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BOOK REVIEW

Large-Scale Forest Restoration

David Lamb (2015) Routledge, London, 302 pages, \$145.00 (hardback), ISBN 978-0-415-66318-2.

Over the past few years, there have been numerous global, regional, and national targets set for large-scale forest restoration to conserve biodiversity, provide a range of ecosystem services, and ensure the well-being of human communities. Most notable of these are the Bonn Challenge and the more recent New York Declaration on Forests, which aim to restore 150 million hectares of forest worldwide by 2020 and 350 million hectares by 2030. David Lamb's recent book *Large-Scale Forest Restoration* provides a timely overview of the complex issues that must be addressed to achieve these ambitious goals.

Lamb draws on a range of examples from his three decades of experience teaching forest ecology and advising on numerous forest restoration projects worldwide for international organizations, including the World Bank, the Food and Agriculture Organization, and the International Union for the Conservation of Nature. He recognizes the complexity of the topic and its many interwoven strands, offering glimpses into an array of contentious debates without taking a strong stance, thus inviting readers to draw their own conclusions. This book fills a niche as the first to synthesize the vast arena of work on large-scale forest restoration, and most importantly, to integrate the ecological, social, and economic factors. Unlike Lamb's prior book, *Regreening the Bare Hills* (2011), which focuses on restoration in the Asia-Pacific region, *Large-Scale Forest Restoration* spans a

range of countries, forest types, and sociopolitical systems.

The beginning of the book provides a context for large-scale forest restoration by discussing factors leading to degradation, and the extent to which reforestation can serve both human and ecological goals. The second chapter provides a succinct historical perspective on the evolution of the timber industry over the past century. The next two chapters describe landscape-level ecological constraints and silvicultural management practices associated with natural and planted forest regrowth. The subsequent chapters address questions of where and how much restoration is needed as a function of different land uses and ecosystem services (e.g. hydrologic processes, carbon sequestration, and biodiversity conservation). Chapter 7 discusses the choices and trade-offs facing landholders as they attempt to reconcile production and conservation objectives to achieve multifunctionality. The penultimate chapter investigates market-based, regulatory, and institutional policies needed to carry out and sustain future large-scale restoration efforts. The book closes by putting forth questions on governance, scale, and climate change certain to elicit further consideration by the reader. Lamb uses a combination of photographs, tables, and diverse case studies in each chapter to highlight main points, and includes an extensive bibliography.

Although the intended audience for the book is not explicitly stated, this book is a broad entrée to the extensive literature on the many facets of forest restoration and will be useful to forestry students and others in related fields. Moreover, we think that the book could be particularly relevant to restoration practitioners who implement projects on the ground and are seeking to integrate their work

into a larger global restoration context. Unfortunately, the price of the book may make it prohibitive for those who could most benefit. A paperback version and translation into other languages would make it more accessible to a broader audience.

As an interdisciplinary team of primarily graduate students with expertise in both natural and social sciences, and experience in tropical and temperate forest restoration, we brought diverse perspectives to this review. We found the treatment of certain topics to be uneven, which is not surprising for a single author writing on such a complex subject. The book emphasizes plantation silviculture, while overlooking agroforestry and underemphasizing technical assistance and rural extension as public policy options. Discussion of international forest policies and regulations, institutional arrangements, and livelihood issues was patchy.

Despite the focus on large-scale reforestation (>10,000 ha) and on the challenge of "scaling-up," the book lacked an analytical framework for integrating diverse types of land managers—both small and large—in reforestation projects. More sustained attention to the challenge of how to coordinate different actors, including cooperative or community-based approaches, would have been welcome. Although the book offers valuable case studies and models regarding various silvicultural techniques and ecological approaches, it falls short of representing the variety of constraints within which land managers make decisions on the ground.

Perhaps due to the large breadth of topics, the book's organization often felt erratic and transitions were not always intuitive. Chapter titles and section headings were sometimes misleading relative to the content. For example, Chapter 6 ("How much forest restoration is

needed?") could have been better titled "The relationship between forested areas and generated benefits." In early chapters, case studies were presented as a series of stand-alone stories and included repetitive summaries, whereas they were better integrated in later chapters.

Lamb undertook an ambitious task and putting our specific criticisms aside, this book represents an important step forward in thinking about large-scale forest restoration. It

is neither a definitive manual on implementation nor a comprehensive analysis of socioeconomic issues. Instead, it strikes a middle ground that may serve as a useful overview and starting point for forestry and restoration students and practitioners.

LITERATURE CITED

Lamb D (2011) Regreening the bare hills: tropical forest restoration in the Asian Pacific region. Springer, Dordrecht

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