
Book Review

Reviewed by Luc Hens

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Global Environmental Issues [2nd Edition]

By Frances Harris (Editor)

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Preparing Rio+20 is a complex process. The recently published UN report on the environmental state of the world shows pessimism. The most important environmental resources, including biodiversity and minerals, are threatened. By 2030 the world will need 50% more food and 45% more (drinking) water and energy than today. The world will host 9 billion people by 2040. Acidification of the oceans, steading of chemicals and deforestation will have reached the limits of what is sustainable.

The recipes to mitigate these worldwide problems have been described for many decades. On the road to Rio+20 economic (levies, green taxes and greened national products), educational (labels) and social (stakeholders) instruments are advocated.

This book provides an overview of the science backing most of the above mentioned sustainability issues. To this end, it adopts a most multi-disciplinary approach. It is structured into six parts, covering 11 chapters. Part 1 provides an introduction to human-environment issues. It is about demands on natural resources, ecological footprints and environmental justice. It offers an analytical framework to the other chapters of the book. Part 2 considers the links between environmental science and policy. It entails strong sections on stakeholders and multilateral environmental agreements. Part 3 focuses on the changing surface of the earth. It is about climate changes, fluctuations in sea level and changing ecosystems and biodiversity. Part 4 deals with challenges to foresee in ensuring food and energy supply for the global population. It puts question marks behind the industrialised food production model and looks into changes in diet and a more environmental perspective of food production. Part 5 considers urbanisation and pollution, with special reference to waste. It advocates a framework of equity, empowerment and consensus among the fast increasing numbers of urban dwellers. The last part concludes on the challenges for sustainable development. It puts emphasis on the need for analytical tools that allow interpreting the science, its social implications and the politics of addressing these issues. Most of the chapters entail illustrative box texts discussing a wide scope of cases ranging from nuclear power, over aquatic biodiversity and food supplies, to water in Bangkok.

This book shows that since the 1987 Brundtland report (and the first edition of this book), the list of the main global environmental issues hardly changed. What differs now,

compared with 25 years ago, is how we look at these problems. Today, we are more willing to consider:

- scientific uncertainty that underpins these environmental issues
- the different ways in which these problems appear in different parts of the globe
- the stakeholders
- the social and cultural variation in the perception of these issues
- the varied economic and political forces driving these global issues
- the cost that is associated with technologies and practices to mitigate the problems.

This situates the paradigm of the book: it situates scientific environmental knowledge in the interaction area with communication, psychology, economics, law and policy. It is successful in helping people understanding environmental issues and enables them to make an assessment for themselves of the conflicting information that is available.

The book is authored by seven eminent experts in the field, mainly from academia in the UK. It consequently has a UK stamp of quality, reliability and distant attitude. It contains an up-to-date list of references, which is important in the fast-evolving area of sustainable development. It should be compulsory background reading for every master student in environmental sciences, geography and human ecology. The critical review of the science behind the main issues in sustainable development makes it a most useful introduction to all those who will provide policy advice and consultancy in this context. This book on science and policy undoubtedly deserves a wide audience of people interested in the environment.

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**Desertification, Land Degradation and sustainability.
Paradigms, Processes, Principles and policies
by Anton Imeson
Published 2012
by Wiley-Blackwell, Chichester, UK
ISBN: 978-0-470-71448-5 (cloth)
978-0-470-71449-2 (pbk)**

Human activities that impact land use and drive land use changes started 5000 years ago. Over time, from the start of agriculture until the more recently, the impacts of climate change, desertification and land degradation only became more intense and affected larger and larger areas. The debate on these aspects resurfaced as an element of the sustainable development discussion, which cumulated, among others, in the United Nations Convention to Combat Desertification.

This book offers – as the subtitle indicates – a comprehensive overview of the basic principles, the processes and the responses both at the local/regional and at the global scale. The book is organised in three parts:

The first part is about the nature of desertification. It describes the principles behind the discussion (ecosystem services, geographical layering, resilience and stability), the responses today and the characteristics of the processes that should be covered by indicators for desertification and land degradation of interest is the interdisciplinary, holistic approach that integrates bio-physical, historical-cultural and socio-economic aspects. This is the framework that allows designing a sound policy.

Parts 2 and 3 are both on impacts and responses, at local and at global level respectively. Both parts offer research evidence showing that desertification and land degradation can be stopped and that restoration of even large, affected areas is feasible.

Part 2 looks into the key processes regulating soil and landscape functions: hydrology, erosion and stability. It is about human impacts and policy. In the human impacts section, next to the underlying processes, eight case studies in three continents are described.

Part 3 is about global desertification, which is approached as the emergent consequence of local desertification. The book describes the UN Framework Convention on Climate Change, the ecosystem services and natural capital. Under his view of the way forward, the author advocates international cooperation. Also this part contains case studies from Namibia, Brazil and China.

The most appealing aspect of this book is that it combines a scientific approach with practice. It explains the scientific paradigms and the basic principles but also explains how these are applied in research and offers an intriguing series of examples that show the results of this research. From there it explains the logical, but complex line that

results in policy. In this way the book is a most successful attempt that synthesises in a comprehensive way the main dimensions, aspects and approaches of desertification and land degradation. This makes *Desertification, Land Degradation and Sustainability* a most important book.

These characteristics of the content influence the format of the publication. There are not only the case studies, which are very well illustrated by photographs; other sections provide a series of revealing figures and give ample attention to discussion and conclusions. Each chapter entails a section on 'References and further readership'.

The affiliation of Anton Imeson is both the University of Amsterdam and foundations for sustainable development and environmental change. The author is an authority in the scientific gremia of desertification studies. Probably he wrote this book for his master and PhD students. Next to them, this book is a must for researchers in the interdisciplinary field of land use and land degradation. It is highly recommended to all those who are interested in the science-policy links of desertification and to those who work in desertifying environments and want to understand what is going on around them.

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Global energy governance in a multipolar world
by Dries Lesage, Thijs Van de Graaf, Kirsten Westphal
Published 2010
Ashgate, Surrey, UK
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Climate changes are gradually, but definitely, changing the world. At the moment the polar ice melts faster than ever before and extreme weather conditions destroy vast parts of Asia, Africa, Central America and the Caribbean, a multilateral effort towards a worldwide transition from carbon based to sustainable energy is more necessary than ever before. This is complex and urgent. Energy is to become one of the major international policy issues of this century.

This book highlights a specific aspect of multilateralism. It starts from the finding that rising economic powers such as the BRICSAM (Brazil, Russia, India, China, South Africa and Mexico) countries are hardly or not integrated in the existing global energy governance mechanisms. This leads to the concept of multipolarity: when it comes to multilateral policy, it is worthwhile to involve these different groups of the States spectrum. Doing so can provide considerable added value to global energy governance.

The book is structured into three parts. Part 1 sets the stage by providing a state of affairs of global energy governance. It entails three chapters. One is on global energy trends. Here the authors show that the current global energy system is fraught with political, economic and environmental dangers. A second one outlines the likely scope of a global sustainable energy regime. A discussion on the areas requiring multilateral coordination (e.g., regulating energy trade and transit and mobilising investments in sustainable energy) is a central issue in this chapter. The last chapter of Part 1 describes the landscape of institutions that deal with global energy policy: from the United Nations, over the OPEC and the IEA, to sectorial organisations as the International Renewable Energy Agency. The chapter shows a fragmented and underdeveloped landscape of institutions.

Part 2 brings in multipolarity. It explains why it is important to study the relationship between multipolarity and energy governance and discusses the concept of 'leadership' in this context. It offers a framework to analyse how a decent international energy policy organisation should look like. The following chapter documents the major players of the multipolar energy game: the EU, the US, other OECD countries, but also the BRICSAM. Their interaction through G8-centred multipolar diplomatic practice is examined.

Part 3 offers an assessment of the G8's performance in providing leadership in global energy governance and lists the conditions for cooperation on energy in a multipolar world. The policy recommendations are most worth to be read.

This is an interesting book. It defines global energy governance as an emerging and recent, but most important and urgent, aspect of multipolar governance. The authors diagnose the current situation of institutions as fragmented and insufficiently capable to address the current defeats of the unavoidable energy transition. They option for an improved G8 to take leadership in this multipolar international debate. The book is well documented, offers a wealth of references and is most accessible, also for non-experts of international environmental policy.

Clearly, this is a book for policy makers on climate changes and energy. But it is also a nice example of research in this area of policy sciences in relation to the environment. Therefore it is warmly recommended to an academic audience of teachers, researchers and master degree students on interdisciplinary environmental issues.

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Environmental Hazards and Disasters

by Bimal Kanti Paul

Published 2011

by Wiley-Blackwell, Chichester, UK

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The year 2011 provided numerous examples of environmental disasters. In January there were landslides in the Brazilian province of Rio de Janeiro, during which 600 people died and another 10,000 lost their houses. The same month, Brisbane, the capital of Queensland, was flooded and 26 people died. In February, the cyclone Yasi took another life in the same Australian state. When Irene was announced as an 'historical storm', the USA evacuated 1.5 million people and 15 people died. When the typhoon Talas passed by Japan on 5 September there were 26 deaths. The October and November floods in Thailand were responsible for 667 deaths and ten thousands of citizens had to leave their houses in Bangkok. At the same time floods in the Mekong delta of Vietnam and Cambodia destroyed the third rice harvest of the year. Drought caused massive migrations and thousands of refugees in the Horn of Africa.

This book is about natural hazards and disasters and their threats to humans and their welfare. It offers an overview of the key issues related to these hazards and disasters and provides operational approaches and methodologies that are useful for addressing hazard related issues.

The eight chapters are organised according to an attractive rationale. An introductory section with definitions and historical notes is followed by a discussion on drivers and important characteristics of the disaster effects: vulnerability, resilience and risk. What follows is a chapter on effects (damage, losses, deaths, injuries) and impacts (social, demographic, health). The next chapters focus on emergency management: mitigation, preparedness, response and recovery. Finally a discussion is offered on how to undertake emergency assistance to disaster victims: relief of disasters. The last chapter is about 'special topics'. They include gender and natural disasters (women are more vulnerable to disasters), ethics, global warming and international cooperation.

Although the book is mainly written from a geographical point of view, it is most comprehensive and interdisciplinary in its approach. It combines the physical aspects and the health consequences of disasters with demographic aspects, psychological factors (perception) and communication. Above all, it provides a most logical framework that links these aspects. Here is the added value of the book: it goes beyond the analytical and descriptive aspects of the issue and provides insight in the mechanisms that drive the situation when a disaster happens.

Each chapter is provided with an up-to-date reference list, is well illustrated by photographs and entails a functional set of tables and figures. A concluding chapter that focuses on the way forward, e.g., in research and in policy, is missing.

Bimal Kanti Paul lectures at Kansas State University, but is a native Bangladeshi. As such, he is an expert by experience on disasters by floods and typhoons. He wrote this book mainly for his upper-level undergraduate and graduate students. In view, however, of the current and increasing importance of the subject, reading this book is also most profitable for researchers, emergency managers, consultants, planners and both private and public organisations involved in disaster response and mitigation. The book is a necessary component of any interdisciplinary course in environmental management and the supporting library.

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Water and sanitation related diseases and the environment.

Challenges, interventions, and preventive measures

by Janine M. H. Selendy (Editor)

Published 2011

by Wiley-Blackwell, New Jersey, USA

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Clean water is a core element in environmental health. Water pollution is related to environmental degradation and human and animal diseases. The health statistics are stunning: 1.2 billion people are exposed to water-related illness from their drinking water and 2.6 billion individuals live without access to any type of improved sanitation facility (WHO, 2004).

In view of the worldwide deterioration of, in particular, fresh water, a wide array of mitigating measures was established, resulting in a water policy of increasing complexity. This summarises a vision on the water-related environmental health aspects as a network of data from environmental, health, development, social and economical sciences, ethics and policy.

This wide interdisciplinarity, which is likely the only way to understand the interconnection among the factors linked to water-related diseases, sanitation and hygiene, is the basis of this book. 60 eminent authors contributed 37 chapters that are organised in eight sections. The following aspects are discussed:

- The relationships among access to water, quality, malnutrition, undernutrition, lack of sanitation and hygiene, environment, and water and sanitation related diseases.
- The 13 chapters on individual diseases cover not only basic medical information about diseases, ranging from infectious diarrhoea, over Dengue fever, to shigellosis and malaria. They also cover distribution, prevalence and incidence and how human environmental relations interconnect these aspects. Also the issues of multiple infections and the links with nutritional inadequacies are discussed.
- On water resources, two chapters are contributed on access to clean water and prevention of contamination in developing countries. The chapters describe innovative solutions of achieving clean water and ways to protect water supplies.
- The sanitation and hygiene section is about how these aspects provide measures to reduce the incidence of water borne diseases in countries as India, Malaysia and Thailand.

- Anthropogenic water pollution is not only described in a systematic, analytical and more theoretical way, but also illustrated with a case study of the Hudson river and the problem of bacteria that show multiple resistance to antibiotics.
- The section on trends in preventing water pollution is heterogeneous. It entails information on the substitution of mercury in medical devices, PCBs and the need for global water governance.
- Emerging issues in ecology, environment and disease are (climate induced) changes in the geographic distribution of disease vectors, malaria in the Amazon and brominated flame retardants. The section shows that in many parts of the world the adverse impacts of water pollution, dam construction, irrigation and flood control cause preventable diseases.
- The concluding section highlights examples of preventive measures and interventions from Mexico and Africa. It advocates a worldwide policy on water and disease.

This book goes beyond the traditional discussion of the role of chemical, physical and biological environmental factors in the causation and prevention of water-related diseases in at least two ways:

- It addresses the emerging trends of the impacts of climate changes, deforestation and mining.
- It contributes to understanding how the socio-cultural and economic context is related to water-borne diseases.

In doing so, the book provides guidance for integrated water policies that need to be installed from the local up to the international level. Prevention of pollution is considered the main starting point for such a policy.

The book combines in a most interesting way overview papers with case studies. It manages to address a wide and complex array of issues with in depth analysis. It is well structured and at no place gives the impression of an unorganized set of data.

Although the content covers a most comprehensive scope, the subject is that wide that (with. Examples include: the quality of bathing and swimming water, water for aquaculture and exposure to sludge from water treatment plants.

Each chapter follows a standard structure that facilitates reading. Each chapter also includes an up-to-date (until 2009) reference list. The illustrations are functional and completed with two DVDs that provide supplementary images and videos. A number of them illustrate projects and examples of preventive measures and solutions. This additional material makes the publication most useful for educational purposes.

The book is a most valuable source of background information for any environmental health course. It also provides information for those who formulate, implement and follow-up (development) projects in the area of water pollution prevention, sanitation and (environmental) hygiene. It addresses all professionals in this sector. They range from medical doctors and health workers, over chemical and environmental engineers, to hydrology experts, and policy makers. All of them, in particular those who were used to externalize health effects from their approaches, will significantly benefit from this well documented book, that provides the reader an information-rich and structured view on the water-environmental health nexus.

Reference

WHO (World Health Organization) (2004) Water, sanitation and hygiene links to health: facts and figures. Available at http://www.who.int/water-sanitation-health/publications/facts_2004/en/print.html.