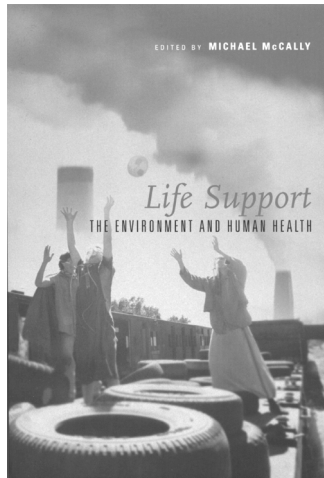


# ***Life Support: The Environment and Human Health***

Michael McCally (Ed.)

Cambridge, MA: MIT Press, 2002. 326 pages.

***Reviewed by Melinda Moore***



**L**ife Support: *The Environment and Human Health* provides a comprehensive review of a vitally important—yet still imperfectly addressed—global priority: the connections between health and the environment. The book is an update to the 1991 publication *Critical Condition: Human Health and the Environment*, which was developed in preparation for the 1992 United Nations Conference on the Environment and Development in Rio de Janeiro.

*Life Support's* 2002 publication aptly coincided with the year of the ten-year follow-up conference to Rio—the World Summit on Sustainable Development in Johannesburg. Addressed to “informed lay readers,” “trainees,” and “professionals,” this second book lists three objectives: “to update the original work, to expand the coverage, and to focus on solutions or prescriptions” (page viii–ix). In my view, despite inaccuracies and occasional political biases, *Life Support* largely accomplishes its objectives.

In the preface, editor Michael McCally provides relevant history leading to the current publication and notes the role of the health sector in addressing issues of the environment

and human health. One can only agree with his call for “health-trained professionals...to become central figures in environmental policy discussions” (page ix).<sup>1</sup> Chapter 1 of *Life Support*, McCally’s “Environment, Health, and Risk,” provides a nice overview of the thematic nexus. The chapter makes several important points, including: (a) stressing the importance of a multidisciplinary (and by extension multisector) approach to addressing the range of environmental health issues; and (b) suggesting revisions to medical curricula to include explicit environmental health content. However, I have some alternative views to a few of the chapter’s points.

First, my own view of implementing the multidisciplinary/multisector approach is to work *across* institutions rather than including all relevant expertise within a given institution. Health expertise can come from the health sector, and environmental science and regulatory expertise can come from the environmental sector; working together brings the best of both to policy and programs. Second, I believe McCally’s suggestion to shift from pollution control toward pollution prevention is not a matter of either/or, but

potentially both. Finally, McCally's discussion of the relationship between developed and developing countries in financing environmental solutions does not take into account a major new element from the 2002 Monterrey Financing for Development Conference and beyond—the extent of responsibility of developing countries in financing their programs.

The second chapter of *Life Support*, “Urban and Transboundary Air Pollution” by David C. Christiani and Mark A. Woodin, is the only one in the book that addresses urbanization; but it does so only from the perspective of transboundary air pollution. However, current urbanization patterns involve a much broader range of environmental health issues than air pollution alone. In the same vein, the chapter's Table 2.1 on specific pollutants, their sources, and their health effects is a useful but likely outdated summary. For example, much research on asthma has been undertaken since the 1988 publication from which this table is adapted. Moreover, factual inaccuracies in this chapter and elsewhere undercut the credibility of the book as a whole. The statement on page 31 that “[t]here has been a failure to address indoor air pollution” is off target, for instance. Present U.S. state and federal regulations addressing smoking in public places constitute substantial action, even if most analysts feel that even more action is needed.

*Life Support's* chapter on “Water Quality and Water Resources” by John Balbus appropriately addresses both microbiological and chemical threats to water. However, Balbus presents numerous inaccurate facts and nuances in the discussion of microbiological threats. Also, Balbus' selective use of references leads to selective conclusions, as in the example indicating “growing evidence” that sanitation interventions “[improve] human health to a greater extent than purveying clean water supplies” (page 40). The reference cited is from 1996, by an author with legitimate data but a polarizing view within the scientific community. More recent work suggests the substantial health impact of water and hygiene interventions as well.<sup>2</sup>

Chapter 5—“Population, Consumption, and Human Health” by J. Joseph Speidel—addresses population trends and is extremely relevant to environmental health. Once again,

however, internal inconsistencies and factual inaccuracies distract from the chapter's larger point. For example, the introductory section notes a world population of 2.5 billion in 1950 and a growth from five to six billion between 1988 and 2000; yet the following section (page 87) describes a doubling of the world's population between 1950 and 1997. The earlier facts would suggest a world population of five billion in 1988, not 1997. Another example is Speidel's reference that “1.3 billion people...lack access to pure drinking water” (page 88). But the actual indicator

**The book addresses global environmental health issues—yet it is not particularly global in its perspectives.**

corresponding to the 1.3 billion figure is “access to improved water sources.” The difference is more than one of nuance: water from improved sources can be contaminated during transport and/or household storage. Thus, probably far more than 1.3 billion lack access to “pure drinking water.”

Most readers will probably find all of *Life Support* interesting, even those chapters that are beyond readers' specific expertise. However, McCally's preface alerts readers to the publication's relationship with Physicians for Social Responsibility—to which royalties from the book will go. This fact immediately signals the likelihood of finding political views instead of pure scholarship in the following chapters. Indeed, I found the politically oriented statements interspersed throughout *Life Support* distracting in an otherwise scientifically oriented book.<sup>3</sup>

Mention of the “precautionary approach” in various chapters also seemed to lean more toward expression of political views than scientific facts. The full chapter on this subject, “The Precautionary Principle: A Guide for Protecting Public Health and the Environment” by Ted Schettler, Katherine Barrett, and Carolyn Raffensperger, is comprehensive and nicely referenced, but it does not present a balanced view. The current issues surrounding bioengineered foods would have been a good example to illustrate both sides of the precautionary-principle debate.

On one hand, the U.S. Food and Drug Administration has determined (based on rigorous scientific review) that foods derived from bioengineered crops for which food safety reviews have been completed are as safe as their conventional counterparts. On the other hand, European regulators take a more “precautionary approach” in limiting use of bioengineered crops. But Schettler, Barrett, and Raffensperger tend to unnecessarily polarize the debate by

numerous sloppy editing inaccuracies throughout), and, as noted above, not entirely factually accurate.

Also surprising was the virtual absence of reference in the book to the landmark publication *The Global Burden of Disease* (Murray & Lopez, 1996), which would have placed environmental health issues within an overall context. The book addresses global environmental health issues, yet it is not particularly global in its perspectives—most of its authors are from the United States, with the rest from Canada, the United Kingdom, the Netherlands, and Australia, and none from developing countries. Finally, *Life Support*’s authorship is not representative of the broad range of legitimate stakeholders in the domain of global environmental health—which includes not only academia but also government policymakers, practitioners/implementers, key multilateral organizations such as those of the United Nations system or international financing institutions, civil society, and the environmental sciences sector itself.

My conclusion is that *Life Support* sets the stage for a third publication in the series that would expand this book’s scope in a few important directions: (a) bringing together the environment and health sectors; and (b) including authors from developed and developing countries as well as authors representing other key stakeholder institutions or groups. I would be among the first to buy and read such a publication. Unlike many movie series, which can become predictable and increasingly boring, continuing this series of publications as proposed here would add value to our collective knowledge, wisdom, and—one hopes—action to address the increasingly important issues of human health and the environment. **W**

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characterizing the “precautionary principle” as on the side of ethics and environmental preservation—thus implying that other approaches are unethical and environmentally unfriendly.

No one publication can address all needs and interests on a given topic, and *Life Support* has many key features and lacks many others. The book is comprehensive in terms of the range of health issues addressed. It is scholarly, with 25 of the 27 contributing authors identified as health professionals based in academic institutions. It is very easy and interesting to read, especially with the addition of the upbeat objective to discuss “solutions or prescriptions.” For example, the chapter by Joe Thornton, McCally, and Jeff Howard on “Body Burdens of Industrial Chemicals in the General Population” was particularly well written and informative. Its table listing approximately 200 specific chemical substances and the human tissues in which these are found is comprehensive and well referenced. (The absence of a “solutions/prescriptions” section in this chapter was only a minor disappointment.)

However, the book is, surprisingly, not particularly current, an impression borne out in my tedious tallying of its approximately 1000 references—68 percent of which are dated earlier than 1998. *Life Support* is also not evenhanded across chapters (pitting science versus advocacy), not well edited (with

## Notes

<sup>1</sup> However, at least one of the McCally's premises in the preface is factually inaccurate. While he asserts that, when the first book was written in 1991, "[n]o medical or public health organization worked on environmental issues" (page viii), the U.S. Department of Health and Human Services alone at that time had at least four agencies that had both organizational structures for environmental health and environmental health programming in place.

<sup>2</sup> See, for example, Semenza et al. (1998); Quick et al. (1999); Reller et al. (2001); Roberts et al. (2001); and Quick et al. (2002).

<sup>3</sup> For example, Speidel writes on page 91 that "[I]f we are able to summon the political will to make good reproductive health care, including family planning and safe abortion, widely available, and if we can make reasonable progress in educating women and improving their status, population growth is likely to decline to manageable levels." The reference to abortion is not necessary to make his point and seems to gratuitously introduce a political point of view.

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# ***The Global Threat of New and Reemerging Infectious Diseases: Reconciling U.S. National Security and Public Health Policy***

Santa Monica, CA: RAND Corporation, 2003. 106 pages.

*Reviewed by Jennifer W. Kaczor*

**I**n 2000, in an effort led by then-Vice President Al Gore, the UN Security Council held its first-ever meeting to discuss how health issues (particularly HIV/AIDS) in Africa threaten global security. Since that meeting, anthrax, mad cow disease, and the recent SARS outbreak have placed health issues squarely on the agenda of both the U.S. and international communities. In addition, the Bush administration has used the fear of weapons of mass destruction—including bioterrorism—as a key element in galvanizing U.S. public support for the war in Iraq.

The Bush administration's recent support of billions of dollars in new foreign-assistance spending to fight the HIV pandemic seems to demonstrate a continued push to keep health issues at the forefront of U.S. foreign policy (although, as of this writing, it remains unclear how much money Congress will actually appropriate). But despite such high profile efforts and the worldwide acknowledgment that infectious disease is a threat to global security, *The Global Threat of New and Reemerging Infectious Diseases* argues that spending priorities have not followed suit.

*The Global Threat* ambitiously covers topics from basic international relations theory to a case study on the AIDS epidemic in South Africa. The report is divided into two broad parts: (1) implications of the spread of infectious disease globally, and (2) the impact of the spread of disease within the United States. Chapters 1 and 2 discuss the changing nature of security after the Cold War; outline the various factors (economic, social, environmental) that contribute to the spread and increased incidence of infectious disease; and successfully lay out the elements for linking poor health to economic stagnation, social and educational inequalities, and a potential rise in crime rates and societal instabilities.

The “global” section of the report

concludes with a convincing South Africa case study highlighting these linkages. The South African experience demonstrates the negative impact HIV/AIDS has had on a myriad of institutions, including education, health, and defense. The case study also provides evidence of economic decline due to the pandemic. Unfortunately, *The Global Threat* fails to provide an example of a success story such as Thailand—where evidence suggests that strong leadership and public investments in health and education have improved overall macroeconomic performance and stemmed the tide of HIV. This omission is glaring given that policymakers are a primary audience for this type of report.

*The Global Threat* then switches to a domestic focus and examines the threat of emerging infectious disease within the United States. Chapter 4 provides an extended list of factors that affect the scope and spread of infectious disease in the United States, including increased travel and trade, changes in agricultural practice, more promiscuous drug use and sex patterns, greater use of antibiotics, use and donation of blood products, climatic change, tainted water supplies, and the increased risk of bioterrorism. Unfortunately, each of these issues is given only a few paragraphs—not enough space to provide more than an overview (although, to their credit, the authors provide as much evidence as possible, citing useful data and statistics to describe each topic).

Next, *The Global Threat* provides a detailed summary of the myriad U.S. government agencies that play a role in health crises. The section examines these agencies' roles and responsibilities in monitoring or research of infectious disease outbreak, both within and outside the United States; it also addresses the challenges these agencies face, including lack of funding and trained health professionals. Just seeing this list gives the reader a healthy dose of reality as to why interagency

coordination and collaboration remains a problem.

But regardless of its strengths, *The Global Threat* suffers most from a seeming identity crisis. Arguably, global health impacts U.S. health like never before due to the globalization of agriculture and the increased movement of peoples. This linkage certainly justifies a report that looks at both emerging infectious disease in the United States and around the world. What the report does not do well is to distill this connection into a succinct take-home message that clearly states how U.S. security and global security are related. *The Global Threat's* length and range of focus make it light on detail, creating a report that lays out many challenges but few solutions.

The report's recommendation section also disappoints in its failure to consider cross-cutting issues—a very important omission, given the complexity of the issues. For example, the authors attempt to make the argument that disease, environment, and security issues are linked, but they fail to mention environmental issues in their recommendations. Yet better cooperation and collaboration between the health and environment sectors—not just between government agencies, but with the broader civil society community as well—is crucial to the battle against infectious diseases.

Another of the report's recommendations

states that countries should promote urban sustainable development and urban regeneration; but the authors do not define these terms or the types of issues policymakers should address. As a result, *The Global Threat*

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loses an opportunity to reinforce the concept that health, environmental, and economic issues are inextricably linked to one another.

The report's conclusion is most successful when it points out the lack of public-health foresight and spending in the United States—a country with a true bounty of financial resources. The authors suggest that, while important, large-scale biological attacks and a tainted water supply are relatively unlikely, the U.S. public is much more likely to see a higher rate of return on money spent on monitoring and preventing the spread of infectious disease (such as SARS) than focusing on terrorist attacks using weapons of mass destruction.



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