

Publications

Realising REDD+: National strategy and policy options edited by A. Angelsen with M. Brockhaus, M. Kanninen, E. Sills, W.D. Sunderlin & S. Wertz-Kanounnikoff (2009), xxiv + 362 pp., CIFOR, Bogor, Indonesia. ISBN 9786028693035 (pbk), also available from http://www.cifor.cgiar.org/publications/pdf_files/Books/BAngelsen0902.pdf

REDD+ is widely perceived as the next best thing in forest conservation. Linking the finances from carbon trading with sustainable forest management and with a recognition of biodiversity and livelihoods provides a seemingly perfect scenario. REDD+ has emerged as global initiative but a global system for implementation has not yet been fully finalized. Discussions are taking place through the United Nations Framework Convention on Climate Change (UNFCCC) and are likely to continue for the next few years. This book provides a valuable reference on the realities of REDD+, outlining what it currently is and what it could become.

In this book REDD+ is used as an umbrella term for local, national and global actions that reduce emissions from deforestation and forest degradation and enhance carbon stocks in developing countries. The plus symbol signifies an enhancement of carbon stock through positive measures of forest regeneration and rehabilitation, negative degradation, negative emissions, carbon uptake and carbon removals. The purpose of the book is to inform the development of national strategies, policies and demonstration activities for implementation of REDD+ as well as providing a reality check for those designing the global REDD+ architecture. Given the potential importance of the initiative, all involved in biodiversity conservation and its funding are likely to find this publication of interest. There is a lot to digest in the multi-authored chapters and as an analytical overview and source book it serves its purposes very well. The national case studies provide a reality check against the background analyses of causes of deforestation and discussions of policies and institutions.

At present, mechanisms for incorporation of REDD+ into a post-2012 climate regime consist of three mechanisms at national level. In the first preparatory or readiness phase, countries prepare a national strategy based on consultation with interested parties, start building capacity in monitoring, reporting and verification (MRV) of changes in forest carbon stocks

and begin demonstration activities. Building capacity in MRV is considered in itself to be very challenging for the majority of tropical forest countries that stand to benefit from REDD+. Building capacity and fostering dialogue are currently the main components of the official UNFCCC process.

At the same time actual REDD+ projects are planned in a number of countries. As noted in this publication CIFOR has identified about 60 potential first generation REDD+ projects. Looking at the three countries with the largest existing forest carbon stock, Indonesia has 35 projects planned with one already operating, Brazil has 20, with two projects operational, and the Democratic Republic of Congo has four planned. DRC's projects include support for community managed reserves in the eastern part of the country. In Indonesia pilot projects have been developed, for example in protected areas in Central and East Kalimantan, with the involvement of the central and provincial governments. Challenges in the Indonesian projects include the need to build capacity, and deal with rights and responsibilities of local communities, land tenure insecurity faced by smallholders and forest rent enjoyed by large landholders.

So will REDD+ work when previous attempts to tackle deforestation have fundamentally failed? Sunderlin & Atmadja in chapter 4 suggest that the substantial levels of new funding, up to USD 10 billion annually in initial phases, gives 'forests a chance to survive against the profits of further conversion (opportunity costs) that have been the bane of forest protection worldwide'. They suggest that three elements for success are necessary: learn from past failures in forest conversion and management, consider political will and, because of the possible paralysis of political will, mobilize popular support with new alliances across all sectors calling for an end to deforestation. A revival of 1980s rainforest campaigning? The difference this time seems to be that the different bodies are working together—tropical forest governments, bilateral aid agencies, NGOs and investment banks working to a common agenda rather than in outright opposition! The FFI-Macquarie taskforce is noted as a partnership between an international environmental NGO and a financial institution.

And there is now money on the table. At the Oslo Climate and Forest Conference on 27 May 2010, for example, Germany, France, Norway, the USA, Britain, Australia

and Japan pledged USD 4 billion to finance REDD+ through 2012, and Denmark and Sweden pledged a further USD 73 million more to the effort. A new monitoring agency will be established in Cancun to monitor implementation.

As noted in the book, for many involved in forest conservation REDD+ is not a new concept, but rather a new funding source to finance pre-existing goals. So the challenges are still immense, but overall the tone of the book is cautiously optimistic and given the scale of the world's environmental problems perhaps that is all we can hope for.

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Nature's Matrix: Linking Agriculture, Conservation and Food Sovereignty

by Ivette Perfecto, John Vandermeer and Angus Wright (2009), x + 242 pp., Earthscan, London, UK. ISBN 9781844077816 (hbk), GBP 85.00; ISBN 9781844077823 (pbk), GBP 24.95.

The readers of this journal will already be well aware of the parlous state of biodiversity. *Nature's Matrix* makes a very reasonable argument that the biodiversity crisis cannot be separated from the production of food and the political unrest that characterizes much of the tropical world that is richest in biodiversity. It highlights the ignorance of fundamental ecosystem processes and the role that humans play in determining their productivity, and argues that accepting the current dominant political ideologies as universal and sacrosanct is highly arrogant and hardly supported by the evidence. The authors' solution: recognize the small farmers as the most powerful allies in the effort to conserve biodiversity. They draw on evidence, mostly from Latin America, in support of this argument, drawing on the familiar examples of shade coffee in Central America, cacao in Brazil, and rice cultivation in parts of Asia to make the point that it is far better to manage agro-ecosystems to prevent problems from arising than depend on agronomists to solve problems after they have appeared. 'Agronomists seek to solve problems, agro-ecologists seek to prevent them,' a point the authors—agro-ecologists all—seek to demonstrate with this book.

While much of the book seems to bring back the now-discredited so-called noble savage approach, it makes the reasonable case that a social movement for food sovereignty will be based on production systems that will conserve biodiversity and build on the functioning of the local ecosystems. Fair enough, but what about the many parts of the tropics where the land is being abused. Haiti is only the most dramatic example but many others could be quoted. The book applauds the 'fundamental right of farmers to land, water, seeds and other means of production,' yet says little about the many conflicts over these key inputs, especially as populations increase and large corporate farmers become more attractive to those providing food to the growing urban consumers. While it is reasonable to support social movements for food sovereignty, ignoring the impacts of the wealthy is likely to make such support more difficult rather than easier.

A more important concern for the readers of this journal is that the authors repeatedly cite extinction as a normal process, and consider the charismatic mega-fauna as doomed to probable extinction, despite all the efforts seeking to avoid such a fate. They want us to be more concerned about bacteria and other soil microorganisms (which undoubtedly do deserve more attention), while downplaying the mammals that 'happen to look more or less like us.' Bats, mole rats, sperm whales, and indeed most other mammals hardly fit this description, but this is a minor issue compared to some of the fundamental ecological arguments the book makes. For example, to argue that 'species diversity tends to decrease as the intensity of management of the ecosystem increases' only holds for agricultural lands; many protected areas being managed to maintain high biodiversity require intensive effort to achieve their goal. Perhaps recognizing those seeking to conserve biodiversity as 'resource managers' rather than 'conservation practitioners' would give the authors a broader perspective. Their repeated argument that stopping extinctions is bad conservation policy will not convince many of us, especially when so many extinctions are the result of human actions that could be avoided. The current rate of extinction is widely agreed to be about 100 to 1,000 times the normal background rate, but this fairly fundamental figure is not cited or refuted in this book, which instead argues that agro-ecosystems are 'critical repositories of biodiversity.' While this may well hold for many species, it can hardly be accepted as a generality for biodiversity (which is never actually defined in the book). Certainly

well-managed and diverse agricultural landscapes can support numerous species, and do so in many parts of the tropics. Thus the argument of maintaining diversity in the agricultural landscape is well taken and deserving of support. But this is only part of the story, as over half of the planet's land is not used for agriculture and needs to be managed better to conserve biodiversity. Further, the Millennium Ecosystem Assessment identified invasive (non-native) species as one of the five major drivers of ecosystem degradation, yet this book seems to welcome these additions to ecosystems (considering them as part of 'migration rates') as a way of replacing the species that have unfortunately been driven to extinction.

Bottom line: the book argues that 'a serious conservation programme should focus on the type of agriculture practiced within the matrix, rather than on what happens solely in the fragments of natural habitat.' But this either-or argument makes the choice too stark. Rather, we need to manage the matrix as a whole, giving appropriate attention to all parts of the landscape and working closely with the people living on the land, with some of us devoting particular attention to those areas richest in biodiversity while others seek to manage their agricultural lands to contribute to the overall social goal of maintaining the living wealth of our planet.

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Island Bats: Evolution, Ecology, & Conservation edited by Theodore H. Fleming and Paul Racey (2010), vi + 547 pp., The University of Chicago Press, Chicago, USA. ISBN 9780226253305 (hbk), USD 65.00/GBP 45.00.

As someone whose work deals exclusively with British bats, this book opened the door to an entirely different dimension of the bat world to me. The result of a symposium on island bats held at the 2004 annual meeting of the Association for Tropical Biology and Conservation, the book is a collection of new research surrounding this vast subject.

The introduction of the book provides a useful background of how various research surrounding tropical island biology has contributed to our understanding of evolutionary, ecological and conservational thinking. It also offers a fundamental insight into the problems facing tropical island ecosystems, both historic and recent, as well as summarising the features of

island bats and other species, thus providing a practical foundation of knowledge on the subject that prepares the reader for the beefier topics of research that the book goes on to present.

Part one, discussing evolution of island bats, contains four chapters that present new research and hypotheses surrounding this subject. The section begins with a chapter from Heaney and Roberts, who explain how different methods of measuring genetic variation in Philippine fruit bats can be combined to provide a clearer picture of evolutionary history of populations of these species. The next two chapters both look at how sea barriers have affected dispersal and genetic variation in fruit bats in southern Wallacea and the Caribbean respectively, demonstrating how bat dispersal has only been possible during periods of very low sea level. In the final chapter in this section, Fleming et al. propose and test four hypotheses on dispersal by undertaking statistical analyses of data from three phyllostomid bat lineages. They relate this work back to the research presented in the first chapter, giving this section of the book a well-rounded feel.

Part two is the largest section of the book, containing seven chapters exploring the ecology of island bats. The first chapter in this section provides an excellent starting point by exploring endemism in island species and the factors that influence long-term persistence. Chapter 6 goes on to present an extensive study on the roles of pteropodid bats in re-establishing tropical forests of Krakatau, concluding that the significance of the role of bats has been previously underestimated. Interestingly, the authors also demonstrate the potential implications of this study on other oceanic islands and fragmented habitats. Willig et al. continue the theme of looking at the effects of island characteristics on bat ecology, as well as introducing the subject of hurricane-induced disturbance into the mix. Chapter 8, the only chapter focused on roosting ecology of island bats, looks at the roles of cave roosts in protection from weather events and energetic advantages, while the next three chapters go on to examine further the impacts of natural disasters on bat ecology. In a stark change of subject, and the only chapter to present a socio-biological subject matter, the last chapter in this section presents a fascinating study of the effects of flying fox consumption in Guam on neurodegenerative disease amongst the local human population.

The final section of the book contains four chapters that examine the all-too-relevant subject of conservation of island bats. The first three chapters of this section present discussions surrounding the main