



UNISDR Science & Technical Committee report and related activities

Professor Virginia Murray Member of Science and technical committee for UN International Strategy for Disaster Reduction (UNISDR)

International Workshop on Disaster Risk Reduction

Dialogue between Scientists and Stakeholders

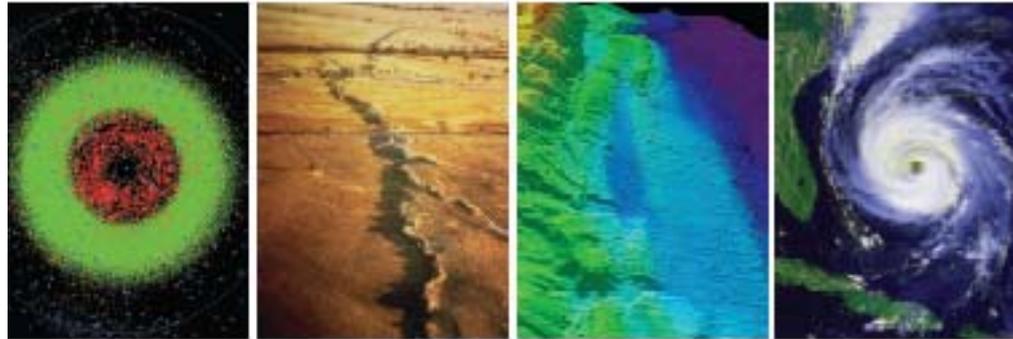
How to improve the participation of social and economic sciences in DRR research

Brussels, 29-30 October 2009



Outline

- UNISDR Scientific and Technical committee
- Highlight of key findings
- Reflections on how the Committee findings can help the workshop community and how the workshop community can help the Committee advancing on some issues including social and economic sciences in DRR



After the
Tsunami
June 2005

The Role of Science in Physical Natural Hazard Assessment

<http://www.berr.gov.uk/files/file8511.pdf>

Key Recommendation

We recommend the establishment of an International Science Panel for Natural Hazard Assessment. The Panel would enable the scientific community to advise decision-takers authoritatively on potential natural hazards likely to have high global or regional impact. It would facilitate individual scientists and research groups pooling their knowledge and challenging each other; it would address gaps in knowledge and advise on potential future threats. It would address how science and technology can be used to mitigate threats and reduce vulnerability.



International Strategy for **Disaster Reduction**

[UN/ISDR Africa](#) [UN/ISDR Asia & Pacific](#) [UN/ISDR The Americas](#) [UN/ISDR Europe](#) [UNISDR West Asia and North Africa](#) [Early Warning Plat](#)

2009

International Day for Disaster Reduction *Wednesday 14 October*



About ISDR

Global Platform for
Disaster Risk Reduction

UN/ISDR secretariat

Hyogo Framework
for Action 2005-2015

ISDR System

Partnerships and Networks

Country information

Disaster statistics

Public awareness

Media room

Library on
Disaster Reduction

UN Sasakawa Award
on Disaster Reduction

What's new



African Parliamentarians agree on concrete actions to reduce the impact of climatic disasters

- UNISDR-lead advocacy results in recognition of crucial synergies between disaster risk reduction and climate change adaptation

N'Djamena- Parliamentarians and Ministers from Central African countries met in Chad last Saturday and recognized disaster risk reduction measures as a main tool to adapt to future climate related disasters that are already affecting many countries in Africa.

[View full story](#)

International Day for Disaster Reduction: new initiatives launched in London

The global event of the 2009 International Day for Disaster Reduction was staged at the Royal Marsden Hospital, which was severely damaged by a fire in early 2008. The meeting



ISDR Highli



Month

Vacancies

**Associate
Programme Office
P-2**

ISDR/G/26/2009
Deadline for
applications:
4 November 2009



Scientific and Technical Committee

- <http://www.preventionweb.net/english/hyogo/isdr/mechanisms/>
- advises the **Global Platform**
- **advocates for and guides policy and actions related to scientific and technical issues** within the ISDR System, for informed decision making and public awareness
- Science is considered here in its widest sense to include the **natural, environmental, social, economic, health and engineering sciences**, and the term "technical" includes relevant matters of technology, engineering practice and implementation.



Scientific and Technical Committee

- **to provide advice & to make recommendations on priorities for scientific & technical attention by ISDR System**
- to propose & organize specific enquiries to investigate & report on priority matters
- to advise on relevant elements of Joint Work Programme
- **to provide guidance to scientific & technical work of ISDR thematic partnerships**
- to stimulate dialogue & innovation including promotion of good practice
- to report annually to the Chair of the ISDR System on matters within its mandate



Scientific and Technical Committee

- First meeting January 2008
- Second meeting October 2008
- Third meeting June 2009



- Dr. Walter Erdelen (Chair of the STC), Assistant Director General, Natural Sciences, France, representing UNESCO
- Dr. Howard Moore, Senior Advisor, ICSU Secretariat, representing ICSU
- Dr. Juan Carlos Villagrán de León, Head, Risk Management Section, UNU-EHS, Germany, representing UNU
- Dr. Samir Ben Yahmed, Director, Health Action in Crises, Switzerland, representing WHO
- Dr. Geoff Love, Director Weather and Disaster Risk Reduction Services Department, Switzerland, representing WMO
- Dr. Walter Ammann*, President, Global Risk Forum (GRF Davos), Switzerland
- UNISDR Secretariat
- Professor Ilan Chabay*, Chalmers University of Technology, Sweden
- Dr. Mohamed Farghaly, Director General, Arab Academy for Science, Technology and Maritime Transport of the League of Arab States, Egypt.
- Professor Mohsen Ghafory-Ashtiany, International Institute of Earthquake Engineering and Seismology (IIEES), Iran
- Professor Harsh Gupta*, National Geophysical Research Institute (NGRI), India
- Dr. He Yongnian, China Earthquake Administration, China
- Professor Gordon McBean*, Institute for Catastrophic Loss Reduction, The University of Western Ontario, Canada (also representing the Integrated Research on Disaster Risk (IRDR) programme)
- Professor Virginia Murray*, Consultant Medical Toxicologist, Health Protection Agency, United Kingdom
- Professor Laban A. Ogallo, Director, IGAD Climate Prediction and Applications Centre (ICPAC), Kenya
- Dr. Kaoru Takara, Vice Director, Disaster Prevention Research Institute (DPRI), Kyoto University, Japan
- Professor Dennis Wenger, National Science Foundation, United States



First project: First Scientific & Technical Committee report for Global Platform October 2008

STC Subcommittee for drafting and design of report

- Dr. Walter Ammann*, President, Global Risk Forum (GRF Davos), Switzerland
- Professor Ilan Chabay*, Chalmers University of Technology, Sweden
- Professor Harsh Gupta*, National Geophysical Research Institute (NGRI), India
- Professor Gordon McBean*, (Chair) Institute for Catastrophic Loss Reduction, The University of Western Ontario, Canada
- Professor Virginia Murray*, Consultant Medical Toxicologist, Health Protection Agency, United Kingdom (Dr Delphine Grynzpan and Louise Dowling, UK Health Protection Agency, researched and assembled the first draft under Professor Virginia Murray's guidance.)
- Dr. Reid Basher coordinated and edited the report for the UNISDR.



Topics selected

- Climate change
- Changing institutional and public behaviour to early warnings
- Knowledge of the wide health impacts of disasters
- Improving resilience to disasters through social and economic understanding



Improving resilience to disasters through social and economic understanding

- **Individual risk perception may be influenced by institutional social and economic conditions:** some “*settle on the slopes of still active volcanoes*”
- **World’s growing population and expanding urbanization** greatly aggravates the risks of future disasters, and megacities will increase
- Assessment of **vulnerability** by building design, urban planning and infrastructures should improve growing body of understanding of human resilience
- **Global development of GIS and earth observation methods should improve management of land use and natural resources**



Recommendations covered

- (i) Promote knowledge into action
- (ii) Use a problem-solving approach that integrates all hazards and disciplines
- (iii) Support systematic science programmes
- (iv) Guide good practice in scientific and technical aspects of disaster risk reduction



(i) Promote knowledge into action

- Greater priority should be put on **sharing and disseminating scientific** information and **translating it into practical methods** that can readily be integrated into policies, regulations and implementation plans concerning disaster risk reduction.
- **Education** on all levels, comprehensive knowledge management, and greater involvement of science in public awareness-raising and education campaigns should be strengthened.
- Specific innovations should be developed to facilitate the **incorporation of science inputs in policymaking**

(ii) Use a problem-solving approach that integrates all hazards and disciplines - 1

- A holistic, all-hazards, risk-based, problem-solving approach should be used to address the multi-factoral nature of disaster risk and disaster risk reduction and to achieve improved solutions and better-optimised use of resources.
- This requires the collaboration of all stakeholders, including suitable representatives of governmental institutions, scientific and technical specialists and members of the communities at risk.



(ii) Use a problem-solving approach that integrates all hazards and disciplines - 2

- **Knowledge sharing and collaboration between disciplines and sectors** should be made a central feature of the approach,
- in order to **guide scientific research**
- to make knowledge available for faster implementation,
- to **bridge the various gaps** between risks, disciplines, and the stake-holders
- and to **support education and training, and information and media communication**



(iii) Support systematic science programmes

- **Systematic programmes of scientific research, observations and capacity building** should be supported at national, regional and international levels to address current problems and emerging risks such as are identified in this report.
- The international Integrated Research on Disaster Risk (IRDR) Programme, which is co-sponsored by ICSU, ISSC, and UNISDR, provides a **new and important framework for global collaboration**.
- The ISDR Scientific and Technical Committee should provide **strategic guidance on research needs for disaster risk reduction and oversight of progress**



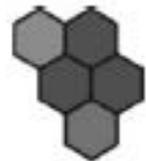
(iv) Guide good practice in scientific & technical aspects of disaster risk reduction - 1

- S&TC should be strengthened to serve as a **neutral, credible international resource to support practitioners at all levels**, from local through national to international levels, by overseeing the collection, vetting and publicising of information on good practices carried out on the basis of sound science and up-to-date scientific and technological knowledge, as well as on those inadequate practices or concepts that may be hindering progress.



(iv) Guide good practice in scientific & technical aspects of disaster risk reduction - 2

- The Committee should further develop its recommendations for follow-up on the areas of concern highlighted in the present report, including on the themes of disaster risk reduction and climate change adaptation, preparedness and early warning systems, health impacts of disasters, and the association of disaster risk and **socioeconomic factors**.



Global Platform for Disaster Risk Reduction
Second Session, Geneva, Switzerland
16 – 19 June 2009

SD

03

Reducing Disaster Risks through Science: Issues and Actions

Report of the ISDR Scientific and Technical Committee¹



International Strategy for
Disaster Reduction

Disasters, disaster risk reduction, and the role of science

1. Increasing attention is being given to the rising impacts of disasters and to ways to reduce the exposure and vulnerability of communities and assets to natural hazards. In 2008, 321 disasters killed 235,816 people, affected 211 million others and cost a total of US\$181 billion². Economic losses from disasters in some countries have been greater than their national GDP. Losses with potentially catastrophic implications for the global economy include the possibility of a major earthquake in Tokyo (which seismologists assess could occur at any time within the next 150 years) with an estimated cost of US\$ 1.2 trillion. However, although natural hazards will always occur, their impacts on society can be significantly reduced through the application of sound, evidence-based investments in disaster



International Strategy for Disaster Reduction

Reducing Disaster Risks through Science

Issues and Actions

The Full Report of the ISDR Scientific
and Technical Committee 2009



Global Platform
for Disaster Risk Reduction

Second Session, Geneva, Switzerland

16 – 19 June 2009

Outcome Document: Chair's Summary of the Second Session Global Platform for Disaster Risk Reduction

This summary provides the Chair's assessment of the main thrusts of the deliberations at the second session of the Global Platform for Disaster Risk Reduction, which was attended by 152 Governments, 137 organizations, and 1688 participants in total. A draft of the summary was discussed in the final informal plenary and thereafter a revised draft was made available to participants for two weeks for further feedback, which has been considered in this final summary. More information on the meeting can be found at <http://www.preventionweb.net/globalplatform/2009/>

Disaster risk and the Global Platform

1. The second session of the Global Platform for Disaster Risk Reduction took place in a context of growing alarm about global climate change and increasing disaster risks. In the opening high-level panel of the Global Platform, political leaders, including heads of State and heads of Governments highlighted in stark unequivocal terms that reducing



Chairman's conclusion – point 5

- “stressed the necessity for investment in research and development and higher education, and for the more effective integration of **science and technical information into policy and practice.**”



Another project from 3rd meeting June 2009

- **Subcommittee on all hazard disaster databases** was established, comprising Prof. Murray (Chair), Dr. Ammann, Prof. Ghafory-Ashtiany, Prof. Ogallo, Prof. McBean, Dr. Takara and Prof. Wenger,
- draft terms of reference for initial scoping work developed



INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



INTERGOVERNMENTAL PANEL
ON CLIMATE CHANGE

THIRTIETH SESSION
Antalya, 21-23 April 2009

IPCC-XXX/Doc.14
(6.IV.2009)

Agenda item: 5
ENGLISH ONLY

SCOPING PAPER – IPCC SPECIAL REPORT

Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation

(Submitted by Vicente Barros, Christopher Field, Co-Chairs of Working Group II
and Jean-Pascal van Ypersele, Vice-Chair IPCC)



Current status

- **The role of the Science and Technical Committee is vital for UNISDR and related activities**
- **So far one completed and three projects in development**
- **Reflections on how the Committee findings can help the workshop community and how the workshop community can help the Committee advancing on some issues including social and economic sciences in DRR**
- **Exciting and challenging opportunities for collaborative working**