

Science

Indigenous Australians were the ultimate adaptive environmental managers. They understood natural systems and anticipated cycles of drought and flood, and designed the landscape to ensure plentiful supplies of food during both scenarios. Where the early European settlers saw lush plains for sheep grazing, the Aborigines saw plains supporting tall grasses for the native animals they hunted. The firestick farming methods they employed moulded the landscape into a sustainable food bowl, which was subsequently destroyed by early farmers who had no understanding of, nor interest in, the ecology of the Australian landscape and how to maintain it. Related issues could include the importance of remnant vegetation for ecosystem health, the dangers of fracking, and how Australian native plants have adapted to fire.

Art

The book has reproductions of many colour paintings from earlier times, clearly showing the Australian landscape the early settlers encountered. These could be compared to photographs of the landscape today in the same locations.

Values

Indigenous Australians lived simply and sustainably in Australia for thousands of years. They did this through looking after their 'country', which was central to their spiritual identity, cultural life, and value system. A comparison between our consumerist culture and their way of life provides an opportunity for students to explore the concept of sustainability from an ethical and moral point of view, and also to consider how worldviews differ across time and cultures.

The book is a hefty tome at 434 pages, but the colour plates and maps and glossy pages make it a pleasure to read, especially if you like to settle down with a good printed book rather than read one on your Kindle.

Reviewer Biography

Sandra Nichols is a sustainability education consultant who currently runs professional development workshops for teachers in integrating sustainability into Australian Curriculum subject disciplines under her business name, Education for Sustainability (www.educationforsustainability.com.au). She has previously worked at Macquarie University in higher education skills and sustainability education research, and in state and local government in environmental project management, and was a secondary social science teacher for 20 years prior to that.

Community-Based Adaptation to Climate Change: Scaling It Up

E. Lisa F. Schipper, Jessica Ayers, Hannah Reid, Saleemul Huq, and Atiq Rahman
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Reviewed by Debbie Prescott, Angela Colliver, Sandra Nichols & Marna Hauk,
Prescott College and the Institute for Earth Regenerative Studies

During a time when regional response is often proving more effective than top-down national mandates (Biello, 2014), and when the effects of the Anthropocene are ever present, *Community Based Adaptation to Climate Change: Scaling It Up* is a timely addition to the literature in the field. The book offers core terms and approaches for community-based climate change adaptation and scaling solutions beyond their community-specific origins. The result of the Fifth International Conference on Community-Based Adaptation (CBA), the book distills the contributions of 80 authors into 270 pages. The volume is structured in three parts: key concepts, enabling tactics, and approach exemplars.

The volume is inspired by the desire to establish baselines and best practices, and infuse analytic rigour while taking the community as the starting point for action (a bottom-up approach) to reach the most vulnerable, while also keeping an eye on working with natural systems. The central inquiry is: What is community-based climate change adaptation and how can it scale? The authors are forthright about the state of their field and offer questions as much as answers to approach. They question how the needs of the most vulnerable can be met rather than reinforce power regimes.

The volume will be of interest to environmental educators, practitioners, and researchers involved in community-based adaptation to climate change. It could be a useful textbook in climate change education courses; social science graduate courses in governance, development, and sustainability; and environmental education research courses generally. The approaches and examples of scaling solutions can enrich those in policy and strategy. The volume will also be of interest beyond those who are climate change educators or researchers because of its innovative methods. The volume innovates the use of writing teams, and its approaches can be cross-applied to scaling up other kinds of environmental education. It offers depth of insight on community-based approaches, and it favours integration and collaboration across disciplinary and experiential silos.

The three sections of the book are organised to provide conceptual as well as strategic and approach insights on CBA. Section 1 focuses on establishing concepts and describing the terrain of community-based adaptation. The introductory chapter frames 'scaling it up' around five different kinds of scaling, including *outscaling* to expand current local solutions to reach more; *linking upwards* to governmental structures; *effective integration* beyond environmental practitioners to break disciplinary and sector boundaries — which might be understood as scaling across; *strategic approaches* to address greatest adaptation given physical, time, and financial constraints; and reducing scaling needs through preemptory *mitigation* (authored by Reid and Schipper). Chapter 2, on adaptive capacity, leverages three dimensions of adaptive capacity, including power sharing, experimentation, and knowledge, with examples from two rural livelihood project sites in India, a project in household asset building and rural empowerment in Ethiopia, and a practical action project in Peru (authored by Berger, Ensor, Wilson, Phukan, and Dasgupta). Chapter 3 discusses adapting development interventions to support community level adaptive capacity — and synthesises findings from eight study sites over 3 years to model fundamental refocusing and changes needed to the nature of

development interventions to reduce poverty while increasing adaptive capacity (authored by Ludi, Wiggins, Jones, Lofthouse, and Levine).

The second section of the book features strategies for scaling CBA via finance, frameworks, and tools. In addition to exploring financing and the economics of CBA, the book explores how ecosystem-based adaptation can help scale up via environmental risk assessment. Rossing, Otzelberger, and Girot in Chapter 7 provide valuable insight on the issues and challenges of scaling up the use of tools, including extending a model based on Brooks et al. (2011) regarding horizontal capacity exchanges overlaid and scaled with nested and bidirectional vertical adaptation strategies. Other useful chapters explore experiential learning and agricultural climate forecasting to round out tools and strategies for scaling up community-based adaptations to climate change.

The volume is alive with actual examples of programs in practice, and does an admirable job of leveraging multiple case studies to highlight key approaches. These dimensions of climate change adaptation also offer insights into scaling community-based solutions in other problem areas. The researcher-practitioners in the book's final section elucidate how health protection, disaster risk reduction, disaster response, agriculture, gender, urban, and ecosystems approaches all provide opportunities for scaling in action. The chapter on gender in scaling up models discusses how gender considerations can be incorporated in each of seven stages of the community climate adaptation project planning cycle to ensure that 'women ... be recognized as pivotal agents in climate and development processes in order for climate change adaptation efforts to be both effective and equitable' (authored by Wright and Chandani, p. 237). The chapter on community participation in urban adaptation will be of particular interest to those in urban planning and policy as well as urban environmental education (authored by Soltesova, Brown, Dayal, and Dodman).

In summary, the editors of *Community-Based Adaptation to Climate Change: Scaling it Up* have done an effective job in compiling a highly useful volume that innovates as it educates. International in scope, collaboratively written, and deeply substantiated, this book leverages work in the field, extracting solution pathways and approaches to bridge silos and disciplines to support community-based climate change solutions. In a time when local efforts proliferate and international agreements stall, made even more urgent by the ethical mandate to take timely action (Gardiner, 2006), multiple methods for scaling up and scaling across hold promise to support environmental educators and researchers to cultivate generations of visionary practitioners and make a difference of planetary dimensions.

References

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- Gardiner, S. (2006). A perfect moral storm: Climate change, intergenerational ethics and the problem of moral corruption. *Environmental Values*, 15, 397–413.

Reviewer Biography

Marna Hauk, Ph.D., mentors and teaches graduate sustainability education students at Prescott College and at the Institute for Earth Regenerative Studies (www.earthregenerative.org). She is a current Community Climate Change Fellow of the NAAEE, EE Capacity, and the EPA. Dr. Hauk actively researches, with over 70 peer-reviewed publications and presentations. Her teaching style is experientially immersive, creatively integrative, intellectually challenging, research-intensive, and skills-building. Dr. Hauk's areas of research include education for climate change and climate justice, sustainability education, complex adaptive systems, regenerative biomimicry, collaborative creativity, ecopreneurship, wisdom school design, and research method innovation.