activities, ineffective use of resources and confusing policies.

A review for the UK's Department of International Development (DfID) explains why policies and programming for disaster risk reduction (DRR) and climate change adaptation should converge, and how this could be achieved.

Climate change adaptation is an adjustment in natural or human systems, which occurs in response to actual or expected climatic changes or their effects. In human systems, adaptation can reduce harm or exploit opportunities. DRR is the development and application of policies and practices that minimise risks to vulnerabilities and disasters.

DRR is an essential part of adaptation – it is the first line of defence against climate change impacts, such as increased flooding or regular droughts. DRR is now lending its expertise and humanitarian experience to climate change adaptation programmes. For example, DRR's knowledge and expertise about building resilience to existing climate variability is a useful starting point for developing adaptation policies. In turn, the DRR community is paying more attention to longer term changes in the climate and the shifting hazard burden that this may cause.

The overlapping objectives of adaptation and DRR are increasingly reflected in existing programmes and new initiatives, including:

- processes associated with the United Nations Framework Convention on Climate Change (UNFCCC) and the Hyogo Framework for Action
- financial mechanisms set up by the UNFCCC and those linked to DRR
- national level initiatives such as the National Adaptation Programmes of Action, which commonly include DRR projects and prioritise 'early warning'
- a focus on improved sharing of DRR and adaptation tools and knowledge.

Major challenges remain, however – the weakness of the DRR lobby in climate change debates is particularly significant. Within multilateral, bilateral and national institutions, climate change adaptation and DRR departments are often isolated from each other. Both sectors have also found it difficult to access adequate funding; governments often believe that DRR and adaptation should not be covered by regular development financing.

The researchers make several recommendations to DfID, many of which are relevant to other policymakers:

- Help the DRR community to engage more effectively in UNFCCC negotiations, for example by building the capacity of negotiators with DRR experience.
- Integrate DRR and adaptation into the guidance and delivery of funding mechanisms, for example through budgetary support.
- Promote the integration of DRR and adaptation teams in bilateral, multilateral and civil society organisations; DfID could lead the way through its own reorganisation.
- Support the generation of integrated knowledge, experience and guidance, including in DfID's Central Research Department.
- Encourage convergence in national governments and coordination mechanisms; DfID country offices could work with donor partners and local organisations to achieve this.

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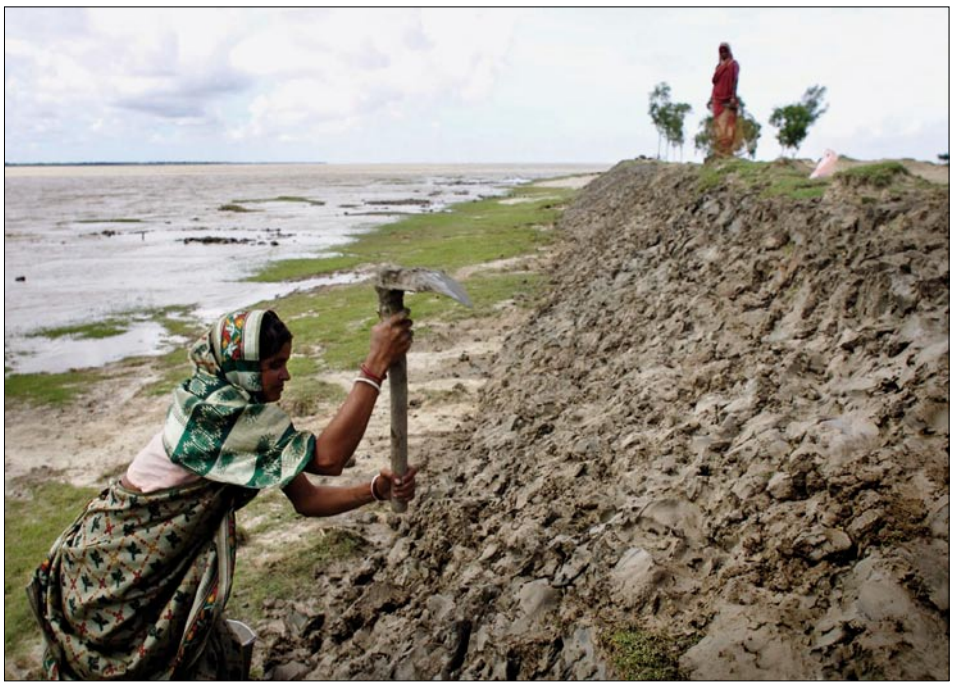
See also
Convergence of Disaster Risk Reduction and Climate Change Adaptation: A Review for DFID, by Tom Mitchell and Maarten van Aalst, 2008



Women in Ghoramara Island, India, constuct a clay wall that they hope will protect them against the rising seas. Islanders of the Sunderbans in the Bay of Bengal can only stand by and watch as rising sea levels consume their homes and livelihoods.

Adapting to flood risks in urban Africa

Volatile weather patterns are increasingly affecting urban slums in Africa. Climate change is already aggravating urban flooding. When floods occur, residents of marginalised areas have only a limited set of options. They need urgent help to reduce risk and improve prospects for emergency action and safe evacuation.

ActionAid International reports findings from a participatory vulnerability analysis in six African cities which explored local people's perceptions of why floods occur, how they adjust to them and what support they need.

Urbanisation worsens flooding. It restricts where floodwaters can go, as large parts of the ground are covered by roofs, roads and pavements, and it obstructs natural channels. Building drains ensures that water moves to rivers faster than it does under natural conditions. As more people crowd into cities, even moderate storms produce dramatic flows. To make matters worse, 12 percent of urban Africans live less than 10 metres above sea level.

Slum dwellers report that there are few, if any, collective mechanisms either for reducing flood risks or for managing floods once they happen. Poor people have to find a way to cope on their own. There is little effort to address the problem. Poor urban Africans seldom feature in National Adaptation Programmes of Action on vulnerability to climate change – an initiative of the Global Environment Facility. Many countries now have national disaster reduction plans but lack the resources to carry out effective disaster mitigation, especially for the poorest communities.

ActionAid identifies four major types of urban flooding:

- There is frequent localised flooding because the ground is compacted and drains are blocked by waste.
- Small streams rise quickly after heavy rain: culverts carrying water under roads are no longer adequate and have not been maintained.
- Rivers flowing through urban areas are affected by land use changes: dams trap sediment, causing rivers to erode their banks downstream while building on floodplains has reduced the areas into which floods can naturally overflow.
- In coastal cities wet season flooding can now last for months as tidal surges and rainfall combine to raise the levels of water in swamps.

Urbanisation restricts where floodwaters can go – large parts of the ground are covered by roofs, roads and pavements. As more people crowd into cities, even moderate storms produce dramatic flows

Urban flooding has disproportional impacts on poor people. It increases waterborne diseases, damages food stocks, causes further deterioration of sanitation and reduces access to schools and health-care facilities. It is vital to invest in improved drainage, regulate developments upstream and give urban residents greater security of tenure so that they can invest in making their homes more flood resistant.

ActionAid argues it is also essential to ensure that:

- urban residents play the key role in managing of localised flooding
- NGOs, donors, national governments and regional agencies cooperate to map flood risk areas, maintain urban stream channels, control building on floodplains and provide emergency assistance
- neighbouring states work together to follow integrated river basin management principles
- each government has an agency cutting across ministries with a particularly rural or urban focus in order to prevent activities in rural areas worsening urban flooding downstream.
- urban planning incorporates the Hyogo Framework of Action agreed at the World Conference on Disaster Reduction in 2005.

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'Unjust waters: climate change, flooding and the urban poor in Africa', International Institute for Environment and Development, *Environment and Urbanization* 20, pp187-205, by Ian Douglas, Kurshid Alam, Maryanne Maghenda, Yasmin McDonnell, Louise McClean and Jack Campbell, 2008
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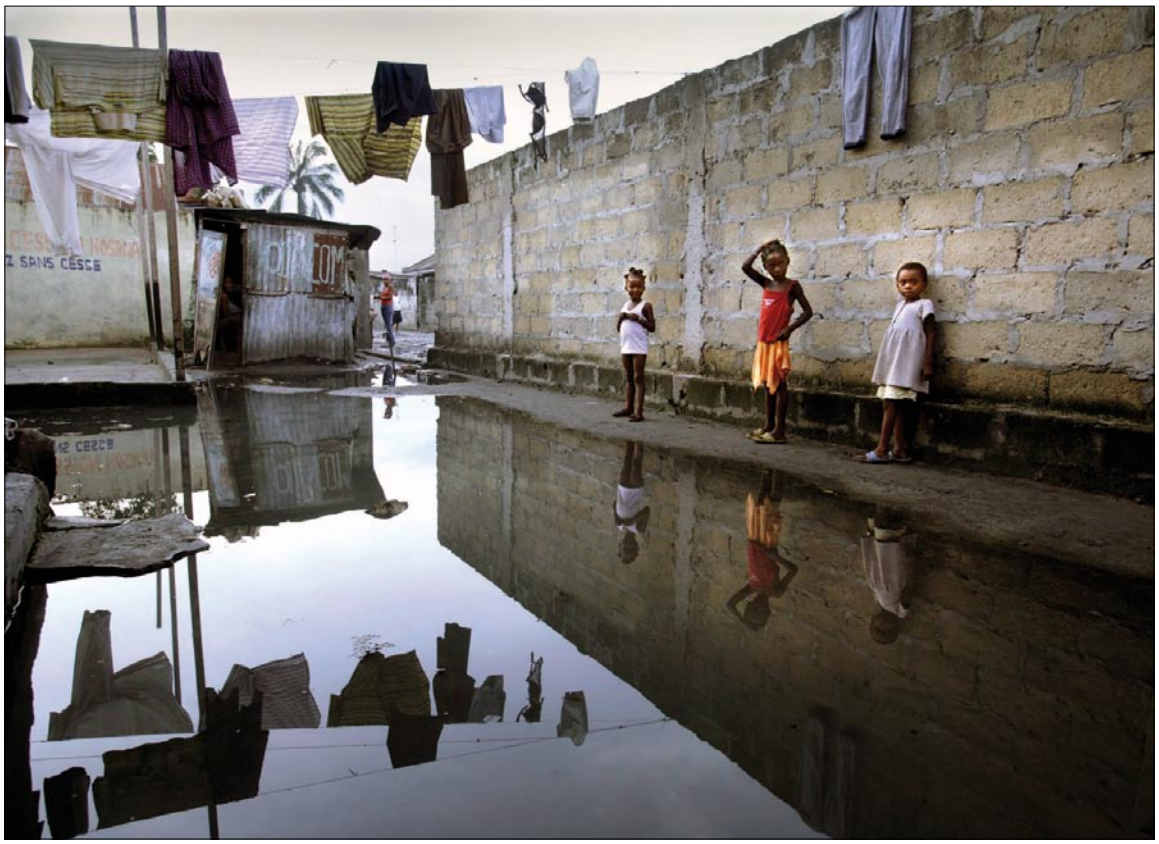

Children in Kinshasa, Democratic Republic of Congo, stand outside housing in a slum that has flooded after heavy rain. Due to the lack of a sewage system, water can stay for days around the houses and is a cause of many diseases.
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Responding to the risks from climate-related disasters

Climate-related risks come not only from direct exposure to natural hazards such as floods or droughts, but also from the vulnerability of social and economic systems to the effects of these hazards. Responses to these risks should combine two approaches: short-term measures to react to hazards when they occur, and structural reforms that enhance the capacities of communities to adapt.

Research from the University of Leeds, in the UK, and the University of Michigan, in the USA, outlines the principles needed for a two-tiered approach to managing climate-related disasters. The authors look at the Cayman Islands and Ceará in northeast Brazil to identify the attributes necessary to increase the adaptive capacity to climate change. Adaptive capacity is the ability to respond to the actual or potential impacts of changing climatic conditions, and to reduce harm or take advantage of opportunities.

A two-tiered approach that focuses on specific adaptations and increasing the adaptive capacity of vulnerable groups is essential. This is because of the high uncertainty in what impacts future climate change might have, and the fact that local contexts will determine how people can respond.

Under such an approach, tier one would involve designing and implementing risk management institutions, for example disaster preparedness plans, early warning systems and emergency disaster relief. Tier two would introduce socioeconomic and political reforms, such as income redistribution, land reform and political democracy to address the inequalities that increase the vulnerability of certain groups.

Both places have historically been vulnerable to climate-related disasters – the Cayman Islands to tropical cyclones and Ceará to drought. Both regions have institutions to respond to disasters – the National Hurricane Committee in the Cayman Islands and the Civil Defence Agency in Ceará. There are several common attributes behind these:

- The agencies responsible were flexible, willing to learn and created good working relations with all groups concerned.
- Groups of committed and politically active people in both public and private sectors championed changes to address critical needs.
- The agencies integrated disaster management into other policy processes, creating wide-ranging and flexible approaches to disasters.
- There was a long-term commitment to invest in disaster risk management, and also to collaborative, learning-based approaches to risk management.

In Ceará, public funds for drought relief are often abused and many outcomes are still inadequate. Despite this, the current responses to climate-related disasters in the two case studies show that good governance practices and participatory processes can enable successful reforms:

- In the Cayman Islands, policymakers recognised the need to consider those people least able to cope with storms; this contributed to prioritising poor people in planning.
- In Ceará, collective action by local groups may have reduced the political dominance of elite groups and limited some of the corruption around funds for drought responses.

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'A less disastrous disaster: managing response to climate-driven hazards in the Cayman Islands and NE Brazil', *Global Environmental Change* (in press), by E L Tompkins, M C Lemos and E Boyd, 2008

Climate and Disaster Governance

Understanding governance at the interface of climate adaptation and disaster risk reduction

Climate change – and the likely increase in disasters – threatens to block pathways out of poverty. Climate and Disaster Governance (CDG) is investigating opportunities for integrating climate change adaptation and disaster risk reduction at the national and sub-national level. The programme seeks to identify governance options which could help to reduce climate and disaster risk to poor communities and keep development on track.

CDG is a collaborative research initiative that will help policymakers and civil society organisations engaged in disaster and climate-resilient development at every scale. As well as cross-cutting research, the four current research streams are:

- Citizen engagement and accountability
- What role for social protection?
- Institution building in fragile states
- Implications of international policy frameworks

CDG partners invite you to collaborate on or across CDG's research themes, and to share resources and information through the programme's website. CDG is also offering research bursaries to support developing country researchers on topics that fall under or across the programme's research themes.

For more information, visit:
www.climategovernance.org

Knowledge services on climate change and development from IDS

The Knowledge Services at the Institute of Development Studies (IDS) produce a range of web-based and printed products on Climate Change and Development. These are a selection of the products available; to search across all IDS Knowledge Services on Climate Change, visit:
www.ids.ac.uk/go/knowledge-services/focus-topics/climate-change

Eldis Linking Climate Adaptation (LCA) Network
The LCA network is a global community of over 1,000 researchers, practitioners and policymakers. Its goal is to link development practitioners and those engaged in formal scientific and policy responses around climate change to assist adaptation in developing countries.
www.linkingclimateadaptation.org

The network includes:

- The Climate Change Adaptation Dossier, which synthesises current thinking on climate adaptation issues and provides relevant and up to date resources and publications.
- The LCA email group, a space for discussion and exchange on all areas of research, policy and experiences on climate adaptation.

To join the LCA network, email **lyris@lyris.ids.ac.uk** with the first line: 'subscribe lca'

Eldis / IIED Community Based Adaptation Exchange
The Community Based Adaptation Exchange (CBA-X) provides a summary of current thinking on community based adaptation issues with access to relevant and up to date resources and publications for development-focused researchers, practitioners, and policymakers.
www.cba-exchange.org

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id21 insights provides thematic overviews of recent policy-relevant research findings on international development. The January 2008 edition focused on 'Climate Change and Cities', including articles on coping with floods in Dhaka, adaptation in India's cities, and adaptation in Durban, South Africa.

Read the full issue online:
www.id21.org/insights/insights71/index.html

Gender and climate change: mapping the linkages
This scoping study, prepared by BRIDGE for DFID in 2008, is now available online:
www.bridge.ids.ac.uk/reports/Climate_Change_DFID_draft.pdf

BLDS Climate Change Subject Guides
The British Library for Development Studies' climate change subject guide provides access to resources through pre-designed searches of the catalogue by expert librarians:
http://blds.ids.ac.uk/guides/environ.html

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Linking climate change adaptation and disaster risk reduction

The climate change adaptation and disaster risk reduction communities have many similar aims and could benefit each other. But so far they have largely operated in isolation from each other. This situation must change to bring about a comprehensive risk management approach that can tackle global climate change.

As global climate change escalates, the risk of extreme events such as floods, droughts and severe storms increases. Changing climatic conditions can also create new hazards. A report from Tearfund, in the UK, and the Institute of Development Studies, in the UK, considers how the climate change adaptation and disaster risk reduction (DRR) communities can work together to respond to these challenges.

Climate change adaptation is an adjustment in natural or human systems in response to actual or expected climatic changes or their effects. These adjustments can be to reduce harm or to exploit opportunities. DRR is the development and application of policies and practices that minimise the risks of disasters and reduce people's vulnerabilities.

Adaptation and DRR have similar aims – to build people's resilience in the face of hazards. There are also important differences to note; DRR includes non-climatic disasters such as earthquakes, and adaptation addresses the longer-term impacts of climatic change, such as the loss of biodiversity.

Policymakers, experts and practitioners in these two sectors can learn a lot from each other. DRR experts should consider climate change when developing sustainable policies. The adaptation community can draw on the community-based approach of DRR that focuses on vulnerable poor people. Further benefits of increased collaboration and communication include:

- a reduction of climate-related losses through more widespread implementation of DRR measures linked with adaptation
- more efficient use of financial, human and natural resources
- increased effectiveness and sustainability of both adaptation and DRR approaches.

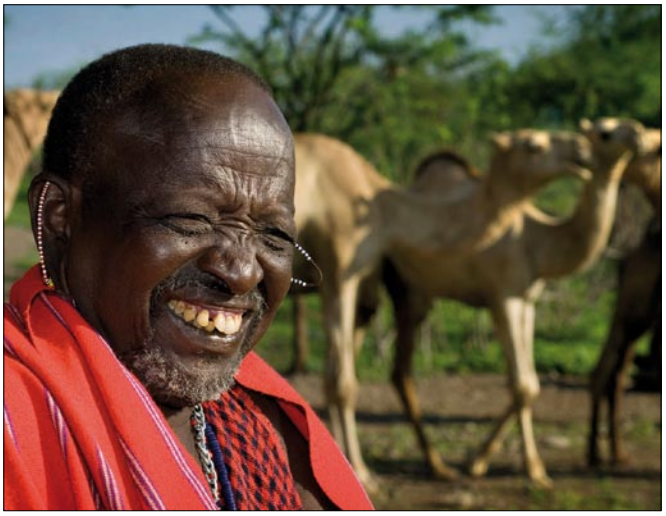
A lack of coordination between adaptation and DRR communities has been evident in international policy processes to date, such as the negotiations under the United Nations Framework Convention on Climate Change (UNFCCC). The authors recommend closer collaboration when governments negotiate on adaptation in the post-2012 climate change UNFCCC framework – the second commitment period of the Kyoto Protocol.

Both communities can increase their mutual understanding through greater communication, information sharing and collaboration. Recommendations specific to the adaptation community include:

- use the guidance of the Hyogo Framework for Action to assist a comprehensive risk-reducing approach to climate change adaptation
- ensure that there is a strong focus on DRR in adaptation policies under the post-2012 framework, for example using DRR tools when dealing with weather-related events
- work with the DRR community to focus on the socioeconomic and political dimensions of managing climate risks, and to ensure that adaptation is informed by community-based experiences.

Specific recommendations for the DRR community include:

- demonstrate and promote the role of DRR in climate change adaptation policies and practice at all levels, making information and tools accessible
- ensure that all DRR policies, measures and tools account for new risks and the aggravation of existing risks posed by climate change.



Ntete ole Kushuni, a Masai herdsman in Kenya's Kajaido District, Rift valley province, watches over his camels. With the help of Practical Action, a non-governmental organisation, camels have been introduced to the semi-nomadic Masai community in the Great Rift Valley in response to the long periods of drought that have killed many of the Masai's domestic animals in recent years. It is hoped that the camels, which are more resilient than the Masai's traditional livestock and able to survive in harsh dry conditions, will help the Masai people to adapt to climate change.
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