



Reducing disaster risks and losses: an UNDP approach to risk reduction

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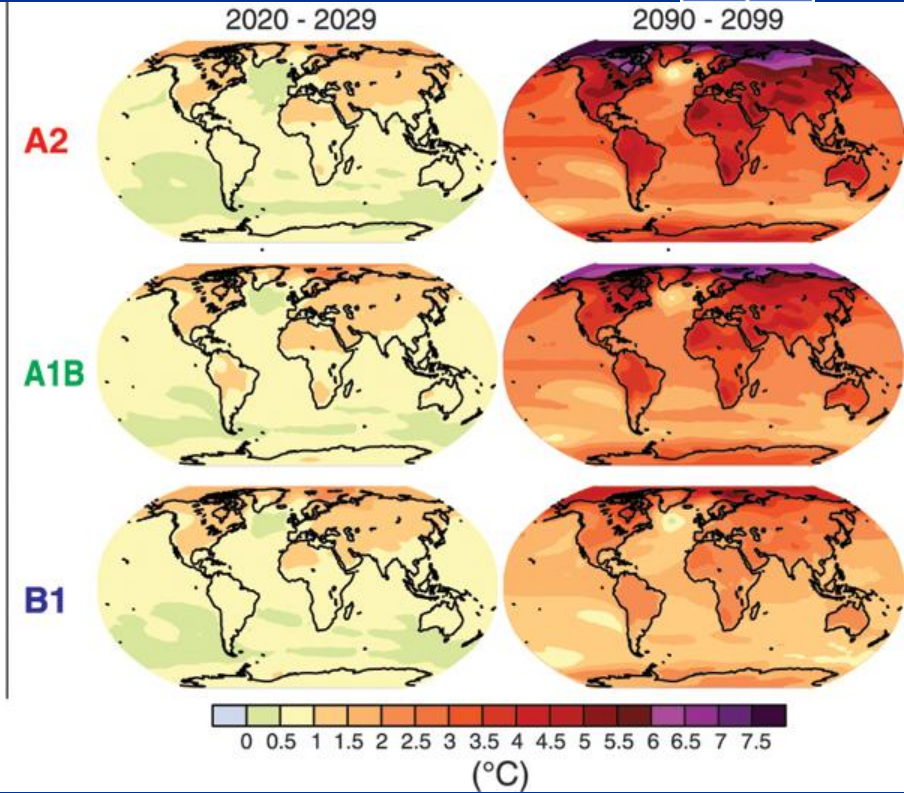
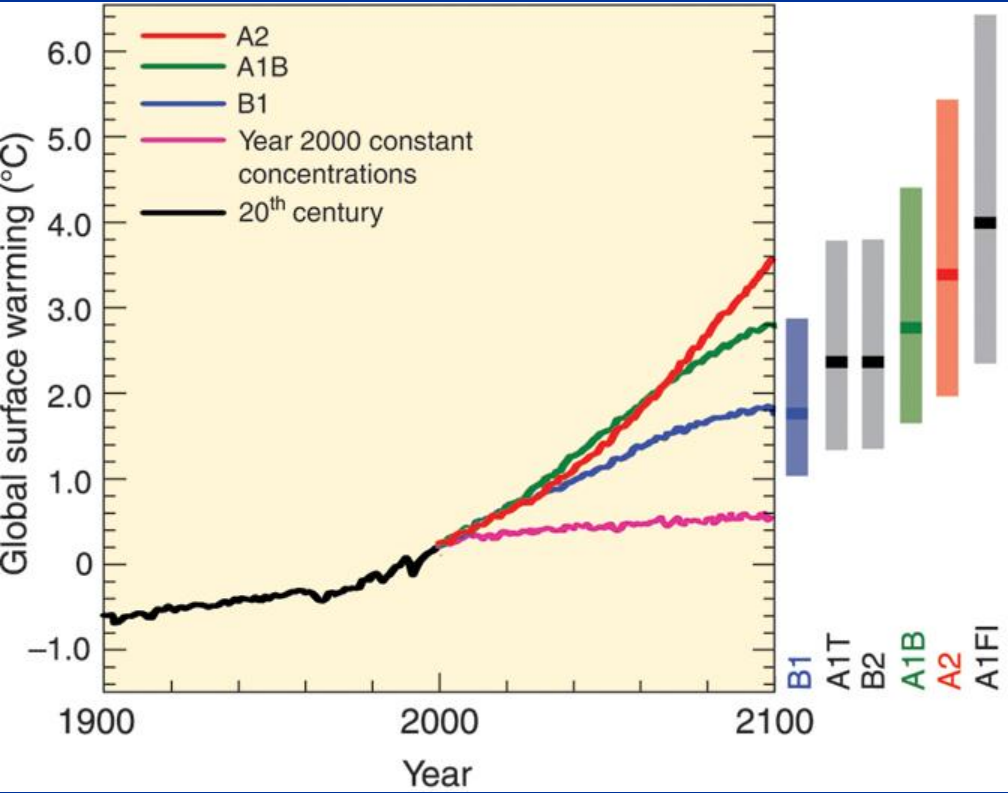
**I Meeting of EUROSAI Task Force on the Audit
of Funds Allocated to Disasters and
Catastrophes March 17 2009, Kiev, Ukraine**

Global trends/Europe



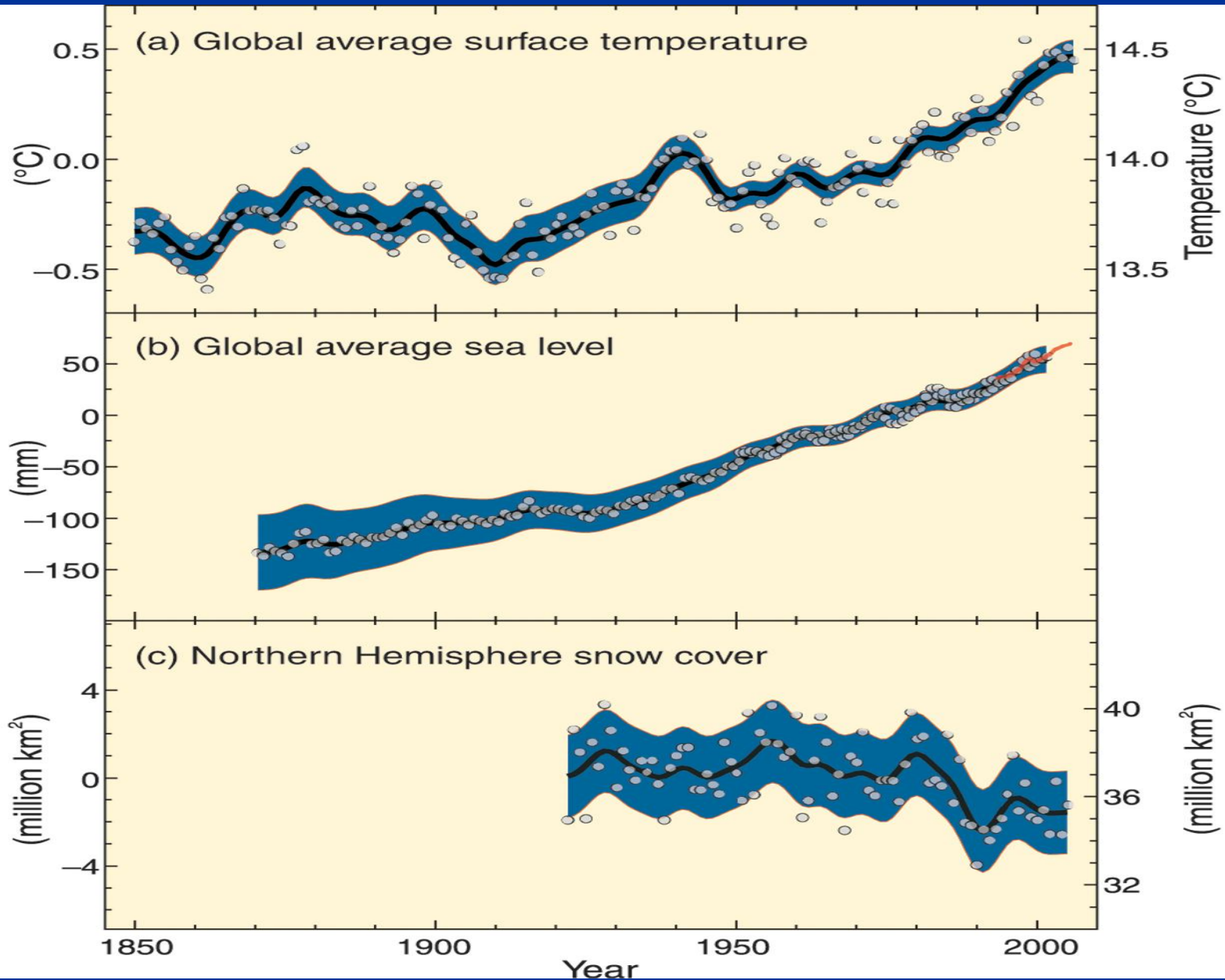
- Over much of Europe one in 100 years floods will occur every 20 years
- Flood risk and CC at EC Joint Research centre: potential of 100-year flood will rise 19-40% & people affected will increase by 6-11%
- **Due to Climate Change**
 - Increases in weather variability
 - New extreme values of temp., precipitation or wind speed
 - **New exposures: Sea level rise re-calculated to 1.40 mts**
 - More frequent and intense disasters

Source: WB (SEEDRMAP Concept Note, 2007)



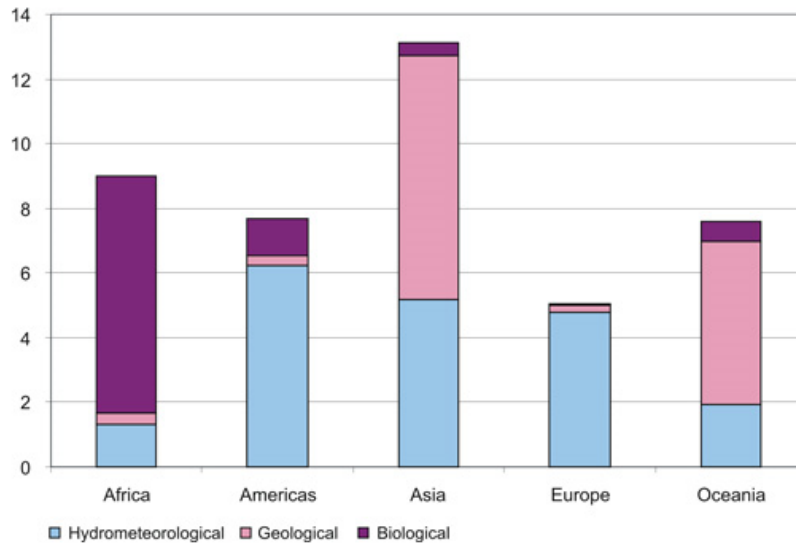
Source: IPCC, 2008 Technical Report

Difference from 1961–1990



Average number of people reported killed, per million inhabitants by continent and disaster origin 1991 - 2005

	Hydrometeorological	Geological	Biological
Africa	1.30	0.37	7.31
Americas	6.23	0.31	1.13
Asia	5.19	7.54	0.39
Europe	4.77	0.23	0.03
Oceania	1.92	5.06	0.62

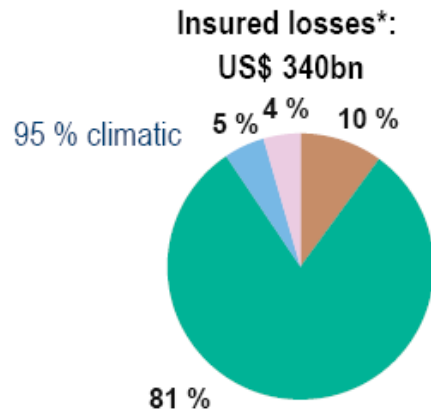
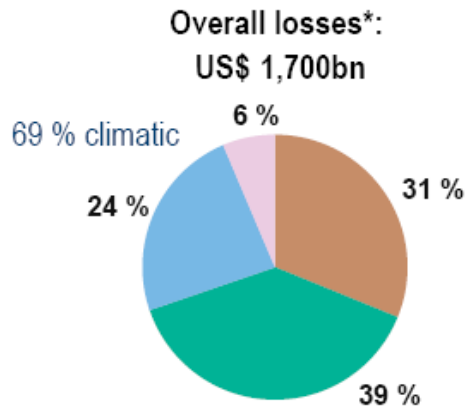
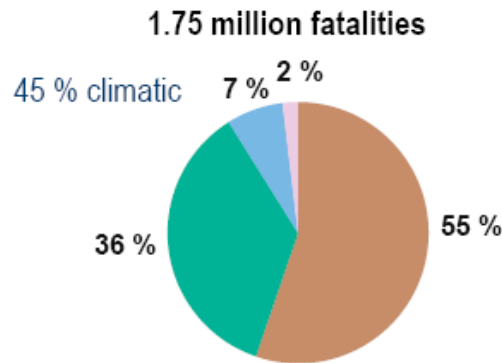
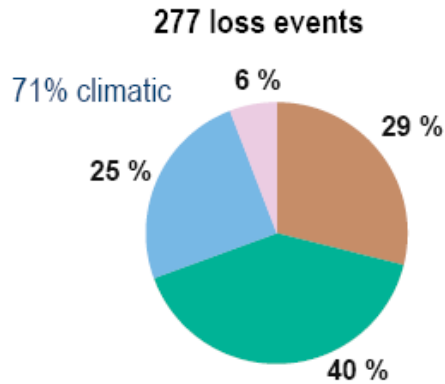


Source: CRED, 2007

Figure 11

Great natural disasters 1950–2006: Percentage distribution worldwide

Climatic events represent 71 per cent of large-scale economic disasters, causing 45 per cent of recorded mortalities, but responsible for 69 per cent of economic losses and 90 per cent of insured losses.



Geological related events

Earthquake, tsunami, volcanic eruption

Weather related events

Windstorm
Flood
Extreme temperatures

*2006 values

As at: April 2007

Disasters, in Europe, are transnational, mostly sudden onset, depends on forecasting & affect multiple countries

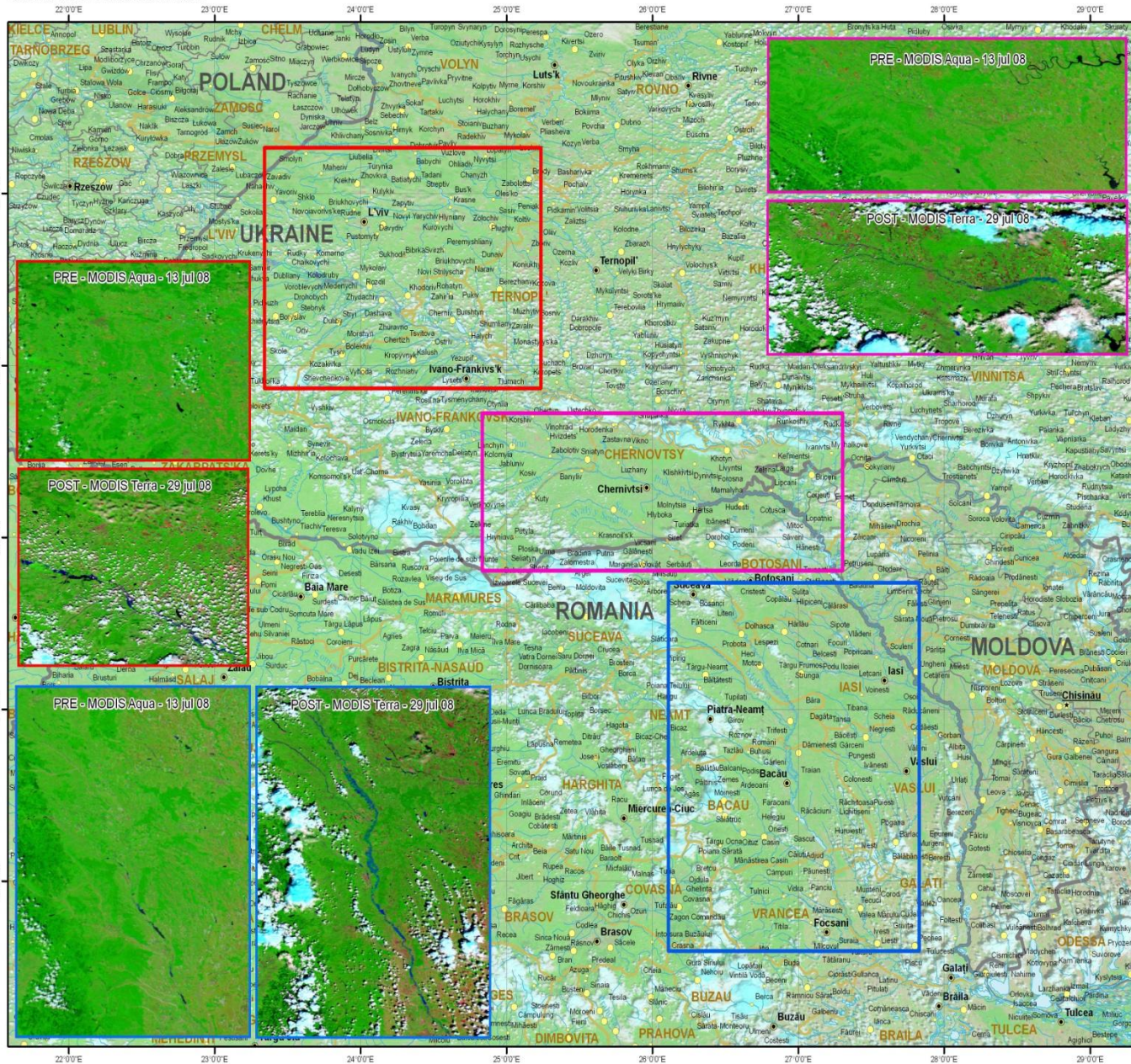


- Storm surges in the North Sea. The IPCC report projected a maximum sea level rise this century of 59cm (23in), but with the caveat that their figures did not include "accelerated" melting of glaciers or icecaps (Copenhagen, 2009)
- 2008 Floods in Ukraine, Romania and Moldova

Romania and Ukraine Flood as of 29 July 2008 MODIS satellite imagery analysis

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Legend

Populated Places (population)

- 1-10000
- 10000-8789120
- 1-10000
- 10000-8789120
- 1-10000
- 10000-8789120
- 1-10000
- 10000-8789120

Reference Water

- River/Stream - perennial
- River/Stream - non-perennial
- Inland Water

Administrative boundary (GAUL)

- Coastline
- International
- Primary/1st Order
- Secondary/2nd Order
- 3rd Order
- 4th Order
- 5th Order
- Other

Cloud coverage (white/cyan areas in the background image) reduces the analysed area

1:2,500,000 on A3 paper format
 0 12.5 25 50 75 100 km
 Geographic Coordinates - WGS84

Source for Vector Map level 0 (VMAP0) datasets was the United States National Imagery and Mapping Agency. MODIS images are available in the LANCE archive through FTP on ftp://landsat.nascom.nasa.gov/ Names and boundaries on this map do not imply acceptance or recognition by the World Food Programme or by the United Nations. Facts and figures in this map are accurate and up to date to the best of our knowledge at the time of writing but subject to change at any time. The World Food Programme makes no warranty or representation as to the reliability or accuracy of the data contained herein. This map is for planning purposes only. © United Nations World Food Programme 2007. All rights reserved.

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Disaster risk reduction



- Is the conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disasters risks throughout a society, to avoid (**prevention**) or to limit (**mitigation and preparedness**) the adverse impacts of hazards, within the broad context of sustainable development.

(Source: ISDR/UNDP Framework to understand, guide and monitor disaster risk reduction. Annex)

Governance & DRM



- Make DRM a policy priority (development policy & planning)
- Generate political commitment (legislation & reforming processes)
- Multi-sector responsibility
- Assign accountability for disaster losses & impacts
- Allocate necessary resources for disaster risk reduction
- Enforce the implementation of disaster risk management (best practices and lessons learned)
- Facilitate participation from civil society and private sector

Key issues on climate change



1. **Floods** risk is projected to increase across Europe
 - eastern Europe
 - northern Europe
 - Atlantic coast & central Europe
2. **Adaptation options** needs to be encouraged (e.g., structural measures like reservoirs and dykes)
3. Reduce the risk to further **damage & losses** is critical; a shift from reducing mortality due to better EWS
4. Floods **forecast** and warning systems needs to be improved

Source: IPCC Technical Paper 2008

Key Development issues



Disasters

- Are more frequent, from 100 in 1975 to 400 in 2006 (EM DATA)
- Impact in economic performance may affect country macroeconomic status: GDP, Sectoral production, account balance, indebtedness & public finances

Economic costs

- Are estimated to be 15 times higher than in 1950's , i.e., 652 billion in material losses in 1990's (IMF 2003)
- Problem is financing of disaster losses, reconstruction and recovery

Source: WB, Concept Note, 2007

Key Development issues...



- Gap between economic losses caused by ND and available financing for reconstruction and rehabilitation:
 - frequency and intensity of disasters are increasing
 - levels of vulnerability increase due to **insufficient planning** and prevention activities
- Economic current losses due to natural HP related damage in Ukraine is \$275million (2005 prices)
- The investment in prevention is the key to these challenges

Advantage of prevention



- Measuring benefits of disaster prevention is difficult. Costs are not only financial, but also humanitarian, social and environmental. Infrastructure projects that failed due to natural disasters in the Caribbean, for example, could have survived those disasters, if prevention measures costing 1-12% had been added.

Source: World Bank 2007 Caribbean Catastrophic Risk Insurance Facility; OAS Organization of American States, 2007)

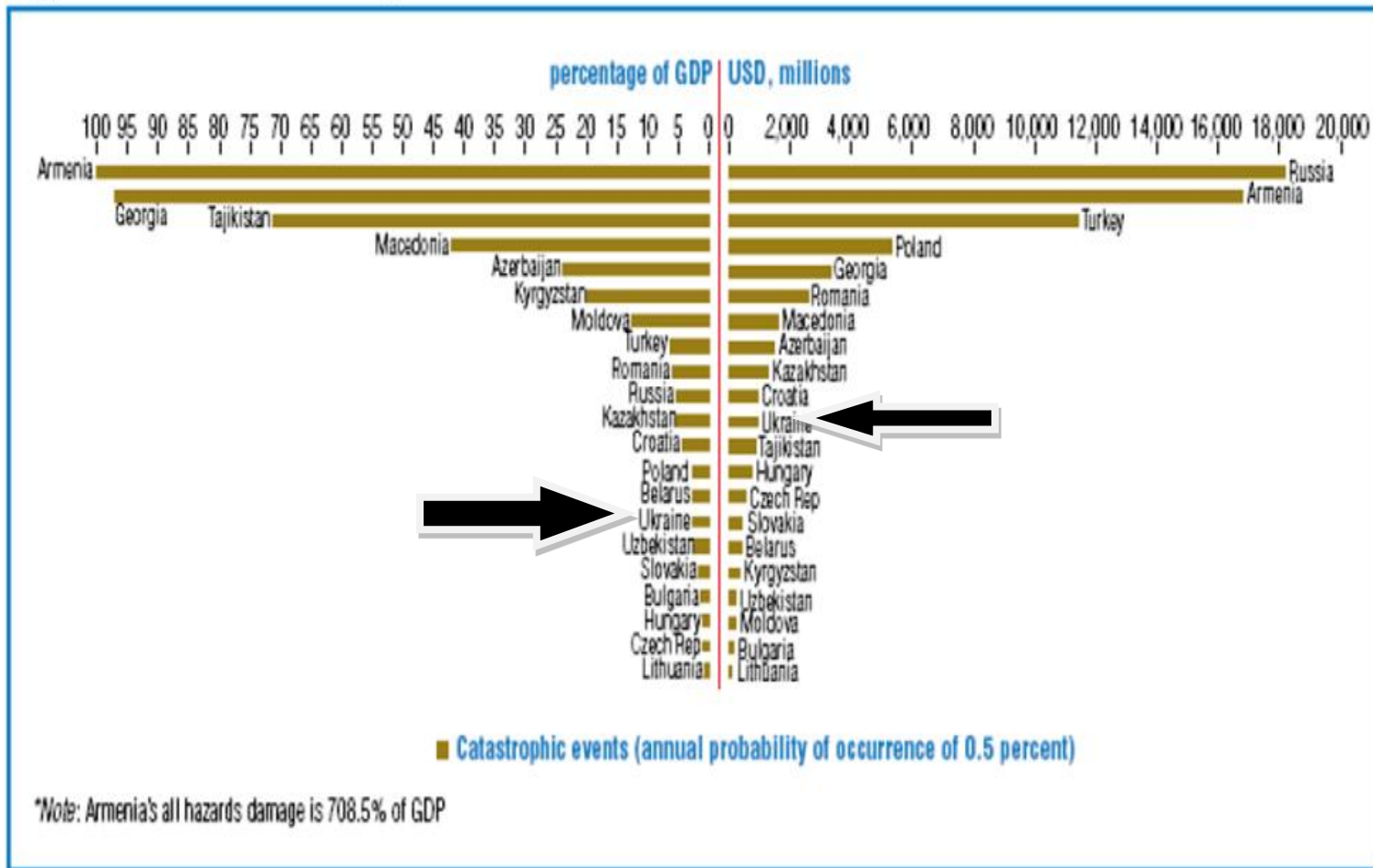
The problem in investing in prevention



- Emerging economies including SE Europe do not make annual budget appropriations for prevention, but for emergency expenditures
- Budgetary reallocations or by increasing budget deficits through borrowing is one option to finance disaster losses
- Alternative to sector-sectors, top-down management from past; integrated multi-sectoral option to DRM



Figure 1. Economic loss potential*



*The figure does not include drought, forest fire, and industrial accident hazards.

The Ukraine disaster cost



- Country-wide assessments of mean annual direct and indirect economic losses (MofEm), only from natural disasters of national or regional significance that happened in 2000-2005 were about \$340 million (in 2005 prices)
- Ukrainian Ministry of Agricultural Policy show that direct and indirect damage to the economy from HP/UWC in 2000-2005 was at least 3-4 times larger than MOofEm assessments, i.e. about \$900 million in 2005 prices

Floods management



- Must reflect the human dimension & also the impacts of changing land use on flooding, erosion, and landslides
- Integrated water management practices must be embraced
- Societies have much to learn from new approaches such as **better forecasting** techniques and **applying experience** gained from flood events and mitigation efforts employed elsewhere



*This presentation has been produced within the implementation of UNDP-BCPR support to the **POST-DISASTER RECOVERY PLANNING IN UKRAINE**. The views, findings and recommendations expressed in this presentation are those of the author alone. They do not necessarily represent the views of UNDP.*

THANK YOU