

## BOOK REVIEW

Review of *Climate change and globalization in the Arctic: an integrated approach to vulnerability assessment*, by E. Carina H. Keskkitalo (2008). Sterling, VA: Earthscan. 254 pp. ISBN 978-1-84407-528-7.

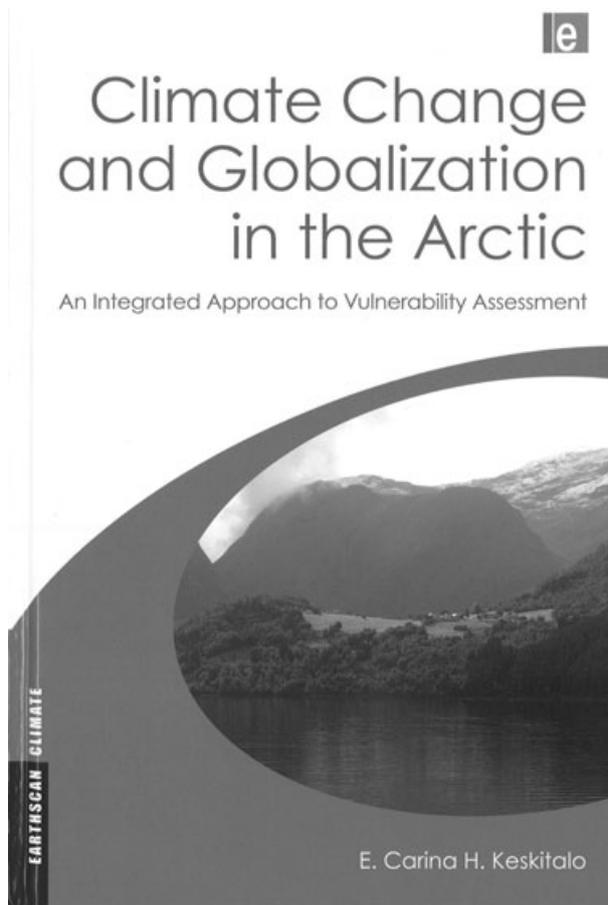
In the past decade, much of the research on global environmental change has adopted a new conceptual and methodological framing: vulnerability. This framing draws on decades of prior research—from multiple disciplinary perspectives and traditions—on how people produce, and respond to, conditions in their biophysical environments. The novelty in this framing is the recognition of the need to integrate existing ideas and methods, so as to paint a more holistic picture of the complex problems under study. Naturally, these conceptual (e.g., Kelly & Adger 2000; McCarthy et al. 2001; Turner et al. 2003) and methodological (e.g., O'Brien & Leichenko 2000; Luers et al. 2003; Schröter et al. 2005; Polsky et al. 2007) developments have outpaced the production of empirical vulnerability assessments that employ/operationalize these framings.

This book by Keskkitalo is therefore a welcome addition to the literature on global environmental change, because the author applies the new conceptual and methodological framings to a specific case. Her study examines the effects of trends in climate and globalization through a bottom-up, community-based examination of three sectors (forestry, reindeer herding and fishing) in three study areas (the northern reaches of Norway, Sweden and Finland). The research is designed along three dimensions: a focus on vulnerability associated with multiple (two) stressors; a concern with how the vulnerability is mediated by political institutions (“multi-level governance”); and an empirical emphasis on individual people’s perceptions of their vulnerabilities (i.e., a “stakeholder-driven” analysis).

In the introduction and chapters 1 and 2, the author contextualizes her work within the historical development of research on human–environment interactions in general, and on the human dimensions of global environmental change in particular. Keskkitalo notes that her primary (albeit not exclusive) interest in this research is in studying social (rather than biophysical) vulnerability, and in analysing adaptive capacity in terms of both individual and collective potentials and actions, covering both short and long time horizons. The author also argues for

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the benefit of operationalizing adaptive capacity in terms of political institutions (both formal and informal) that manifest at multiple scales, the concept of “multi-level governance”. Keskkitalo’s analytical approach is to conduct semi-structured interviews and focus groups with individuals who work in these sectors, and to draw from relevant archival accounts.

The next three chapters are devoted to examining sector-specific vulnerabilities. Chapter 3 examines forest industry stakeholders in northern Sweden and northern Finland. Chapter 4 assesses the perceptions of change, vulnerability and adaptive capacity among reindeer herding stakeholders in northern Norway, Sweden and Finland. Chapter 5 discusses the vulnerability and adaptive capacity among small-scale fishing stakeholders in Finnmark County, Norway. In these chapters, the reader learns that, for example, globalization has in all cases produced an economic environment that demands



continued increases in production and decreases in costs. Also common to the three sectors examined is the question of the uncertainty posed by climate change: depending on the particular manifestation of climate change in local places, the impact could be positive or negative. For example, a warmer world might mean greater forest production, but only if the harvesters can successfully capitalize on the shorter winter, which means knowing precisely the new end-date of winter.

The reader also learns of differences among the three sectors examined. Even though all three sectors are characterized by regulatory and governance influences from multiple scales (local, regional, national and international), the Norwegian fisheries case study appears to manifest the most asymmetrical set of regulatory influences. This industry is dominated by a host of national and international regimes that complicate the business of fishing, and, by extension, the process of adaptation by local small-scale fishermen. (In theory, these same institutions could facilitate the process of local adaptation, provided the institutions focus their energies on that process.) By contrast, the forestry and reindeer herding sectors appear to be regulated by a smaller number of institutions, relatively evenly distributed across scales.

This book is clearly the product of a thorough and systematic research project. The chapters are organized in a coherent and logical manner. As a result, the reader can readily assimilate the information presented. Despite the author's success in realizing her ambitious scope, there are some shortcomings. For example, the report might have benefited from linking the discussion about present and future adaptive capacities to a more thorough historical account of local adaptive capacities—even if the historical stressors did not include climate change or globalization. Such retrospective analysis might uncover anecdotes of adaptation that would validate, in a sense, the hypothesized future adaptive capacities. Similarly, even though it is difficult to validate people's perceptions, the book would have benefited from some discussion of the topics from other people's perspectives. The introduction reports that some archival sources are used to validate the "perception" data from the interviews and

focus groups, but there remains room for a more thorough discussion of the topics discussed by the local stakeholders (e.g., what are the perceptions on these topics of national decision-makers or analysts?).

That said, Keskitalo's book already contains an enormous amount of information; these shortcomings could be addressed in a future publication. Thus, in sum, this book is a valuable contribution to the literature on the human dimensions of global environmental change. Scholars, graduate students and practitioners will benefit from reading and referencing it.

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