



Creating Resilient Futures

Integrating Disaster Risk Reduction, Sustainable Development Goals and Climate Change Adaptation Agendas

Edited by
Stephen Flood · Yairen Jerez Columbié
Martin Le Tissier · Barry O'Dwyer

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“The global agreements of Paris, Sendai, and Agenda 2030 have created an opportunity to build coherence between interrelated policy agendas which have the potential to help identify and reduce systemic risks, promote sustainable development and successfully adapt to the impacts of a changing climate. This excellent text recognises that efforts towards improving development outcomes must work in concert with strategies which promote planetary health and support the transition to a sustainable and climate-resilient future. This book provides insights and clear examples of how best to work towards this goal.”

—Rt Hon Helen Clark, *Patron, The Helen Clark Foundation, Auckland, New Zealand*

“Such is the interconnectedness of ‘Our Common Home’ that we cannot afford the luxury of solving our environmental problems piecemeal. This useful text offers an integrated approach, emphasising the unwelcome synergies that multiply risks and how frameworks to address these have developed. The threat multiplier of climate change is carefully used to examine best practice in a series of excellent case studies exploring the three related responses of disaster risk reduction, sustainable development and climate change adaptation.”

—Emeritus Professor John Sweeney, *Irish Climate Analysis and Research UnitS (ICARUS), Department of Geography, Maynooth University, Ireland*

“The global climate change discourse calls for a strategic and systemic coalesce of three monumental treatises, namely the Paris Agreement, Sendai Framework and the Sustainable Development Goals (SDGs). Given the increasingly complex backdrop of a global pandemic, the impact of climate change is expected to be even more persistent, which calls for a synergy between the cross-cutting agendas of climate change adaptation, disaster risk reduction and sustainable development. The authors have therefore explored the potentials and subsequent challenges of integration of the aforementioned schemas, and conclusively recognised the need for a comprehensive, all-encompassing approach that takes into account dichotomies between diverse socioeconomic contexts.”

—Prof. Dr Saleemul Huq, *Director, International Centre for Climate Change and Development, Bangladesh. Chair, Expert Advisory Group, Climate Vulnerable Forum (CVF)*

“There is a lot of talk about the need to integrate the agendas of the big agreements: Paris, Sendai and the SDGs. Most of this stops short of saying how to actually operationalise integration. The authors of this book however provide concrete examples through case studies from Ireland and around the world to help illustrate what it means to think and act simultaneously on development, disasters and climate. They ask how such integration can help achieve social resilience—because without this integration, not only is the chance of success of each of the individual agendas lower, but the prospect of a just and resilient future for everyone is severely diminished.”

—Dr Lisa Schipper, *Environmental Social Science Research Fellow, Environmental Change Institute, University of Oxford, United Kingdom*

“Actionable insights and case studies come together in this timely and urgently needed collection. The book’s linked-up approach helps connect the dots for researchers, policymakers and practitioners interested in delivering outcomes for disaster risk reduction, climate change and sustainability. There is a small window of opportunity to capitalise on global goodwill, scientific understanding of the problems and policy momentum. The case studies deliver useful, useable information that can be used to inform solutions to pressing challenges in the Anthropocene and showcase the value of science in mediating choices, identifying synergies and trade-offs, and highlighting options for better policies for inclusive social development and resilient livelihoods.”

—Dr Nicholas Cradock-Henry, *Research Priority Area Leader, Social-Ecological Practice, Manaaki Whenua Landcare Research, New Zealand*

“Although discussion on integration across the three global 2015 frameworks is not new, this text offers fresh insight into the challenges and practical solutions to address resilience in a coherent, systematic and non-siloed manner. This book calls for much needed systems thinking and cleverly explores linking the global to the local level. As a practitioner, I welcome the importance of an integrated approach at community level, as distinctions on the ground are typically deemed irrelevant. Bravo – a great read!”

—Margot Curl, *Manager Innovative Engagement and Youth, Red Cross Red Crescent Climate Centre, The Hague, Netherlands*

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The Editorial Team

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Stephen Flood has over twelve years' experience in climate change, environmental policy and social science research. His research interests include climate information platforms, serious games, climate adaptation implementation, resilience and systems thinking, coastal management, vulnerability assessment and hazard management. He has worked as a postdoctoral fellow at the Climate Change Research Institute at Victoria University of Wellington in New Zealand, as an environmental social science researcher at Landcare Research, also in Wellington (2016–2018), and as a senior postdoctoral scientist at the SFI Ireland Centre for Energy, Climate and Marine Research and Innovation (MaREI) at University College Cork. He is currently based at the Irish Climate Analysis and Research UnitS (ICARUS), Department of Geography, Maynooth University, working on a range of projects focused on various aspects of climate change adaptation and resilience.

Kristen Guida has been working for fifteen years coordinating partnerships supporting climate change adaptation, currently as manager of the London Climate Change Partnership and previously as director of Climate South East and Chair of Climate UK. Her major interest is in facilitating the conversation between science and practice, and bringing together people and ideas from across sectors to respond to the social and environmental challenges presented by climate change. In particular, she is interested in the social justice issues raised by climate change and the need to incorporate equity in adaptive planning. In her previous life, she

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Martin Le Tissier is the lead PI for the Identifying Interactions for SDG Implementation in Ireland (SDGs4III) and Achieving Resilience in the Marine and Coastal Environment of Ireland (BCOMER) projects funded by the EPA based at MaREI. Martin's work has a strong focus on education and professional training with institutional development. He has practical experience in developing capacity building and institutional strategic responses to adaptation to climate change, coastal development and management, as well as in developing and implementing participatory approaches to developing coastal resources and livelihoods. Martin is the author of over 50 peer-reviewed journal articles, book chapters, and editor/consultancy reports.

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Barry O’Dwyer has worked in the area of climate change science, policy and practice for over a decade. Barry is leading the development and delivery of the EPA/DCCA-funded Climate Ireland Programme, recognised as Ireland’s key national resource for climate change adaptation information. Barry also leads the Climate Change Impacts and Adaptation Group at MaREI. Barry acts as principal investigator on a wide range of nationally and internationally funded research projects which address the science of climate change and adaptation with a particular focus on developing fit-for-purpose decision-making tools and supports for adaptation planning. Barry has a wide range of experience working with local and sectoral decision-makers in Ireland and has supported the development of Local and Sectoral Guidelines for Planning for Climate Change Adaptation.

Shona K. Paterson focuses on global flood risk and resilience as part of her transdisciplinary research at Brunel but her main driver is the generation of defensible research informed by the needs of society and co-created with the intended beneficiaries. Her work is motivated by international frameworks such as the UN 2030 Agenda and the Sendai Framework for Disaster Risk Reduction. Shona has extensive experience in the Caribbean, the Americas, and the UK where her research has focused on numerous interlinked areas including coastal resource management, climate adaptation and adaptive capacity in urbanising coastal areas, governance and social justice, and the society-policy-practice nexus. She has spent her working career building partnerships and knowledge exchange networks with local communities and stakeholders to achieve mutually beneficial social and ecological goals.

Xavier Rebelo holds an LLM in Marine and Environmental Law from the University of Cape Town's Institute of Marine and Environmental Law. He has a strong affinity for the coast which has informed the topic of his current PhD research, which explores the interplay between public and private rights in the context of a moving high-water mark associated with climate-induced sea level rise. He has been an embedded researcher at the City of Cape Town's Coastal Management Branch for the duration of his PhD studies.

Adam Rogers was born in Arizona and grew up in Canada's Yukon. After exploring much of the world as a journalist, he worked for the United Nations for twenty-two years before taking early retirement in 2018. He continues to serve the organisation as a consultant and advisor, and spends a lot of time writing. His most recent books include *The Intrepid Traveler: The Ultimate Guide to Responsible, Ecological and Personal-Growth Travel and Tourism* (2018), *The No Mammal Manifesto: Diet for a New and More Sustainable World* (2019) and *Taking Action Online for the Environment, Social Justice and Sustainable Development* (2021).

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Swee Kiong Wong is focused on research that employs bottom-up, community-driven development approaches for capacity building and socio-economic empowerment among the vulnerable riverine and coastal communities, as well as the rural communities who are more intensely impacted by climate change. Her extensive research experience has been centred on local indigenous communities, particularly among the Semai tribe in Peninsular Malaysia, and the Iban, Bidayuh and Malay communities in Sarawak, Malaysia, by linking the governance policies and capital assets and resource management. Her work is strongly motivated by her passion ‘not to leave anyone behind’ as promulgated by the UN 2030 Agenda.

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Towards a Resilient Riverine Community: A Case Study in Sadong Jaya, Sarawak, Malaysia

Swee Kiong Wong and Regina Garai Abdullah

Introduction

Climate change has become one of the main discussion topics in sustainable development studies, particularly in relation to its global impacts (Byers et al., 2018; Cramer et al., 2018; IPCC, 2014, 2018). The accelerating pace of climate change has exacerbated the levels of uncertainty in society and economy (Cramer et al., 2018). This uncertainty is increased by changes in ecological and biological systems as well as by local community access to diverse capital assets, which are difficult to capture or quantify accurately. Assets include natural, human, social, financial and physical capital. It is also believed that the most vulnerable groups in society will experience a more severe impact due to climate change (IPCC, 2018). Such impacts arise mainly because of the spatial-temporal conditions affecting socio-economic status and access to various capital assets, which in turn creates a vicious cycle.

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