

production that has significantly outstripped the growth in human population. Of course, the world still has 800 million undernourished people, yet has substantial food surpluses as well. But this good news gives them little comfort. 'So, on average and with a given set of technologies, the addition now of each person to the population has a disproportionately negative effect on the environment as poor soils are cultivated to feed her, water is brought from more distant, more polluted sources to supply her, coal mines are dug deeper (and made more dangerous as a result) to generate electricity for her, and oil is transported further to power her car, should she have one'. While it seems a bit unfair to blame all of this on women, the general point is well taken: the easiest resources have already been tapped, and the future will be increasingly challenging. Disappointingly, the chapter on human population says nothing about its potential evolutionary impacts, given the book's overall evolutionary theme.

The Ehrlichs usefully highlight the impacts of pollutants, highlighting the decline in the ratio of male births to half the number of female births in heavily polluted Arctic and Sub-Arctic locations. But the impacts of pollution on human population growth are belied by the continuing expansion of human population in heavily polluted countries such as India and China.

Recalling their work of the 1960s the Ehrlichs rekindle the discussion of a nuclear winter, certainly with some justification. They do not reach the conclusion that a nuclear war would take care of both the population problem and global climate warming, although the alert reader will undoubtedly pose the question, at least subconsciously. Heaven forbid of course.

The justifications they give for preserving biodiversity are fairly standard rhetoric for the readers of this journal, as are the strategies to protect biodiversity. Even so, the packaging of the arguments is useful and helps to provide solid background to our standard arguments.

The Ehrlichs do not always get their geography exactly correct, for example referring to 'Malaysia and Borneo' (the latter contains Sabah and Sarawak, significant proportions of Malaysia), and contend that the Calakmul Biosphere Reserve on the Yucatan Peninsula protects 1.8 million acres of 'virtually untouched tropical forest', even though it is well known that the Maya civilizations a thousand years ago had cleared virtually all of the forests of the Peninsula. It is also a little odd that they make no mention of the World Heritage

Convention, even though they mention that sites such as Yellowstone 'have status as great heritage sites'. It would have been a simple matter to underline the importance of international conservation conventions in this context. Strangely, the Ehrlichs highlight the UN Conference on Environment and Development and its Agenda 21 but forget to mention the Convention on Biological Diversity (perhaps because the USA is one of the tiny handful of non-members of the Convention).

In their epilogue the Ehrlichs emphasize the importance of trade in food and essential resources in fostering a significant interdependence among countries, concluding that self-sufficiency 'in this day and age is a myth'. But in the next paragraph, they advocate rationalizing 'the food system to encourage consumption of foods grown locally and thereby reduce the energy-consuming process of long-distance and international transport of foods'. They offer no reconciliation of these seemingly conflicting perspectives.

Written for a semi-popular audience, *The Dominant Animal* is a useful compilation of some of the latest thinking on the woeful relationship between humans and the rest of nature. But ignoring the main international conservation legislation (if only to highlight its shortcomings) limits the book's utility.

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**Climate Change and Forests: Emerging Policy and Market Opportunities** edited by Charlotte Streck, Robert O'Sullivan, Toby Janson-Smith and Richard G. Tarasofsky (2008), 360 pp., Brookings Institution Press, Washington, DC, USA. ISBN 9780815781929 (pbk), USD 69.95/GBP 39.99.

Understanding climate change and the role of forest protection as a means of reducing emissions is a popular topic, with many forests needed for the paper to discuss it on. It is therefore easy to become rather daunted by where to turn for a balanced discussion of the subject. This book provides a timely, impressive and comprehensive collection of papers to arm you with all the latest information and key debates.

The book is made up of five sections. A background to the forestry and climate change agenda makes up the first, along with explanation of current market mechanisms for forest conservation. Part two

provides a background to forestry in the United Nations Framework Convention on Climate Change and Kyoto protocol. For anyone approaching this field for the first time or for those with a reasonable understanding of the issues, these two sections provide an accessible and insightful description of both what has occurred to date, why and what the implications of this are for current forest policy.

Part three gets down to business, addressing lessons learnt and methodological considerations for forest carbon projects, including permanence and monitoring carbon credits. Part four deals with the key, but complex issues of how Avoided Deforestation will be incentivized and accounted for post-Kyoto. This section is covering new ground and is therefore very helpful but not easily accessible for anyone without a good understanding of the issues. Some of the technical papers, such as that on carbon accounting, require greater brain power than I had to hand. The final part addresses the experience of national systems and voluntary carbon offset projects.

Some of the case studies, although clearly describing innovative projects, are not sufficiently objective to provide any real insight into the social realities and practical issues facing key stakeholders on the ground. This is a general point within the carbon forestry field, as those involved are often tied into non-disclosure agreements. Greater objectivity and openness on the practicalities and growing pains of projects that have been in existence for some years is, however, crucial to inform future project development.

The main contribution of this book is bringing the expert knowledge and recommendations of the contributors together in one place. This is invaluable for a better understanding of this fast developing field and, as such, this book will only remain relevant if regularly updated. This is likely to be a difficult task. In the short-term what is most important is that the key recommendations are taken forward to shape the developing policy arena. Bearing in mind the range and affiliations of the contributors, it is likely that this has and will continue to occur.

This is a dense read in its entirety. I struggled to make my way through a number of the chapters but would recommend it, particularly well-chosen sections of it, as key reading to anyone wanting to understand the key complexities of this debate.

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