



Mainstreaming Disaster Risk Reduction: A Review of Main Operational Frameworks

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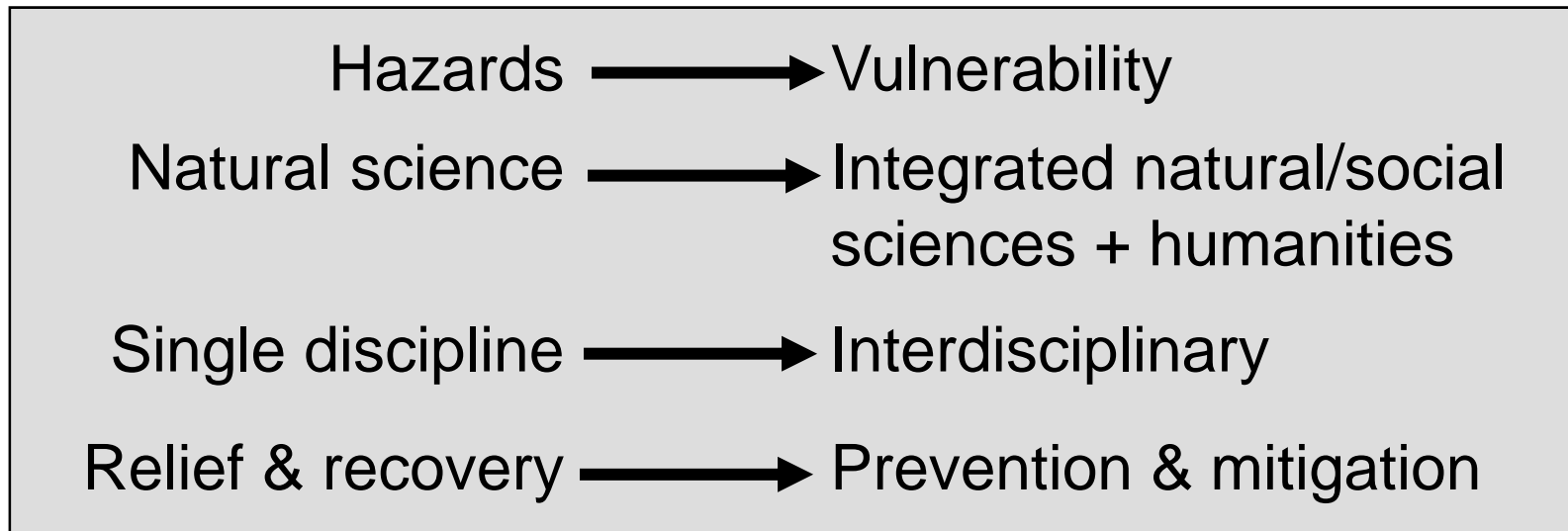
In this presentation...

- Disaster is a matter of development
- Theoretical and conceptual understanding of vulnerability and resilience
- Challenges for mainstreaming
- Main mainstreaming frameworks
- Mainstreaming dilemma matrix
- Concluding remarks

Disaster is a matter of development

- Prevention and mitigation “do pay”, but are never “politically attractive”
- It could erase decades of “development gain”
- Rapidly emerging economies: to build for or avoiding the next big catastrophe?
- Implementation remain the weakest link despite general progress of human societies
 - Act of god’
 - Human and Nature interaction
 - Coupled Social-Ecological Systems (SES)

Key Elements of the Paradigm Shift in DRR



Call for integrated disaster management, living with natural disasters, mainstreaming DRR

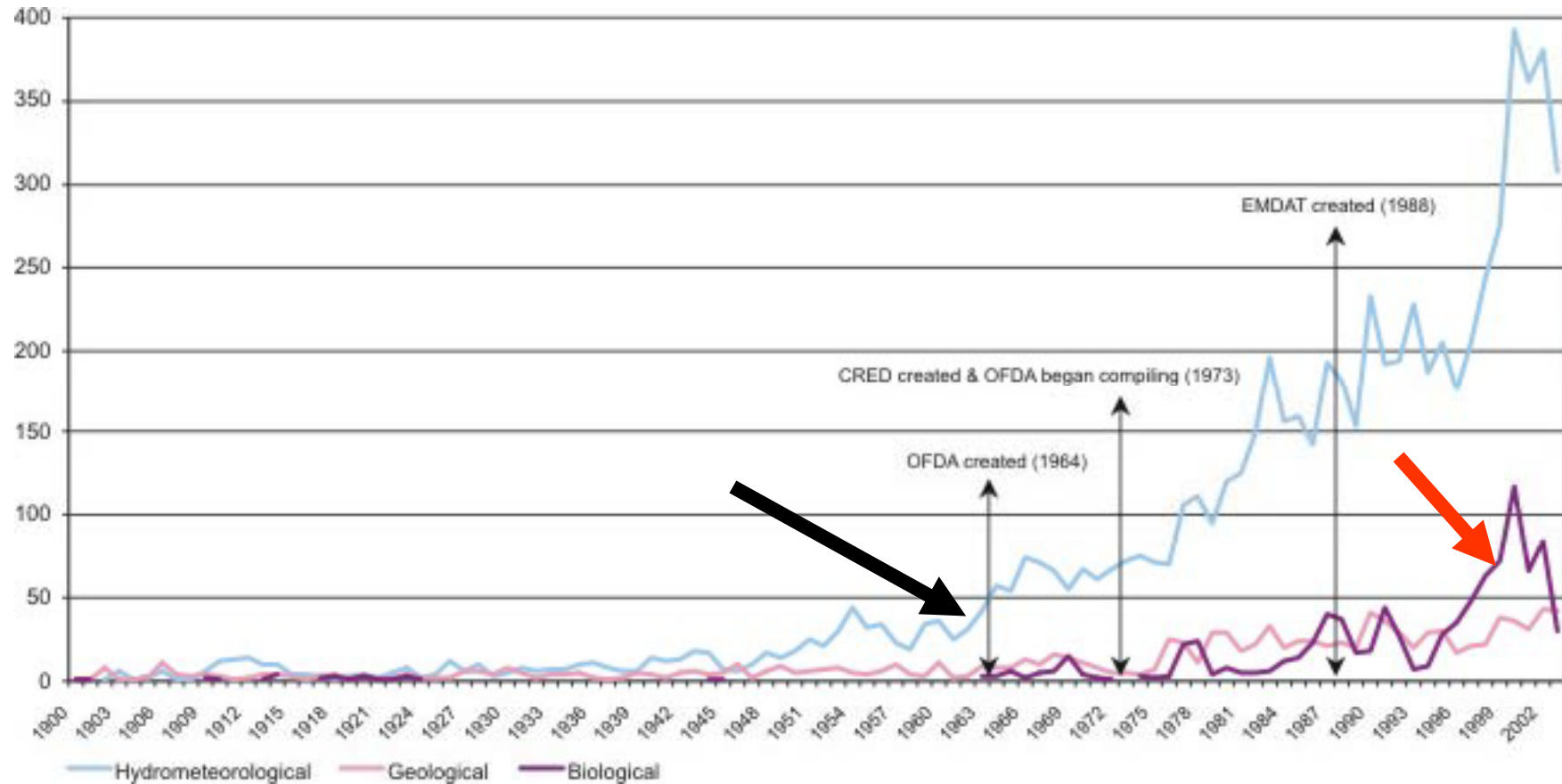
The Call for Mainstreaming

- IDNDR, 1990s
- Yokohama Declaration, 1994
- ISDR
- Rio (1992); Kyoto (1997)
- MDGs (2000)
- WSSD, Johannesburg 2002
- FAO, UNDP; UN HABITAT
- IFRC, World Disaster Reports (since 1993)
- WB; IADB
- WCDR, Kobe (2005) – The Hyogo Framework for Action 2005-2015

Factors Driving the Shift

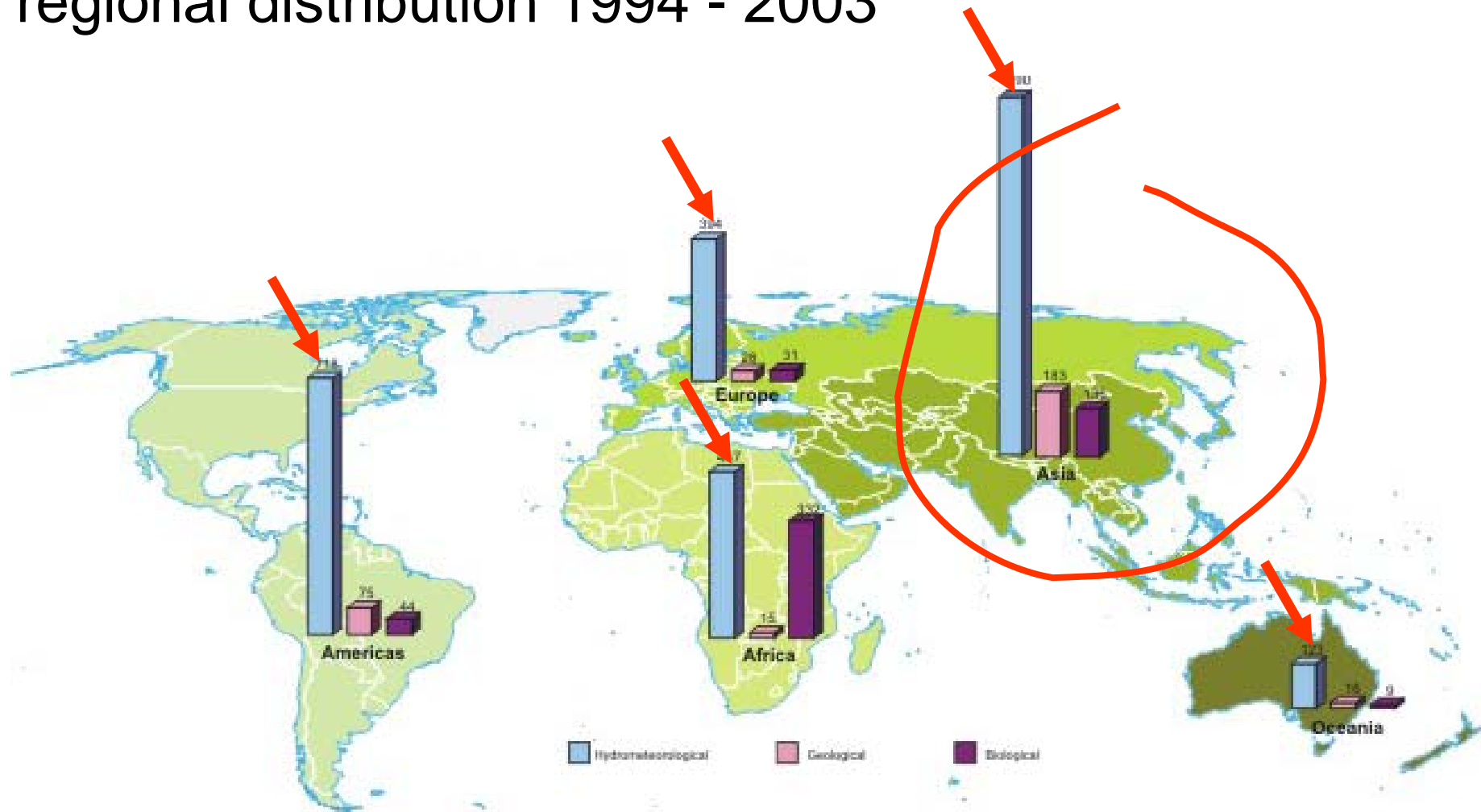
- Worsening global impact of natural disasters' impact globally - particularly uneven pattern
- Linkage between development and disaster has become increasingly clear
- Promise of the vulnerability and resilience concepts, which underlie the shift and allow it to be 'framed'

Number of natural disasters registered in EMDAT 1900-2003

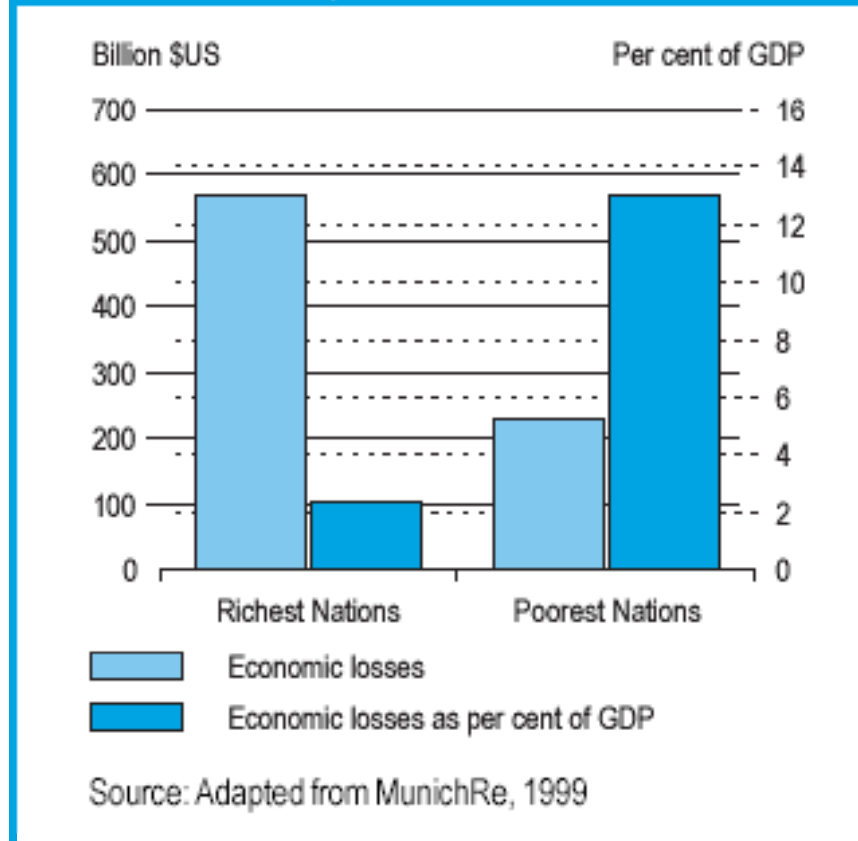


Source: EM-DAT : The OFDA/CRED International Disaster Database. <http://www.em-dat.net>, UCL - Brussels, Belgium

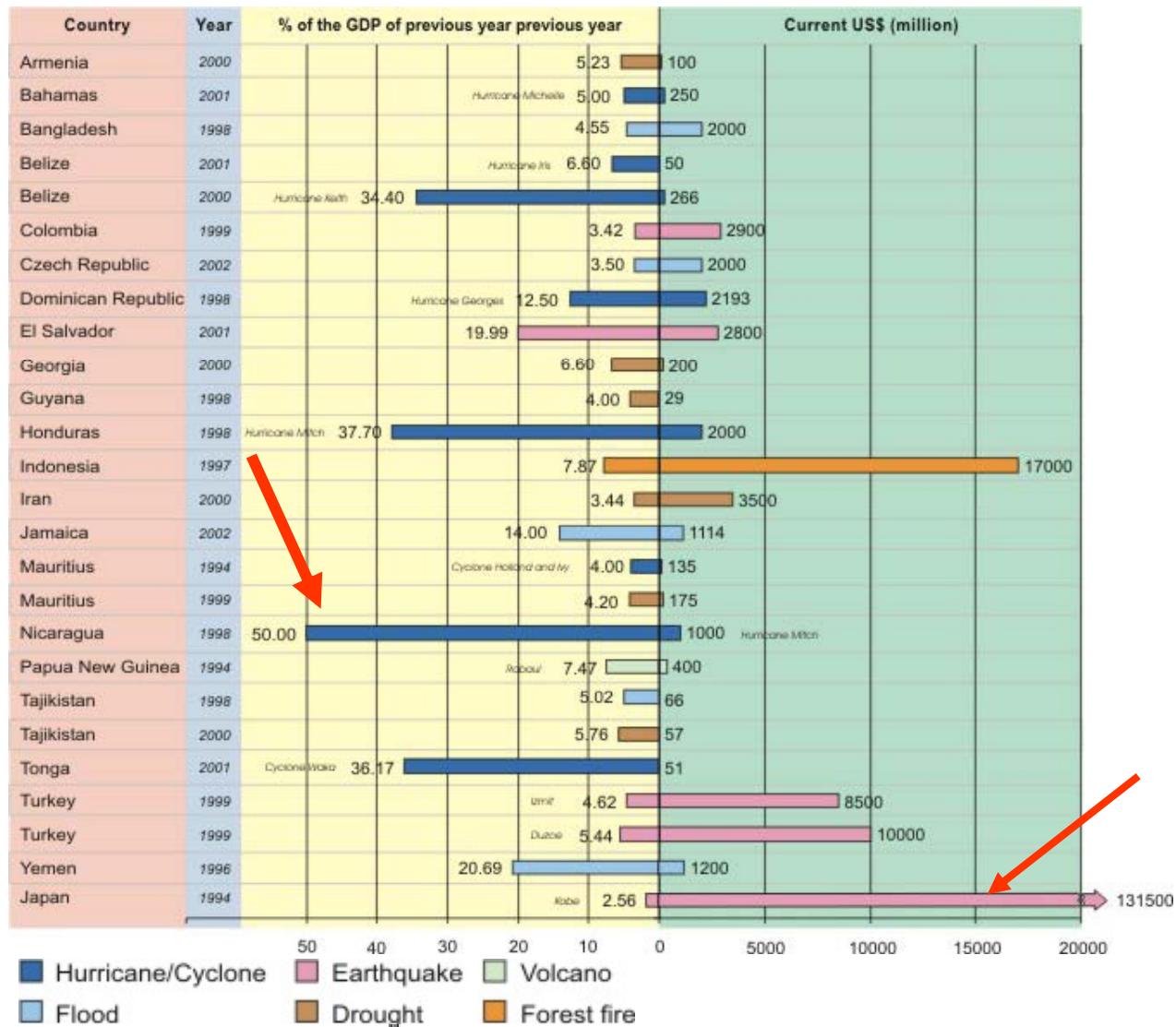
Number of natural disasters by origin: regional distribution 1994 - 2003



Disaster losses, total and as share of GDP,
in the richest and poorest nations, 1985-1999



Selected natural disasters : total damage and share of the GDP: 1994 - 2003



The New Challenge

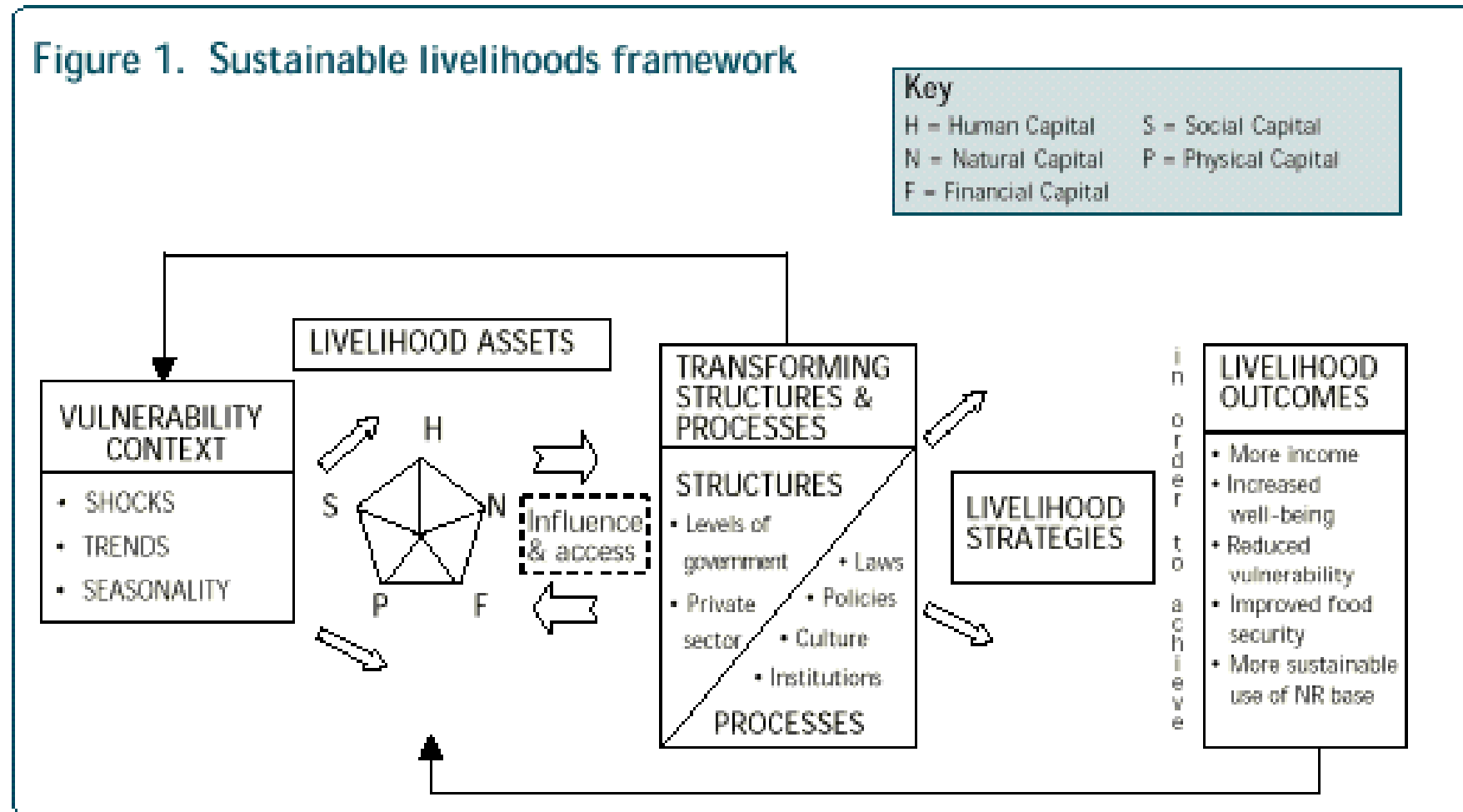
The concepts of vulnerability and resilience have led to a powerful new way of conceptualizing disaster risk reduction in coupled SES

HOWEVER, they have also engendered tremendous practical challenges for those seeking to mainstream DRR.

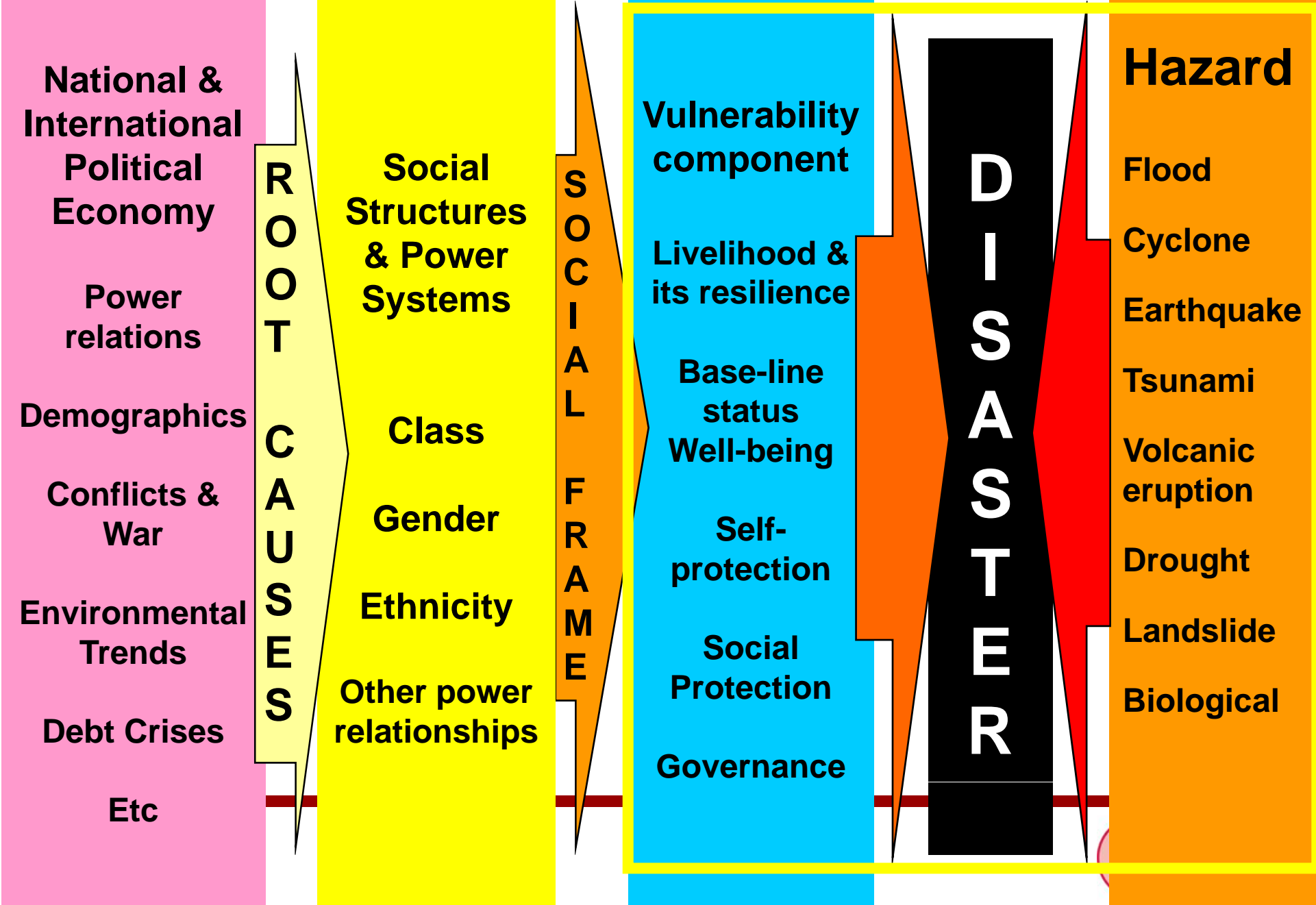
Mainstreaming Disaster Risk Reduction: What Dose It Mean?

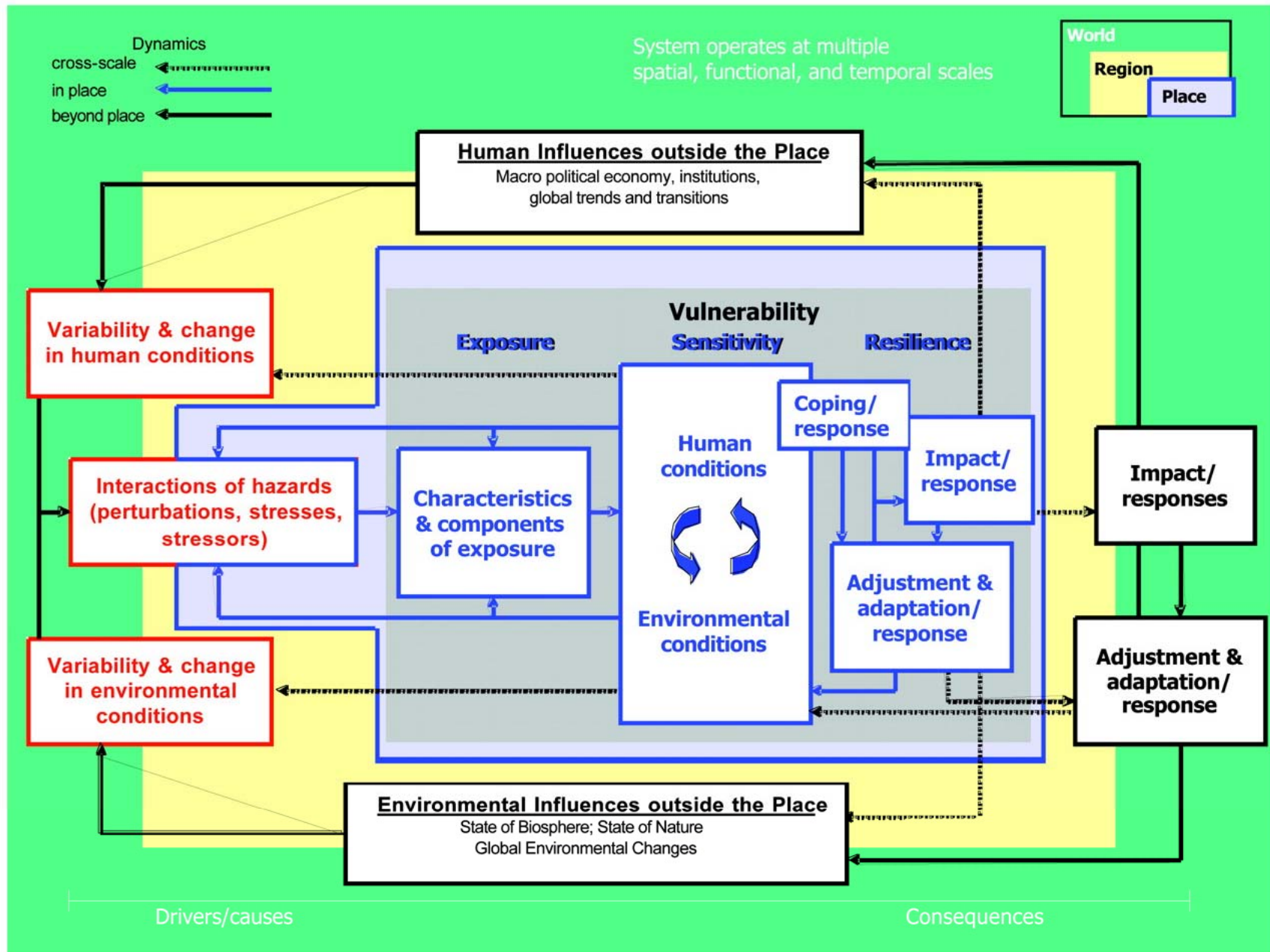
- Broadly, mainstreaming DRR is referred to as the integration of disaster risk reduction measures into development planning, poverty reduction strategy, as well as resource management and environmental protection.
 - To mainstream is to upstream
 - To mainstream is to change the way we deal with natural hazards (to see it as ‘norms’ rather than exceptions)
 - To mainstream is to take natural disaster risk reduction as matter of development
 - **And the most fundamental of all, is to understand the dynamic nature of vulnerability and its underlying causes; and to make vulnerability reduction as the central focus.**

Livelihood linkage



“Crunch” Pressure and Release (PAR) model





Promises of the Vulnerability and Resilience Concepts

- ***Coupled social and ecological system focus*** - focus on receiver unit rather than trigger event
- ***Multiple stresses/stressors*** - linkage between livelihood and disaster
- ***Spatial and temporal dynamics and cross-scale linkages***
- ***“To adapt” rather than “to Control”*** – from resilience thinking.
- ***Link to sustainable development***

'Beauty' Is Also The 'Beast': The Challenges Stem Precisely from the Promises

- The conceptual advances represented by the vulnerability/resilience-based approach to DRR has not been matched by an empirical/operational one.
- Therefore, we are at a stage where we know the practices are inadequate, but we do not yet have the conceptual tools, political will, and methodologies to meaningfully implement new approaches

Main Operational Frameworks

- Thomas Mitchell, 2003. *An Operational framework for mainstreaming disaster risk reduction*
- TEARFUND, Jan 2005: *Mainstreaming disaster risk reduction: a toll for development organizations*
- The World Bank, Jan 2006: *Mainstreaming Hazard Risk Management in Poverty Reduction Strategies: A strategic framework for action*
- Increasing attention on integration of climate adaptation and DRR

An Operational Framework for Mainstreaming Disaster Risk Reduction (20 Indicators), compiled from T. Mitchell 2003

1. Politics and Legislation	1.1 Political Commitment 1.2 Regional Linkages 1.3 Legislation 1.4 Emergency Powers 1.5 National Disaster Mitigation Committee (or equivalent)
2. Policy	2.1 Policy Statements 2.2 Participation 2.3 Development Plans 2.5 National Disaster Planning
3. Knowledge	3.1 Risk and Vulnerability 3.2 Education 3.3 Media 3.4 Community Networks 3.5 Research 3.6 Skills, Capacity and Motivation
4. Practice	4.1 Reconstruction/Building Codes 4.2 Local Community 4.3 Insurance and Finance 4.4 Poverty Reduction

Mainstreaming disaster risk reduction: a tool for development organizations, compiled from TEARFUND 2005

Four Levels

Little or no progress

Awareness of needs

Development of solutions

Full integration

Mainstreaming disaster risk reduction: a tool for development organizations, compiled from TEARFUND 2005

Six Key Areas

Policy

Strategy

**Geographical
Planning**

**Project Cycle
Mgmt**

**External
Relations**

**Institutional
capacity**

Mainstreaming disaster risk reduction: a tool for development organizations, compiled from TEARFUND 2005

Little or no progress Awareness of needs Development of solutions Full integration

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Project Cycle Mgmt

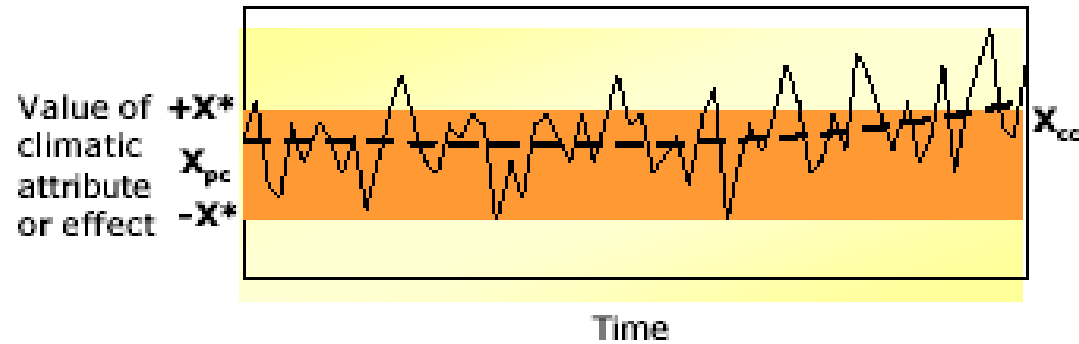
External Relations

Institutional capacity

Targets /Indicators

Level 1	Level 2	Level 3	Level 4
<p>● The organisation has little or no understanding of the relevance and importance of disaster risk reduction for its relief and development policy and practice.¹²</p>	<p>A There is general awareness within the organisation of the significance of disasters for its relief and development work, including the extent of the threat that disasters pose to the organisation's long-term development goals and objectives.</p> <p>B The organisation recognises the need for relief and development to be linked in a coordinated approach to reducing disaster risks.</p>	<p>A The organisation has a conceptual framework for disaster management¹³ which recognises vulnerability as contributing to the risk of disasters.</p> <p>B A wide cross-section of staff are engaged in a consultative process to EITHER:</p> <ul style="list-style-type: none"> • inform the development of a policy which commits the organisation to mainstreaming disaster risk reduction within the organisation's relief and development operations OR • incorporate risk reduction mainstreaming into the organisation's existing policy structure. 	<p>A The organisation has a 'policy'¹⁴ on disaster risk reduction with realistic, achievable goals for mainstreaming. This is understood and accepted across the organisation.</p> <p>B The organisation's risk reduction 'policy' commits it to addressing three critical issues:</p> <ul style="list-style-type: none"> • ensuring that development programmes/projects¹⁵ supported by the organisation are protected through disaster risk reduction elements • ensuring that disaster relief and rehabilitation programmes/projects are managed in a developmental manner • ensuring that development, relief and rehabilitation programmes/projects do not increase people's vulnerability to disasters. <p>C The risk reduction 'policy' is fully endorsed by senior management.</p> <p>D The risk reduction 'policy' is reflected in internal and external documents.¹⁶</p>

Integrating Natural Disaster Reduction and Adaptation to Climate Change



X_{pc} Mean value of the climatic attribute X at the start of the time series.

X_{cc} Mean value of the climatic attribute X at the end of the time series.

$+X^*$ Upper critical value of X for the system of interest.

$-X^*$ Lower critical value of X for the system of interest.

$\underline{\quad}$ Trend in mean value of X .

 Coping range or zone of minimal hazard potential for system of interest.



Climate change adaptation

Approach:

- risk management
- strong scientific basis
- environmental science perspective
- highly interdisciplinary
- vulnerability perspective

- long-term perspective
- global scale
- top-down

Organisations and institutions:

- United Nations Framework Convention for Climate Change (UNFCCC)
- Intergovernmental Panel on Climate Change (IPCC)
- academic research
- National environment and energy authorities

International conferences:

- Conference of the Parties (COP)

Assessment:

- IPCC Assessment Reports

Strategies:

- National communications to the UNFCCC
- National Adaptation Plans of Action (NAPA) for Least Developed Countries

Funding:

- Special Climate Change Fund
- Least Developed Countries Fund
- Kyoto Protocol Adaptation Fund

Disaster risk reduction

- risk management
- engineering and natural science basis
- traditional focus on event and exposure and on technological solutions
- shift from relief & recovery to preparedness, mitigation and prevention
- short-term but increasingly longer-term
- local scale
- community-based

- United Nations
- Provention Consortium (World Bank)
- International Federation of Red Cross and Red Crescent Societies (IFRC)
- international, national & local civil society organisations
- National civil defence authorities

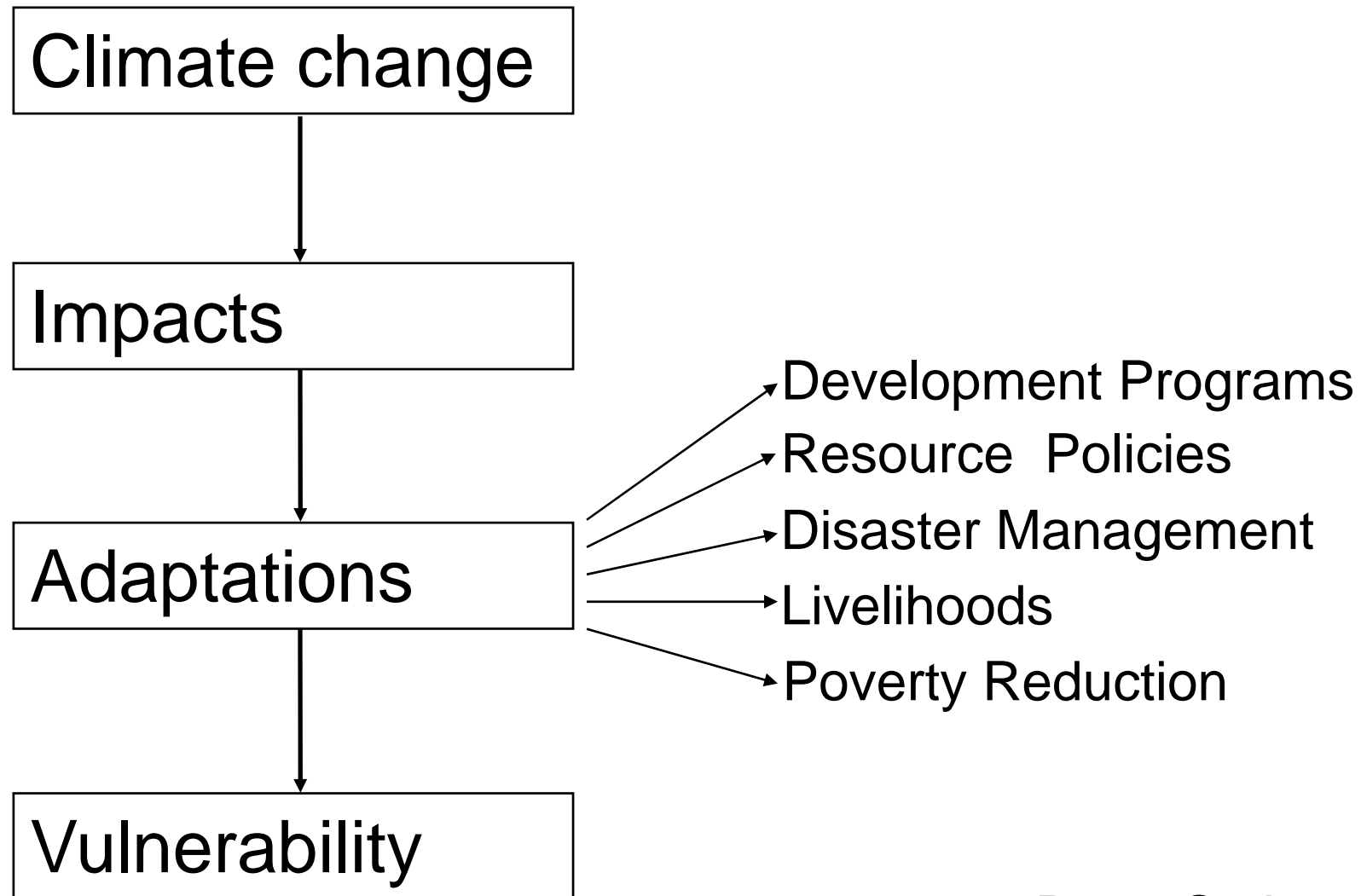
- World Conference on Disaster Reduction

- IFRC World Disaster Report
- International disasters data bases
 - EM-DAT
 - NatCatSERVICE by Munich Re
 - Sigma by Swiss Re

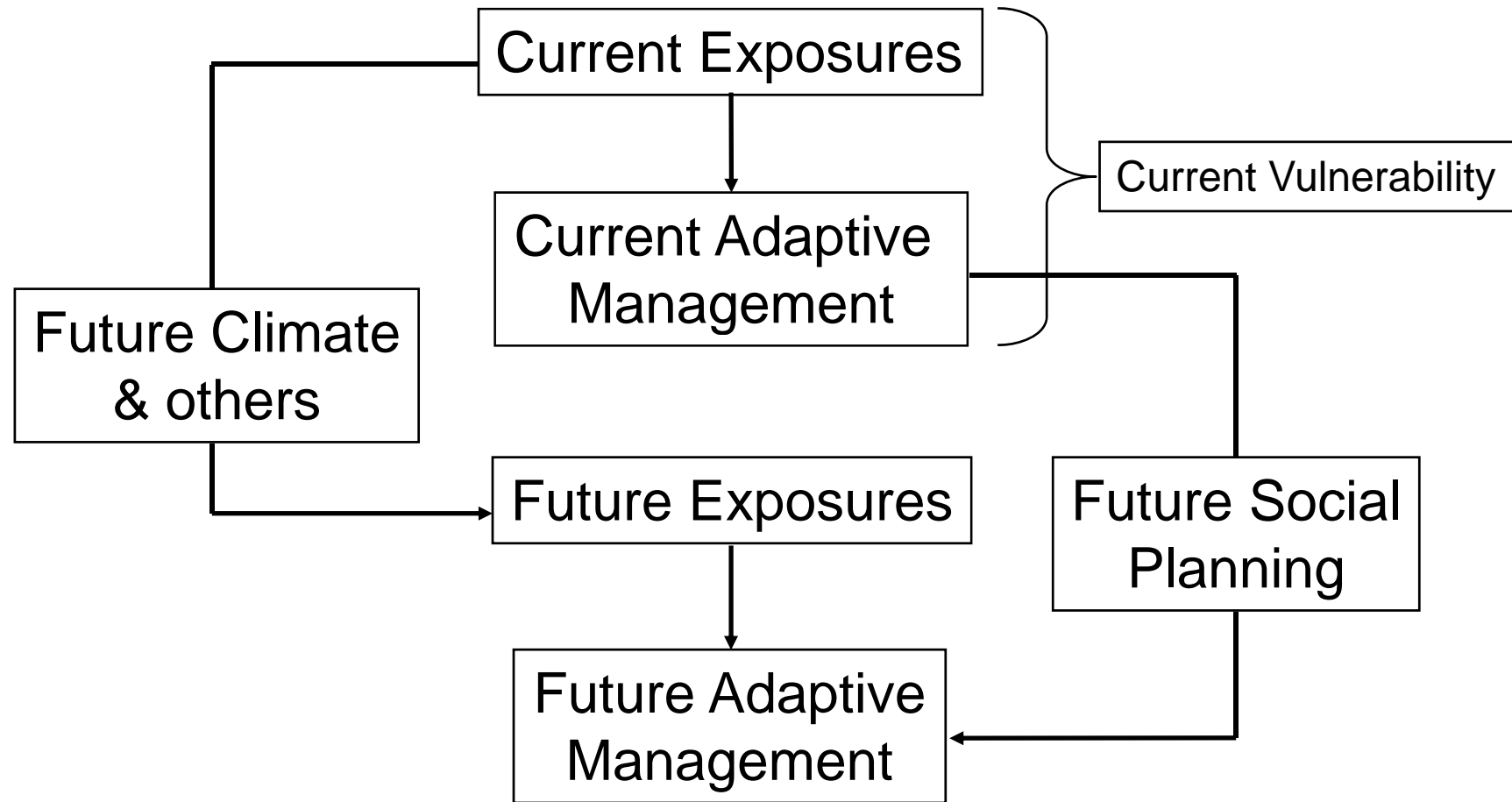
- UN International Decade for Natural Disaster Reduction (IDNDR)
- Yokohama Strategy and Plan of Action for a Safer World
- UN International Strategy for Disaster Reduction (ISDR)
- Hyogo Framework for Action 2005-2015

- National Civil Defense / Emergency response Budget
- International humanitarian funding (UN, e.g., OCHA; multilateral and bilateral donors)

Thomalla et al. 2007



Barry Smit 2004



Barry Smit 2004

Dilemmas Matrix of Mainstreaming

Strategy	Political Will	Scientific know-how	Available Resources	Permissible Institutional Structure
NDRD only ¹	Defined function	Strong	Budgetary	Existing
Co-beneficial	As long as there is convincing economic rationale	Weak	Competing funding	Require strong inter-sectoral coordination and collaboration
No-regret	Low, for it normally require a long-term policy making perspective	Strong	No extra needed	Often can be tolerated with the existing structure

Type I: politically feasible but scientifically challenging

Type II: scientifically sound and politically challenging

Challenges for Mainstreaming

- Permissible institutional structure
 - Institutional structure for natural disaster management today is still in large a reflection of the re-active and techno-fix mode;
 - Lack of Inter-, and multi-sectoral integration
 - Lack of Incentive structure (eg. Insurance)
 - The role of international donor agencies
- Natural hazard is still largely seeing as ‘exception’ rather than ‘norm’.
- Limited participation by local communities in the decision-making process witch lead to the development of un-supported policy and institutional frameworks

Conceptual/Operational Divide 1: Analytical Tools

- The analytical approach is still far from functionally operational - poor understanding/lack of tested methodology on key components:
 - Multiple stresses
 - Cross scale dynamics
 - Sequential and cumulative impacts

Conceptual/Operational Divide 2: Core Concepts and Linkages

- We still don't know much about the 'coupled-ness' of the SES, or therefore about key linkages that are central for devising integrative policies
 - Environmental degradation and disaster
 - Poverty and disaster
 - Resource management and disaster

Conceptual/Operational Divide 3: Policy Penetration

- The advances of vulnerability and resilience concepts are still largely conceptual, and their direct policy influence is still weak and anecdotal
 - Robust empirical testing still to come
 - Complexity is too high for operational guidance

Conceptual/Operational Divide 4: Institutional Structure

- The enabling institutional structure is not there:
 - No ‘vulnerability manager’ or ‘resilience builder’
 - ‘Policy as experiment’ is still too politically sensitive for decision/policy makers

Concluding Remarks

- The paradigm shift is still in its early stage – so we need ‘accumulation’ of tools, methodology, cases...
- Stakeholder-engaged participatory process is essential for this ‘accumulation’ plus ‘translation’
- Mainstreaming, after all, is about good governance. Political will is critical.
- The best way forward is to form close tie to international agenda on SD, MDG and CC – via PRSP, NAPA, MDG programmers...