

## Book review

### Forestry and Environmental Change: Socioeconomic and Political Dimensions

J.L. Innes, G.M. Hickey and H.F. Hoen (eds)

Report No. 5 of the IUFRO Task Force on Environmental Change

CABI Publishing in association with The International Union of Forestry Research Organizations (IUFRO),  
1995, vii + 265 pages ISBN 085 1 990029 £49.95

This book aims to present theories and models that can assist in understanding the socioeconomic changes in the forest sector that both influence and are influenced by environmental change in the world's forests. A wide range of authors present papers discussing various tools and approaches for forest management, and analysing socioeconomic change in some forestry regions. The contributors focus in particular on the use of economic tools such as discount rates, zoning approaches to managing forest land, and spatial-modelling-based decision-making systems that can be used by forest managers.

The book provides a useful overview of current thinking in terms of tools used to help plan and decide on forest management, particularly in North America and Europe. Disappointingly, however, the 'socio' part of the 'socioeconomic' in the book's title is barely addressed. There is a strong focus on neoclassical economic theory, planning approaches and tools rather than on presenting other research to help explain how and why the socioeconomic dimensions interact with environmental dimensions of the world's forests.

Chapter 1 sets the scene by reviewing the changing physical, economic, social, policy and cultural environments faced by those practising forestry worldwide in recent decades. In Chapter 2, Dudley provides a useful review of the many different attempts currently underway to categorise forest quality, and the availability of data for different measures, but stops short of suggesting a way forward for measuring forest quality.

Chapters 3, 4 and 5 focus on economic theory. In Chapter 3, Farmer and Randall engage in some reasonably technical discussions of the theories underlying benefit–cost analysis. They discuss the use of discounting of future returns when estimating benefits from forestry, which can usefully inform the economic analysis of returns from forestry versus shorter-term land uses. In Chapter 4, Price also discusses discounting, raising a number of problems for practitioners to consider including issues surrounding social preferences for consuming sooner rather than later; risk and physical change in a resource over time. In Chapter 5, Hofstad presents economic theories that aim to explain why deforestation occurs. Game theory is then invoked to attempt to further explain deforestation cycles.

The book then shifts to discussing various policy and legislative approaches to forest management. Nitschke and Innes review the use of zoning as a forest management tool in different countries in Chapter 6, and promote the TRIAD approach in which zoning

is based on having ecological reserve zones, intensive production zones, and multiple/extensive use zones. In Chapter 7, Csoka reviews changes in forest management, law and policies, forest cover, and forest sector employment in countries in transition in Europe. While providing a broad overview, the short space and broad topic makes this a fairly general account.

Certification is covered in Chapter 8, with a brief history and description of the two major global forest certification schemes (Forest Stewardship Council, FSC, and Programme for the Endorsement of Forest Certification, PEFC), as well as of ISO 14001 certification. Various individual schemes are also described. The chapter provides a useful introduction to the promise, problems and challenges of certification.

Chapter 9 examines the impacts of declaration of large-scale nature reserves on the global forest products market. Perez-Garcia reviews historical demand and supply and estimates future changes in wood consumption, concluding that the establishment of nature reserves does not necessarily result in increased cost of supply for the forest products sector. In Chapter 10, Sedjo also examines the establishment of large-scale nature reserves, focusing on case studies in the USA and Finland. His analysis concentrates on the economic impact of reserves, arguing that actual economic effect is less than expected because of the availability of alternative timber supplies.

In Chapter 11, Asan describes the 'forest function' criteria used as a basis for sustainable forest management (SFM) in Turkey. This is a multiple-use approach to forest management that uses spatial mapping to overlay forest functions and then determine management strategies. Chapter 12 similarly uses a country case study — Malaysia — to demonstrate a GIS-based approach to forest conservation planning. In this approach, criteria and indicators for sustainable forest management are used as the basis of a multiple-criteria decision-making model that uses spatial mapping to identify and prioritise areas to be managed for different purposes.

Chapter 13 considers the social dimensions of forest change. Romm emphasises that the nature and conceptualisation of forests is defined as much by social as other forces, with shifting values and globalisation affecting who has the power to influence forest management. The implications of this shift, however, are not drawn out in terms of how the forester can adapt to and meet the challenges of this new 'no boundaries' system of people and groups with influence and interest in forestry.

Finally, in Chapter 14 the well-known limitations of linear-programming-based decision-making software are highlighted, and new approaches including fuzzy modelling, heuristic algorithms and spatial techniques are reviewed. The problems of hard systems approaches and the shift to participatory forest management are described, and the chapter explores how multi-criteria decision-making approaches can be adapted to assist in participatory forest management.

Overall, the book provides an interesting snapshot of various approaches to forest planning and modelling of economic change in the forest sector, while not providing more diverse perspectives to challenge the neoclassical economic and technocratic views that underpin many of the contributions. If we are to truly understand socioeconomic change in the world's forests, more attention should be given to the broad range of social science research being undertaken globally, which has a lot to say on why and how the world's forests — and forest managers — are changing so rapidly.

**J. Schirmer**

*The Australian National University*

Email: jacki.schirmer@anu.edu.au

