1st Asian Science and Technology Conference for
Disaster Risk Reduction:
Science-Policy dialogue for Implementation of the Sendai Framework

23-24 August 2016, Bangkok, Thailand

Conference Outcome

Introduction

The Sendai Framework for Disaster Risk Reduction 2015-2030 shifts the focus from managing disasters to managing risks. Such a shift requires a better understanding of risk in all its dimensions of hazards, exposure and vulnerability; a disaster risk governance that ensures disaster risk is factored into planning and development at all levels across all sectors as well as in disaster preparedness, rehabilitation, recovery and reconstruction; and cost-benefit analysis to support prioritization of investments in disaster risk reduction (DRR) for long-term resilience.

The Sendai Framework emphasizes the role of science and technology. It calls to prioritize the development and dissemination of science-based risk knowledge, methodologies and tools, science and technology work on DRR through existing networks and research institutions and strengthened interface between science and policy to support all four priority areas: understanding disaster risk; disaster risk governance; investing in DRR for resilience; and enhancing disaster preparedness for response and to build back better.

A '*Science and Technology Roadmap to Support the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030*'[1] has been agreed as the result of the United Nations Office for Disaster Risk Reduction (UNISDR) Science and Technology Conference in January 2016. The Roadmap includes expected outcomes, actions, and deliverables under each of the four priorities of the Sendai Framework.

Asia has been the world's hotspot of economic development and innovation in terms of science and technology over recent decades. At the same time, the region continues to be highly exposed and vulnerable to disasters. Science and technology-based DRR was a priority in the implementation of the Hyogo Framework for Action in Asia. At the 6th Asia Ministerial Conference on DRR (AMCDRR) in 2014, the Science Technology Academia Stakeholder Group made a series of commitments to: promote a holistic, science-based approach towards community resilience; support the use of science and technology advancements through increased earth observation; develop course curriculum and promote higher education in DRR; and promote community- and problem-based implementation research.

The 1st Asian Science and Technology Conference for Disaster Risk Reduction was organized by the Hydro and Agro Informatics Institute (HAII) of the Royal Thai Government Ministry of

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[1] https://www.unisdr.org/files/45270_unisdrscienceandtechnologyroadmap.pdf

Science and Technology and UNISDR, in collaboration with UNISDR's Asian Science Technology and Academia Advisory Group (ASTAAG), Integrated Research on Disaster Risk (IRDR), Future Earth and other scientific organizations and networks.

The Conference brought together more than 300 senior policy-makers, practitioners, researchers and academics, civil society and the private sector in the realm of disaster risk reduction from across Asia, and more widely, to discuss how to strengthen science based DRR policy development in support of the implementation of the Sendai Framework in Asia.

Actions for Science and Technology-based DRR in Asia

The following recommended actions align with and contribute to the global 'Science and Technology Roadmap". They take due consideration of the forthcoming Asian Ministerial Conference on Disaster Risk Reduction in November 2016 and one of its expected main outcomes, the Asia Regional Plan for Implementation of the Sendai Framework.

Priority 1 – Understanding Disaster Risk

1. Enhance disaster loss and damage accounting, national and local disaster risk assessment and communication of disaster risk, with a specific focus on urban risks.

   This should be done through: data standardization; appropriate and robust methodologies and tools; building the capacities of both the scientific community for dynamic research and innovation to cope with fast changing context of hazards and vulnerabilities, and DRR practitioners to apply such methods; and promoting the role of mass media, civil society and people working with communities to translate scientific information into understandable and accessible risk information. A Multi-hazard, multi-scale, multi-stakeholder, and multi-facet approach and participatory process should be a standard.

2. Use space and disaster risk mapping 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 transboundary, cascading and compound disasters.

Priority 2 – Disaster Risk Governance

4. Strengthen science-policy-practice nexus at all levels (national, local, transboundary and regional) through: increased dialogue and networking among scientists, policy makers and practitioners; better evidence to inform decision making and proactive involvement of the science and technology community in regional, national and local platforms for DRR. Support these platforms to be multi-stakeholder partnerships, particularly including the private sector, civil society, media and communities at-risk to deliver science-based solutions and technological user-friendly tools and methods to reduce disaster risk and strengthen resilience.

5. 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.

6. 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

1. Make DRR an area of focus within education including networking between universities. Jointly develop research and higher education programmes that contribute to the building of resilient communities and societies. Promote knowledge broker education and training programmes to help close the gap between disaster risk science and people including through community networks such as faith-based organizations

2. Ensure risk-sensitive investments. Enhance the role of the science and technology community in building public private partnerships for the purpose of reducing vulnerabilities of communities and ecosystems-at-risk, preventing risks and building resilience of critical infrastructure, essential services as well as emerging industries.

3. Develop young professionals in the field of multi-disciplinary disaster risk reduction. In particular, more women and girls should be engaged in DRR research and a gender marker should be a key element of many aspects of such enquiry.

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

4. Promote the role of inter-disciplinary science and technology in effective pre-disaster planning, preparedness, response, rehabilitation, recovery and reconstruction to build back better. Promote the combination of traditional knowledge and modern science. Enhance regional cooperation, particularly for preparedness, response and build back better in transboundary disasters.

5. 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.

6. Research into innovative solutions to promote the whole-of-society engagement; innovative financial mechanisms to maximize social capital for DRR (such as a disaster resilience fund to provide urgently needed resources to disaster affected communities for quick recovery), and to help the business sector shift towards sustainable and resilient development pathway.

The Way Forward

This Outcome Document will be shared at the 2016 AMCDRR. Participants of the conference will also share the document with relevant governments, organizations, communities and other stakeholders to promote the implementation of the recommended actions.

Asia's science, technology and academia community agreed to hold an Asian Science and Technology Conference for Disaster Risk Reduction every two years in advance of the AMCDRR so that science and technology influences the implementation and monitoring of the Asia Regional Plan for Implementation of the Sendai Framework. The 2nd Asian Science and Technology Conference for DRR will be hosted by the National Commission for DRR of China in 2018.

To prepare for the Asian Science and Technology Conference on DRR, progress of science and technology in DRR will be mapped periodically in different countries in terms of: i) science and technology as part of decision making; ii) investment in science and technology including strengthening the capacity of academic and research institutions; and iii) how science and technology links to people. This should be done through multi-stakeholder consultations and in close cooperation with national platforms for DRR. Review of progress in implementing recommended actions from previous conferences will also be an important part of each biennial conference.

The UNISDR Asia Science Technology Academia Advisory Group (ASTAAG) could be utilized as a key resource to strengthen regional networking and to provide advice and insight to boost national science and technology capacities. As part of this role, ASTAAG should disseminate the successful applications of science and technology in mitigating risks from different types of hazards including flood, earthquake, drought, health and other climate related hazards showcased at this conference.