



Environmental Health: From Global to Local

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BOOK REVIEW

Environmental Health: From Global to Local

By Howard Frumkin (ed.) (Jossey-Bass, San Francisco, 2005) 1108 pp., US\$75.00 (hback), ISBN 0787973831.

Some environmental factors affect health on a local level, whereas others operate on regional or even global levels. This concept of spatial scales in environmental health provides the framework, and integrating theme, for the book, *Environmental Health: From Global to Local*, a comprehensive introduction to environmental health. The book is divided into five parts: the first involves methods and paradigms; the next three traverse environmental health on the global, regional, and then local scales; and the final part discusses topics related to the practice of environmental health. Although the chapters are written by different experts, the writing is uniformly clear and the concepts well explained. In addition, most of the chapters are divided into topic areas, and end with a conclusion, thought questions, bibliographic references as well as sources of other information, such as textbooks and Internet sites. Boxes within the chapters contain specific examples to illustrate some of the adjacent concepts. The quality of the writing, along with these organizational features, facilitates access to the information and stimulates thought about underlying and controversial issues.

The book is well coordinated, and flows coherently, from the earlier foundation chapters in Part One to the final ones in Part Five. Part One (Methods and Paradigms) begins with an overview of Ecology and Human Health, and follows with an excellent summary of toxicology and how it relates to environmental health. The next chapter, on Epidemiology, succinctly describes the basic types of epidemiological studies, analysis, and bias issues, and then provides examples pertinent to environmental and occupational epidemiology. Chapter 4 follows with another fundamental ingredient necessary to understanding environmental health: exposure assessment. It covers air sampling, controls, and biological monitoring. These are the classic chapters one would expect to find in a book on environmental health. In subsequent chapters, the book extends the bounds of traditional environmental science by considering topics that also influence the relationship between health and the environment: environmental psychology, genetics and environmental health, environmental health ethics, environmental justice, and religious approaches to environmental health. These chapters lay a foundation for understanding environmental health, not only in terms of

preventing harm and disease, but also by promoting well-being and health, for both current and future generations.

Part Two tackles the issues that affect the environment on a global scale. This section begins with Population Pressure, and the statement that ‘population trends underlie much of the troubled relationship between humanity and the environment’. Despite falling fertility rates in most of the regions, the population of the earth continues to grow, by 78 million per year. This chapter reviews how the impact of population is measured, and then discusses the effects of population growth on urbanization, arable land, freshwater, oceans, forests, biodiversity, and climate change. The chapter closes with provocative questions that set the stage for subsequent chapters: ‘Can we learn to live within our ecological constraints or boundaries? Can we reduce our ecological footprints so as to tread more lightly on the earth?’ The chapter on Climate Change provides the background information and data concerning the changes in the earth’s atmosphere, the development of the earth’s surface warming, and the potential (and early) consequences, including sea-level rise, extremes in temperature, severe storms, rising sea levels, droughts, and rise in waterborne and vector-borne disease. The next chapter, on War, describes both the direct and indirect impact of war on human health. From the global perspective we see ‘one earth, three worlds’, as the chapter on Developing Nations educates the reader about issues of the ‘third world’ (‘low-income developing countries, “lower earth” or underdeveloped economies’), including effects of globalization, changes in agriculture, nutrition and under-nutrition, air pollution, urbanization, water, metal poisoning, and injuries.

On to the regional scale in Part Three, with chapters on air pollution, energy production, urbanization, transportation and health, and water and health. The example of the London 1952 air pollution disaster immediately grabs the attention of the reader, who goes on to read about current information presented concerning the types, sources, and health effects of major outdoor pollutants, including air toxics (lead and mercury). In the chapter on Urbanization, the reader is challenged to think about definitions of ‘city’ and ‘urban’ and how perspectives might be different for someone in the USA or in China. The chapter on Water and Health manages to not only provide an excellent overview of the hydrologic cycle, water use, and scarcity, but to also address, in depth, issues such as microbial contaminants, chemical contaminants, and water purification, while providing many illustrative examples.

In Part Four, the reader arrives at the local scene, and has 10 chapters to explore key issues, including solid and hazardous waste, pest control and pesticides, food safety, indoor air, workplace health and safety, radiation, injuries, disaster preparedness, nature contact as a health benefit, and children. All of these chapters define the specifics and nature of the problems and the hazards, from hazardous waste, to insect pests, occupational health hazards, food borne illnesses, radiation risks, injuries, and the vulnerabilities of children. These descriptions are accompanied by well-chosen examples, and are coupled with practical information about recognition, prevention strategies, and relevant

regulations. The final eight chapters of Part Five describe the practice of environmental health including prevention (including controversies about the ‘precautionary principle’), risk assessment, geographic information systems, risk communication, health care services, and legal remedies.

In summary, this book is a tour-de-force—it is really five books combined into one volume. With its many examples, clear explanations, and emphasis on ‘big picture themes’ and relevance, it is an astonishingly interesting read. The layout and organization of the chapters facilitates learning and teaching. The scope of the book encompasses not only environmental science but also captures the other elements (social, political, psychological, regulatory) that influence health outcomes, thereby creating a book that is truly about environmental health. I recommend it highly for students studying environmental health, but also to students in other specialties who want to learn more about this subject. I do not limit my recommendations to students—this is an excellent book for anyone teaching, practicing, or interested in environmental health who wants to expand their perspective and general knowledge base. Congratulations to the editor, Howard Frumkin, for not only pulling together an excellent group of experts to write individual chapters, but for organizing and guiding the development to culminate in a coherent, timely, and readable book.

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