

Book Reviews

FAIRHEAD, J. & LEACH, M. 1998. *reframing deforestation. global analyses and local realities: studies in West Africa*. Routledge, London. pp. xxv+238. ISBN 0-415-18591-2. Paperback £17.99.

In this scholarly work, 'reframing deforestation' means assessing the evidence and correcting common misconceptions about the nature and rate of deforestation in West Africa. The main theme of the book is that the widely reported estimates of the rate of forest loss are exaggerated by a factor of 2–3, caused by a host of errors (problems of definition, limitations of data, ignorance of history, false assumptions, unsafe extrapolation of short term rates of change and reiteration of secondary referencing). Most tropical ecologists are probably already suspicious of the established estimates for deforestation, if only because their derivation is often obscure. What is new and valuable in this book is an inter-disciplinary approach, covering six West African countries, with a critical assessment of this evidence for changes in forest fortunes, supported by about 600 references (mostly in English and French) covering both historical and biological sources.

The book has nine chapters after the introduction, the first assessing the nature and value of the statistics of deforestation, followed by six country chapters (Sierra Leone to Benin). The last two chapters address general themes: how deforestation statistics are influenced by and influence politics, and an attempt to assess the implications for forest policy.

Scientists may find the book somewhat wordy, and the historical evidence somewhat tenuous, but it has an honest approach which conceals none of the difficulties of interpretation and is constructed in a form familiar to science: hypotheses proposed and evidence critically evaluated.

For me, the most interesting parts of the work are not those which demonstrate the failings of deforestation estimates, but the presentation of the historical evidence, from which a fairly convincing picture is developed to show that forest cover has fluctuated over historical times, partly perhaps due to climatic variation, but mostly due to changing human influences. Thus depopulation due to war, slave-trading and disease allowed forest to redevelop on land formerly heavily utilized. There is good, if scattered evidence to show that people living in the forest-savanna transition zone actively created forest patches around settlements or that abandoned settlement sites enhanced forest development in a savanna environment. These aggrading processes are to be set against the degradation of forest cover which currently dominates environmental politics and is usually charged against local land use practices. The authors do not deny that much forest loss has occurred in the present century, but successfully argue that it is not solely a recent phenomenon.

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DALLMEIER, F. & COMISKEY, J.A. (eds) 1998. *Forest biodiversity research, monitoring and modeling. Conceptual background and old world case studies*. Man and the Biosphere Series Volume 20. UNESCO and The Parthenon Publishing Group, Carnforth, Lancs, UK. xxiii + 671 pages. ISBN 1-85070-963-7. Price £58 (hardback).

The need for biodiversity monitoring is increasing in response to changes in forests due to fragmentation, loss of large frugivores and herbivores, global climate change, invasions by exotics, and increased frequency of fires, droughts and El Niño events. The stated aim of this volume is to present recent advances from studies of biodiversity, using permanent plots, in Old World forests.

The first two chapters provide the theoretical background to plot-based monitoring of biodiversity, including an appeal for standardised monitoring protocols (Dallmeier and Comiskey) and an excellent review of niche-assembly and dispersal-assembly as mechanisms for maintaining species diversity (Hubbell). The following seventeen chapters provide a range of examples of

plot-based studies. There are strong chapters (notably those by Margules *et al.*, Phillips, Condit *et al.* and Stern) which provide state-of-the-art reviews of biodiversity monitoring. A further eighteen chapters cover monitoring programmes and networks in the Old World. The most rewarding chapters in this section (by Shiel, Brown, Pascal *et al.*, I-Fang *et al.*, Pipoly and Madulid, and Burslem *et al.*) are those which address theoretical or methodological problems in biodiversity monitoring and provide specific recommendations. The book concludes with a nicely-worked synthesis of the preceding chapters (Dallmeier and Comiskey).

One persistent theme emerging from the book is that monitoring forest biodiversity often involves compromises between sampling for spatial or for temporal variability. Margules *et al.* show dramatically that the use of different spatial or temporal scales can result in very different interpretations of forest biodiversity. Temporal and spatial resolution and replication in monitoring is a particular challenge to researchers in tropical forests due to their heterogeneity and, for many plant species, low population densities.

This book is a comprehensive compilation of many ongoing studies of biodiversity (particularly of plant species) in forests. There is an inevitable unevenness in quality in the book as a whole, and some overlap between certain chapters. The inclusion of some chapters which are marginal to the main theme of the volume is regrettable, but does not detract from the utility of this book.

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GUPTA, A. 1998. *Ecology and development in the third world*. 2nd ed. Routledge, London, UK. xii + 125 pages. ISBN 0-415-15192-9. Price £ 8.99 (paper).

This little book is the second edition of a volume in the Routledge 'Introductions to Development' Series. It is aimed at an introductory university student or advanced school student market. Ecology and Development in the Third World has nine chapters, looking in turn at tropical moist forest conversion, land development, the development of water resources, the impacts of development on air quality, urban environments (climate, hydrology, pollution), the global environment (ozone and global warming) and environmental management. There are short introductory and concluding chapters. Spread through these chapters there are 13 boxed case studies, some of several pages. These include the perhaps-predictable account of the Aswan Dam, but also the Bhopal disaster, soil erosion in Jamaica and the threat of sea level rise to the Maldives. There are a good number of line drawings, maps and photographs. Where appropriate (e.g. on the Rio Conference), the text has been updated since the First Edition.

This is a simple account of a set of very complex issues. The book's central message is that with care, environmental constraints on economic growth in the Third World can be overcome without excessive adverse environmental impacts. There is no discussion of what development is (and why conventionally measured economic growth might be a poor way to understand it), of the possibility of environmental limits to growth, or the problem of inequality in access to environmental goods or exposure to environmental hazards (nationally or internationally). Without discussion of these issues this book is a poor guide to development for an ecologist. However, it would provide a neat introduction to environmental issues for social science students.

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