

BOOK REVIEWS

The Environment and Mental Health, A Guide for Clinicians

EDITED BY ANTE LUNBERG

217 pp., 15.5 × 23 × 2 cm, ISBN 0 8058 2907 5, Library of Congress, 97 43761, hardback, US\$59.95, Mahwah, NJ, USA: Lawrence Erlbaum Associates, Inc., 1998

This is a concise, easy to read, 217-page 'collection of essays' that describes environmental effects on mental health. It covers most of the major subjects of the moment including neurotoxins, toxic chemical exposure, Gulf War Syndrome, behaviour disorders of children, and Chronic Fatigue Syndrome, Sick Building Syndrome and many other subjects of interest to the public. This is not only a fascinating discussion but an infinitely complex and vast subject, full of landmines and controversy. This book within its limitations of size explores the field well. *Environment and Mental Health*, was developed out of an annual meeting of the American Psychiatric Association. Its stated audience are psychiatric physicians and experts in environmental health.

I recommend this book to people who wish to cover a large area rapidly. However, although this is an excellent introduction for psychiatrists, general practitioners, paediatricians and even the general public, it does not suit environmental health experts who already know this subject in far greater detail.

There is no perfect book and this is not one. Some of the book's weaknesses could have been easily surmounted if the principal author's wife had not been the editor. Good editors are not supposed to be loving; they need to be crotchety nasty detail people who you would rather strangle than take to bed. Some of the weaknesses are as follows.

Although the various authors undoubtedly know each other, the uninformed reader does not. Who are these authors? There should be a thumbnail CV and perhaps even a photograph of each of the chapter's authors. There is no indication of any qualifications or titles of the numerous authors other than information about the building in which they work.

Although there is an appendix of internet sources, there is no suggested reading list given for the various subjects. The authors are possibly experts in their fields and will know what good sources to investigate rather than sending the reader on hours of needless research on the internet. A comprehensive reading list would be useful.

Chapter 6, one of two chapters on the Gulf War was apparently written by a uniformed US military person. The editors must realize that, rightfully or wrongly, the medical and general public at large simply do not believe the US Government on anything they say concerning the Gulf War and its aftermath. It is unfortunate that a contrary view by a sane non-government physician was not included.

Finally, it would have been very useful to have had a chapter on the difficult subject of how a physician can test patients for toxic chemical exposure since, except for the obvious testing for heavy metals, reasonable, accurate and relatively inexpensive investigation of toxic brain syndrome is an unknown subject to most physicians.

Perhaps the second edition will look at some of these issues.

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Climate-change Mitigation and European Land-use Policies

EDITED BY W. NEIL ADGER, DAVIDE PETTENELLA AND MARTIN WHITBY

xvi + 350 pp., 24 × 16 × 2.7 cm., ISBN 0 85199 185 8 hardback, £49.95, US\$95.00, Wallingford, UK: CAB International, 1997

This well-edited report of a specialized workshop deserves a wider readership than land-use specialists. Some of the more technical modelling reported in the book will have a limited readership, but the bulk of the material is accessible to the more general reader with an interest in environmental matters. Despite the large number of contributors and variety of approaches, the volume reads as an integrated exercise in explaining global climate-change issues and exploring their implications for agriculture and forestry in particular. Despite its European slant, no doubt reflecting the EU funding of the workshop, the material is global in scope and broader than the land-use activities said to be responsible for some 25% of greenhouse gas emissions.

Major themes include the obvious ones such as the uncertainties that attach to all projections of climate-change effects, the role of trees as carbon sinks or the rigidities introduced by agricultural protectionism. On such matters the earlier chapters are an excellent concise reference for the recent state of debate and policy development up to and beyond the second assessment report of the Intergovernmental Panel on Climate Change (1996). Less obvious themes emerge with some impact: new opportunities for climate-change mitigation policies within overall agricultural policy upheavals; the need to integrate into the models both land and human adaptation to changing climate; or the fine balance in the estimation of greenhouse gas emissions under different livestock regimes.

As a non-specialist, I discovered many fascinating nuggets of information and sparks of enlightenment, from the exotic world of methane gas emissions and manure management to the potential advantages of fuel-wood and other forms of biofuel or the more lasting uses of wood products in carbon storage.

As an economist, the reviewer encountered things both for his comfort and his discomfiture. Human adaptation to climate change will come about partly through price changes, and the more optimistic results of modelling land-use and production changes emerge when the role of price changes are most fully incorporated into the models, as economists would expect and others too easily neglect. Conversely some of the obstacles to optimal adaptation come from the institutional and social rigidities introduced by the European Common Agricultural Policy and similar systems of price distortion. The discomfiture of an economist is felt when some of the best known estimates of economists are challenged on grounds of misunderstanding the science or over-simplifying the time profiles of change. Nonetheless, areas of disputation between economists and others, including the use of discount rates, are fairly and lucidly dealt with in several of the contributions.

For readers who may be more interested in specific topics, there are chapters on modelling global timber markets, land-forest interfaces, beef production regimes, the effects of the Dutch energy tax, and the policy effects on UK methane and carbon dioxide fluxes. Other country studies focus on forestry management and policy in Germany, Sweden, Finland, Mexico and Argentina. A chapter on a

possible carbon credit regime for Russia begins to broach the issue of international agreements and bargaining, which perhaps could have been usefully raised in other parts of the book which recognize the spatially uneven impact of climate change, even within Europe.

The book itself is attractively presented, with an ample index and a very extensive bibliography. I picked up one undocumented reference but trust it to be an isolated flaw in an otherwise well finished product.

Reference

Intergovernmental Panel on Climate Change (1996) *Climate Change 1995: the Science of Climate Change*. Contribution of the Working Group 1 to the Second Assessment Report of the Intergovernmental Panel on Climate Change, ed. J.T. Houghton, L.G. Meira Filho, B.A. Callender, N. Harris, A. Kattenberg & K. Maskell. Cambridge, UK and New York, USA: Cambridge University Press.

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Principles and Methods in Landscape Ecology

BY ALMO FARINA

xii + 235 pp., 24.5 × 19 × 1.3 cm, ISBN 0 412 73040 5 paperback, £24.99, London, UK: Chapman and Hall, 1998

Landscape ecology is a relatively new sub-division of ecology. The discipline is particularly strong in central and eastern Europe. It has fewer followers elsewhere, although after reading this book some may be surprised to discover that at least part of their work falls within the discipline of landscape ecology. Indeed as Farina recognizes, landscape ecology has an uncertain position within the other ecological disciplines; partly because of the language barriers created by its central and eastern European origins. Its expansion, both in content and geography, arose from the often theoretical work of mainly north American ecologists.

The author states that the aim of his book is to create an educational tool that should appeal to a diverse group of ecologists. Consequently chapters have a well organized structure, finishing with a useful summary and a bibliography. There are eight chapters, but they differ greatly in length (range 12–63 pages). The final and longest chapter is almost twice as long as the next longest.

The first chapter (18 pages) introduces and attempts to define what separates landscape ecology from other ecological disciplines. Inevitably some terms such as mesochore, that will be unfamiliar to most ecologists, are introduced. The important roles that scale plays in landscape descriptions and processes are introduced.

The second chapter is the shortest (12 pages). The hierarchical nature of landscape processes is described briefly. The metapopulation and source-sink population models are also treated from a landscape perspective. The other major section of this chapter deals with percolation. The next chapter (15 pages) deals entirely with scale and how processes, at different scales, are interlinked.

Chapters four (33 pages) and five (27 pages) deal with processes and patterns that will be familiar to many conservation ecologists. In chapter four, disturbance, fragmentation and connectivity (corridors) are described as emergent landscape processes while the next chapter has some good, detailed accounts of heterogeneity and eco-

tones within a landscape context. I was a little surprised that species-area relationships were not covered here or elsewhere.

The next chapter (15 pages) examines some principles of landscape dynamics, or how landscapes change with time. Chapter seven (33 pages) reviews the processes of landscape conservation, management and design. The treatment of cultural landscapes was rather disappointing since it did not mention the globally significant heather moors of northern England and Scotland. The section on landscape management argues for a more holistic approach than is apparent in the more common site-by-site or species-by-species approaches. There is a rather short section, dealing with landscape creation and restoration.

The final chapter, which occupies over a quarter of the book, is potentially very useful since it deals with methods in landscape ecology. There are six sub-sections, but as with the chapters there is uneven coverage. In particular there are three sections dealing with GIS, remote sensing and GPS (Global Positioning Satellite data) that occupy 25 pages, of which approximately 14 are taken up by figures. I am not sure who this material is aimed at since it is too superficial for those with some experience and I doubt if a novice would benefit from the coverage. There are, however, two very useful sections on numerical descriptions of landscapes, including fractal geometry, although I was not convinced of the value of the five BASIC programs for the calculation of landscape metrics. If they are essential they could have been placed in an appendix where they would not break up the text. The final section of this chapter is a short, non-numerical treatment of spatially explicit population models.

Most of the examples are Mediterranean, indeed many are from the northern Apennines. I would have liked to see a broader geographical coverage, particularly including examples from tropical environments. Although all of the chapters have many useful figures, some of the reproductions are not very good, often resembling poor photocopies. There is a useful glossary and good index. Although the book was published in 1998 I did not find any references later than 1996. In general the style is good and I was very pleased to see that data was treated correctly as a plural form.

Did the book succeed in its aims and would I recommend its purchase? At this point I must declare an interest. I had already bought a copy before I was asked to review it. Writing the review ensured that the book moved from the pile marked 'to be read when I have some time' to 'must read now'. I was glad that I had the opportunity to read the book with some care. Despite its shortcomings, not all of which I suspect to be the fault of the author, I still found it to be a useful summary of a diverse body of material. I do not regret purchasing it.

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Handbook of Environmental Risk Assessment and Management

EDITED BY PETER CALOW

x + 590 pp., 83 illustrations, 26 × 19.5 × 3.5 cm, ISBN 0 86542 732 1 hardback, £99.50, Oxford: Blackwell Science, 1998

It is easy for anyone involved in the process of environmental risk assessment to feel like a very small cog in a very large machine.

Toxicologists, ecologists, engineers, economists, psychologists, lawyers, politicians and activists all have a role to play. Each discipline brings its own terminology, assumptions and uncertainties to the overall process and, as a consequence, there is a risk that an individual becomes confused or alienated by a decision made at a high level and based on several separate strands of evidence.

John Gray in his excellent chapter on risk assessment in the marine environment, highlights the recent example of the Brent Spar controversy. In 1995 Greenpeace campaigned to stop Shell UK dumping the disused oil rig Brent Spar in the North Sea and insisted that it be towed to a fjord for dismantling and recycling. There were deficiencies in the risk assessments performed by both sides in this particular case and, ultimately, the affair spiralled out of control in a media frenzy that eventually led to politicians, with one eye firmly on their own opinion rating, opting to be seen as 'green'. Greenpeace 'won' the day, despite having the weaker argument (as Gray explains), yet if Brent Spar is seen as a precedent, then the cost of dismantling all North Sea oil structures onshore will result in a six billion pounds bill for the companies. Many of the book's themes are encapsulated by this brief example which leaves everyone, 'expert' and layman alike, in no doubt about the interdisciplinary nature of the subject.

Consequently, the book fills a useful niche for anyone involved in environmental risk assessment. Despite the title, no one could expect to perform the various specialist components of a risk assessment after reading it but, and perhaps more importantly, anyone could gain a sufficient overview of the whole process for their own contribution to be understood in context. It is a smart, well-produced and generally well-edited volume though this reader was occasionally confused by too many abbreviations, and a list of relevant ones at the start of each chapter would have avoided much backtracking.

The 21 chapters are divided into four sections: on risk assessment (7 chapters describing basic techniques), risk assessment in legislation (2 chapters), balancing risks with other considerations (3 chapters) and risk management (8 chapters mainly specific to particular sectors). Many of the chapters are written from either a European (mainly UK) or North American (entirely US) perspective. To some extent, all risk assessments depend upon guidelines from competent authorities and so all chapters necessarily reflect the background within which the authors work. However, the section on legislation contains two chapters that describe how risk assessment is applied to policy and legislation in the European Union and North America. The European reader will find cross-referring to the chapter on American legislation useful when interpreting the chapters by American authors, and vice versa. Thumbing back and forth through the book is going to be inevitable for most readers, and fortunately, the index is good. Nonetheless, the editor has sensibly allowed some repetition between chapters to make them as self-contained as possible.

A recurring theme throughout the book is the tension between risk assessment and the 'precautionary principle'. Calow highlights this in his introduction, opting for a pragmatic interpretation. He also comments wryly that there have probably been as many definitions of the precautionary principle as articles written about it. Most of his authors agree broadly with his definition (although several of them introduce their own variants). Given the high public profile that campaigning bodies such as Greenpeace now have, it would have been instructive to have included a chapter on the 'deep green' versions of the precautionary principle that underlie their highly effective campaigns such as the Brent Spar episode.

The publishers 'blurb' states that the book should be read by scientists, legislators, economists and managers in the field of environmental risk assessment. My prediction is that all of these groups will find this book invaluable for 'cramming' topics relevant to their work but outside their own professional training. Final year undergraduates and postgraduates will also find its comprehensive sweep very useful and it should be on library shelves wherever applied environmental management is taught.

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Land Degradation in Mediterranean Environments of the World

EDITED BY ARTHUR J. CONACHER AND MARIA SALA

xxviii + 491 pp., figs, plates, 25 × 19.5 × 3.5 cm, ISBN 0 471 963178 hardback, £85.00, Chichester, UK: John Wiley and Sons, 1998

The book consists of twenty-four chapters, divided into three Parts, written by scientists familiar with land degradation problems in various countries of the world with a Mediterranean climate. The underlying objectives are: a) to bring together valuable information currently scattered amongst the various regions; b) to understand the nature and extent of land degradation problems in these regions and to discuss solutions; and c) to indicate how and in what way the seasonal nature of Mediterranean climate affects land degradation. Given the importance of the increasingly severe problem of land degradation and considering the culminating awareness and concerns about the environment, a comprehensive book dealing with the nature, extent and abatement of land degradation in Mediterranean environments would, thus, seem very much welcome.

The book begins with an Introduction by Arthur and Jeanette Conacher who delineate the objectives, explain the structure of the book, define 'Mediterranean' and set the scene in a crisp and lucid way for the following chapters. The first eleven chapters comprising Part I describe the environment, both human and physical, of eleven Mediterranean regions in which land degradation has occurred and continues to occur and provide the background and the basis for the following essential Parts II and III. Part I is fully informative but the text in certain cases becomes tiresome or contains irrelevant information (i.e. on the human and political environment) which is weakly linked to the following Parts II and III. Certain chapters do not give proper weight to those factors (soils and climate) that have a major influence on land degradation. The styles of the authors are quite readable although certain chapters are not written in elegant English. A scattering of important fallacies disappoints the reader. For example, on page 7, Ebro River is erroneously shown as an Atlantic Ocean river; on page 69, the Aliakmon and Nestos rivers are falsely implied to have their origin outside Greece; the origin of Strymon River is wrong and Pinios, a major river of central Greece, is ignored; on page 74 there are strange names for the sulfide group of minerals, galena, sphalerite and pyrite. Two minerals, 'varitini' (obviously baryte = BaSO₄) and molybdenite (MoS₂) are erroneous-

ly claimed to be iron-bearing minerals. Figure 6.1 (on page 80) is not accurate because the Bosphorus straits are not shown and the 'Baltic Sea' should in fact be the Black Sea. The text is supported by several Figures (some of which can be understood only after considerable effort) and numerous black-and-white plates (some of which serve no purpose at all). Typographical errors are scarce; one every 20 pages. Despite these shortcomings the information provided in these chapters is valuable and it is obvious that most of the contributors sweated a lot to give a detailed view of the natural environment in the eleven Mediterranean regions.

Part II consists of seven chapters written by the editors with the information compiled from the various contributors. This Part represents a fair effort to: a) identify the main problems of land degradation, and b) discuss the causes, extent and severity of this degradation. The text is supported by numerous Figures and black-and-white plates, some of which suffer from the weaknesses mentioned previously. The style of the authors is pleasantly readable and only in certain cases does the text become cumbersome to read. This is understandable because of the existing great volume of information. Chapter 14 could have been omitted without serious loss of important information. Part II covers in detail the nature of land degradation and gives emphasis to the main problems, such as erosion with all its consequences, desertification, flooding, drought and water quality. This reader, however, feels that adequate information concerning land degradation due to chemical pollutants is missing (for certain Mediterranean regions) and also that the authors should have given more emphasis to the quantitative aspects of land degradation. I cannot help thinking that Part II would gain a lot in rigorousness and conciseness if the authors tried first to derive certain general principles pertaining to land degradation in Mediterranean environments and then to discuss matters on the basis of these principles, not for each region separately, but as a whole. This would help in marking similarities and/or differences so that some general conclusions could be drawn.

Part III consists of five chapters written by the editors (with the

information compiled from the various contributors) and a Conclusions section written by A. Conacher. In this Part, solutions to the problems identified in Part II are discussed. The chapters are concise and the style of the authors quite readable and attractive. Emphasis is given to solutions being implemented. Some contributors have provided information about what needs to be done, some not. The reader gets a fairly good idea about measures that mitigate the problems of land degradation in Mediterranean environments but these measures are not exclusively and distinctively 'Mediterranean'. It is obvious that although Mediterranean environments possess unique characteristics, the measures described are the well-known measures of land conservation and pertain to other climates as well. In connection with this, it would be desirable to have integrated approaches for alleviating land degradation in Mediterranean environments.

As a whole, the book is a fair attempt at bringing together information concerning land degradation problems in Mediterranean environments. It also contains a great number of useful references. It serves the purpose of providing ample information (sometimes superfluous) and of illustrating to the well-educated as well as to the non-expert the nature and the severity of land degradation problems and the importance of land conservation practices in Mediterranean environments. The text in certain places is a bit long and tiresome and contains irrelevant information which could have been omitted without serious loss of essence. Shortcomings of an editorial and substantial nature (which could have been avoided with a more meticulous review) are kept to a minimum and do not damage the image of the book as a whole. In conclusion, it is a valuable piece of work and we recommend it as a reference book for any institution's library.

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