

## 2019 Global Platform for Disaster Risk Reduction Geneva, Switzerland, 12-16 May 2019

### Science and Policy Forum for Disaster Risk Reduction

The Science and Policy Forum for Disaster Risk Reduction (DRR) took part over the two days leading up to the Global Platform and was organized by the United Nations Office for Disaster Risk Reduction (UNDRR), the International Science Council (ISC), and the Integrated Research on Disaster Risk (IRDR) Scientific Programme Committee, which is co-sponsored by UNDRR and ISC. It discussed advances in science to support the implementation of the Sendai Framework, identify critical knowledge needs to support decision-making and strengthen collaboration across all fields of science to have an integrated approach to disaster risk reduction. The nexus between DRR, climate change and sustainable development calls for integrated approaches to understanding risks and risk creation processes, and integrated responses for risks prevention and recovery. *The presentation by Alik Ismail-Zadeh at the Forum can be found in Appendix 1.*



*Fig. 1. Panel discussion chaired by Alik Ismail-Zadeh*

The Forum launched a UNDRR-ISC facilitated technical working group on hazards terminology to develop a common definition and language across the full scope of hazards covered by the Sendai framework. I chaired the panel on hazards terminology, which highlighted the need to put more emphasis on the study of how different types of hazards are interlinked, and may cascade across sectors, time, and geographical scales (Fig. 1). The Sendai framework focuses on understanding risks which require the engagement with the communities that face risks and need to cope with them. Stronger effort in understanding of the local contexts in which risks emerge and the complex ways in which the physical and social geographies combine is needed to advance the DRR agenda. Working with local communities is a key component of this engaged and inclusive science.

Addressing the challenges around the lack of data, big data, data quality, data use, data interoperability are critical to enhance our capacity to use data meaningfully to better understand and manage risks. Major advances in the use of technology for disaster management and major potentials for future deployments were discussed, namely, the use of drones in disaster situations helps to assess damage, guide first responders, deliver equipment, medicine, etc. Technologies improve our understanding of causes, enhance early-warning and damage assessment. Potentials for big data and AI for predicting scenarios and impact were also discussed at the Forum. It was mentioned that there is a need for international cooperation and regulations for disruptive technologies, and systems-wide resilience to address technological hazards. Strengthening resilience and achieving DRR requires collaboration among and between science, policymakers, and society to meet short term information needs to anticipate and mitigate long-term impacts.

### **Stakeholders Forum**

The Stakeholder Forum provided a space for stakeholders, including the Science and Technology Major Group led by the International Science Council, to coordinate and exchange on best practices around inclusion, collaboration, and engagement in preparation for the official sessions of the Global Platform. Discussions focused on ways to ensure effective collaboration and how the newly launched UNDRR Stakeholder Engagement Mechanism would work in the future and engage in supporting the implementation of the Sendai Framework in coherence with the other 2030 Agendas.

A stakeholder declaration to the 2019 Global Platform for Disaster Risk Reduction was accepted. The declaration mentions that “when people work together, they thrive together. Our lives entirely interdependent and disasters, perhaps more than any other events, demonstrate this reality in stark relief. As the Stakeholder Engagement Mechanism of the United Nations Office for Disaster Risk Reduction, we seek to open avenues of cooperation, communication, and capacity building for inclusive disaster risk reduction, and to model the kinds of relationship necessary across all lines of demographic distinction.”

The declaration calls on “all who aim to put the noble aspirations of the UN into practice to acknowledge that humanity’s future depends on the mobilization of the capacity latent in every human being. If applied to the challenges we face, this simple truth would bring about a profound shift in our collective action, the “transformation” that the 2030 Agenda for Sustainable Development envisages. It would help to ensure that those most affected by disasters are given equal voice at all stages of risk-informed development, it would bring the strength and wisdom of our diverse perspectives and roles to the fore, it would reduce siloed interventions and it would counteract the group-based hostilities currently in the ascendant”.

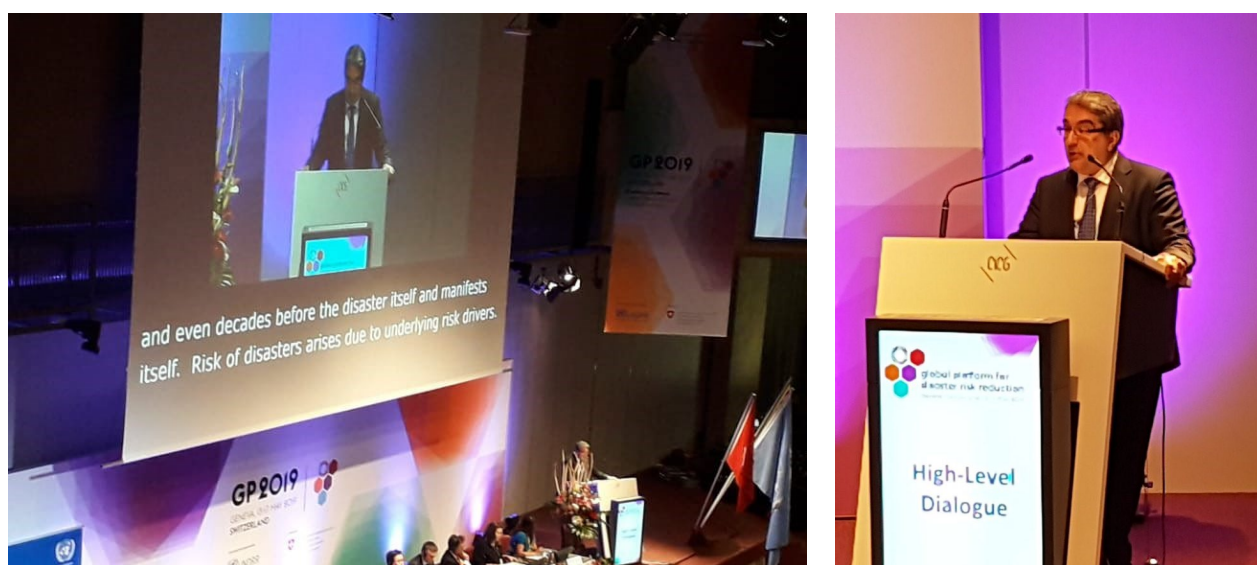
*Alik Ismail-Zadeh delivered a talk at the Closing Ceremony highlighting the role of science and technology community in DRR and on strengthening a link between science and policymaking.*

### **High-Level Dialogue**

Progress Made in Implementing Sendai Framework - Global and Regional Perspectives: In the morning, moderator Beatrice Marshall, Kenyan news anchor, opened the dialogue and introduced the five regional platforms for DRR that took place in 2018. In a keynote speech, Malini Mehra, Chief Executive, GLOBE International, outlined statistics on the increasing number of disasters, which have caused the displacement of some 265 million people since 2008, more than three times as many as those caused by conflict. She called for addressing not only natural hazards but also the man-made risks of technologies such as artificial intelligence and geoengineering. Kirsi Madi, UNDRR, further commented on the impacts of disasters in displacing millions of people and costing USD 500 billion to economies worldwide.

Marshall introduced the panel of speakers representing regional platforms. Ulziisaikhan Enkhtuvshin, Deputy Prime Minister, Mongolia, summarized his regional platform’s emphasis on

resilient infrastructure and risk-informed development. Feliks Tsolakyan, Minister of Emergency Situations, Armenia, highlighted the relevance of reducing risk to promote further infrastructure development. Edoardo Rixi, Minister of Transport and Infrastructure, Italy, announced the establishment of a regional coalition to discuss safety of infrastructure and emerging risks such as threats to cybersecurity. Ambassador Walid Doudech, Tunisia, highlighted two regional ministerial declarations and the focus on dedicated funding to advance implementation of the Sendai Framework. Eduardo José González Angulo, Director-General, National Unit for Disaster Risk Management, Colombia, highlighted work in his country and region on financial protection and the reduction of financial vulnerability in the face of disaster. *Alik Ismail-Zadeh talked about the need for collaboration across science, policy makers and society for success in disaster risk reduction (Fig. 2). His speech at the High-Level Dialogue session can be found in Appendix 2.*



*Figure 2. Alik Ismail-Zadeh delivering speech on behalf of the United Nations Scientific and Technological Community Major Group at the High-Level Dialogue of the 2019 Global Platform for Disaster Risk Reduction*

Particularly, he mentioned that a coherent science-based assessment process for disaster risk reduction should be created to provide sound knowledge to inform decision-making, facilitate governments worldwide in setting policies and goals and to identify research gaps. The assessment reports should summarize information relevant to the Sendai targets, and examine the root causes of vulnerabilities and exposure, the potential socio-economic impacts of natural hazards and the ways to reduce human and economic losses. Such an assessment should provide a

mechanism for knowledge transfer from research to practice, ensuring that the science is useful, usable, and used.

To oversee the assessment mechanism a high-level, transdisciplinary body of international experts in disaster risk reduction should be established by national governments and international and inter-governmental organizations dealing with disaster risks, with input from various sectors and civil society. Such an intergovernmental body would have the necessary reach and influence – from local communities to businesses to governments – to raise people’s awareness. Government support for the process will be essential and should be encouraged by the scientific community and other stakeholders. Synergies must be found by combining and consolidating disaster risk reduction efforts across United Nations institutions under co-sponsorship of UNDRR. The session closed with panelists’ call for collaboration at all levels to ensure success in meeting the Sendai Framework targets.

# APPENDIX 1



Download the **Global Platform 2019** app from the Apple store and Google Play.

## Science and Policy Forum for the Implementation of Sendai Framework for Disaster Risk Reduction

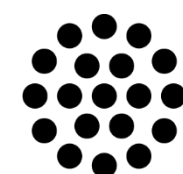
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*Alik Ismail-Zadeh*

*International Science Council*

**13-14 May, Palais des nations, Geneva**

Convened and organized by



International  
Science Council



# Key outcomes

The Science and Policy Forum for DRR took part over the last two days leading up to the Global Platform and was organized by UNDRR, the International Science Council and the IRDR programme.

It discussed advances in science to support the implementation of the Sendai Framework, identify critical knowledge needs to support decision-making and strengthen collaboration across all fields of science to have an integrated approach to disaster risk reduction.

The nexus between DRR, climate change and sustainable development calls for integrated approaches to understanding risks and risk creation processes, and integrated responses for risks prevention and recovery.

# Key outcomes

The Forum launched a UNDRR-ISC facilitated technical working group on hazards terminology to develop a common definition and language across the full scope of hazards covered by the Sendai framework.

The Forum also highlighted the need to put more emphasis on the study of how different types of hazards are interlinked, and may cascade across sectors, time and geographical scales.

The Sendai framework focuses on understanding risks which require the engagement with the communities that face risks. Understanding local contexts and the physical and social dimensions of risks is important to advance the DRR agenda. Working with local communities is a key component of this engaged and inclusive science



# Key outcomes

Addressing the challenges around the lack of data, big data, data quality, data use, data interoperability are critical to enhance our capacity to use data meaningfully to better understand and manage risks.

- Need to bridge gap between data, technology and applications
- Bridge the gap between the increasing pace at which data is generated, and the much slower pace at which it is used

Science and technology contributes significantly to resilience. Cooperation between S&T community and policymakers should be improved to strengthen resilience at regional, national and local levels.

# Key outcomes

Major advances in the use of technology for disaster management and major potentials for future deployments

- Use of drones in disaster situations to assess damage, guide first responders, deliver equipment
- Technologies improve our understanding of causes, enhance early-warning and damage assessment
- Potentials of AI for predicting scenarios and impact

But application vary in pace, scope and impact.

Need for international cooperation and regulations for disruptive technologies, and systems-wide resilience to address technological hazards

# Key outcomes

Strengthening resilience and achieving DRR requires collaboration among and between science, policy-makers, and society to meet short term information needs to anticipate and mitigate long-term impacts.

# ISC launches policy briefs



**Policy briefs provide key messages for policy-makers on disaster-loss data and the synergies between the major global agreements of the Sendai Framework on Disaster Risk Reduction, the Paris Agreement and the SDGs**

## APPENDIX 2

### **2019 Global Platform for Disaster Risk Reduction**

High-Level Dialogue “Progress Made in Implementing the Sendai Framework - Global and Regional Perspectives”, 15 May 2019, Geneva, UN Headquarters

Speech by Mr. Alik Ismail-Zadeh  
Secretary, International Science Council

Your Excellencies, Madam Chair, dear Delegates:

Disasters should be analyzed as the result of long-term processes as the risk is created years or even decades before the disaster manifests itself. Risks of disasters arise due to underlying risk drivers, such as unequal economic development, poorly planned and managed urban and regional development, the decline of regulatory ecosystem services, poverty and inequality, weak governance, weak local capacities and others. The efforts to reduce and control damage and loss are well outweighed by the processes generating new risk in our societies. The central question then becomes: why is this happening despite much greater scientific knowledge and technical capacity related to risk and disaster concerns?

Several years ago, the Integrated Research on Disaster Risk (IRDR) programme, co-sponsored by the International Science Council and UNDRR, initiated a new major project, called FORIN, to clarify this dilemma. FORIN deals with forensic investigations of disasters that focuses on the investigation of root causes of disaster risk and occurrence. The investigations attempt to identify those social features and forces and the associated institutional and social actors that nourish and energize the risk drivers. The drivers are ultimately expressed in the patterns of vulnerability and exposure which produce a disaster, when affected by a natural or technological hazard.

Recent disasters were targets for the forensic investigations, among them the 2010 Haiti earthquake disaster, 2005 Katrina hurricane, and 2011 Tohoku earthquake and tsunami. Using the results of these investigations, scientists elaborate the disaster risk drivers and root causes, and issue policy recommendation including those to avoid creating new risks. The next step is to convince governments to use the policy recommendations produced by scientists. And here still a lot of efforts are needed. In many countries, the findings and recommendations by independent science experts do not receive government’s attention unless they come from an authoritative body, like an intergovernmental organization.

There are bright exceptions, and Japan is one of them. Immediately after the disaster, the Reconstruction Design Council in Response to the Great East Japan Earthquake was set up. The Council consisted of multi-stakeholders, appointed by the Prime Minister, with the goal to provide advice on the framework for formulating guidelines on reconstruction in regions affected by the earthquake and tsunamis. The Council’s work was aimed to reduce significantly existing risk and to avoid a creation of new risks. The report prepared by the Council included “prioritizing efforts to ensure that even if disaster strikes it will not result in the loss of human life, and also working to minimize economic damage as much as possible.”

Another example is a significant reduction in human losses due to floods, for example, in Bangladesh. It becomes possible because of the work directed to minimizing existing risk and not creating new risks, and because of implementing early warning and preparedness measures including the development of evacuation shelters. The success of disaster risk reduction in the country was based

on the integrated approach, which co-evolved knowledge from geoscience (meteorology, hydrology, remote sensing), engineering, land use and urban planning, psychology, and political science as well as the local knowledge about administration, organizational and institutional schemes, political leadership, budget, policymaking, and news media.

A coherent science-based assessment process for disaster risk reduction should be created to provide sound knowledge to inform decision-making, facilitate governments worldwide in setting policies and goals and to identify research gaps. The assessment reports should summarize information relevant to the Sendai targets, and examine the root causes of vulnerabilities and exposure, the potential socio-economic impacts of natural hazards and the ways to reduce human and economic losses. Such an assessment should provide a mechanism for knowledge transfer from research to practice, ensuring that the science is useful, usable and used.

To oversee the assessment mechanism a high-level, transdisciplinary body of international experts in disaster risk reduction should be established by national governments and international and inter-governmental organizations dealing with disaster risks, with input from various sectors and civil society. Such an *intergovernmental body* would have the necessary reach and influence – from local communities to businesses to governments – to raise people’s awareness.

Today later, the Global Assessment Report 2019 will be launched. Congratulations to all involved in the report! Let us hope that this global assessment report will influence governments as IPCC reports. Government support for the process will be essential and should be encouraged by the scientific community and other stakeholders. Synergies must be found by combining and consolidating disaster risk reduction efforts across United Nations institutions under co-sponsorship of UNDRR in cooperation with UNESCO, WMO, the World Bank, UNOOSA, UNEP, and other UN agencies. Knowledge transfer will make community-based resilience efforts possible.