Implication of Science and Technology to Sendai Framework for Disaster Risk Reduction [SFDRR: 2015 to 2030]

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WCDRR Sendai

- 14 to 18 March 2015
- Three segments
  - Inter-governmental
  - Multi-stakeholders
  - Public Forum
- 6,500 participants including 2,800 government representatives from 187 countries
- 25 head of states, 100 ministers
- Public forum has 143,000 visitors over 5 days

Context: Post HFA

- Acknowledgement to HFA and its achievements
- 2005 to 2015 [700,000 people lost their lives, 1.4 million injured, 23 million homeless, 1.5 billion affected. Economic loss: 1.3 trillion USD
- More small scale disasters and slow onset disasters
- People centered preventive approach
- Engagement of stakeholders
- Need to link to SDGs, climate change framework
- Role of Science and Technology in EWS, preparedness, response, recovery, rehabilitation and reconstruction

SFDRR: Seven Global Targets

1. Reduce global disaster mortality
2. Reduce number of affected people
3. Reduce direct disaster economic loss
4. Reduce disaster damage to critical infrastructures
5. Increase number of countries with DRR strategies
6. Enhance international cooperation
7. Increase access to multi hazard EWS, risk information and assessment

SFDRR: Four Priority for Actions

1. Understanding disaster risk
2. Strengthening disaster risk governance
3. Investing in risk reduction
4. Enhancing disaster preparedness for collective response, and to “build back better” in recovery, rehabilitation and reconstruction

Priority 1: Understanding risk

- National and local level
  - Data generation and management
  - Baseline survey to measure progress
  - Hazard, risk and vulnerability maps
  - GIS data bases
  - Good practices, training and education
  - Dialogue and cooperation of ST communities and policy makers, s policy interface
  - Strengthen technical and scientific capacity
  - Promote investment in innovations and technology development
  - Incorporate disaster risk knowledge in formal and non-formal ed
- Global and regional level
  - Development and dissemination of science based methodologies a
  - Promote ST and academia partnership
  - Enhance ST work on DRR through existing networks and research institutions with support of ISDR STAG

Priority 2: Strengthening governance

- National and Local level
  - Promote the development of quality standards, such as certification and awards for DRM with private sectors, civil societies, professional association and scientific organization and UN
- Global and regional level
  - Promote mutual learning and exchange of good practices and information through inter-alia, voluntary, self initiated peer review among interested states.

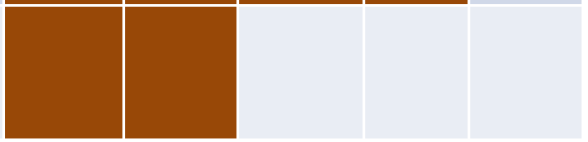
Priority 3: Investing in DRR

- National and Local level
  - Promote disaster risk resilience of work place through structural and non-structural measures
  - Encourage the revision of existing or new standards, codes, rehabilitation or reconstruction practice
- Global and regional level
  - Promote academic, scientific and research entities and networks and private sectors to develop new products and services to help reduce disaster risk

Priority 4: Enhancing disaster preparedness for effective response

- National and Local level
  - Develop guidance for preparedness and reconstruction [land use planning, structural standards improvements and learning from recovery]
- Global and regional level
  - Promote further development and dissemination of instruments as standards, codes, operational guides and other guiding instruments

Summary: Four Priorities

Priority Areas	Relative level of engagements
1. Understanding disaster risk [Assessment, data, baseline, capacity]	
2. Strengthening disaster risk governance [standards, certification, capacity building]	
3. Investing in disaster risk reduction [innovative products with private sector]	
4. Enhancing disaster preparedness [guidance, instruments]	

Role of Stakeholders

- Academia, Scientific and research entities and networks to focus on:
  - Disaster risk factors and scenario
  - Increase research for regional, national and local application
  - Support action by local communities and authorities
  - Support interface between policy and science for decision making

Statement of ST Major Group

- To work closely with the policy makers and practitioners to co-design, co-produce research that can be used effectively. Support the new framework in:
  - Assessment: tools
  - Synthesis: scientific evidence to policy making
  - Scientific advice: knowledge into solution
  - Monitoring and review: science based indicator
  - Communication and engagement: partnership building
  - Capacity building: risk literacy, curriculum reform, professional training

Revised Priority Actions for Asia (2018): An Example

- **Priority 1 – Understanding Disaster Risk**

  1. Enhance disaster loss and damage accounting, national and local disaster risk assessment and communication of disaster risk, with specific focuses on risks of urban **and less developed regions**.
  2. Use space and disaster risk mapping technologies, and **emerging technologies** and strengthen the capacity for using these technologies for improved understanding of disaster risks at global, national and local level.
  3. Strengthen regional exchange on disaster risk information and science in order to better understand complex disaster risks including risks of trans-boundary, cascading and compound disasters.
  4. **Develop a synthesis system under international cooperation to share integrated grass-root and scientific knowledge among a broad range of stakeholders and promote dialogue in the national platform.**

- **Priority 2 – Disaster Risk Governance**

  5. Strengthen science-policy-practice nexus at all levels (national, local, trans-boundary and regional).
  6. Develop inter-disciplinary national science and technology plans to support implementation of the Sendai Framework. This includes actions by academia/universities to develop their own disaster risk management plans.
  7. Enhance collaboration between local governments, academia and other partners to promote local communities' knowledge and traditions and to sustain and replicate many good practices that exist locally for science-based decision making.

- **Priority 3 – Invest in DRR for Resilience**

  8. Make DRR an area of focus within education including networking between universities.
  9. Ensure risk-sensitive investments through enhanced role of the science and technology community.
  10. Develop young professionals in the field of multi-disciplinary disaster risk reduction.
  11. **Enhance and showcase projects that promote science and technology-based DRR and encourage governmental and social investment in disaster risk reduction.**

- **Priority 4 – Enhance disaster preparedness for effective response and to Build Back Better**

  12. Promote the role of multi-disciplinary science and technology in effective pre- disaster planning, preparedness, response, rehabilitation, recovery and reconstruction to build back better
  13. Develop an efficient and effective cooperation among the science community and business sector by utilizing the advancements of the fast developing information and communication technology (ICT) including big data.
  14. Research into innovative and **practical** solutions to promote the whole-of-society engagement.

Group Discussion

- Four groups: One on each priority
- Identify 1-2 moderator / reporter for each group
- Identify
  - Five specific policy actions for the SFDRR priority of your group
  - Who are the key stakeholders
  - Which types of resources are required to undertake those actions
  - What would be the time frame for those actions (short: 2 years, medium: up to 5 years, long: beyond 5 years)