Disaster Risk Management and Sustainability: Challenges of IRDR

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The Great East Japan Earthquake and Tsunami again revealed the profound susceptibility of contemporary society to disasters. It was a concatenation of disaster events, from earthquake to tsunami and from tsunami to nuclear meltdown and also from local to nation and from nation to the outer world. The concatenation happened as a result of strong mutual interdependence of societal activities via advanced communication and transportation system, most saliently in supply chains of industrial production system. This experience urges us to triple loop learning including social transformation and cultural shift rather than just double loop or single loop learning to cope with problems and adapt ourselves within a given societal system.

Increasing societal susceptibility to disasters is a global issue accelerated by global changes in population, life style, economic activities, environment, climate etc. They all increase societal risk of natural disasters as they are managed in an unsustainable manner. Disasters are a result of unsustainable development and a major threat to sustainability. Disaster risk management is therefore a major agenda for sustainability of the world.

In order to address such agenda, a research program Integrated Research on Disaster Risk (IRDR) was initiated by International Council of Science (ICSU) in 2009 cosponsored by International Social Science Council (ISSC) and United Nations International Strategy for Disaster Reduction (UNISDR). The basic questions that the program put forward are:

(1) Why, despite advances in the natural and social science of hazards and disasters, do losses continue to increase?
(2) To what extent is the world-wide growth in disaster losses a symptom and indicator of unsustainable development?

They are the fundamental science questions to be answered in order to direct society for sustainable development. In order to answer such questions,

IRDR set the following three research objectives:

- characterization of hazards, vulnerability and risk
- understanding decision-making in complex and changing risk contexts
- reducing risk and curbing losses through knowledge-based actions.

Also the following three crosscutting themes to support the objectives:

- capacity building, including mapping capacity for disaster reduction and building selfsustaining capacity at various levels for different hazards;
- development of case studies and demonstration projects; and
- assessment, data management and monitoring of hazards, risks and disasters.

The achievement of those objectives requires a fully integrated collaboration among disciplines, players and sectors. Natural, social, humanity and health scientists, engineers, public administrators and policy makers have to work together involving not only research and research management institutes but also municipalities and other public sectors engaged in practical disaster management.

IRDR is steered by Science Committee and has formed four working groups to date:

- FORIN: Forensic investigation
- RIA: Risk interpretation and action
- DLD: Disaster loss data
- AIRDR: Assessment of integrated research on disaster risk

It is calling for participation to all related organizations and programs in disaster research and management practices to work together. Join in IRDR!