

**Outcomes and Resolutions of the 6th Global Summit of the Global Alliance of Disaster
Research Institutes**

**Towards GADRI Objectives of Achieving a Sustainable Disaster-Resilient World, held at the
Disaster Prevention Research Institute (DPRI), Kyoto University, Kyoto, Japan
from 15th to 17th March 2023**

The member institutes of the Global Alliance of Disaster Research Institutes (GADRI) fully recognise the importance of the United Nations Office for Disaster Risk Reduction (UNISDR) Sendai Framework for Disaster Risk Reduction 2015–2030 Mid Term Review.

1. The Summit affirms that:

1.1 Traditional approaches to risk management are being overwhelmed by the increasing complexity of systemic risk and its cascading impacts. The findings of the Midterm Review of the Sendai Framework, Global Assessment Report 2022 and the work of various GADRI members points to the need for radical changes to strengthen risk-informed decision-making.

1.2 The intensity and impact of the recent earthquakes in Turkey are a reminder of unresolved high levels of exposure and vulnerability to large scale rapid onset hazards occurring against a backdrop of global instability.

1.3 Climate change is projected to increase and intensify extreme weather events and associated disasters. Climate change is adversely impacting the health of humans, animals and entire ecosystems; the climate crisis is a health crisis. Meanwhile, the potential to adapt to climate change is not limitless.

1.4 Disaster research, policy and practice should be inclusive and equitable. Adopting an intersectional approach will ensure inclusivity and equity in practice. Gender should be understood as relational. Research into gender inequalities and inclusivity need to be central concerns of forums such as GADRI and researchers should strive to collect and analyse gender disaggregated data.

1.5 To be able to provide resilience-informed decision support that provides socially equitable solutions whole city models need to combine approaches from different disciplines crossing traditional boundaries; essentially combining physics-based and data-driven models.

1.6 Science should provide information to support policy planning for avoiding extreme short- and long-term emergencies including through further investment in and interpretation of the role of early warning and action.

1.7 In recovery there is political will and financial support for bold action to address awareness, incentives, and change in regulations. Recovery planning is essential to achieve transformative DRR.

1.8 The emergence of polycrisis demands a more coherent, integrated, inter-disciplinary and inclusive strategy to deal with multiple hazards at the same time. The disaster management agencies need better decision-making tools to deal with conflicting values, multiple trade-offs and complex causal structures. To be legitimate and socially accepted these judgments must be made in a transparent and inclusive manner.

1.9 Enhanced situational awareness for crisis management requires better early warning for crises based on anticipation of their impacts. Science needs to enable acting on those risks

by providing local, regional and national authorities with our knowledge, data and tools to help them act on resilience building, risk reduction and climate change adaptation.

1.10 Theory is our 'road map' in disaster risk reduction but, as the modern world is changing very rapidly, we need to update theory to take account of very dynamic conditions.

1.11 In order to save more lives and reduce damage in disasters, we need to adopt a more rigorous, scientific approach to emergency planning and management.

1.12 Even in larger research institutes, it is difficult to gather sufficient researchers to cope with various type of disaster events, but cooperative system over several institutes greatly helps to solve this problem.

1.13 Pathways for multiple nations to work together to confront climate related hazard exposure and vulnerability through co-funded projects that facilitate mechanisms for researchers to share experiences would expand research impact.

2. The GADRI Committees on Networking, Science and Technology Roadmap, Institutional Capacity Building, Data and Information Sharing and Advocacy report the following:

2.1 Networking:

2.1.1 GADRI should create a Global Disaster Researcher Directory: voluntary compilation of individuals engaged in disaster research, channeled through GADRI member institutes, perhaps building on Orcid IDs.

2.1.2 GADRI should develop a strong social media presence (Facebook, Instagram, Twitter, Linked-in, YouTube). Each platform requires different approach. YouTube allows the use of GADRI lectures and more detailed lengthier presentations appropriate to academic audiences and can be foundational for all 5 platforms.

2.1.3 GADRI should create GADRI Fellow and Young Researcher Programs: This would be based on (a) Nominations of accomplished senior disaster researchers, from which GADRI Fellows will be selected. GADRI will extend invitation for Fellows to visit/lecture DRIs on a case-by-case basis at no financial burden to GADRI. (b) A Young Researcher program to foster exchange of early career researchers.

2.2 Science and Technology Roadmap:

2.2.1 The future vision and directions of S&T activities should be shared among members of GADRI and hopefully influence policy and systems transformation towards disaster resilient and sustainable societies.

2.2.2 The science and technology community will develop and strengthen three key functions, including knowledge integration, capacity integration and process integration. Knowledge integration can be promoted by integrating the knowledge of natural and social sciences and humanities using well-organized observation, modelling, and data and information systems based on the Open Science policy.

Capacity integration can be fostered by integrating "facilitators" to work as catalysts capable of providing expert advice based on a broad range of scientific and indigenous knowledge in the local context.

Process integration can be operated by establishing cross-sectoral frameworks at local, national, regional, and global levels to link cutting-edge science beyond disciplines with on-site decision-making and action using an "end-to-end approach".

2.3 Institutional Capacity Building:

2.3.1 GADRI should place enhanced focus on assisting member institutions with sharing approaches to overcoming challenges to institutional capacity building, focusing on some targeted and concrete challenges that many or most of us face. These include, for our higher education institutes, overcoming the challenges of disciplinary silos and creating new opportunities for faculty and students for interdisciplinary research, educational and service activities.

2.4 Data and Information Sharing:

2.4.1 GADRI is committed to promoting "action data", "bridging gaps to knowledge sharing", developing an "active database".

2.4.2 The GADRI Committee is acutely aware of data issues flagged in the Sendai Framework MTR under priority one (understanding risk). The GADRI Committee is committed to continuing in many ways the work of the Global STAG working group.

2.4.3 The Committee emphasised the importance of the various elements of FAIR data: Findable, Accessible, Interoperable and Reusable.

2.4.4 Inputs at the Summit brought influential examples of; databases and their sustainability and the use of big data and high performance computing (DesignSafe) supporting engineering research and publishing workflows; the GADRI database project that intends to regularly scrape URLs from members and analyse the pages with keywords, so the data becomes searchable; local level data from narratives on risk from local, marginalized communities in particular children, which responds to the Sendai objective to understand the risk for the most vulnerable people. New action-oriented collection methods for data through drawings, art, stories, which works well for health-related risks and impact of wellbeing.

2.4.5 Priorities for the GADRI committee to consider include:

Good implementation of the FAIR principles by all its members, thinking of the sustainability of databases.

Identification of platforms or databases that can help make GADRI data FAIR. However, existing initiatives should be considered for their fitness for purpose. In particular, the UNDRR's own initiative on Risk Information Exchange. The design of the GADRI database must be flexible, able to collect quantitative and qualitative data, and developed by data scientists in collaboration with domain experts.

2.4.6 Collecting microdata from its members is an opportunity to develop a database of narratives about the most vulnerable people. There are issues of accessibility and a need for curation of a data policy and governance of its members, and recommendations to all DRR actors, including on data principles in times of crises.

2.4.7 Reusable data means that Members are encouraged to monitor the ongoing use of data that supports the purpose of DRR

2.5 Advocacy:

2.5.1 The Committee emphasises that science advocacy needs to be cross-cutting, from grassroots to policy formulation. To do that, researchers need to co-design solutions along with civil society as well as top policy makers. The process of co-design, co-develop, and co-delivery of advocacy messages is important.

2.5.2 Media plays an important role in science advocacy, where risk communication to the people and communities as well as to the decision makers can be done effectively. Using

diverse media (from conventional broadcasting to social media to community radio), and key change agent (who can plan the interface of researcher and communities) customized science advocacy can be effective.

3. Panel discussions on challenges for action by GADRI report the following:

3.1 Big Science for DRR: Large-scale Experiments

There are significant challenges of large-scale experimental facilities for DRR.

The panel identified the following key aspects for ongoing attention:

3.1.1 Acknowledge the importance of sharing facilities and existing experimental datasets with a systematic format / digital foundation.

3.1.2 Emphasise that benchmark tests using results of large-scale experiments will be beneficial to the community to understand the capability of numerical models/simulation codes.

3.1.3 Strengthen the tie between large-scale experiments and numerical modelling.

3.1.4 Enhance the use of new technologies to lower the cost of observation in the field and structures as well as experimental facilities.

3.1.5 Explore the use of large-scale experiments for disaster education to students and public, and not limit to scientific use.

3.2 Sustainable DRR integrating Climate Action, SDGs, Field DRR; and Data Sharing Experience

The panel emphasised:

3.2.1 The importance of long-term in-situ field observations and data accumulation for climate change monitoring in climate change vulnerable regions. Sharing such observational data will be useful not only for climate change research but also for regional collaborations and cooperation.

3.2.2 That impact-based forecasting and projection is important to build community awareness of disaster mitigation and climate change adaptation.

3.2.3 That future projections for hazard, vulnerability and exposure will help societies for sustainable risk financing.

3.2.4 That alignments of targets of different frameworks (SDG, SFDRR, CC) will help to address real world problems with strategic interventions.

3.2.5 The importance of a multi-disciplinary approach.

3.3 Gender and Inclusivity in DRR Policy and Practice:

The session provided a space where gender inequalities and inclusivity in DRR policy and practice were discussed emphasising the following:

3.3.1 Gender does not mean just women. It includes men, women, and gender and sexual minorities and all of these categories have multiple identities. Intersectionality helps us understand intersecting identities of people in disaster setting and, with their participation, helps us identify appropriate interventions.

3.3.2 That following this session participants are asked to engage their home disaster research institutes on the need to listen, research and lead on the implementation of the Sendai Framework for Action.

3.3.3 That recommendations arising from the discussion session are proposed for consideration by the GADRI Board and the UNDRR Sendai Framework mid-term review.

The group resolved that:

3.3.4 Tackling inequalities at the root should be a priority for implementing the Sendai Framework for Action and gender should be understood as relational, impacting all, including men, women, children and gender and sexual minorities.

3.3.5 Adopting an intersectional approach to DRR policy will ensure inclusivity and equity in practice.

3.3.6 In order to build back better, it is important to understand structural inequality. A gender perspective helps us understand the everyday experiences of people and their lived reality.

3.4 Putting Health into Disaster Risk Reduction and Recovery

3.4.1 The session affirmed the broad and critical scope of putting health into DRR and recovery, including through a Japan based case study presented in the session that emphasised local level self-help.

3.4.2 GADRI members with these interests are encouraged to consider joining the WHO Health Emergency and Disaster Risk Management Research Network.

3.4.3 In the interests of developing opportunities for ongoing interactions in the health emergency and disaster risk management domains, a joint meeting between GADRI and WHO Kobe H-EDRM will be forthcoming reflecting an understanding that GADRI will incorporate an increased focus on health and well-being.

3.5 Youth and DRR

The session emphasised that:

3.5.1 Increasing the engagement of youth and young professionals, and the networks they have created, is of vital importance to enhancing the concrete impact of our DRR work.

3.5.2 This engagement can and should be linked to innovations in our higher education programs, through placing a greater emphasis on multidisciplinary, multisectoral, multinational models of integrating concrete DRR-related projects into our curriculum, across the majors.

3.5.3 Funding agencies and the private sector, at local, national and multinational levels, should prioritize providing support to existing and emerging youth organizations.

4. In response to these points recorded from the Summit, GADRI resolves to:

Bring all the above affirmations, findings and outcomes to its Board of Directors as GADRI resolutions.