

Book Review

Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (Special Report),

**Intergovernmental Panel on Climate Change (IPCC). New York, NY:
Cambridge University Press, 2012. 582 pages.**

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This report provides thorough information and suggestions for disaster risk management (DRM), disaster risk reduction (DRR) and climate change adaptation (CCA), to assist policy and decision makers both in facing the challenges relevant to climate change and arousing their concerns about the urgency of CCA. There are several paramount contributions that this report provides for the decision making of DRM and CCA planning.

First, it emphasizes the importance of managing the risks of climate change and addressing many challenges of CCA at the local level (Ch. 5). Since climate change varies from region and country, policy and decision makers in different regions should be concerned about the specific climate change in their own regions to make appropriate DRM and CCA. Disasters are often most severely and firstly experienced at the local level. Taking big countries like Canada, the United States, or Australia for example, it would be difficult for the immediate emergency rescuers from the central government to reach disasters within the Golden 72 Hours. Community-based adaptation including local participation and empowerment becomes one of the key elements of the DRM and CCA.

Second, in order to cope with the challenges of vagaries and unprecedented natural disasters caused by climate change, the focus of traditional concept of hard-structural measures (e.g., levees, dams, drainages, etc.) should be shifted to soft measures (e.g., disaster education, early warning systems, wetland preservation, etc.) based on local social, environmental, ecosystem-based mechanisms (Ch. 6, 8, and 9). Risk sharing and transfer mechanism like insurance must be regulated and implemented level-up to governmental level for disaster recovering more equally and thoroughly.

Third, the equity problems caused by demographic transitions/population relocation with respect to the impacts of climate change including sea level rising or extreme events will keep increasing. The increasing conflict between the trade-offs among countries (e.g., developing and developed countries) becomes a significant uncertainty in the future (Ch. 4). For instance, the

issue of constructing a dam in a cross-countries river will likely raise severe conflicts among the countries along the river. It is noted that humanitarian relief, such as religious groups or NGOs, water and land-use management will play a more important and effective role in addressing these problems.

In addition, the incremental steps to transformational changes in the actions of the DRM and CCA should be conducted by adaptive planning approach (Ch. 8). Owing to the high uncertainties in the nature of climate change, only by learning-by-doing strategy can we promote a long-term sustainability with more iterative, flexible, and multiple approaches to face different challenges in the future.

Finally, risk communication among lay people, decision or policy makers (governments), and experts plays paramount role in the DRM and CCA. Since the risk perspectives, knowledge, and values of people differ significantly from cultural, social, and educational background, especially the difference between local and central governments, how to integrate different levels of communities to cooperatively deal with the impacts of climate change will be the critical component for DRM and CCA.

As abovementioned, instead of focusing on mitigation of climate change, the report emphasizes the importance of the integration of DRM and CCA into planning decision-making processes. Worthy of noting is that the investment in reducing exposure and vulnerability, and enhancing resilience will cost money now but will save money and lives in the future.
