

IDRM Forum: A Review and Critique

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The Venues

- *1st Forum: IDRM - Reducing Socio-Economic Vulnerability, IIASA, Laxenburg, Austria, 1–4 August 2001*
- *2nd Forum: IDRM - Vulnerability and Resilience Of Large Urban Systems, IIASA, Laxenburg, A, 29–31 July 2002*
- *3rd Forum: IDRM - Coping with Regional Vulnerability, Kyoto International Conference Hall, Japan, July 3-5.*
- *4th Forum: IDRM - Challenges of Implementation, CUEBC, Ravello (Salerno), Italy, 3-7 July 2004*
- *5th Forum: IDRM - Innovations in Science and Policy Beijing Normal University, China, 14-16 September 2005*
- *6th Forum: IDRM - Risks and Challenges for Business and Industry, Istanbul, Turkey, 13-17 August, 2006*

Objectives

- Integration of multiple disciplines for a better disaster risk governance:
 - scientists and practitioners from a broad range of fields, including engineering, economics, finance, mathematics, informatics, psychology, and urban and land use planning
- Integrated all hazards approach
- Vulnerability and equity, particular focus on Global Change
- Focus on implementation

Climate change and extreme events

- How do climate related disasters correlate with global warming?
- Clustering of climatic disasters
- Poor interaction between disciplines
- The Precautionary Principle and Equity

Disaster Risk and Differential Vulnerability

- Anthropogenic factors enhance vulnerability and exacerbate disaster severity.
- Whereas economic losses are greater in industrialized countries, poor countries bear the greater burdens of natural disasters.
- The poor suffer disproportionately more financial costs. Disasters as inequity aggravators. Neither severity scales nor disaster records indicate how losses are distributed or which parties are excluded from the recovery process.

Refocus post-disaster assistance to supporting risk transfer

- Leverages limited aid budgets
- Provides secure planning horizon
- Respects dignity of recipients
- Reduces moral hazard
- Can avoid corrupt practices
- Can link directly with loss prevention

Indicators of Socio-economic Fragility (Cardona et al. 2004)

- Human Poverty Index,
- Dependents as a proportion of the working age population
- Social disparity, concentration of income.
- Unemployment as % of the total labor force.
- Inflation, food prices in annual %
- Dependency of GDP growth on agriculture in annual %
- Debt servicing as % of the GDP.
- Human-induced Soil Degradation.

Insurance

- IF
 - scarce linkage with mitigation
- Then
 - it does not save leaves
 - it reproduces the risk situation
- But
 - Does reduction of poverty decrease exposure?

Implementation of Early Warning Systems

- Uncertainties are not only of scientific nature
- Are results from past works taken into account?
- De Marchi et al. (1993)
 - *situational*: inadequate available information in relation to the necessary decisions
 - *legal/moral*: possibility of future liability or guilt for actions or inaction
 - *societal*: high when there is little integration between the public and concerned institutions
 - *institutional*: the withholding of information by agencies for bureaucratic reasons
 - *proprietary*: contested rights to know, warn or conceal (especially these concerning technological risks)

Institutional Changes

- Increasing interdependencies of losses and suffering show that disaster risk cannot be viewed simply as a national issue. Unfortunately, increasing awareness is not yet reflected in strong institutional arrangements, not even within the European Union
- Moreover, even at the national level, lacks of a coherent framework for coping with natural and man-made disaster risks by means of a consistent all-hazards approach.
- Regulations, financial provisions, physical planning and control agencies separately act on specific kinds of risks, mostly without uniform requirements and criteria. Generally, only emergency planning and rescue agencies attempt an all-hazards approach, but response represents only one step in the risk management process which should start from hazard identification, prevention, mitigation, preparedness, early warning and response to end up with provision for loss compensation and recovery.

Institutional Changes

- Very seldom in the planning and risk management process is community awareness and participation enhanced (Shaw 2004).
- Gopalakrishnan and Okada (2003) maintain that current institutions are largely technocratic and bureaucratic, they neglect social and cultural symbiosis, and for this reason there has been far too little implementation of disaster mitigation measures.
- The limits of the market call against deregulation; however, to be effective regulations need to be implementable, but difficulties in implementation are evident, even in developed countries (Alesch and Petak 2001). This cannot be the result only of conflicting long-term versus short-term objectives; the weighting of immediate needs or wishes vs. devoting resources (when available...) to mitigation of future risks.
- The IIASA-DPRI Forum instituted reflection on ‘Implementation Science’ (Wisner 2004) aimed “at the systematic study of the relationship between the production of the knowledge necessary for prevention or mitigation of loss due to hazards and the successful implementation or use of that knowledge”.

Some conclusions...

- Not only would North-South solidarity compensate for effects of possible human induced climate changes but would be beneficial because of its contribution to reducing international social disruptions. As Wisner (2003) proposes, links should be established between disaster risk research community and research for peace (Friedenforschung);
- Resilience to cyclic climate fluctuations already is a major challenge, calling for long term measures, which also would guard against possible increases in rate and intensity of weather- related extreme events caused by global climate change;
- Attention must be paid to the rate of change, and the marked interdependencies of losses;

... conclusions

- Better characterization of disaster risks is possible via indicators that present in a sufficient degree of detail the risk situation tailored to diverse decisions and decision makers. Such indicators are being developed to include differential vulnerabilities;
- Studies of changes occurring after disasters should aim at understanding how to improve resilience and reduce exacerbation of inequalities. Who gains and who loses in the reconstruction process?
- Wide-scoping reflection is needed to obtain institutions that are able to approach disaster risk management holistically for the successful implementation of regulations and knowledge. But times are long. Not only legislations but some time also constitutions needs to be changed!

.... conclusions

- Implementation:
 - Synergies from bottom-up and top-down
 - Science for policy
 - High schools for Risk Governance

Derived activities (Okada, Kameda)

- From Ravello 2004 Inputs to the Kobe DR Conference
- 'CASIFICA': case studies and field-campuses e.g.
- Disaster Reduction Hyperbase
 - Emphasis on implementation

References

- Proceedings on IIASA – Risk And Vulnerability website: <http://www.iiasa.ac.at/Research/RAV/index.html>
- *Special issues:*
 - Okada N. Ed. *Journal of Natural Disaster Science, Volume 26, Number 2, 2004*
 - Bayer et al. Eds. *Disaster Risk Management: Pro-active Financing to Reduce Vulnerability*. Forthcoming in *Environmental Hazards*
 - Amendola et al. Eds. *Forthcoming in Natural Hazards*