



Global Climate Change

The Need for a Balanced Impact Management Regime

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Structure of the Presentation



Climate Change and Disaster Management

- Redressing the Balance between Mitigation and Adaptation
- Redressing the Balance between Impact Reduction and -Response

A Minimal Response: Providing for Adequate Climate Impact Relief

- Weather-related Disaster Relief: 'The Demand Side'
- Weather-related Disaster Relief: 'The Supply Side'
- Mozambique 2000 and 2001: Two Case Studies
- Towards an Adequate Solution

Climate Change and Disaster Management The Key Dichotomies



Climate Change

(Emission) Mitigation

An anthropogenic intervention to reduce the *sources* or enhance the *sinks* of *greenhouse gases*

Adaptation (Impacts and Vulnerability)

Adjustment in natural or human systems in response to actual or expected climatic *stimuli* or their effects, which moderates harm or exploits beneficial opportunities

Source: IPCC Third Assessment Report

Disaster Management

Reduction

Prevention (Disaster) Mitigation Preparedness

Response

Relief Rehabilitation Recovery

The Disaster Management 'Continuum'



The Pre-disaster Phase (Disaster Reduction)

- **Prevention:** Encompasses activities designed to provide permanent protection from disasters. It includes engineering and other physical protective measures, and also legislative measures controlling land use and urban planning.
- **Mitigation:** Measures taken in advance of a disaster aimed at decreasing or eliminating its impact on society and environment.
- **Preparedness:** Activities designed to minimize loss of life and damage, to organise the temporary removal of people and property from a threatened location and facilitate timely and effective rescue, relief and rehabilitation.

The Post-disaster Phase (Disaster Response)

- **Relief:** Assistance and/or intervention during or after disaster to meet the life preservation and basic subsistence needs. It can be of emergency or protracted duration.
- **Rehabilitation:** The operations and decisions taken after a disaster with a view to restoring a stricken community to its former living conditions, whilst encouraging and facilitating the necessary adjustments to the changes caused by the disaster.
- **Reconstruction (recovery):** Actions taken to re-establish a community after a period of rehabilitation subsequent to a disaster. Actions would include construction of permanent housing, full restoration of all services, and complete resumption of the pre-disaster state.

Source: Internationally Agreed Glossary of Basic Terms related to Disaster Management, IDNDR/DHA 1992

Redressing the Balance: Mitigation versus Adaptation

Mitigation v. Adaptation under the FCCC Regime Decisions* concerning



Mitigation

Framework Convention

- National Communications
- National Mitigation Plans
- Return to 1990 emission levels by Annex I Parties in 2000
- promote, facilitate and finance the transfer of environmentally sound technologies and know-how to developing country Parties

Kyoto Protocol

- First Commitment Period (Annex B targets)
- Flexibility Mechanisms: Emission Trading, Joint Implementation, Clean Development Mechanism
- Commitment Regime
- Sinks (Land-use and Land-use Change)

Adaptation

Framework Convention

- Annex II to assist the developing countries in meeting costs of adaptation to those adverse effects of climate change
- Funding Mechanism (GEF); Special Climate Change Fund; Least-developed Countries Fund
- Consider insurance-related actions at COP8

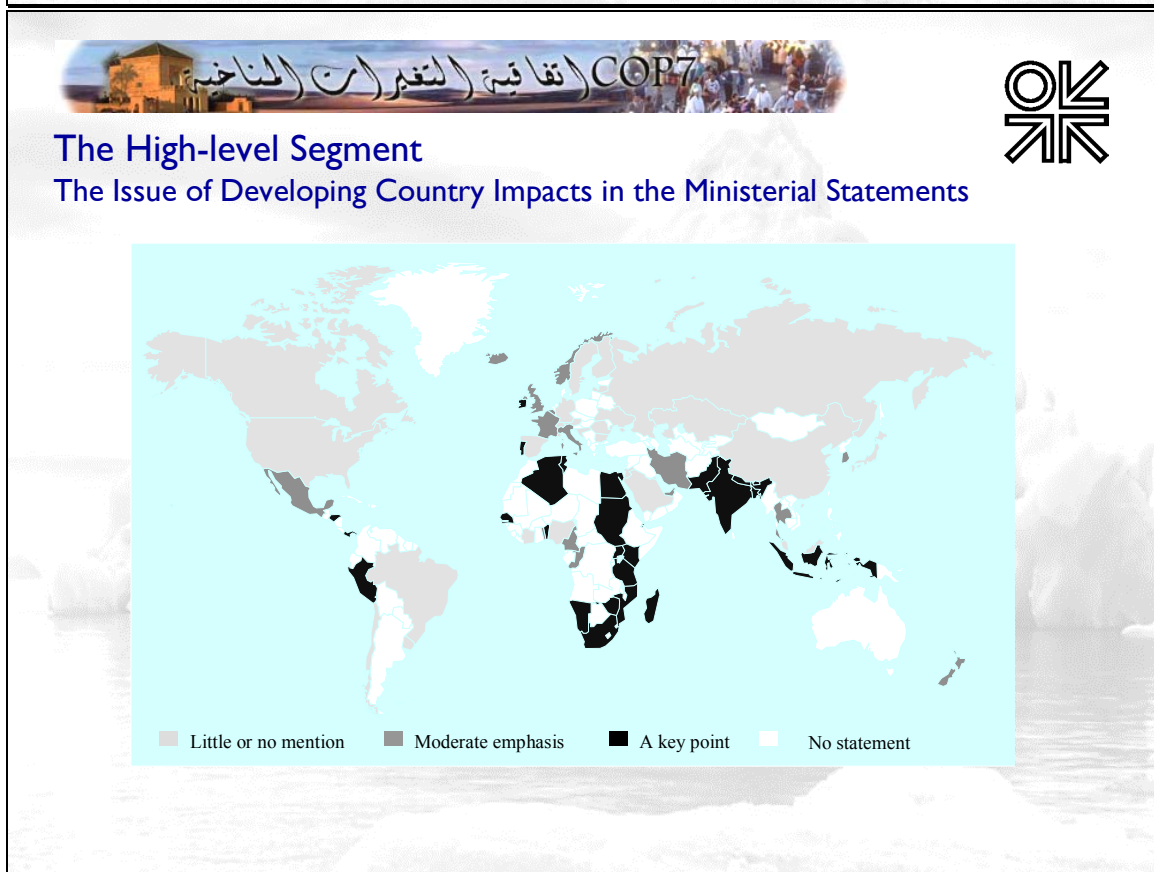
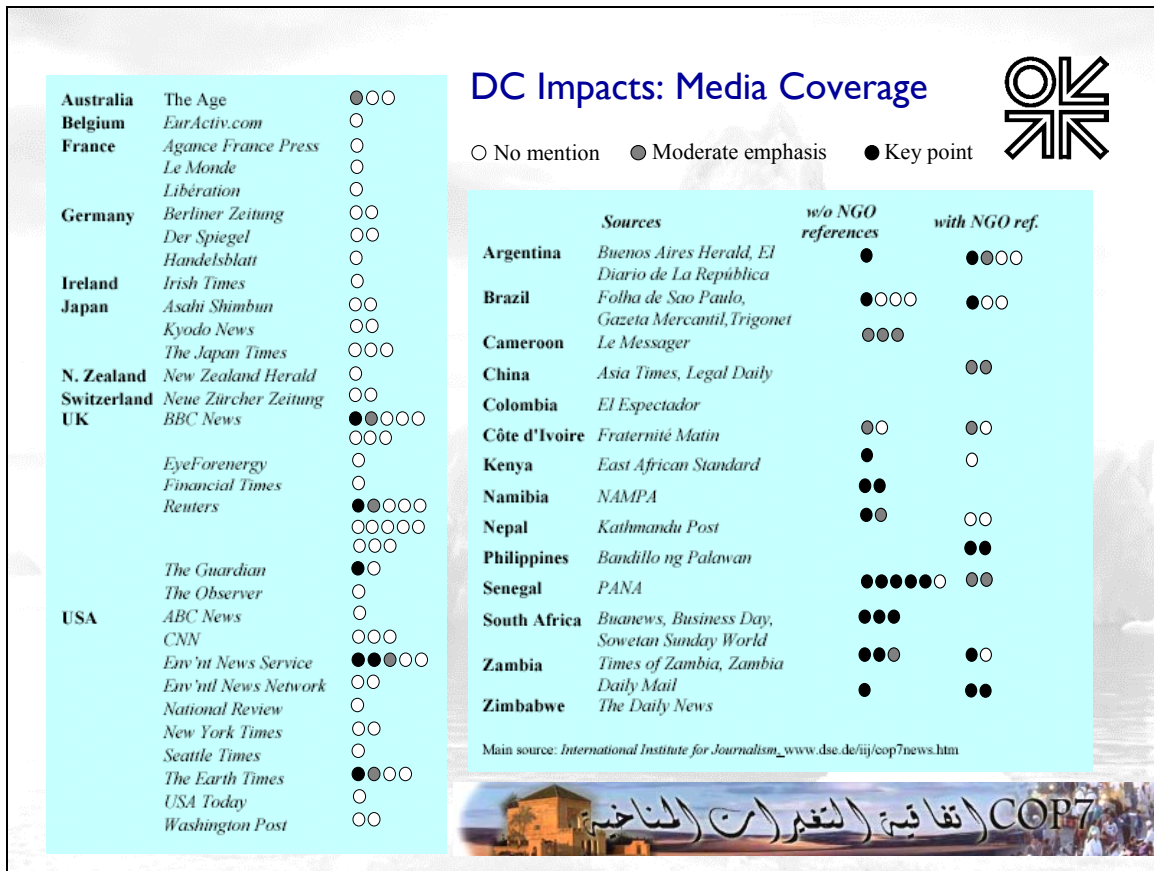
Kyoto Protocol

- The Kyoto Protocol Adaptation Fund
- Consider at MOP1 the actions are necessary to minimize the adverse effects of climate change on developing countries such as the establishment of funding, insurance and transfer of technology.'

* Selection

Proportion of Language in the Marrakech Accords

Marrakech Impressions: DC Impacts at COP7





South Asian Ministerial Consensus

India The third Assessment Report of the IPCC clearly brings out the fact that the impacts of climate change will effect the developing countries more adversely than the developed countries, thereby further exacerbating the inequities. Some of these impacts are already visible. Food security and water availability will be a cause of serious concern. Floods, droughts, cyclones and storms, which have been of serious concern to developing countries, are likely to increase in frequency and intensity, further threatening the livelihoods and survival of large populations in the developing countries. Substantial resources will be needed by the developing countries to adapt to these impacts. Adaptation is therefore of fundamental concern to the developing countries. ***The efforts so far have been focussed on mitigation. In the coming decades, adaptation needs to be given much greater attention.*** The next decade, Mr. President, therefore should see concrete implementation of existing mitigation commitments and active consideration and action on adaptation to the adverse impacts of climate change.

Bangladesh You are all aware that the low-lying coastal and small island states are the most vulnerable group of countries. ... Monsoon flooding, cyclones and storm surges visit Bangladesh regularly. ... displacement of over 25 million people from our coastal areas due to sea level rise outnumbers the population of many individual and groups of countries. ... if warming continues to intensify, 25 to 50 percent of our rice production is likely to be reduced. This is a nightmare.

Bhutan We have always stressed that even though countries like Bhutan make negligible contributions to global warming, the impacts of climate change would severely affect us. moreover, as a Least Developed country, we lack the capacity to respond or adapt to the adverse impacts of climate change. For Bhutan, like in many LDCs, the impacts will be tremendous as the majority of our populations are heavily dependent on climate sensitive activities such as agriculture, forestry and the use of water resources. any effort we make towards sustainable socio-economic development will be undermined by the adverse impacts of climate change.

Pakistan It is understandable that the focus of these negotiations in the past has been on mitigation.However, it is time that we broaden the emphasis on mitigation to include issues of adaptation. Like so many other developing countries that face real risks from considerable climatic impacts, Pakistan is very eager to see these negotiations begin addressing the issues of adaptation equally seriously. given the relatively low level of emission cuts that Annex I countries are willing to make and therefore the increased likeliness of climate impacts becoming apparent sooner rather than later, it is all the more important that we begin addressing the concerns of the countries that are vulnerable to fluctuations in key climate variables. what have we done to assist the vulnerable countries on adaptation? What have we done in terms of capacity enhancement? what have we done in terms of technology support? Pakistan believes that these are questions that we must ask and answer.

The Marrakech Ministerial Declaration



The Ministers and other heads of delegation present at the seventh session of the Conference of the Parties to the United Nations Framework Convention on Climate Change,

2. *Remain* deeply concerned that all countries, particularly developing countries, including the least developed countries and small island States, face **increased risk of negative impacts of climate change**;
3. *Recognize* that, in this context, the **problems of poverty, land degradation, access to water and food and human health remain at the centre of global attention**; therefore, the synergies between the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity, and the United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, should continue to be explored through various channels, in order to achieve **sustainable development**;
4. *Stress* the importance of capacity building, as well as of developing and disseminating innovative technologies in respect of key sectors of development, **particularly energy**, and of investment in this regard, including through private sector involvement, market-oriented approaches, as well as supportive public policies and international cooperation;

'The Real Marrakech Declaration'



WE, CITIZENS OF THE WORLD, meeting in Marrakech, Africa, in one of the areas most impacted by Northern-induced climate change:

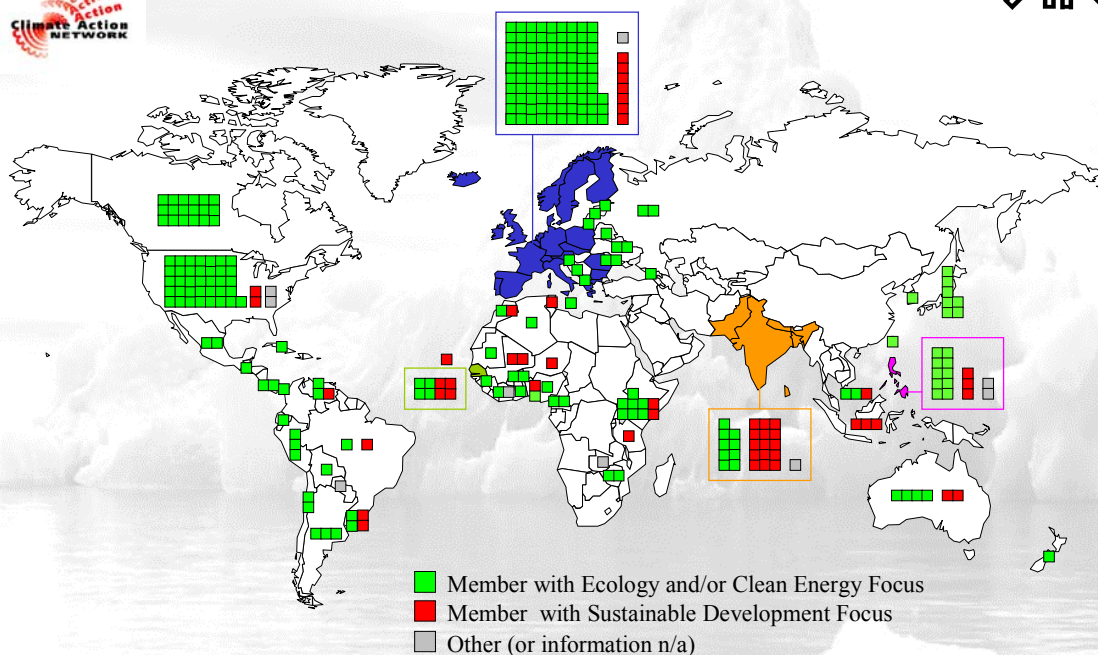
- **ACKNOWLEDGING** the evidence from IPCC's Third Assessment Report that climate change is real and is already causing devastating impacts on humans and the environment, such as droughts in the Maghreb region, ... will aggravate global inequalities and pose a grave threat to sustainable development;
- **RECOGNISING** that access to clean and reliable supplies of energy is desperately needed to meet even the most basic daily needs of the world's poorest people, ...;
- **UNDERSTANDING** that renewable energy, combined with energy efficiency and sustainable consumption patterns, is essential to prevent dangerous climate change ...;
- **DEEPLY CONCERNED** by the disparity in per capita emissions between developed and developing countries – average US per capita emissions are 10 times higher than China's, and 100 times higher than Tanzania's – and similarly huge disparities in per capita incomes;
- **RECOGNISING**, therefore, that immediate, sustained and progressively deeper mitigation is necessary for adaptation to be possible.

CALL ON OUR GOVERNMENTS TO:

- **RATIFY** the Kyoto Protocol ...;
- **PROVIDE** the financial resources needed to enable developing countries to cope with the adverse impacts of climate change and develop the necessary institutions to ensure that sustainable development goals are met;
- **ENSURE** sufficient funding, technology sharing and capacity building so that energy services are available and affordable to the two billion people in developing countries, ...;
- **EXPAND** renewable energy worldwide so that these resources provide about 50 per cent of total energy supply by 2050, and greater levels thereafter. ...;
- **QUICKLY ESTABLISH** emissions reduction targets for industrialised countries from 2012 onwards. Developed countries must move onto a trajectory of greenhouse emissions reductions that would lead to a cut of 80 per cent by 2050.


Source: 'The Real Marrakech Declaration,' Eco, Volume CVII, Issue No 11, 9 Nov. 2001, pp.1f.
<http://www.climateactionnetwork.org/eco/>


CAN Membership



The Divide in Academic Literature


Climate Change 2001: IPCC Third Assessment Report





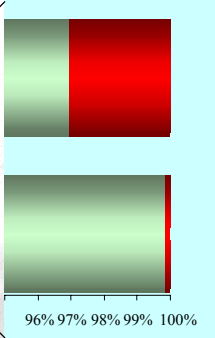
Mitigation

3 Percent of Language on Issues of Equity



Impacts, Adaptation, and Vulnerability

0.1 Percent of Language on Equity



‘In developing nations, the availability of insurance and financing has considerably lower penetration than in wealthy nations. At the global scale, one form of inequity arises in which a greater share of the costs of extreme weather events are borne by governments and consumers in the “south” than in the “north.” Rising uncertainties could reduce the availability of insurance in some areas and impede the expansion of adaptive capacity offered by insurance markets in developing countries. Governments’ ability to compensate by providing more insurance and disaster relief would be similarly strained.’[TAR2:438]

Redressing the Balance: Reduction versus Response

The FCCC Regime in Disaster Management Terms

Decisions* concerning

Impact Reduction

Impact Reduction through Mitigation

- National Communications.
- National Mitigation Plans.
- Return to 1990 emission levels by Annex I Parties in 2000.
- Promote, facilitate and finance the transfer of environmentally sound technologies and know-how to developing country Parties.
- First Commitment Period (Annex B targets)
- Flexibility Mechanisms: Emission Trading, Joint Implementation, Clean Development Mechanism.
- Commitment Regime.
- Sinks (Land-use and Land-use Change).


Impact Reduction through Adaptation

- Funding Mechanism (GEF); Special Climate Change Fund; Least-developed Countries Fund.
- The Kyoto Protocol Adaptation Fund.
- Consider at MOP1 the actions are necessary to minimize the adverse effects of climate change on developing countries such as the establishment of funding and transfer of technology.

Impact Response

- Annex II to assist the developing countries in meeting costs of adaptation to those adverse effects of climate change
- Consider insurance-related actions at COP8

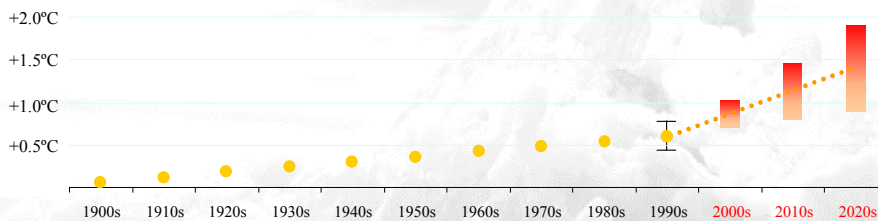
* Selection



Impacts are Inevitable



- The global mean temperature in the 20th Century has risen by $0.6 \pm 0.2 \text{ }^\circ\text{C}$



- The global mean temperature in the 2020s will be $0.3\text{-}1.3 \text{ }^\circ\text{C}$ greater than that of the 1990s (5–95% likelihood range)
- Because of effects such as the large thermal inertia of the oceans, this increase is projected *whatever* the assumed emission scenario – i.e. we have passed the point of avoiding impacts completely.

nature

Source: Francis W. Zwiers, 'The 20-year forecast,' *Nature* Vol. 416 (18 April 2002), pp.690-91.

'The Report Put Out by the Bureaucracy'*



'Because of the momentum in the climate system and natural climate variability, adapting to a changing climate is inevitable. The question is whether we adapt poorly or well.'¹

'Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing global mean surface air temperature and subsurface ocean temperature to rise. While the changes observed over the last several decades are likely due mostly to human activities, we cannot rule out that some significant part is also a reflection of natural variability.'²



* President Bush about the US CAR2002, as reported in *The Washington Post* 5 June 2002¹ CAR02: p.82² CAR02: p.4³ CAR02 Table 5-2

Impacts are Near-term if not Imminent



Himalayas lakes filling rapidly: UN

GENEVA: Lakes in the Himalayas are filling so rapidly because of rising temperatures that they could burst their banks within a decade, sending walls of water crashing down into valleys, the United Nations warned on Tuesday.


The UN Environment Programme (UNEP) said a scientific study in Bhutan and Nepal had revealed that at least 44 glacial lakes were filling swiftly with water as rising temperatures accelerated the melting of glaciers and surrounding snowfields.

The quantities of water involved were such that they would spread for hundreds of kilometres along the valleys, according to UNEP. "We are giving early warning," director-general Klaus Toepfer told a news conference.


THE TIMES OF INDIA 16 April 2002

A Minimal Response: Adequate Impact Relief

Disaster Taxonomy



Disaster
A serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the ability of affected society to cope using only its own resources.

Natural Disasters

Weather-related (Hydro-meteorological) Disasters


droughts; floods; storms (cyclones, hurricanes, typhoons); cold/heat waves

Geophysical Disasters

earthquakes; tsunamis; volcanic eruptions; landslides; mudflows; avalanches

Complex ('man-made') Disasters
conflicts (wars, civil wars)

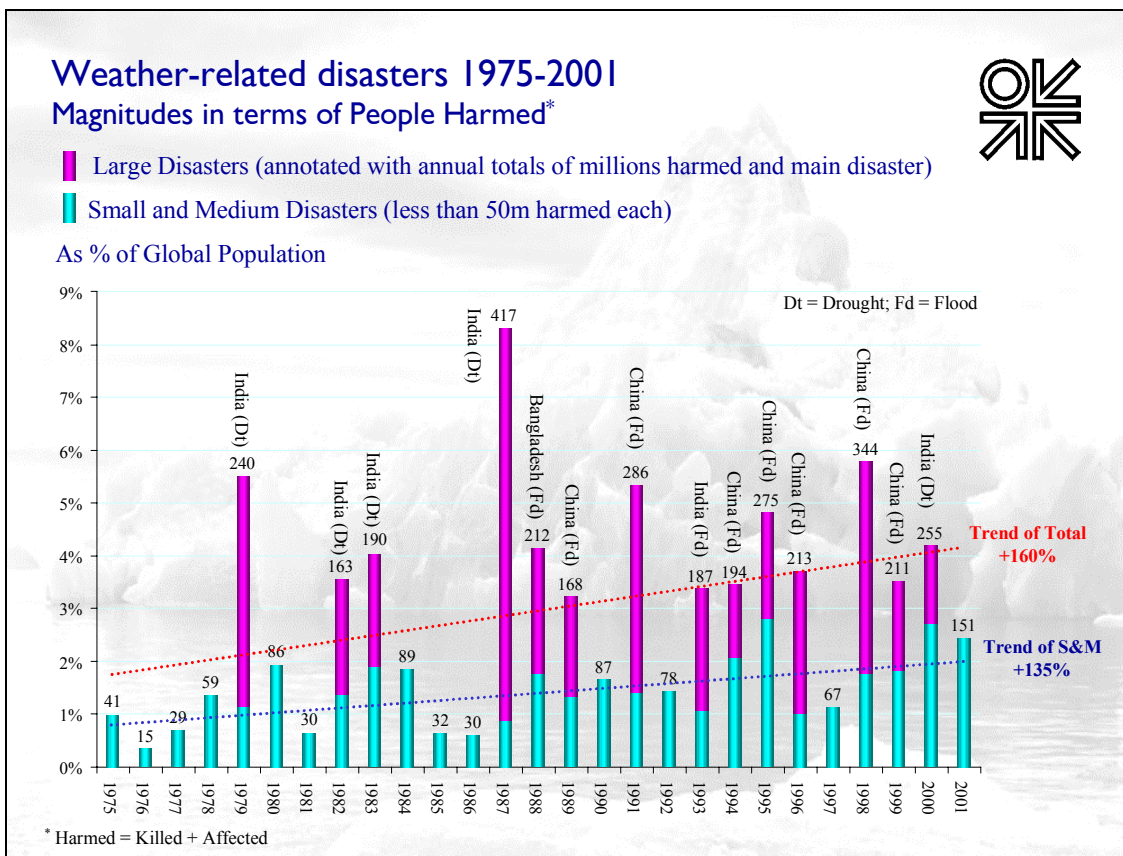
\$100m
\$214m
\$1.5bn

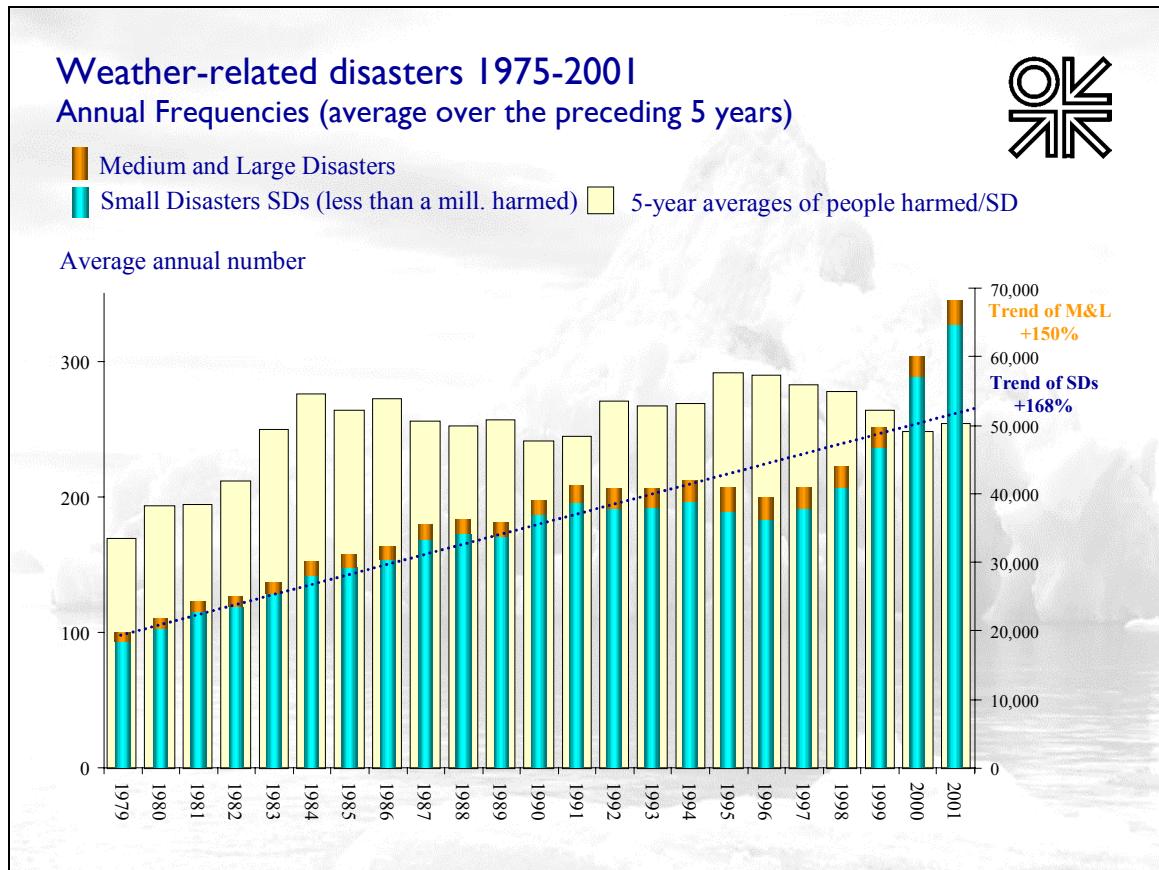


2001 Donations

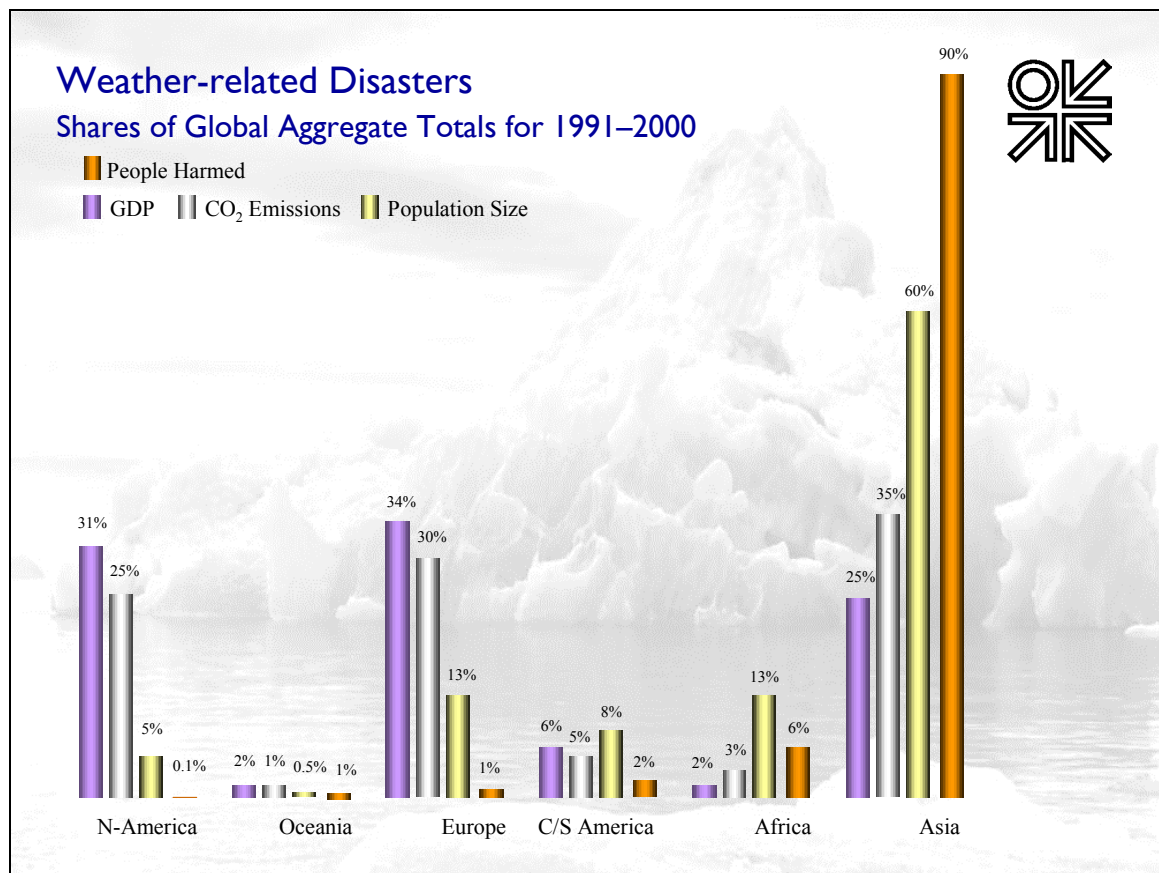
Source: UN Secretariat for the International Strategy for Disaster Reduction, 'Updated and Expanded Terminology on Disaster Reduction,' 2001

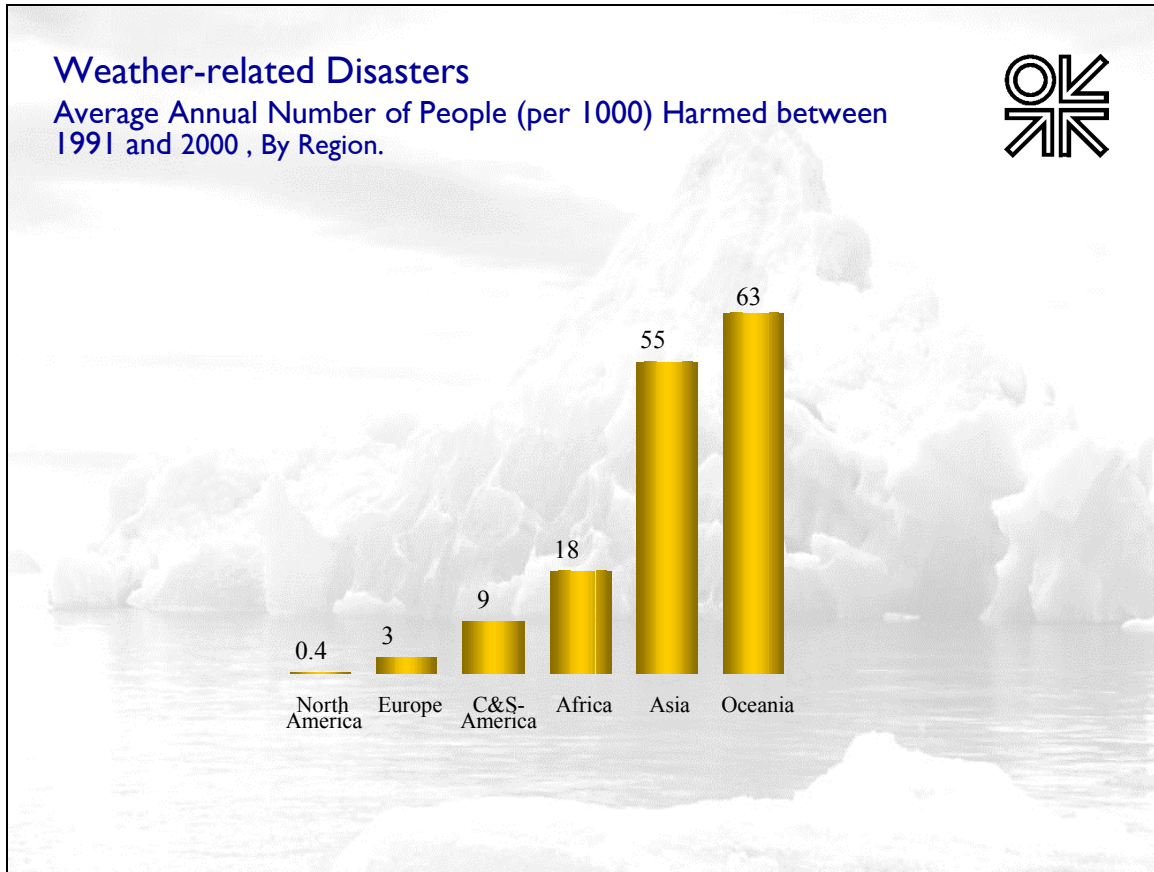
Weather-related Disaster Relief: 'The Global Demand'



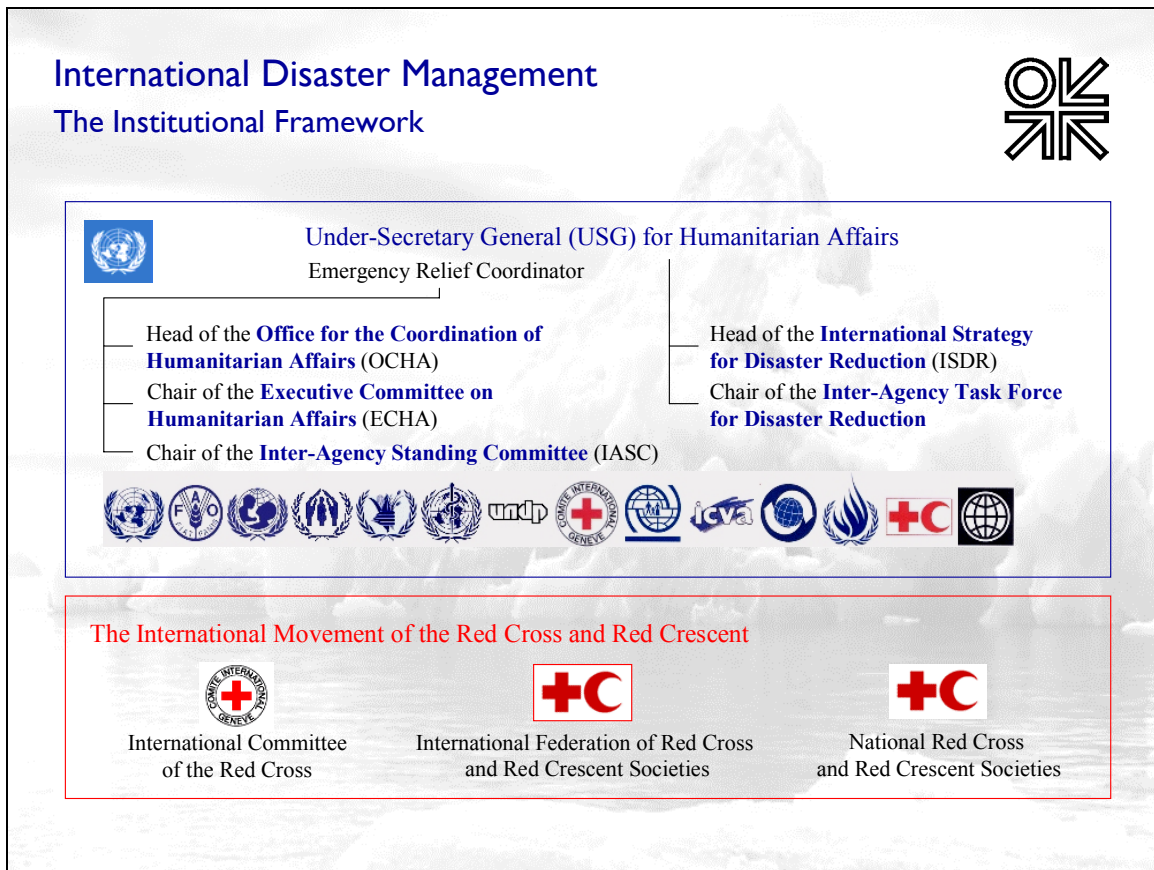


Weather-related Disaster Relief: 'The Regional Demand'

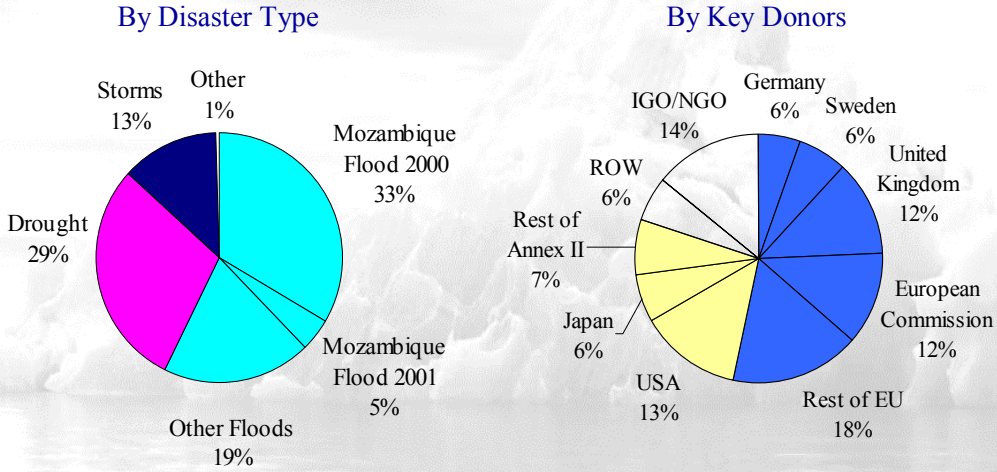




Weather-related Disaster Relief: 'The Supply side'

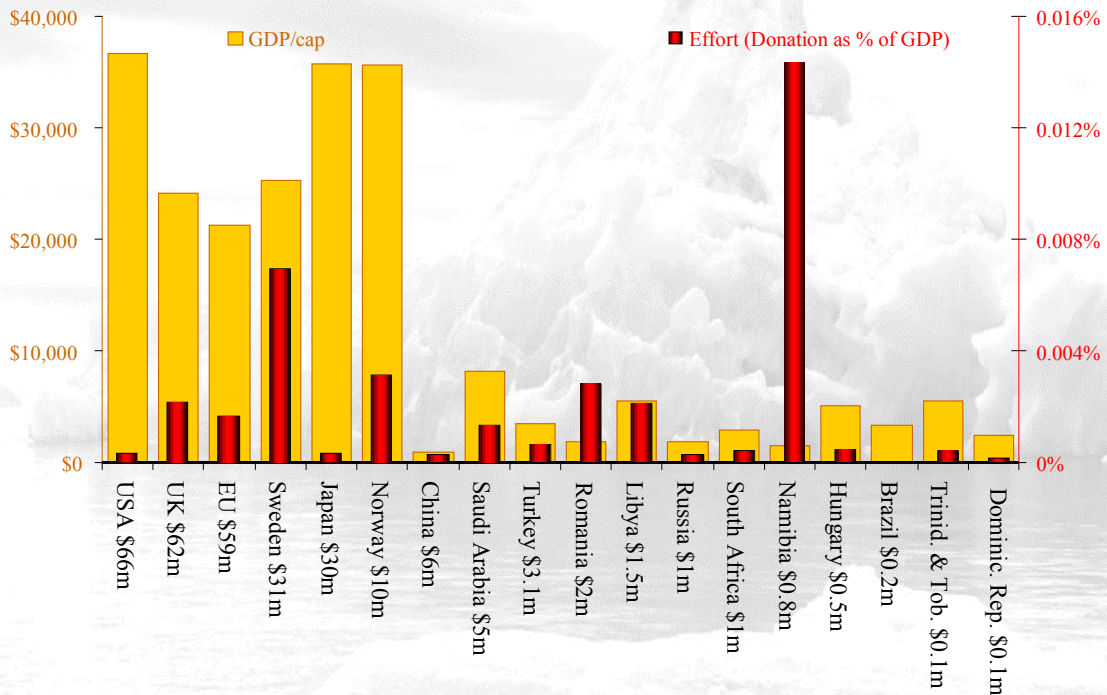


Donations for Weather-related Disaster Relief 2000-01 Percentage Shares of 2-year Aggregate (\$495m)



Source: UN Financial Tracking System

Donations for Weather-related Disaster Relief 2000-01 By Region (Top Three Government Donors)



Mozambique 200 and 2001: Two Case Studies

International Relief for Natural Disasters What is the Issue?



9 February 2000. The floods started on 9 February with heavy rainfall across Southern Africa. In South Africa, 26 people were killed But southern Mozambique bore the full impact of the rains and rising waters. In the capital Maputo tens of thousands of people were forced to flee their homes. The worst hit were people living in makeshift homes in the slums around the capital. Further north, hundreds of thousands of people were left homeless in Gaza province.

11 February As flooding and torrential rain continue, fears grow for the health of those made homeless. United Nations officials say the lives of 150,000 people are in immediate danger from lack of food and disease.

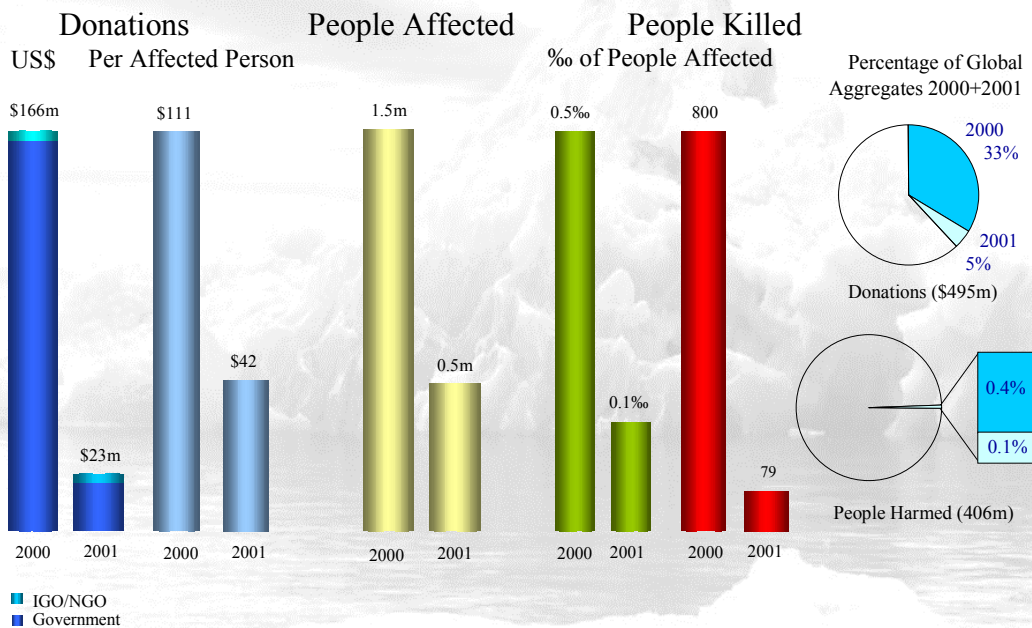
22 February The full force of tropical Cyclone Eline hits the Mozambique coast near the central city of Beira – just north of the areas already devastated by the first floods.

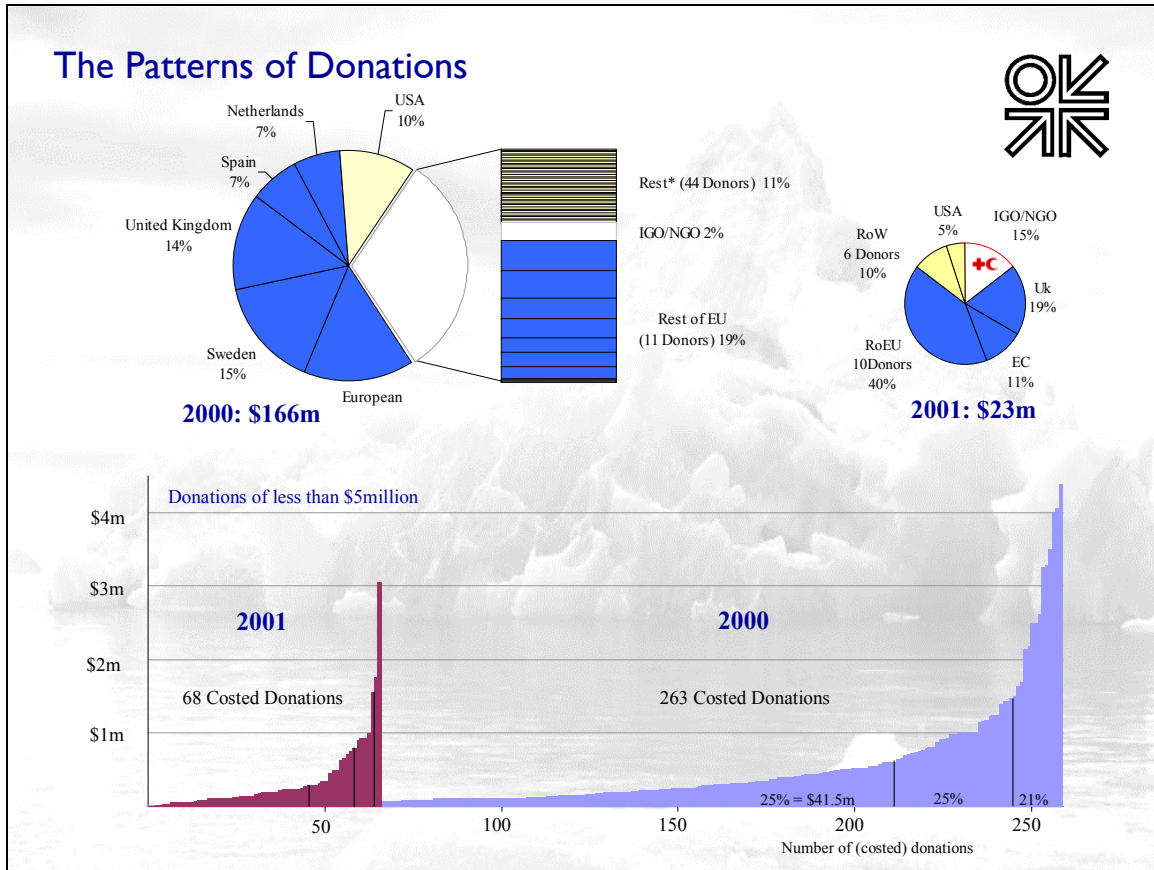
27 February Flash floods inundate low farmlands around Chokwe and Xai-Xai in Mozambique.

2 March Aid workers estimate 100,000 people need to be evacuated and around 7,000 are trapped in trees. Many have been there for several days, without food and water. Floodwater levels are said to have risen from four to eight metres (more than 26 feet) in five days. The international community begins to send in relief workers and [a handful of] helicopters.

BBC BBC News Online (2000), 'Mozambique: How disaster unfolded'

The General Situation: 2000 versus 2001





Problems

BBC BBC News Online (2000), 'Mozambique: How disaster unfolded'

'the piecemeal approach to funding and a lack of co-ordination between governments and aid agencies.'

Related Factors:

The Role of the Media

- in raising charitable donations
- in relief coordination

'There is an underlying problem that funds are skewed disproportionately towards situations of high media profile rather than actual need.'

UK Disasters Emergency Committee DEC: *Independent Evaluation: The DEC Response to the Earthquake in Gujarat, 2001*

Relief Preparedness

- pre-positioning of stocks
- logistics and communications

'Another problem ... is the frequency of localised disasters which results in a diminished response capacity for larger disasters.'

Towards an Adequate Solution

A Reform of Relief Funding : Why? and How?



Why? (I)

Counter-question as pause for thought: If funding on the basis of **voluntary**, and mostly *ex post* **charitable donations** is such a good idea, why has it not caught on at the domestic level in funding emergency instruments such as ambulance and fire services?

How?

- By creating an **FCCC Disaster Relief Fund (DRF)** for hydro-meteorological and other climate-related disasters as part of setting up a balanced Global Climate Impact Management Regime.
- By replenishing the DRF through **binding** annual contributions from **Annex II** countries according to a negotiated formula based, for example, on the principles of **common but differentiated responsibility** and of **ability to pay**.
- By **adapting** the UN Office for the Coordination of Humanitarian Affairs (OCHA) to enable an **efficient administration and distribution of the DRF contributions** under the guidance of the COP and the UN USG for Humanitarian Affairs and in collaboration with IASC agencies

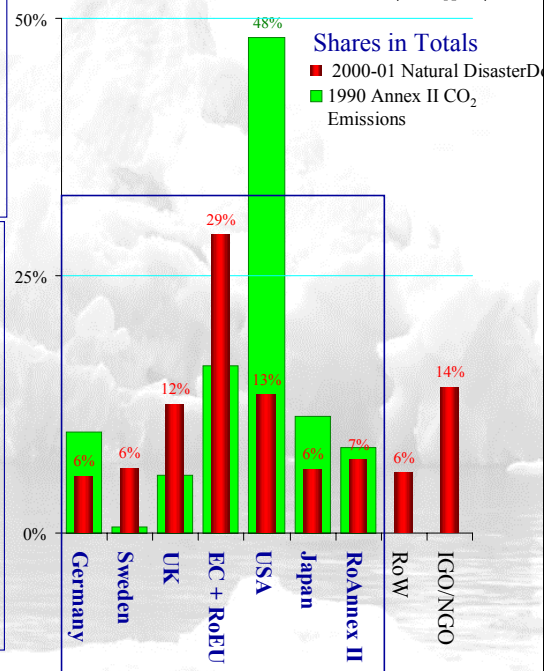
An FCCC Disaster Relief Fund

Financial Feasibility



- Irrespective of the potential for efficiency gains, the introduction of a DRF would largely involve 'old' government expenditures:
For example, 80 percent of the donations during 2000-01 were already made by **Annex II** governments.

- If the Principle of Common but Differentiated Responsibility is taken seriously, then there will have to be significant relative redistributions of burdens within Annex II
If measured, say, in terms of 1990 carbon emissions, the US, for example, would have to cover 48 as opposed to its current 13 percent of the relief costs.
However, this close to four-fold increase would still not be an excessive burden on the average American, given that, in absolute terms, it amounts to an additional **€31** per capita



An FCCC Disaster Relief Fund

Why? (II)



A DRI would

- diminish, if not break the tie between funding and media coverage

‘The ideal solution would be for the DEC to persuade DFID [UK Department for International Development] and ECHO [European Commission’s Humanitarian Aid Office] to retain their funds for situations with less media coverage where a public appeal has not taken place.’

UK Disasters Emergency Committee DEC: *Independent Evaluation: The DEC Response to the Earthquake in Gujarat, 2001*

- enable relief preparedness on the scale required to deal with large disasters
- engage the actors involved in disaster management in the FCCC regime.

In sum, an FCCC Disaster Relief Fund could provide the corner stone for a more effective international disaster relief regime able to cope with the expected climate-related emergencies