2nd Asian Science and Technology Conference for Disaster Risk Reduction

Science-Policy dialogue for Implementation of the Sendai Framework

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http://www.astcdrr2018.org

Hosted By:

The Expert Committee of National Commission for Disaster Reduction

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UNISDR

United Nations Office for Disaster Risk Reduction

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. This is envisaged to be done with support of the United Nations Office for Disaster Risk Reduction (UNISDR) Scientific and Technical Advisory Group (STAG).

To strengthen this process a '*Science and Technology Roadmap to Support the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030*'[1] was agreed as a result of the 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.

Further, the 2017 Global Platform for Disaster Risk Reduction (May 2017, Cancun, Mexico[2]) highlighted the need to 'bridge the gap between science and technology and policy-making to ensure that the strategies required by 2020 are sound, including that they anticipate emerging risk patterns'.

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

[2] http://unisdr.org/gp2017

DRR and Science and Technology in Asia

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.

UNISDR established the Asian Science Technology and Academia Advisory Group (ASTAAG), shortly after the adoption of the Sendai Framework in 2015 to achieve the relevant objectives of the Framework in the region. In August 2016, the 1st Asian Science and Technology Conference for Disaster Risk Reduction[3] was organized by the Royal Thai Government Ministry of Science and Technology and UNISDR, in collaboration with 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.

An outcome document, which consists of twelve recommended actions aligning with and contributing to the 'Science and Technology Roadmap', has been agreed as the result of the conference (Annex 1).

At the first Asia Ministerial Conference on DRR (AMCDRR 2016[4]) of the Sendai Framework era, the ASTAAG issued a Voluntary Action Statement, comprising of the following focus areas:

- **Research:** Promote, prioritize and advance research on natural, social, engineering and technology aspects of disaster risk in an integrated environment; enhance team efforts in hazard and disaster monitoring and research, building on existing networks, universities and initiatives; synthesize top-down bottom-up approaches in research; integrating various stakeholder needs on all levels; develop an initiative for Asia and Pacific science plan on Disaster Risk Reduction with the consensus from nations in Asia and Pacific region.
- **Higher education:** Strongly promote multi-disciplinary disaster risk reduction in university education as well as professional training. This will ensure human resource development in the DRR field.
- **Integration:** Ensure that disaster research programs, policies, and applications are integrated across disciplines, and contribute to enhancing policy-making and capacity building for the effective DRR and sustainability; strengthen international research programmes as the think tank on disaster risk reduction and national and regional security.
- **Global / Regional Standards:** Develop and coordinate globally / regionally standardized open source information and data, event documentation and analysis procedures, guidelines and frameworks for integrated and effective disaster risk management and sustainable development.
- **Awareness:** Raise awareness of decision-makers and the public by promoting effective, integrated, demand-driven, evidence-based disaster risk initiatives and increased advocacy.
- **Increase Funding:** Motivate funding sources (public, private, humanitarian, development,

[3] https://www.unisdr.org/we/inform/events/49240

[4] http://www.unisdr.org/we/inform/events/46721

scientific, etc.) to allocate priority funding to address the urgent need for applied and basic integrated research on disaster risks.

The Way Forward

Implementation of the Sendai Framework is in a critical juncture with a fast approaching target to be met by 2020. The Target E of Sendai Framework which is to "Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020" requires a sense of urgency by all countries. Asian countries are well ahead in the curve and has been putting their efforts in developing or revising their national and local strategies. At this point, it is important to ensure that the national and local strategies that are being developed or revised are science and evidence based. At the same time, it is also crucial to inject the importance of science and evidence based disaster risk management approaches at all level in these polices, plans and strategies.

The ASTAAG has been 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 has disseminated 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.

Asia's science, technology and academia community agreed during the 1st Asia Science and Technology conference to hold such a Conference every two year 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 [5] . The Government of China announced at the 1st Asian Science and Technology conference to host the 2nd Asian Science and Technology Conference on DRR, in Beijing, China.

The 2nd Asia Science and Technology Conference will:

- Review progress on the outcome of the 1st Asia Science and Technology Conference
- Review the progress in the commitments made by the Asian science, technology and academia community through regional and global conferences, in particular, the Voluntary Action Statement made at the AMCDRR 2016 in preparation for the AMCDRR 2018 in Mongolia.
- Renew the commitments and promote development / revision of science based national and local DRR strategies.
- Identify priorities of work for future.
- Continue sharing good practice in application of science and technology in disaster risk reduction.

Expected outcomes of the Conference will include:

1. Final draft of the Asia Science Technology Status Report 2018
2. ASTAAG Position for the AMCDRR 2018
3. Conference Report

The 2nd Asia Science and Technology Conference will provide an opportunity to the science, research, academia community in Asia to continue the much-needed science-policy dialogue to ensure that implementation of disaster risk reduction measures at all level are sound science and technology based.

5 http://www.preventionweb.net/english/professional/policies/v.php?id=50922

Annex 1

Recommended Actions of the 1st Asian Science and Technology Conference for Disaster Risk Reduction

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

1. 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.

2. 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.

3. 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

1. 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.

2. 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.

3. 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.