



Preface to the IDRiM 2023 Conference Special Issue

Sumit Sen^{1*}, Srikrishnan Siva Subramanian¹, Piyush Srivastava¹, and Roopam Shukla¹

Received: 10/12/2024 / Accepted: 13/12/2024 / Published online: 26/12/2024

The *IDRiM 2023 Conference Special Issue* in the *IDRiM Journal* compiles a wide range of cutting-edge research and practical insights from the 13th International Conference of the International Society for Integrated Disaster Risk Management (IDRiM), which took place from September 28 to 30, 2023, at the Centre of Excellence in Disaster Mitigation and Management (CoEDMM), IIT Roorkee, India. The conference, under the theme *Integrated Disaster Risk Reduction (DRR) for Inclusive Sustainable Development: Science, Policy, and Practice Dialogues* (InSPIRE-Dialogue), focused on bridging the gap between scientific research, policy-making, and practical disaster risk management (DRM) solutions. This Special Issue reflects the dynamic nature of disaster risk reduction (DRR), showcasing interdisciplinary approaches that address current challenges and emerging opportunities in disaster management, particularly in climate change and global socio-economic shifts.

A core objective of the IDRiM 2023 Conference was to foster dialogue between scientific research and practical disaster risk management (DRM) strategies. The conference aimed to integrate scientific findings with policy frameworks to develop sustainable and effective disaster mitigation strategies. The Special Issue compiled in the *IDRiM Journal* brings contributions from leading scholars and practitioners, offering insights into new methodologies, tools, and frameworks that aim to reduce disaster risks and enhance resilience. The papers emphasise the role of scientific knowledge in shaping practical DRM solutions and underscore the importance of evidence-based policy-making for better disaster management and sustainable development.

The return to an in-person format for the IDRiM 2023 conference marked an important moment for face-to-face interactions among researchers, engineers, policymakers, and practitioners. It has allowed for more meaningful exchanges and collaborations across various disciplines. Special sessions and workshops allowed participants to discuss specific aspects of

¹ Centre of Excellence in Disaster Mitigation and Management, Indian Institute of Technology Roorkee, India

* Corresponding author email: sumit.sen@hy.iitr.ac.in

DRR while exploring innovative strategies to implement science in disaster response and preparedness. The event facilitated academic discussions and the sharing of real-world applications of disaster risk management, demonstrating the essential connection between research and practice.

An online platform accompanying the conference also played a vital role in ensuring broader participation, especially from early-career researchers and Ph.D. candidates. The virtual access allowed a global audience to engage with leading experts, fostering networking and collaboration across borders. By creating a space for young scientists to interact with established professionals, the conference emphasised cultivating the next generation of disaster risk management professionals who can contribute to innovative and sustainable solutions.

The IDRiM 2023 Conference also highlighted the critical role of CoEDMM as a key research hub in disaster management in India and reinforced the need for inclusive and sustainable development in the face of increasing disaster risks. This Special Issue showcases the discussions and research shared during the conference, underscoring the importance of integrated approaches to disaster risk reduction. By promoting collaboration between science, policy, and practice, the contributions in this issue offer valuable insights into shaping global DRR strategies that are both resilient and forward-thinking.

The keynote speakers at IDRiM 2023 included thought leaders worldwide, each bringing a unique approach to the integrated disaster risk reduction (DRR) framework. These experts delivered sessions addressing global disaster management trends, innovative research, and practical strategies for enhancing disaster resilience. Their contributions offered participants new insights into overcoming increasing disaster risks, particularly climate change and urbanisation.

The Pre-conference Events on Day 0 (September 27 2023) set the stage for the IDRiM 2023 Conference with engaging sessions to foster collaboration and dialogue among participants. The day began with the High Committee Meeting of the Himalayan University Consortium at the Department of Architecture, alongside the DAAD Special Session for Early Career Scientists Networking Activities held at Sakura Hall (APJ-AKB-104). After a networking lunch, the afternoon featured a Special Event by SAADRI – AALAAP at Everest Hall (APJ-AKB-103), offering a platform for discussing disaster risk reduction. Simultaneously, the DAAD Special Session continued to provide opportunities for early-career scientists to connect. The SAADRI Annual General Assembly, conducted offline at Everest Hall, followed these sessions. The day concluded with a dinner at Nigam, providing participants an informal setting to strengthen connections. For those unable to attend in person, an online session link ensured inclusivity and broader participation.

Day 1 of the event on September 28, 2023, commenced with the registration, followed by an inaugural session at Everest Hall (APJ-AKB-103), where esteemed dignitaries delivered addresses, including Prof. Sumit Sen (Chairperson IDRiM2023), Prof. Mahua Mukherjee

(Secretary-General SAADRI), Prof. Ana Maria Cruz (President of IDRiM Society), Shri Rajendra Ratnoo (Executive Director, NIDM), Dr. Mrutyunjay Mohapatra (Director General, IMD & Vice President WMO), Prof. Durgesh Pant (Director, UCOST, India), Prof. Kamal Kishore Pant (Director, IIT Roorkee), and Prof. Eiichi Nakakita (Director, DPRI, Kyoto University, joining online). A group photo and high tea followed the inaugural. The session continued Prof. Rajib Shaw's keynote lecture from Keio University, Japan. The plenary special sessions featured discussions on "Techno Vision 2047 for DRR" with contributions from Dr Rajendra Kumar Bhandari, Prof. Anil Kumar Gupta, and others, alongside presentations on DST's interventions in water technology and disaster management by Dr Praveen Arora. Post-lunch technical sessions were held in parallel tracks, focusing on topics like climate change adaptation, hazard mapping, spatial vulnerability assessment, and disaster risk reduction, with presentations by various researchers. A tea break was followed by additional technical sessions on advanced methodologies in risk reduction, landslide hazard mapping, and multi-hazard risk assessment, featuring researchers. The day concluded with a special session on "Implementation Gaps in Disaster Risk Management," a hands-on mapping session, and the IDRiM General Assembly, offering a collaborative platform for discussions on advancing disaster resilience.

The second day of IDRiM 2023, September 29, was marked by engaging keynote addresses, technical sessions, and special discussions on disaster risk management (DRM) and resilience. The day commenced with an online keynote by Sanny Ramos Jegillos, who highlighted innovative strategies for inclusive and sustainable disaster risk reduction (DRR). Following this, a special session on the IDRiM Journal was conducted to promote academic collaboration in the field. The parallel technical sessions explored key topics, such as hazard mapping, spatial vulnerability assessment, gender-inclusive disaster risk management, and the management of human-made risks. The session on "Hazard Mapping and Modelling, Spatial Vulnerability Assessment, and Disaster Risk" was chaired by Prof. Zoltan Torok and Prof. Srikrishnan. In contrast, the "Gender Inclusive Disaster Risk Management/Resilience" session, featuring panellists like Prof. Niti Mishra and Prof. Anugya Shukla, delved into the importance of gender-sensitive risk management and the role of women in DRR. Additionally, a special session was held to honour the contributions of Prof. Yoshiyuki Kameda and Prof. Hiroyuki Kameda to the IDRiM Society, led by Prof. Norio Okada.

After a break for lunch, the technical sessions resumed with presentations on various topics, such as advances in landslide hazard mapping, flood resilience in the Himalayan region, and the use of geospatial technologies for disaster response. The afternoon also included a poster session with refreshments and the technical session on "Advanced Techniques - Use of AI & ML in DRR," led by Prof. Rajat Agrawal and Prof. Binaya Kumar Mishra. A special roundtable session moderated by Profs on participatory research in humanities and social sciences. Prof. Yoshiyuki Yama and Prof. Norio Okada focused on the design of communicative spaces for transdisciplinary dialogues in DRM. The day concluded with a Gala Dinner, allowing participants to network and reflect on shared insights.

Day 3 of IDRiM 2023 on September 30 began with two insightful keynote plenary sessions. The first, by Dr Igor Linkov from the US Army Engineer Research and Development Centre, highlighted advancements in disaster risk management and resilience, followed by Dr Giriraj Amarnath of IWMI, Sri Lanka, who discussed the critical role of climate resilience in disaster risk management. The morning also featured Technical Session 9, which focused on bridging science and resilience in disaster management with contributions from researchers. Simultaneously, the UNDP-led Special Session on *Digital Maturity for Disaster Risk Reduction* explored how digital technologies, through initiatives like DX4Resilience, can enhance disaster resilience in vulnerable communities. After a tea break, Technical Sessions 10 and 11 covered economic perspectives on disaster damage assessment and the role of critical infrastructure in disaster risk management. Following lunch, the afternoon featured a Keynote Lecture by Dr. David Green and a Plenary Lecture by Prof. Bijayanand Misra. The day concluded with the Closing Ceremony, including the IDRiM and YSS Award ceremonies, the announcement of IDRiM2024, and closing addresses by Prof. Sumit Sen and Prof. Ana Maria Cruz before a High Tea and Cultural Event brought the event to a close.