

SESSION CONCEPT NOTE TEMPLATE

The Contribution of Science and Technology to Achieving the 2020 Sendai Target on National and sub-national DRR Strategies

Concept Note

Schedule	Thursday 25 May
Room and Venue	11:15-12:45, Arena E
Organizers	UNISDR and Organizing Team Partners (Indonesia Institute of Sciences (LIPI), Asian Disaster Preparedness Center, International Centre for Water Hazard and Risk Management (ICHARM)- Japan, The University of the South Pacific- Fiji, Pacific Community, Research Institute for Risk Management- Mexico, International Union of Geodesy and Geophysics (IUGG), Public Health England, European Commission Joint Research Centre, International Federation of Environmental Health, International Council for Science (ICSU), UN Major Group for Children and Youth on DRR, Global Fire Monitoring Center (GFMC), Scientific Centers of An-Najah National University- Palestine, University of Tunis El Manar- Department of Civil Engineering, IFRC Climate Center, WHO, UNESCO, United Nations University, Institute of Environment and Human Security (UNU EHS).
UNISDR Focal Points	Chadia Wannous (wannous@un.org)
Background and Rationale	<p>Disaster Risk Reduction (DRR) requires the involvement of a diversity of stakeholders and strong contributions from the science and technology community. It also requires a multi-hazards and inclusive risk-informed decision making.</p> <p>Target E of the Sendai Framework commits the global community to “substantially increase the number of countries with national and local disaster risk reduction strategies by 2020” in order to provide the basis for effective implementation and monitoring of priorities in pursuit of the other global targets.</p> <p>To achieve Target E, countries will need to access to and use of credible and robust multi-hazard risk assessments and risk analysis, including evidence-based information on hazards, exposure, vulnerabilities, including social and economic, and capacities, provided by and developed together with the science and technology community. The Sendai Framework for Disaster Risk Reduction places strong emphasis on this and calls for multi-</p>

	<p>disciplinary approaches that bridge social, natural and other sciences, integrating quantitative and qualitative methods, applied science and indigenous and traditional knowledge and respond to users' diverse needs.</p> <p>The role of the science and technology community is outlined as to focus “on the disaster risk factors and scenarios, including emerging disaster risks, in the medium and long term; increase research for regional, national and local application; support action by local communities and authorities; and support the interface between policy and science for decision-making” (36 (b)).</p> <p>The importance of a solid evidence- and science-base for informed decision-making is highlighted repeatedly in the Sendai Framework. Under Priority for Action1-Understanding disaster risk,, the work of science and technology community is described as to: “[...] strengthen the evidence-base in support of the implementation of this framework; promote scientific research of disaster risk patterns, causes and effects; disseminate risk information with the best use of geospatial information technology; provide guidance on methodologies and standards for risk assessments, disaster risk modelling and the use of data; identify research and technology gaps and set recommendations for research priority areas in disaster risk reduction; promote and support the availability and application of science and technology to decision-making [...] Encourage the availability of copyrighted and patented materials including through negotiated concessions as appropriate. [...] Enhance access to and support for innovation and technology as well as in long-term, multi-hazard and solution-driven research and development in disaster risk management” (25 (g) – (i)).</p> <p>In light of the above, UNISDR organized the International Science and Technology Conference in Geneva in January 2016 with more than 700 scientists and policy makers attending. The main outcomes of the conference were the launch of the Science and Technology Partnership, with more than 200 organisations signing up, and the Science and Technology Road Map, which outlines the expected outcomes and actions required from the science and technology community to contribute to the delivery of the four Priorities of Action of the Sendai Framework. The UNISDR Science and Technology Advisory Group is reconfigured to ensure interdisciplinary, regionally diverse new membership and to reflect the composition of the Science and Technology Partnership. UNISDR is also supporting the setup of regional science and technology advisory groups to advance the science-policy contribution at regional and country levels.</p>
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	<p>During the past months many partners have made progress on implementing the commitments and the announcements made at the science and technology conference. The 2017 Global Platform will provide the opportunity to take stock of this progress and stimulate new commitments for 2017-2019, including through concrete actions with dedicated human and financial resources.¹</p>
<p>Session Objectives</p>	<p>The session will build on the outcomes of the UNISDR Conference on Science and Technology held in January 2016 in Geneva. It will focus on the contribution of science and technology to achievement of Target E of the Sendai Framework, to “substantially increase the number of countries with national and local disaster risk reduction strategies by 2020”. For this, particular emphasis will be laid on illustrating how appropriate global, national and local disaster risk assessments and scientific analysis have been used to inform DRR planning and monitoring at national and local levels. Concrete examples of solutions to bridging the gap between science and policy-making in DRR local and national planning processes will be presented.</p> <p>The session will be informed by the discussions of the preparatory day of the Science and Technology Partnership to be held on 23 May 2017, focusing in particular on how to ensure local and national planning are based on solid scientific evidence.² Examples will be given on particular achievements in this, reflecting on</p> <ul style="list-style-type: none"> • How and at what time scientific inputs and science and technology representatives were actively brought into the DRR planning process. • How bottlenecks and challenges of communication between scientists and relevant DRR national and local institutions and policy makers were overcome. (e.g the role of national DRR

¹ Recent achievements include the establishment of the European Commission Disaster Risk Management Knowledge Centre, and the EC’s first Science for Disaster Management Report “Knowing more and losing less”. the Regional Fire Management Resource Centers, and several science and technology projects coordinated by institutions in Japan in support of the implementation of the Sendai Framework, the launch of the “Global Partnership using Space-based technology applications for disaster risk reduction – GP-STAR”.

² The preparatory day will in turn build on the outcomes of the UNISDR Conference on Science and Technology held in January 2016 in Geneva: the Science and Technology Partnership and Roadmap for disaster risk reduction to strengthen the evidence-base to support the implementation of the Sendai Framework. The day will provide the space for science and technology partners to exchange experience on the whole scope of the road map, the use of existing mechanisms for effective science-policy interface, including the national and regional UNISDR platforms and the global S&T partnership to facilitate the interface. The preparatory day will also see further refinement and reconfirming commitments for 2017-2020 to be made in this Working Session.

	<p>platform for effective science-policy interface and policies that generate the conditions of development of science and technology for risk reduction and management)</p> <ul style="list-style-type: none"> • How research funding and funding for development cooperation and national implementation funds can come together better to transfer scientific findings into use in planning and implementation. • What lessons can be learned and what new concrete commitments can be presented by the science community for achieving Target E in specific countries/regions.
<p>Discussion agenda and structure</p>	<p>Duration of the session is 85 minutes</p> <ol style="list-style-type: none"> 1. Introduction and welcoming remarks – 5 min The challenge of scientific-policy interface in the context of DRR (why after decades of highlighting the important role of S&T in informing DRR decision-making there are still major gaps and limited uptake) 2. Panel: Turning challenges into opportunities - practical examples of successful science contributions to local and national planning for disaster risk reduction (30 min): <ul style="list-style-type: none"> • How governments have engaged with and enabled scientists in policy making for DRR (science-policy interface at local and national levels) • How scientists provided and communicated the evidence-base for the development and implementation of national and sub-national DRR strategies. <p>(examples such as national assessment of effectiveness of Indonesian Tsunami Warning System; economic risk assessment in support of national DRR planning; estimating the economic costs of pandemics and integration into comprehensive DRR strategies; GP-STAR a voluntary partnership committed to fostering the use of Space-based Technologies and Applications and Earth observation in the context of the Sendai Framework to reduce disaster risks; new sensor technologies for drought monitoring and their application for planning, EU-DRMKC Science Report, promotion of research on insurance and social protection and safety nets in support of DRR planning, improved knowledge by the public and communities of risk management.)</p> 3. Questions from the floor and panel discussion (15 min)

	<ol style="list-style-type: none"> 4. Three commitments for 2017-2020 from the floor (3 min each): these commitments will have been developed between January and May 2017 and then reconfirmed, including new partners, during the preparatory day on 22/23 May. They will be directly related to the main messages of the session, building on the examples discussed. The session will merely provide the platform for these commitments to be made publicly and for them to be included in the formal report of the chair/outcome document of the Global Platform. 5. Questions and expressions of interest to join commitments made from the floor and panel (15 min) 6. Closing and commitment (including from UNISDR) on how the three commitments made will be supported in the context of the S&T Partnership and Roadmap implementation (5 min)
<p>Panel</p>	<p>Co-chairs:</p> <ul style="list-style-type: none"> • Mr. Juan Carlos Villagrán de León, Head of UN-SPIDER Bonn Office/UNOOSA • Mr. Renato Solidum, Undersecretary for Disaster Risk Reduction and Climate Change, Department of Science and Technology, Republic of the Philippines <p>Speakers:</p> <ol style="list-style-type: none"> 1. Mr. Gordon Mcbean, President of the International Council for Science (ICSU). Promoting dialogue and shared understanding between the scientific community, policy makers and society. 2. Ms. Irina Rafliana, Research Associate UNU-EHS and Executive Secretary ICIAR LIPI, Indonesia. Collective lessons from national leading agencies in Indonesia related to science and technology. 3. Mr. Ian Clark, European Commission's Joint Research Centre unit 'Disaster Risk Management': Science-Policy interface in DRR planning in the EU and the State of Science in Europe Report 4. Dr. Marcial Bonilla, Director of Basic Scientific Research, Mexican National Council for Science and Technology (CONACYT): The status of the contribution of science and technology to disaster risk reduction in Mexico 5. Dr. Royol Chitradon, Director of the Hydro and Agro Informatics Institute, Thailand. Application of science and technology for community water-related disaster risk

	<p>reduction.</p> <p>Discussant:</p> <ol style="list-style-type: none"> 1. Mr. Fadi Hamdan, Managing Director, Disaster Risk Management Centre (DRMC) Lebanon- Applications of science and technology for DRR in the Arab region- opportunities and challenges 2. Mr. Julio Castillo of the Mexican Space Agency and Chair of GP-STAR: Global Partnership to foster the use of Space-based Technologies and Applications and Earth observation in the context of the Sendai Framework for Disaster Risk Reduction
<p>Expected outcomes</p>	<p>Commitments made by partners to support the implementation of the Science and Technology Road Map through concrete actions and initiatives from the science and technology community to national and local planning for disaster risk reduction.</p>
<p>Commitment / special announcement in support of the Sendai Framework</p>	<p>Partners’ commitments to support the implementation of the Science and Technology Road Map with a particular focus on support to the development of national and local DRR strategies and plans between 2017 and 2020.</p> <p>Suggested commitments, of which a maximum of three solid options will be developed further between January and May 2017:</p> <ol style="list-style-type: none"> 1. Establishment of Regional Fire Management Resource Centers serving the science-policy and science-application interfaces – with a concrete focus on engagement supporting development of national fire management policies and in fire management planning. 2. The Global Science Forum to be held in Japan in November 2017 co-organized by Science Council of Japan (SCJ), ICSU and UNISDR 3. The International Flood Initiative (IFI) has renewed its strategy and launched the implementation in collaboration with IFI Partners, including WMO, UNESCO, UNISDR, UNU, IAHR and IAHS, NARBO and ICHARM and various countries. Each country is asked to establish a platform on water and disaster for facilitating dialogue and scaling up pre-disaster investment and community-based practices into basin-wide and/or action-wide solutions. 4. Youth Science-Policy Interface Platform
<p>Background documents</p>	<ul style="list-style-type: none"> • The Science and Technology Road Map to implement the Sendai Framework for DRR http://www.preventionweb.net/files/45270_unisdrscienceandtechnologyroadmap.pdf • The outcome of the UNISDR Science and Technology

	<p>Conference http://www.preventionweb.net/files/45270_unisdrscienceandtechnologyconferenc[2].pdf</p> <ul style="list-style-type: none">• GAR Special Report: Risk Atlas “World at Risk” (2017)- forthcoming• Global Assessment Report 2015 http://www.preventionweb.net/english/hyogo/gar/2015/en/home/index.html• Sendai Framework for Disaster Risk Reduction 2015-2030 http://www.unisdr.org/we/inform/publications/43291• Aitsi-Selmi, A., V. Murray, C. Wannous, C. Dickinson, D. Johnston, A. Kawasaki, A.-S. Stevance, T. Yeung, et al. 2016. Reflections on a science and technology agenda for 21st century disaster risk reduction. Based on the scientific content of the 2016 UNISDR Science and Technology Conference on the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030. <i>International Journal of Disaster Risk Science</i> 7(1). doi:10.1007/s13753-016-0081-x• Dickinson C, Aitsi-Selmi, A., P. Basasbe, C. Wannous, V. Murray. 2016, Global Community of Disaster Risk Reduction Scientists and Decision Makers Endorse a Science and Technology Partnership to Support the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030.. <i>International Journal of Disaster Risk Science</i> 7(1). DOI 10.1007/s13753-016-0080-y• Aitsi-Selmi A, Blanchard K, Al-Khudhairy D, Ammann W, Basabe P, Johnston D, Ogallo L, Onishi T, Renn O, Revi A, Roth C, Peijun S, Schneider J, Wenger D, Murray V. UNISDR STAG 2015 Report: Science is used for disaster risk reduction. 2015.• Sarah L Hemstock, Leigh-Ann Buliruarua, Emily YY Chan et al. Accredited qualifications for capacity development in disaster risk reduction and climate change adaptation. 2016. <i>Australasian Journal of Disaster and Trauma Studies</i> trauma. Volume 20, Number 1.• Tom De Groeve and Ainara Casajus Valles. 2015. Science Policy Interfaces in Disaster Risk Management in the EU: Mapping the support provided by science in the EU Civil Protection Mechanism.• Mortara Barbara and Gonzalez Verdesoto Elena Barry Geraldine. 2014. Science for Disaster Risk Reduction. JRC Thematic reports. DOI 10.2788/65386 (print) and 10.2788/65084 (online).• Cutter, S, Ismail-Zadeh, A., Alcántara-Ayala, I., Altan, O., Baker D. N., Briceño, S., Gupta, H., Holloway, A., Johnston, D., McBean, G. A., Ogawa, Y., Paton, D., Porio, E., Silbereisen, R. K., Takeuchi, K., Valsecchi, G. B., Vogel, C., and Wu, G. (2015).
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	<p>Global risks: Pool knowledge to stem losses from disasters. <i>Nature</i>, 522, 277-279 (available at: http://www.nature.com/news/global-risks-pool-knowledge-to-stem-losses-from-disasters-1.17751).</p> <ul style="list-style-type: none">• ICSU-ISSC (2015). Disaster Risks Research and Assessment to Promote Risk Reduction and Management. Edited by A. Ismail-Zadeh and S. Cutter. International Council for Science (ICSU) and the International Social Sciences Council (ISSC), Paris, France (available at: http://www.icsu.org/science-for-policy/disaster-risk/documents/DRRsynthesisPaper_2015.pdf)• Ismail-Zadeh, A., Cutter, S.L., Takeuchi, K., and Paton, D. (2017). Forging a paradigm shift in disaster science. <i>Nat. Hazards</i>, 86(2), 969–988 (available at: http://link.springer.com/article/10.1007/s11069-016-2726-x).• Ismail-Zadeh, A., Urrutia Fucugauchi, J., Kijko, A., Takeuchi, K., and Zaliapin, I. (2014). <i>Extreme Natural Hazards, Disaster Risks and Societal Implications</i>, Cambridge University Press, Cambridge.• White Paper on Vegetation Fires and Global Change. Challenges for Concerted International Action: A White Paper directed to the United Nations and International Organizations. http://www.fire.uni-freiburg.de/latestnews/Vegetation-Fires-Global-Change-UN-White-Paper-GFMC-2013.pdf
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