12th APRU Multi-Hazards Symposium:

KYOTO DECLARATION 2016

on

Role of Science and Technology in the Sendai Framework for Disaster Risk Reduction

8th March 2016, Kyoto, JAPAN

Context

- A two day symposium was organized in Kyoto University with the participation from 92 number of people
- The symposium had three key note speeches, eight parallel sessions, and two plenary sessions
- There were 46 numbers of papers presented in two days
- Structure and discussion in the symposium were guided by four priority areas of Sendai Framework for Disaster Risk Reduction (SFDRR)
- Discussion was also made on multi stakeholder partnerships
- Following is the key summary of the symposium presentations and discussion

SFDRR Priority 1: Understanding disaster risk

Possible to pursue within traditional role of science and technology:

1. Simplify the technology for all stakeholders' use
2. Develop system for transferring trustful disaster information

Require partnership and extra efforts to achieve:

1. Conduct participatory risk assessment with involvement of community, local government and scientists
2. Enhance collaboration between different stakeholders in designing and developing projects.
3. Support to raise local people's awareness toward disaster, disaster risk and DRR
4. Incorporate climate change issues into the SFDRR implementation
5. Assess data on economic losses/damages

SFDRR Priority 2:Strengthening disaster risk governance to manage disaster risk

Possible to pursue within traditional role of science and technology:

1. Science community to verify data credibility and help reducing a gap between the data from reports and governments' action
2. Quantify the level of risk and level of exposure to the risk in the community

Require partnership and extra efforts to achieve:

1. Sensitize related government agencies for resilient constructions and other development schemes in urban and rural areas for resilient communities.
2. Strengthen engagement of science in national coordination mechanisms or platform for DRR
3. Review whether information matches local level needs and it is useful for decision making. Link Science and Technology with practices and policies
4. Enhance risk perception of stakeholders

SFDRR Priority 3: Investing in disaster risk reduction for resilience

Possible to pursue within traditional role of science and technology:

1. Contribute to reducing exposure and risk in urban centers
2. Make better link of DRR research with other disciplines in line with the linkage between the SFDRR and the SDGs
3. Assemble facts on measurable impacts on climate change and conduct comprehensive analysis
4. Promote evidence based studied on private sector risk insurance

Require partnership and extra efforts to achieve:

1. Assist in developing community based risk mapping
2. Review roles of vulnerable population, including the aged one, as they might have good potential in increasing disaster resilience.
3. Universities, particularly local institutions, to deliver research outcomes to local policy makers and communities in an understandable manner.
4. Involve scientists and utilize innovative technology such as space application in disaster damage and loss assessment

SFDRR Priority 4: Enhancing disaster preparedness for effective response and to Build Back Better in recovery, rehabilitation and reconstruction

Possible to pursue within traditional role of science and technology

1. Break the barrier of languages by bringing up visual/image notification for pre-disaster evacuation for the lesser developed countries having literacy problems.
2. Need to develop innovative public emergency services to reach isolated areas

Require partnership and extra efforts to achieve:

1. Enhance bridging organization among community and community (C to C) and Community and local Government (C to LG)
2. Develop school-community linkage and teachers' training through discussion among multi-stakeholders (board of education, school, and communities)
3. Promote community participated baseline and risk communication to the community
4. Invest social capital in the process of recovery.
5. Decentralize post disaster reconstruction to ensure complete involvement for a safe, sustainable and culturally suitable built-environment.

Priority Actions: Promoting Science based decision making

- Develop partnership, dialogue and close communication with various stakeholders to bridge a gap between policy makers ad scientific community. Integrate local decision making into national policy
- Create opportunities to share data and research results with governments and policy makers such as seminars and symposium.
- Enhance targeted information for decision making on land use to strengthen urban resilience, legal framework for building code, early warning and evacuation system
- Make available disaster risk and impact data as well as scientists involvement for making evidence based decision-making and policy.
- Science and Technology based training for the personnel to make them enable for science based decision-making and action
- Require accurate and dependable disaster damage and loss data for researchers as well as policy makers in DRR and recovery
- Establish research capacities in less developed countries for a better understanding of local/traditional building technologies
- Regional entity to identify a few role models of S&T in decision making and share them widely
- Make open access disaster information at local and national level before, during and after disasters for research planning and action

Priority Actions: Investment in Science and Technology

- Prove research results based on science and technology can be practical and useful to strengthen DRR capacity
- Require further investment of human resource, budget, technology from both government as well as private foundations before disasters
- Share good practices with low cost and available technique
- Ensure private sector and civil society engagements in DRR to innovate DRR measures and develop common terminology
- Need participation and fostering of young researchers
- Promote disaster risk assessment for awareness raising as the first step of DRR
- Invest to research innovation for creating science based data base for DRR
- Regional entity / mechanisms to support capacities and link of scientific community to DRR related ministries
- Define elements of Build Back Better and conduct case studies on major disasters to prove Build Back Better works.
- Assist national and local governments in developing disaster damage and loss data

Priority Actions: Linking Science to People

- Actively organize events for public for awareness raising and learning opportunities especially on simplified technologies based on the latest science and technology, risk identification, post needs assessment, low cost science
- Promote community participation in all the disaster management phases (i.e., community based early warning).
- Regular and routine communication between scientist, community-based organizations, local NGOs and the community to interpret S&T
- Capitalized on existing education systems to make student as an agent of change.
- Apply indigenous knowledge (both structural and nonstructural forms) with proper scientific validation and evolve the role cultural heritage for disaster risk reduction and response
- Conduct capacity development of engineers and scientist for the local context
- Develop mechanism for funding research which is linked with the local development in DRR governance context
- Promote utilization of SMS in case of emergency and for risk communication such as Facebook, Twitter, and so on
- Local and national universities to develop a systematic linkage among local media, government, and communities.

Participants agreed on and committed to:

1. Strengthen capacities of scientific community through fostering young researchers and encouraging multi-disciplinary / trans-disciplinary implementation research
2. Continue our support to S-T innovations to be included into national policy / decision making on DRR
3. Foster greater collaboration with local institutions and local governments for S-T based decision making
4. Learn from the experiences of good practices in the regional and to foster further collaboration
5. Collaborate on periodic S-T conference on DRR at national/ regional level.