

Chapter 45

Expectations and Roles for Academics

Field of expertise: International Strategy for Disaster Mitigation

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Summary

In the Sendai Framework for Disaster Risk Reduction (SFDRR) adopted at the United Nations World Conference on Disaster Risk Reduction in 2015, academic institutions are expected to support the activities of local communities and local government agencies as well as the collaboration between policy and science. In order to support the implementation of SFDRR, the International Research Institute of Disaster Science (IRIDeS) in Tohoku University disseminates Japan's disaster experiences and disaster risk reduction (DRR) activities both domestically and internationally. Furthermore, IRIDeS proposes and implements various activities in collaboration with academic institutions and various agencies and organizations around the world.

Keywords: university collaboration, multi-hazard, Sendai Framework for Disaster Risk Reduction, Association of Pacific Rim Universities

Introduction

The frequency and damage of disasters such as floods and typhoons are increasing worldwide due to the effects of climate change and other factors. What roles and contributions are required for academics in the face of concerns about various disaster risks in the future? What can be produced from collaboration and cooperation with universities and various institutions overseas? It is obvious that expectations for academics are increasing.

1: The Research Institutions Created After the Great East Japan Earthquake and Tsunami

IRIDeS was established under Tohoku University in April 2012, a year after the Great East Japan Earthquake and Tsunami. The disaster is said to have highlighted the weaknesses and limitations of the science and technology system. This event made it clear that DRR research and countermeasures centered mainly on science research, such as engineering and physics, would not be sufficient to cope with the massive and complex disasters that could occur in the future. To overcome such issues, IRIDeS was established as a new interdisciplinary research group organization to clarify the actual situation and lessons learned, make concrete contributions to reconstruction, lead the way in preparing for future disasters, and lay the foundation for practical DRR studies aimed at solving specific problems in society to reduce the damage caused by

disasters in Japan and abroad.

Even before that, research institutions specializing in disasters already existed in Japan. For example, the Earthquake Research Institute in the University of Tokyo was established in 1925 in response to the Great Kanto Earthquake, and the Disaster Prevention Research Institute in Kyoto University was established in 1951 as a specialized institution for systematic research on disaster prevention science, covering not only earthquakes but also meteorological, water, and landslide disasters. Furthermore, after the Great Hanshin-Awaji Earthquake in 1995, the Disaster Reduction and Human Renovation Institution was established as a research institution to pass on the experience of the earthquake, and to contribute to the realization of a safe and secure society in which citizens can work together to reduce disasters.

IRIDeS, which was established after the Great East Japan Earthquake and Tsunami, was given the role of pioneering the integration of natural and social sciences within DRR research. In addition, as an international research institute, it aims to contribute not only to the reconstruction efforts in Japan, but also to the reduction of disaster risk and damage around the world, and to integrate a global perspective that elucidates the mechanisms of disasters on a global scale and prepares for the future, with an international perspective that thoroughly studies the uniqueness, diversity, and values of each country and region.

2: Expectations and Roles of Academic Institutions After the Great East Japan Earthquake and Tsunami

If a catastrophe such as the Great East Japan Earthquake and Tsunami reoccurs, what would be needed to mitigate the damage as much as possible? What kind of contributions can academics make? These are questions that must always be kept in mind as we continue our research and practice. In addition to conventional efforts based on various studies, DRR measures and activities led by individual residents based on human behavior, customs, culture, and other aspects of life are required, and expectations for the role of academics, including research and education, are increasing.

At the 3rd United Nations World Conference on Disaster Risk Reduction held in Sendai, Miyagi Prefecture, in March 2015, the Sendai Framework for Disaster Risk Reduction (SFDRR) (Ministry of Foreign Affairs, n.d.) was adopted as a guideline for DRR activities that should be tackled globally from 2015 to 2030, and the role of academics is described in this framework as follows:

“(b) Academic and scientific research institutions and networks will focus on disaster risk factors and scenarios, including new disaster risks, in the medium and long term, increase research for regional, national, and local applications, support the actions of communities and local administrations, and support the coordination of policy and science for decision-making.”

Here, in addition to increasing research, academic institutions are expected to support the activities of communities and local government agencies, as well as the coordination of policy and science. The role of academic institutions has traditionally been focused on education and research, but the role described in this framework adds “regional (e.g., Asia)” and “practical support.” To fulfill these roles, it is important for academic institutions to collaborate and cooperate with various institutions and organizations that transcend national boundaries, as well as with local organizations and institutions such as local governments.

In 2017, Elsevier, which publishes a number of international journals, published a report entitled A Global Outlook on Disaster Science, which clarified the characteristics of disaster research to date and the areas that need to be strengthened in the future. In particular, research

on disasters in developing countries, where the damage caused by such events is likely to increase, has been sluggish, and the importance of joint research with developing countries in the sense of supporting their disaster research is emphasized. It is said that disaster damage in developing countries is greater than that in developed countries due to living conditions. However, it is not easy to secure a budget to support research in the former, and it is also important for research institutions in the latter to actively contribute to elucidating disaster mechanisms and propose DRR measures in advance through joint research with institutions in developing countries.

3: An Approach Based on International Collaboration

To contribute to the development of international joint research and practical support from an international perspective, it is essential to strengthen collaboration with overseas research institutions. With the aim of building a network with them, IRIDeS launched the Multi-Hazards (MH) Program in April 2013 together with the Association of Pacific Rim Universities (APRU), which is a network of more than 60 universities in the Pacific Rim, and assumed the role of its secretariat. The MH Program is based on collaboration not only with academics but also with non-academic stakeholders such as governments and international organizations. Its core activities are research, education, and participation in and contribution to international policy discussions with APRU member universities. It is mainly engaged in activities such as Summer School (education), participation and planning sessions for the Global Platform for Disaster Risk Reduction and the Asia-Pacific Ministerial Conference on Disaster Risk Reduction, and Campus Safety (strengthening disaster prevention capabilities at universities) (Izumi, 2016).

1. Summer School: To disseminate the experiences and lessons learned from the Great East Japan Earthquake and Tsunami to students, faculty members, and researchers around the world, and to learn about actual reconstruction through visiting the affected areas (Photo 45-1).
2. Participation and contribution to the Global Platform for Disaster Risk Reduction, the Asia-Pacific Ministerial Conference on Disaster Risk Reduction, and the World BOSAI Forum: We have participated in various international conferences and held sessions and exhibitions. At these conferences, we introduce various activities of the IRIDeS and the APRU MH Program, expand the network with more disaster-related organizations, and share new academic perspectives in discussions related to policy recommendations.
3. Campus Safety Program: A number of people, such as students, faculty members, and staff, are studying and working at universities. It is a university's responsibility to ensure their safety. To reduce the damage caused by disasters and implement effective disaster responses, this Program aims to share their DRR measures and disaster response experiences implemented among universities (Photo 45-2).



Photo 45-1. A summer school visit to the disaster area (Former site of Okawa Elementary School, Ishinomaki City, Miyagi Prefecture)



Photo 45-2. Group discussions at a campus safety workshop

4: Achievements and the Future

Currently, we are facing a global challenge of climate change, and especially this year, the world has also been forced to fight against a new virus called COVID-19. In the future, it will be necessary to deepen our understanding of not only natural disasters but also various other disaster risks such as biological, industrial, chemical, and nuclear disasters, and to contribute to reducing these risks. We must further strengthen collaboration not only with overseas research institutions within the same field, but also with researchers and experts with different fields of expertise. In the midst of an increasingly complex global situation, expectations for the role of academics beyond conventional research and education will continue to rise. At that time, what can be produced from overseas collaboration and what effect can it actually have on society? IRIDeS believes that its mission from here on is to focus on training students and young researchers in order to produce world-class research results and develop future leaders in the field of DRR, and in addition, utilize the research results in practice in Japan and overseas, including developing countries that are heavily damaged by disasters.

Conclusion - from the authors

DRR in Japan is considered to be advanced internationally, and is often used as a reference overseas. In addition, a number of international students who study disaster science are eager to learn from Japan's experience. In particular, Asia is the most disaster-prone region in the

world. We hope that new ideas and innovations in DRR will be developed through active and proactive exchanges among students and young researchers in Japan and Asia, through learning about each other's cultures and customs.

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