

Status of Science and Technology in DRR in Asia Pacific

STATUS OF SCIENCE AND TECHNOLOGY IN DISASTER RISK REDUCTION IN ASIA-PACIFIC



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e-Asia Pacific Science and Technology Conference for Disaster Risk Reduction

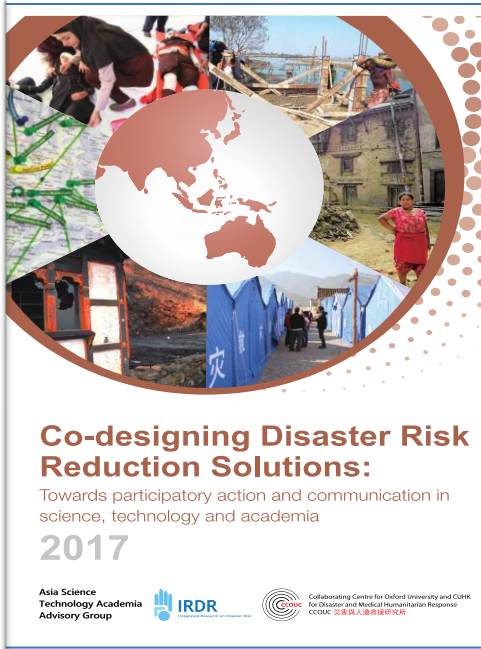
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S-T Status Report



1st Asia Science Technology Conference
On Disaster Risk Reduction (ASTCDRR) 2016
Bangkok, Thailand

11 countries
28 examples of application of science



Global Platform in Cancun 2017

14 countries
40 examples of co-designing solutions



2nd Asia Science Technology Conference
On Disaster Risk Reduction (ASTCDRR) 2018
Beijing, China

12 countries
25 examples of S-T actions



3rd APSTCDRR,
Kuala Lumpur, Malaysia

14 countries
24 examples of co-designing solutions

Contents of the Status Report 2020

- **Part 1: Survey responses:** presents the regional analysis of the progress in Science and Technology roadmap for disaster risk reduction.
- **Part-2** of the report presents a **regional status update** of six selected themes namely:
 - 1) NATECH
 - 2) Eco-DRR
 - 3) Capacities Building in Higher Education
 - 4) Socio-Economic of Resilient Infrastructure
 - 5) Space application
 - 6) Urban Resilience and Climate Change.
- **Part-3** includes **24 examples on different themes and actions** as listed under the Science and Technology Roadmap

Outcome matrix development (S-T roadmap)

* (only the first sub-points showed as example)

Priority for actions	1. Assess and update data and knowledge	2. Dissemination	3. Monitoring and review	4. Capacity building
Priority for action 1 Understanding disaster risk	1.1.1. Promote integrated and multi-disciplinary research	1.2.1 Develop evidence-based dissemination strategies and methodologies to inform policy and practice	1.3.1 Link Science and Technology progress to Sendai Monitoring indicators	1.4.1 Build national and local capacities for the design, implementation and improvement of DRR plans
Priority for action 2 Strengthening Disaster Risk Governance to Manage Disaster Risk	2.1.1 Consider root causes of risk and inputs from traditional knowledge for decision-making	2.2.1 •Promote dialogue and networking on DRR between scientists, academia, policy-makers, civil society, business and private sectors	2.3.1 Strengthen the engagement of science in national coordination	2.4.1 Promote dialogue and networking on DRR between scientists and policy-makers, civil society and business
Priority for action 3 Investing in Disaster Risk Reduction for Resilience	3.1.1 Assess & update the status of mainstreaming science & technology in DRR	3.2.1 Promote various means of science communication for decision-making & policy makers	3.3.1 Monitor science & technology investment in DRR as an integral part of national plan & policies	3.4.1 Encourage & enhance capacity of stakeholders in DRR to increase investment in science & technology
Priority for action 4 Enhancing Disaster Preparedness for Effective Response, and to “Build Back Better” in Recovery, Rehabilitation and Reconstruction	4.1.1 Promote multi hazards early warning systems with improved climate information, aerial and spatial data, emergency response services and communication to end users	4.2.1 Develop, disseminate information and practices on contingency planning and protection of critical infrastructure including the promotion of build back better approach in recovery, rehabilitation and reconstruction	4.3.1 Identify and address the need for, and gaps in, early warning systems in the least developed countries and the small island developing states	4.4.1 Institutionalize effective recovery and reconstruction as strategies to reduce risk and promote resilient developments.

The Science and Technology Roadmap for the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030

<p>Total Number of actions: 58 Priority 1: 21 Priority 2: 14 Priority 3: 11 Priority 4: 12</p>	<p>Outcome 1: Assess and Update data and Knowledge</p> <p>[State of data, scientific, local and indigenous knowledge and technical expertise are assessed, updated and available on spectrum of Sendai hazards]</p>	<p>Outcome 2: Dissemination</p> <p>[Scientific evidence is synthesized, produced and disseminated in a timely and accessible manner that responds to the knowledge needs of policy-makers and practitioners]</p>	<p>Outcome 3: Monitoring and Review</p> <p>[Scientific data and information support are used in monitoring and reviewing progress towards disaster risk reduction and resilience building]</p>	<p>Outcome 4: Capacity building</p> <p>[Better capacity in all sectors and countries to access, understand and use scientific information for better informed decision-making]</p>
<p>Priority for Action 1. Understanding disaster risk</p> <p>[Total number of actions: 21 (8 + 4 + 3 + 6)]</p>	<p>1.1.1 Promote integrated and multi-disciplinary research 1.1.2 Conduct solution-driven research at all levels that involves the users in the earliest stages 1.1.3 Establish/link existing and update/maintain global databases 1.1.4 Develop methods, models, scenarios and tools 1.1.5 Integrate risk assessments across sectors 1.1.6 Promote scientific focus on disaster risk root causes, emerging risks and public health threats, insurance and social protection and safety nets 1.1.7 Analyse ethics of scientific input 1.1.8 Adopt a multi-hazard approach that integrates lessons learned, including trans-boundary, biological and technological and Natech hazards</p>	<p>1.2.1 Develop evidence-based research on effective dissemination strategies for informed decision and policy-making. 1.2.2 Promote access to data, information and technology 1.2.3 Integrate traditional, indigenous and local knowledge and practices 1.2.4 Develop partnerships between all S&T and DRR stakeholders, and integrate gender equality</p>	<p>1.3.1 Link Science and Technology progress to Sendai Monitoring indicators, and report using online voluntary commitment system 1.3.2 Promote coherence in data collection and M&E indicators with SDGs and Paris Agreement 1.3.3 Develop a liaison group between the DRR community and the major global assessments, such as IPCC 6th Assessment Report and other related assessment.</p>	<p>1.4.1 Build national and local capacities for the design, implementation and improvement of DRR plans 1.4.2 Promote inclusiveness, interdisciplinary, and inter-generational participatory approaches 1.4.3 Develop expertise and personnel to use data, information and technology 1.4.4 Promote the development and use of standards and protocols, including certifications 1.4.5 Utilize knowledge resources of S&T community for effective education programs on disaster risk reduction for scientists, practitioners and communities 1.4.6 Promote systems approaches in understanding disaster for better informed decision</p>

Online survey

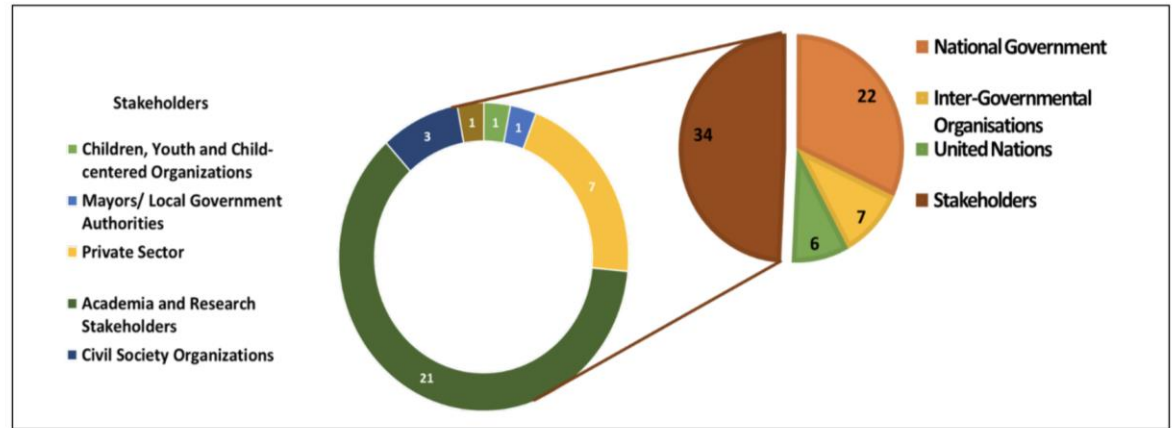
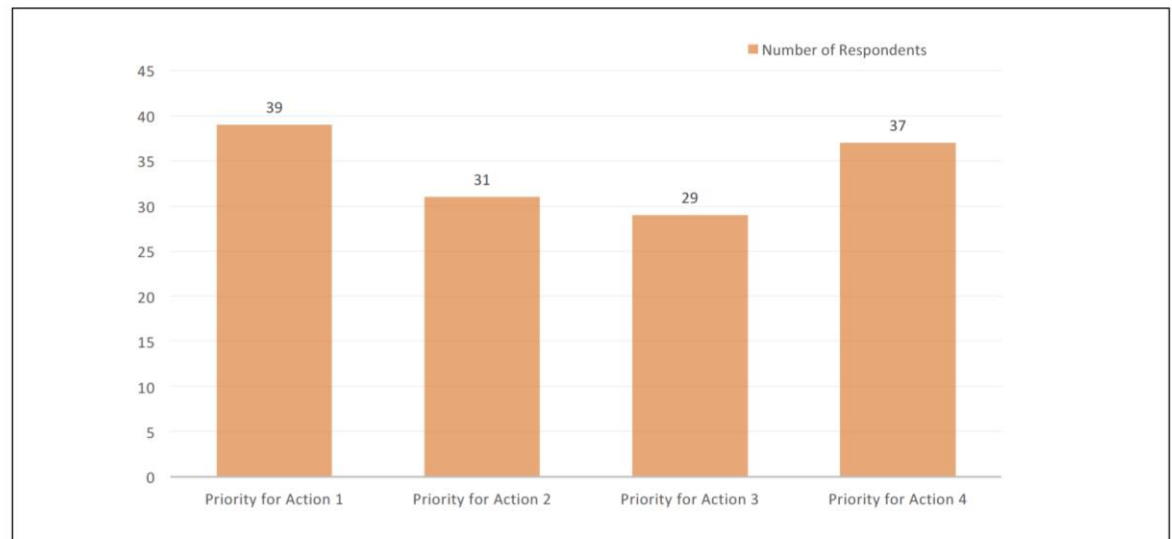


Figure 2: Mapping Interest in the Priorities for Action under SFDRR



69 respondents

31% female

5 major stakeholder groups

S-T status mapping

**Table 1: Regional Implementation of Priority for Action 1
(1-Poor, 2-Fair, 3-Good, 4-Very good, 5-Great)**

#	Outcomes and Actions under the Roadmap	1	2	3	4	5
1.1	Assess and update data and knowledge					
1.1.1	Promote integrated and multi- disciplinary research					
1.1.2	Conduct solution-driven research at all levels that involves the users in the earliest stages					
1.1.3	Establish/link existing and update/maintain global databases					
1.1.4	Develop methods, models, scenarios and tools					
1.1.5	Integrate risk assessments across sectors					
1.1.6	Promote scientific focus on disaster risk root causes, emerging risks and public health threats, insurance and social protection and safety nets					
1.1.7	Analyse ethics of scientific input					
1.1.8	Adopt a multi-hazard approach that integrates lessons learned, including trans-boundary, biological and technological and Natech hazards					
1.2	Dissemination					
1.2.1	Develop evidence-based research on effective dissemination strategies for informed decision and policy- making					
1.2.2	Promote access to data, information and technology					
1.2.3	Integrate traditional, indigenous and local knowledge and practices					
1.2.4	Develop partnerships between all S&T and DRR stakeholders, and integrate gender equality					
1.3	Monitoring and review					
1.3.1	Link Science and Technology progress to Sendai Monitoring indicators, and report using online voluntary commitment system					
1.3.2	Promote coherence in data collection and M&E indicators with SDGs and Paris Agreement					

**Table 5: Overall Regional Implementation of Priority for Action
(1-Poor, 2-Fair, 3-Good, 4-Very good, 5-Great)**

#	Priorities for Action	1	2	3	4	5
1	Understanding Disaster Risk					
2	Strengthening Disaster Risk Governance to Manage Disaster Risk					
3	Investing in Disaster Risk Reduction for Resilience					
4	Enhancing Disaster Preparedness for Effective Response, and to "Build Back Better" in Recovery, Rehabilitation and Reconstruction					

S-T status mapping

Table 6: Implementation Status Matrix of Outcome per Priority for Action

	Priority for Action 1	Priority for Action 2	Priority for Action 3	Priority for Action 4	Average
Priority for action 1 Understanding disaster risk	Outcome 1: Data and Knowledge 2.84	2.97	2.85	3.00	2.90
Priority for action 2 Strengthening Disaster Risk Governance to Manage Disaster Risk	Outcome 2: Dissemination 2.96	3.12	3.00	2.82	2.98
Priority for action 3 Investing in Disaster Risk Reduction for Resilience	Outcome 3: Monitoring and review 2.68	3.15	2.97	2.48	2.81
	Outcome 4: Capacity building 3.18	2.95	3.14	2.63	3.00
Priority for action 4 Enhancing Disaster Preparedness for Effective Response, and to “Build Back Better” in Recovery, Rehabilitation and Reconstruction	Average 2.94	3.05	2.93	2.77	2.92

Legend (Poor, Fair, Good, Very good, Great)

Regional status (thematic)

- 1) NATECH
- 2) Eco-DRR
 - Blue Green infrastructures
 - Socio economic and environmental cost benefit analysis
 - Ecological engineering
- 3) Capacities Building in Higher Education
- 4) Socio-Economic of Resilient Infrastructure
 - Design
 - Investment
 - Technological innovation
 - Knowledge service
- 5) Space application
 - Regional efforts
 - Capacity building at national level
 - Emergency response
- 6) Urban Resilience and Climate Change.

Thanks for the attention!

Website of the organisation etc.