IRDR
Integrated Research on Disaster Risk
Presentation to International Program On Landslides- UN ISDR GP, 2011

Djillali BENOUAR,
on behalf of
Gordon McBean, Chair
Science Committee-IRDR

ICSU Planning Group

- **Assessment - despite all the existing or already planned activities on natural hazards, an integrated research programme on disaster risk reduction, sustained for a decade or more and integrated across the hazards, disciplines and geographical regions, is an imperative. The value-added nature of such a programme would rest with the close coupling of the natural, socio-economic, health and engineering sciences.**

- **The executive summary of the ICSU Priority Area Assessment on Capacity Building in Science (2005a) stated that a great challenge is ‘a development problem…the widening gap between advancing science and technology and society’s ability to capture and use them.’**

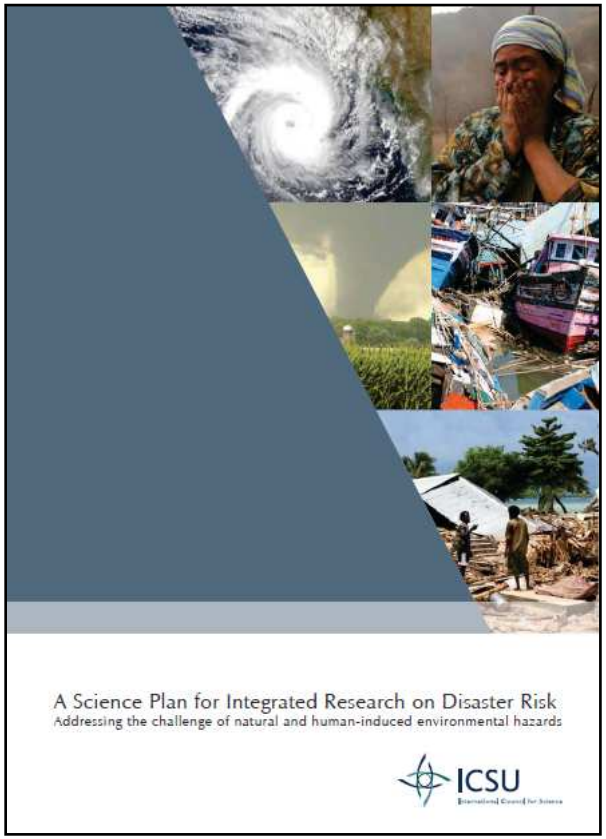
- **The increases in costs of disasters are taking place in both developed and developing countries, which suggest that reducing the risks from hazards is not simply a matter of economic growth and development.**
- **There is a great shortfall in current research on how science is used to shape social and political decision-making in the context of hazards and disasters.**

- **These issues also highlight the need for more systematic and reliable information on such events. An aim of the Programme would be to both generate new information and data and to leave a legacy of coordinated and integrated global data and information sets across hazards and disciplines, with unprecedented degrees of access.**

The Science Plan

Addressing the challenge of natural and human-induced environmental hazards

An integrated approach to research on disaster risk through: an international, multidisciplinary (natural, health, engineering and social sciences, including socio-economic analysis) collaborative research programme.



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IRDR Science Plan at:
http://www.irdrinternational.org/

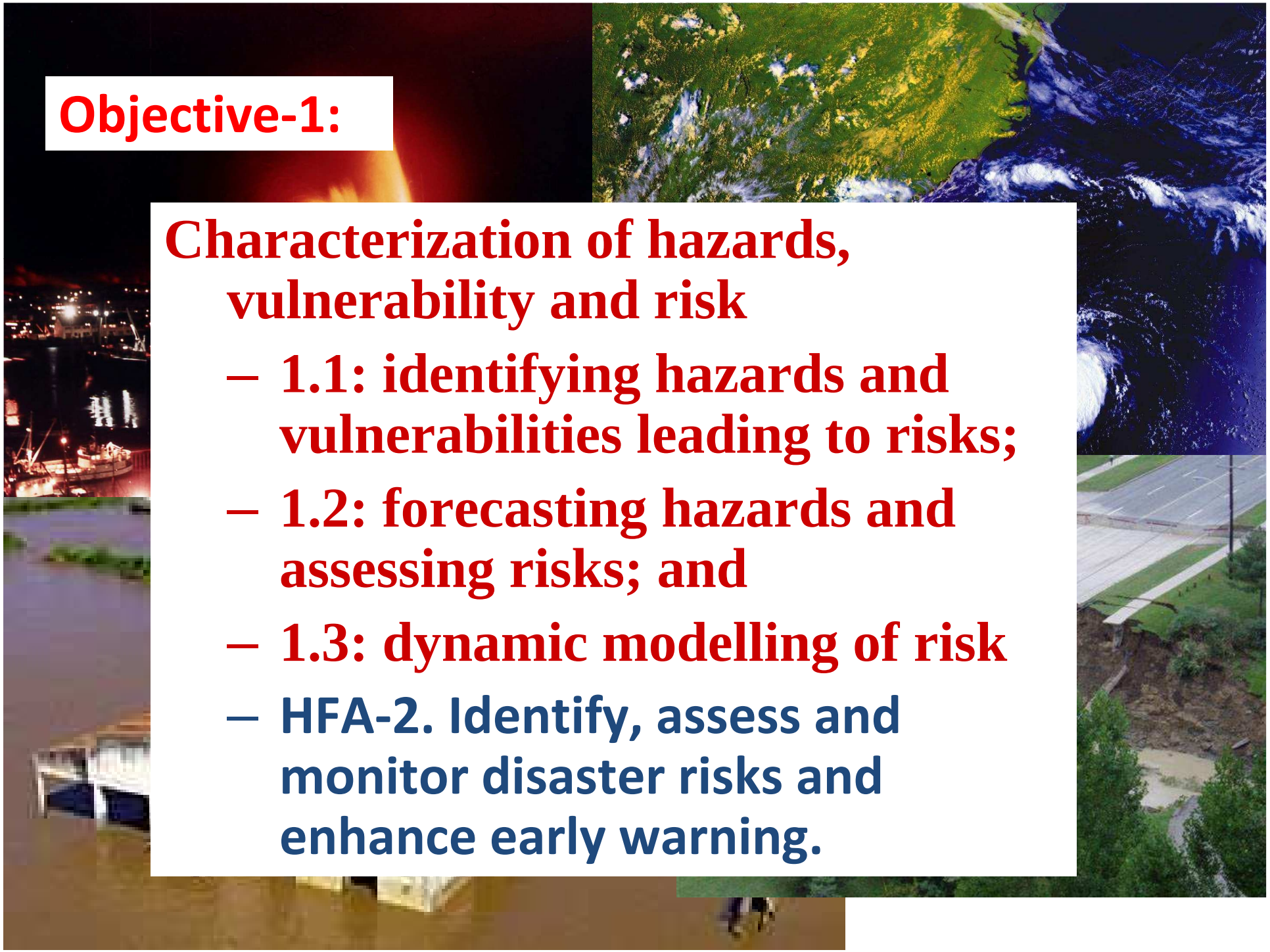
Integrated Research on Disaster Risk

- **Scope**

- **Geophysical, climate and weather-related trigger events**

- **Earthquakes – tsunamis – volcanoes – floods – storms (hurricanes, cyclones, typhoons) – heat waves – droughts – wild-fires – landslides – coastal erosion – climate change (increases of extreme events)**
- **Effects of human activities on creating or enhancing disasters, including land-use practices**
- **Space weather and impact by near-Earth objects**
- **NOT disasters triggered by technological failure (but technological failure triggered by geophysical and climate-weather events), warfare**

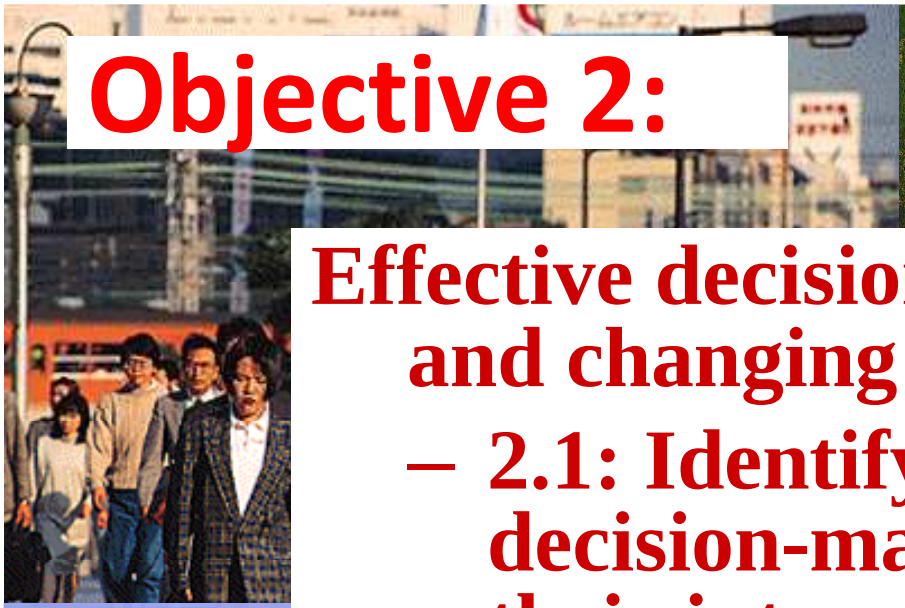
- **Scientific Objectives → → → → → → →**

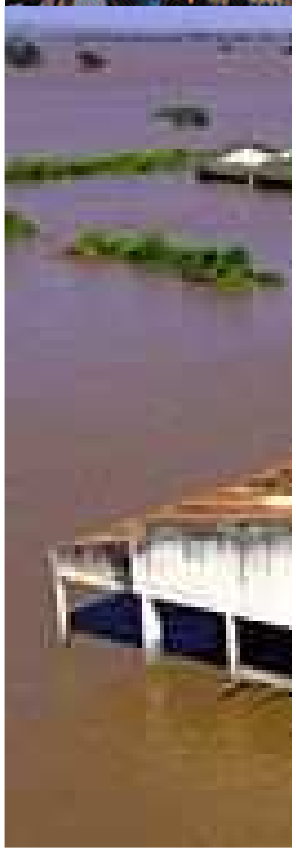


Objective-1:

Characterization of hazards, vulnerability and risk

- **1.1: identifying hazards and vulnerabilities leading to risks;**
- **1.2: forecasting hazards and assessing risks; and**
- **1.3: dynamic modelling of risk**
- **HFA-2. Identify, assess and monitor disaster risks and enhance early warning.**

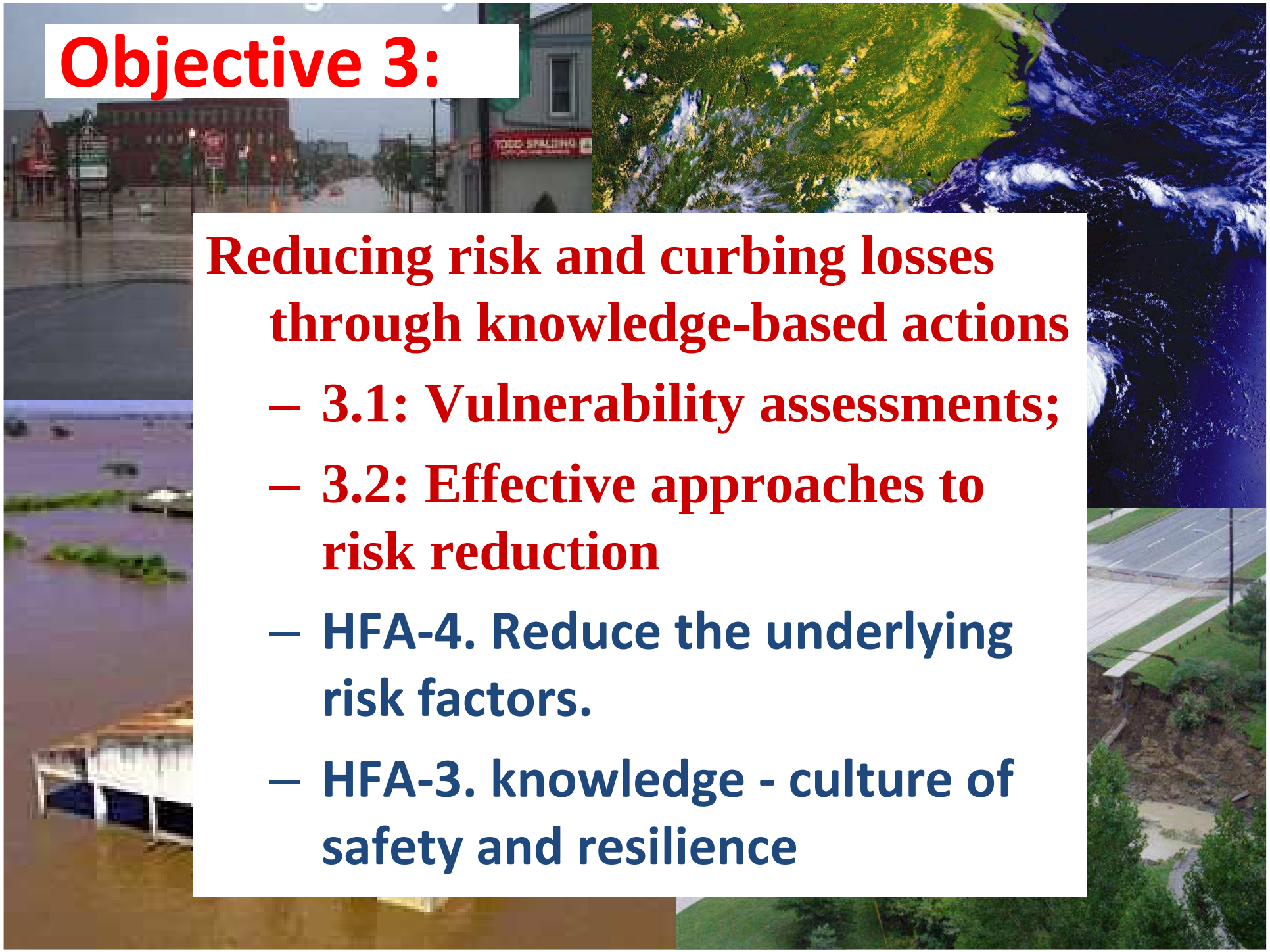



Objective 2:

Effective decision making in complex and changing risk contexts

- **2.1: Identifying relevant decision-making systems and their interactions**
- **2.2: Understanding decision making in the context of environmental hazards; and**
- **2.3: Improving the quality of decision-making practice.**
- **HFA-1. DRR-national priority.**
- **HFA-5. Strengthen disaster preparedness**



Objective 3:

Reducing risk and curbing losses through knowledge-based actions

- **3.1: Vulnerability assessments;**
- **3.2: Effective approaches to risk reduction**
- **HFA-4. Reduce the underlying risk factors.**
- **HFA-3. knowledge - culture of safety and resilience**

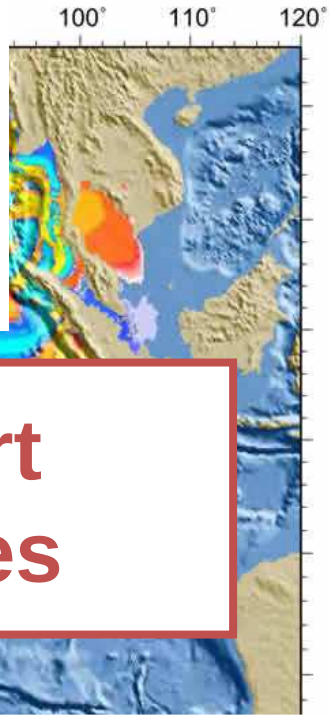
Cross-Cutting Themes

1. Capacity building
2. Case studies and demonstration projects
3. Assessment, data management and monitoring

- HFA-2. Identify, assess and monitor disaster risks
- HFA-5. -HFA-1. …

1. .

IPCC Special Report on Climate Extremes



WMO - World Weather Research Program
Storms, floods

ICSU-WMO-IOC/Unesco - World Climate Research Program
Climate extremes

Socio-Economic Research Activities

•UNESCO-IOC-
Tsunami risk

START
global change SysTem for Analysis, Research and Training

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ICSU
•Regional Programs
•IUGG-ENHANS
•CODATA

ICSU-ISSC-UNU
International Human Dimensions Program
Integrated Risk Governance
Land-Ocean Interactions in Coastal Zone

FORIN

Forensic Disaster Investigations (FORIN)

- Probe further into complex and underlying causes of growing disaster loss
- Fundamental cause of disasters
- Trace out and assign causal explanation of losses
- Intervening conditions that increased or reduce losses

- Series of case studies
- Common template and methodology

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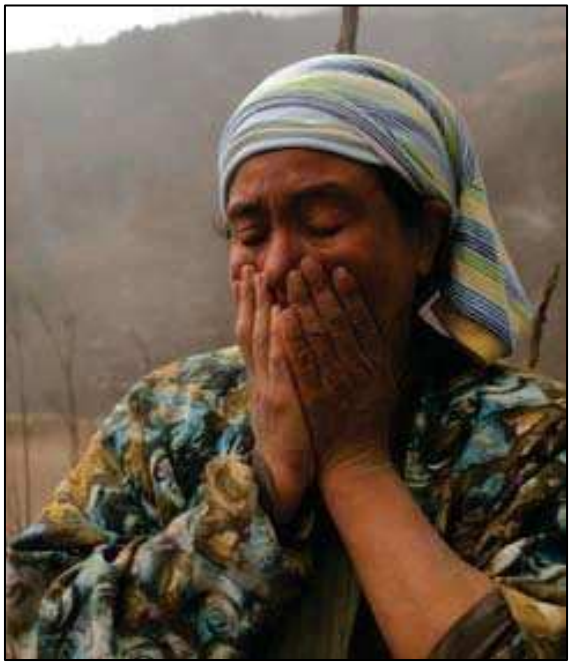
FORIN

RIA

Risk Interpretation and Action

- What do people (especially those at risk) *think is likely to happen? & What* will they do about it?
- Estimation of the likelihood and magnitude
- Evaluation of the vulnerability/resilience of the physical infrastructure
- Consideration of social and behavioral factors that place the local population at greater or lesser risk



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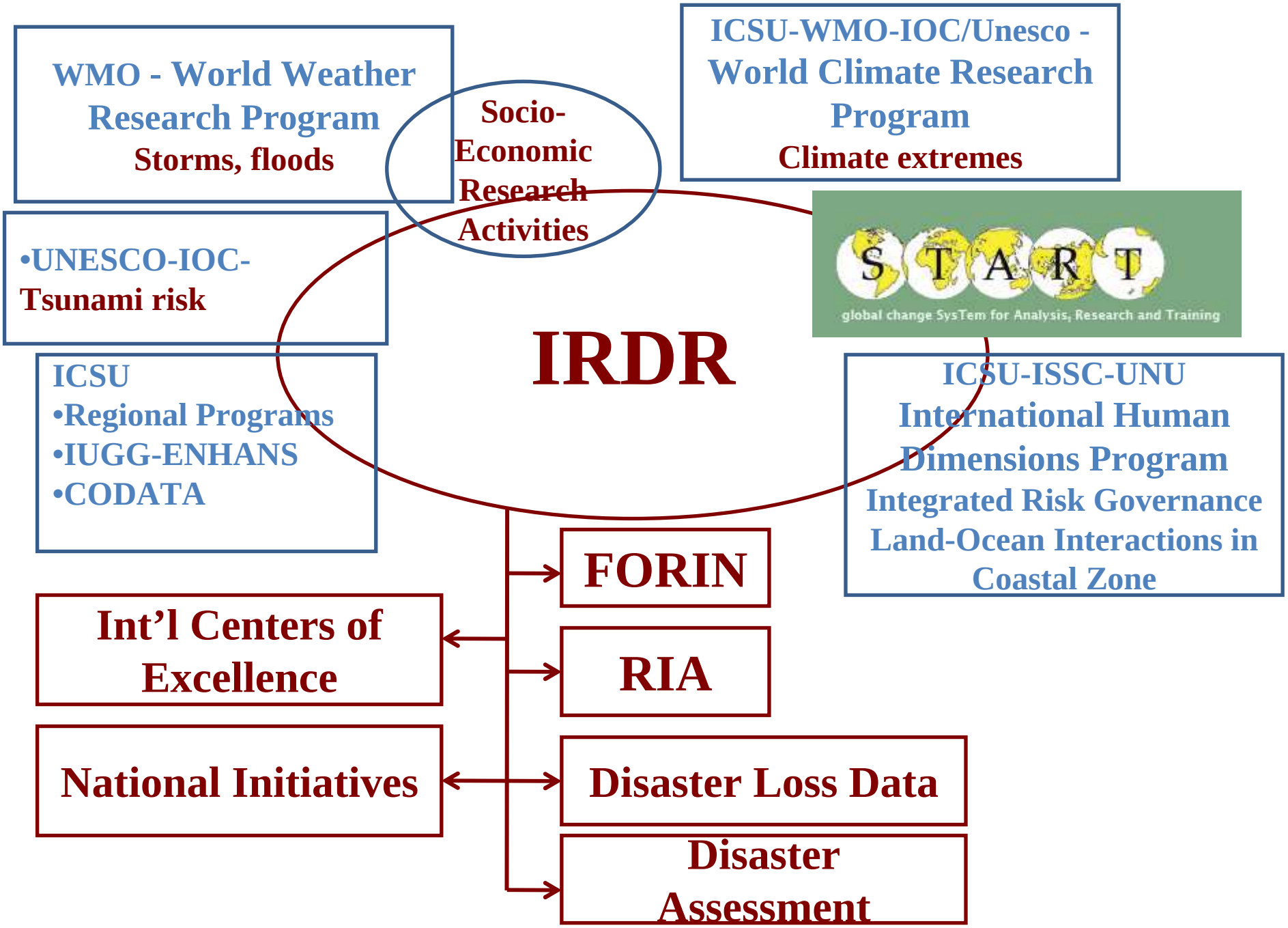
- FORIN
- RIA
- Disaster Loss Data
- Disaster Assessment

- **Disaster Loss Data Project**
- **... need for more systematic and reliable information on such events. ... generate new information and data and to leave a legacy of coordinated and integrated global data and information sets across hazards and disciplines, with unprecedented degrees of access.**
- **Disaster Assessment report**
- **integrated research assessment report similar to the “Disasters by Design” concept and similar in style to the IPCC.**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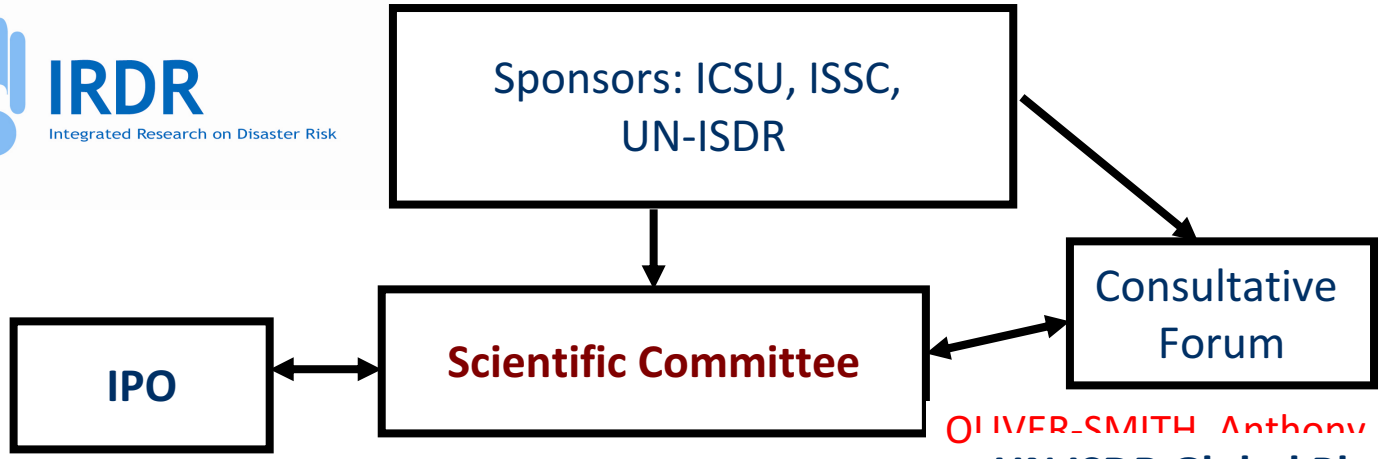
National Initiatives
Disaster Loss Data
Disaster Assessment



Dr. Jane E. Rovins, Executive Director
Lang Lang, Administrative Officer
Anna Rudashko, Communications
Vacant, Science Officer
…
Located at CEODE, CAS, Beijing, China

China
CUTTER, Susan, University of South Carolina, USA
EISER, Richard, University of Sheffield, UK –
FERRIGNI Ferrucio, Naples, Italy
JOHNSTON, David, Massey University, New Zealand
LAVELL, Allan, FLACSO, Costa Rica
McBEAN, Gordon, University of Western Ontario, Canada – CHAIR

UN ISDR Global Platform
Geneva, June 2011 (2013, 2015, …)

Pacific Science Congress - Kuala Lumpur, June 2011

ICSU GA, Rome, September, 2011

IRDR Conference
Beijing , October /November 2011

Planet Under Pressure
London, March 2012

…

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Integrated Research on Disaster Risk

Sponsors: ICSU, ISSC, UN-ISDR

Consultative Forum

IPO

Scientific Committee

Working Group-Task Teams:
- FORIN
- RIA
- Long-term database and Monitoring systems and tools
- Assessment-IRDR
- Socio-economic research activity

International Centres of Excellence

National Committees

Capacity building

Regional Programmes

Ca
Ch
Ira
Ge y
Jap
New Zealand

START
global change SysTem for Analysis, Research and Training

ICSU- ROAP
ICSU - ROA

Partners in research:
- Unions and National Members of ICSU & ISSC
- IUGG – ENHANS
- WMO
- UNESCO
- CoDATA
- JRC
- WCRP- Extremes
- WWRP
- IHDP-IGBP-LOICZ-IRG
- ICL
- Int. Floods Initiative
- IOC tsunami prog.
- …

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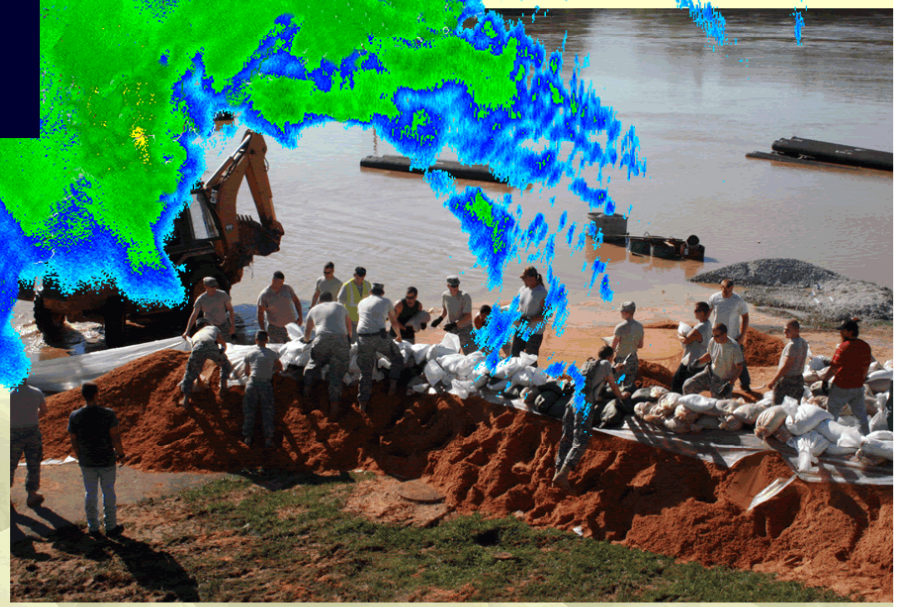
Registration and Abstract Submission Open

SAVE THE DATE

IRDR Conference 2011

Oct. 31 - Nov. 2, Beijing

www.irdrinternational.org/conference2011



Why, despite advances in the natural and social science of hazards and disasters, do losses continue to increase?

To what extent is the world-wide growth in disaster losses a symptom and indicator of unsustainable development?

ICSU International Council for Science

ISSC international social science council

ISDR

CEODE

Disaster Risk: Integrating Science & Practice

IRDR Legacy

- An enhanced capacity around the world to address hazards and make informed decisions on actions to reduce their impacts.
- Societies to shift focus from response-recovery towards prevention-mitigation, building resilience and reducing risks, learning from experience and avoiding past mistakes.

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Integrated Research on Disaster Risk

Integrated Research on Disaster Risk

Thank you

www.irdrinternational.org

ICSU
International Council for Science

ISDR
International Strategy for Disaster Reduction

ISSC
international social science council