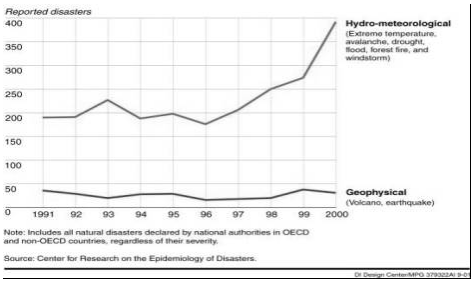
A Climate Risk Management Approach to Adaptation to Climate Change and Disaster Reduction

Kamal Kishore
Bureau for Crisis Prevention and Recovery, UNDP

Workshop on insurance and risk assessment in the context of climate change and extreme weather events
Bonn, Germany, 12-13 May 2003

Increasing disaster losses due to temperature rises and climate change ?!



What is disaster risk?

Hazard * Vulnerability * Exposure = Disaster Risk

It's not that simple!

Progression of approaches

- Better Disaster Response Preparedness (stockpiling of relief goods, warehouses, contingency planning)
- Applications of engineering solutions (dams and embankments)
- Vulnerability as the central theme (VCA methodologies, social science approaches)
- Total/ integrated/ comprehensive/ Risk Management

Risk Management

Risk Management guides decision making through a logical and systematic process of considering all possible future outcomes at all time scales taking into account all the risks to all the stakeholders, as well as all the costs and all the benefits

What have we learned?

- Risk is socially constructed in contexts where hazards interact with exposed and vulnerable communities or societies
- Resources and hazards are part of the same equation and continuum
- Between "natural" and anthropogenic hazards there is a third category of hazards created at the inter-face of human activity and natural or modified ecosystems – socio-natural hazards
- Discussion on disaster risk has to be within the context of development debate
- Local level disaster risk management works

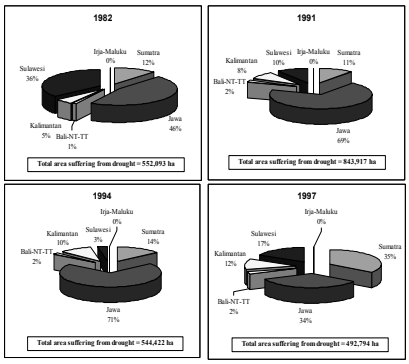
However,…

- ❖ Despite the awareness raised by UN-IDNDR, disaster risks have continued to accumulate
- ❖ Most national and international efforts remain fundamentally preparedness and response focused
- ❖ Isolated successful experiences at "piloting" risk management approaches have built a substantial body of knowledge

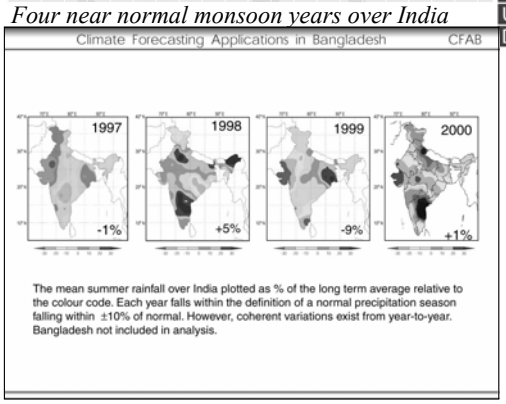
Climate Change, Complexity and Uncertainty

- Processes of climate change are adding new and more intractable dimensions to the problem of risk
- In a sense "everybody lives downstream" – territorial complexity, concatenation of causal factors, scale
- It is accepted that climate change will alter the severity, frequency and complexity of climate related hazards
- However, there is great uncertainty about the local level manifestations (even "natural" variability impacts are varied from event to event)

Drought Occurrence in Indonesia in El Nino years



Four near normal monsoon years over India



Integrated Climate Risk Management

- Scenarios are important but adaptation to climate change **can not be based solely on scenarios** of what **might happen** in three or four decades
- Risk management for a wide range of elements at risk, ranging **from communities to ecosystems**, at **short and long** time scales and **across spatial scales**.
- Learn to manage your "now" to be prepared for "future"

Integrated Climate Risk Management

- Climate related risk is one of the central development issues of our time
- Parallel institutional and programming mechanisms for addressing what is a holistic development issue is counterproductive

Integrated Climate Risk Management

- The current development situation and needs in a particular location is the most appropriate starting point
- Adaptation has to be often extension of on-going efforts to reduce climate related disaster risks.
- While past climate is not a good guide as to the future climate, past experiences and lessons learned are
- Adaptive learning comes from doing. Planning is very important. But it is unlikely that adaptation will come only from a priori planning.
- Adaptation will require continual adjustment of risk management practices

Integrated Climate Risk Management

Requires the search for coherence and coordination across

- Geographical scales:community, local, regional, national and global.
- Time scales: seasonal, inter-annual, decadal and centennial.
- Climate affected sectors-- water resources, health, agriculture, food security, ecosystems etc.
- Development concerns—poverty reduction, CZM, rural development, urbanisation, economic growth etc.
- Stakeholder groups—scientists, experts, politicians and nation states, non-governmental organisations, regional and international organisations, financial institutions and civil society in general

The Problem of Disaster Data

- Global datasets are missing substantial numbers of disasters at the national level due to deficiencies in international reporting
- National datasets capture a greater proportion of the total losses but most countries do not maintain consistent and comparable records
- Variations in methods and standards make comparison difficult
- Economic losses are inadequately captured and recorded

ISDR Working Group 3 Study

- Compared 149 records in the CRED EM DAT dataset with 19,004 records in the DesInventar database for the period 1970 – 2000 (*)
- Covered Chile, Colombia, Jamaica and Panama. Very different countries in a single region
- Used No. of deaths and No. of affected people as surrogate loss indicators
- Study commissioned to OSSO, Universidad de Valle, Colombia – winner of 1996 Sasakawa Prize

(Panama for the period 1996 – 2001)

Methodology

- National disaster records classified into 3 categories:
  - Those that correlated with international reports in EM DAT
  - Those that fulfilled EM DAT criteria (more than 10 deaths or 100 affected people) but were not captured by international reporting
  - Small scale events with less than 10 deaths or 100 affected people

The Comparison

Number of deaths:

	Events with more than 10 deaths and/or 100 affected	Events with less than 10 deaths and/or 100 affected
	Not captured by international reporting	Not captured by international reporting
Chile	10%	83%
Jamaica	11%	67%
Panama	15%	84%
Colombia	6%	9%

Conclusions

The results cannot be extrapolated globally but indicate that there is a serious problem of reporting disaster occurrence and loss that:

- Would seem to be underestimating real losses in many countries
- Could lead to skewed and incorrect conclusions and projections in disaster reduction and adaptation to climate change applications.

Way ahead

- A range of inter-institutional activities need to be undertaken to promote and facilitate the building of a multi-tiered global system of disaster reporting and data sets.
- The consolidation of a system for creating a unique global disaster identifier which can link national and global datasets
- Development of common reporting standards and protocols for both national and international datasets

Way ahead

- Development of national datasets in areas where these do not currently exist.
- Development and promotion of methods and standards for capturing economic loss
- Capacity building and training in all the above areas