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Responding to Natural Disasters With Disaster Risk Reduction and Management

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Vinrod Thomas, *Climate Change and Natural Disasters: Transforming Economies and Policies for a Sustainable Future*. Routledge, 2017, 184 pages. ISBN: 9781412864404

In the face of a changing climate, many voices need to be heard to move forward sustainably. Vinrod Thomas' *Climate Change and Natural Disasters* provides three main messages to add to the dialogue: 1) human-made factors and human action are not only influencing exposure and vulnerability but the nature of the hazards, 2) there is a pressing need for climate mitigation (i.e., risk reduction) for economic and social benefits, and 3) prevention measures need to be viewed as investments during the essential shift to a low-carbon growth trajectory. The book is divided into seven chapters that introduce us first to the issues related to climate change and second to defining strategies for transforming our world to a more sustainable one.

The first chapter provides an overview of the effects of anthropogenic climate change disasters on human and economic losses and the need to “turn off the tap” (p. 4) by increasing climate change mitigation and adaptation, and disaster risk reduction and management. The second chapter situates the reader by defining climate-related disaster risk, hazard, exposure, and vulnerability. The chapter is then broken down into three sections that: 1) explain the anthropogenic link to climate-related hazards, 2) unpack exposure to climate-related risks, and 3) focus on how differences in physical, behavioral, and economic characteristics can affect vulnerability.

The third chapter opens with a set of statistics and examples of global “harsh blows of natural disasters” (pp. 31–32). Thomas describes the importance of investing in risk reduction, adaptation, and building capacity for relief and recovery in preparing for future natural disasters. He argues the need to focus on climate mitigation as a low-carbon pathway to sustainable futures. Chapter 4 highlights the importance of implementing climate change mitigation measures to save on the cost of future impacts. Thomas highlights three main mitigation foci:

1) reducing greenhouse gas emissions, 2) increasing carbon sinks, and 3) switching to low-carbon energy. He outlines advantages and challenges in implementing mitigation efforts from local to global perspectives.

In the fifth chapter, Thomas justifies the need to make collaborative action a development priority. He uses disasters such as earthquakes and tsunamis to demonstrate how people have previously prepared for and responded to disasters. Statistics of financial allocation of disaster losses provides urgency in prioritizing building disaster resilience. This chapter highlights the significance of social safety nets for the most poor and vulnerable, and good governance (efficient and well-coordinated) throughout the disaster management cycle that prioritizes action. In the sixth chapter, Thomas posits that a potential solution to these challenges is in transforming mindsets, motivations, and politics of both the individual and the state. He outlines barriers to this transformation and reasons why governments may not prioritize the investment of disaster management. Thomas emphasizes the need for countries, particularly those more vulnerable to disasters, to focus on prevention to avoid financial and physical damages from natural disasters.

Thomas highlights in his last chapter that current economic growth projections do not factor in climate change. He concludes by stating climate action must be incorporated into future development and growth strategies as well as international agreements to successfully transition to a sustainable trajectory. By drawing on relevant examples throughout the text, Thomas largely succeeds in solidifying the three key points he set out to provide. The boxes embedded throughout the book, enriched with case studies, offer actionable recommendations (for example, the success of using early warning systems) for all levels of government. His call to action and recommendations for policymakers, industry

leaders, scientific institutions, and disaster relief agencies, as well as his push for well coordinated efforts across all sectors is applaudable. This book may be of use for all levels of governance from the private sector to federal government, as well as economists and advocates alike. Local municipalities may find this book a useful guide in conceptualizing and prioritizing climate action within their communities. Graduate students can benefit from this read as they gain a rounded understanding of the advantages and barriers of disaster risk management.

While topics such as mitigation, adaptation, and disaster risk reduction are well developed with examples in the book, the concept of transformation is not as well developed despite its promotion in the United Nations Intergovernmental Panel on Climate Change Report (2014). A definition for transformation is not offered for the readers, which can lead to significant risks around transformation discourse (Blythe, Silver, Evans, Armitage, Bennett, Moore, Morrison. & Brown, 2018). For example, the emphasis in the book for countries, particularly those more vulnerable to disasters, to focus on prevention to avoid the financial and physical damages of natural disasters, shifts the burden of action to more vulnerable populations (Blythe et al., 2018). Thomas does however caveat that this work is largely a perspective piece, which is noted; and it is likely that the book was developed prior to some of these newer discussions.

Thomas draws attention to the divide in the literature with the climate-disaster link on one side and analysis and policy on the other (i.e., hazards vs. economic-political); however, little emphasis was put on the importance of cultural aspects of climate change (Mortreux & Barnett, 2017). For example, there is no mention of the communities that do not want to adapt or relocate due to cultural reasons (Adger, Barnett, Brown, Marshall, & O'Brien, 2013). In the Recovery and Reconstruction stage of the disaster management cycle heuristic, Thomas states that “creating trust among victims of a shared disaster is relatively easy and can make recovery smoother, more efficient, and sustainable” (p. 83). Although this statement may be true in some cases, it underestimates the cultural and socioeconomic dimensions required to build trust (Phipps, Brien, Echt, Kyei-Mensah, & Weyrauch, 2017).

Rich with statistical examples that speak to the reader and provide relatable context, this book has the ingredients to inspire action. When you can

give the cost of inaction a dollar value, this not only has the power to drive policy change, but action at the local level as there will be more support and engagement from the community. To reduce the impacts of hazards, Thomas argues the disaster management cycle should include all stages from pre-disaster, disaster relief, and reconstruction and recovery. I appreciated his emphasis of each phase of the cycle, as most research mainly focuses on the reconstruction and recovery stage (He, 2019). Thomas's emphasis that disaster risk reduction should be incorporated throughout each stage, including pre-disaster, is a refreshing addition to the dialogue. A discussion around the barriers faced in shifting from the disaster relief to the reconstruction and recovery stage would have been an enriching addition, as many countries face complex challenges that prevent them from transitioning out of the disaster relief stage (Tierney & Oliver-Smith, 2012).

Thomas's book focuses on the natural biophysical hazards side of climate change action, emphasizing disaster risk reduction and management. By using a diverse selection of examples and case studies, he confronts many of the challenges and opportunities for disaster management and provides useful recommendations toward a low-carbon growth economy at the economic, disaster relief, non-governmental organizations, community planning, federal government and world bank scale. His book creates a sense of urgency that may motivate action at each of these scales, as waiting for a consensus on how to move forward as a global community is not an option. Highlighting climate-related disasters that are increasing in frequency globally can be an instrument in mobilization of climate action.

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