ENVIRONMENT AND SOCIETY

Human Perspectives on Environmental Issues

FOURTH EDITION

CHARLES L. HARPE

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Creighton University

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For Anne, my mate and best friend, who continues to make my life beautiful by loving me, blemishes and all.

And for George Perkins Marsh, Aldo Leopold, Rachael Carson, Lois Gibbs, Karen Silkwood, Jaime Lerner, Chico Mendez, and Wangari Maathai—in different ways, all pioneers in consciousness and concern about the connections between humans and the natural world. All appear briefly in these pages. Some were stigmatized by powerful people and agencies. Some paid with their lives.

Preface

Environment and Society: Human Perspectives on Environmental Issues is intended to provide students and interested readers with an introduction to environmental issues. More specifically, it is about human connections and impacts on the environment—and vice versa. There are many specialized research reports and monographs about particular environmental topics and issues, but I intend this book as an integrative vehicle for many different human and environmental issues.

Stimulated by the enormous growth of interest in environmental issues and problems in higher education, my own classes have a yeasty mix of students from biology, environmental science, the social sciences, and others from education, philosophy, and marketing. I have tried to write a book that is at least understandable to them all. Perceptive readers will note that in some places the book alternates between more elementary and advanced discussion. That is deliberate, because social science students know some things that natural science students do not, and vice versa.

This book discusses blocks of material that incorporate contemporary environmental concerns, controversies, and discourses. The fourth edition has new data and new or updated perspectives in many places that frame issues, for instance about human ecology and world political economy which connect humans to environments and ecosystems, the "human footprint" on the planet, climate change, energy transitions in the coming century, ecological modernization, globalization, the limits of economic growth, environmental movements, and sustainability. A pervasive theme is that disciplinary scholars bring very different intellectual views (*paradigms*) to the understanding of human–environmental issues. I think that these different views are not ultimately irreconcilable, but if you do not like attention given to different points of view, this is probably not the book for you.

Each chapter is followed by some questions and issues (Personal Connections) that attempt to help you make macro–micro links between large-scale

issues and the lives of persons. These are *not* review questions that summarize chapter content, but opportunities for dialogue between the book and its readers and between readers. They may be points of departure for discussion and argumentation.

It is only fair that you have an idea of what kind of book you are going to be reading and how it is organized. It is about about environmental problems themselves, but it has a *social science perspective,* and will be more concerned with how these problems relate to human behavior, culture, and social institutions. The book also examines suggestions for changing the human–environment relationship to a more "sustainable" environment, society, and world order. Finally, it is important for you to know that this book will provide a broad overview that focuses more on the interconnections among a variety of issues rather than on any particular issue in great depth. *Many* other books and research papers provide in-depth coverage of specific topics. (At the end of each chapter, I provide a few suggestions for books and web sites.)

Chapter 1 introduces basic concepts about environments, ecosystems, and human social systems, and various ways that people have understood and interacted with their biophysical environment. It examines how human–environment relations have come to be understood and studied by social scientists, and ends with a summary of the driving forces of human activity that impact the biophysical environment. Chapter 2 is a reading human "footprint" on the planet, that discusses some resources, resource depletion, and pollution issues. Chapter 3 is about climate change and particularly about the contentious issue of global warming. Chapter 4 is about the energy systems that underlie all human economic activity, and the prospects for their transformation in the near future. Chapter 5 is about human population growth with special reference to food issues. Chapter 6 examines globalization and the prospects for more sustainable human–environment relations from several contemporary perspectives. Chapters 7 and 8 continue to examine the prospects for greater sustainability by examining economic markets, politics, policy, and environmental movements.

An important theme that I try to develop with progressive clarity is the importance of *worldviews* and *paradigms* that have implicit basic assumptions about the "way the world works." People in cultures have them, and they shape the scholarship of experts in different fields. These are embedded in our thinking in subtle ways that often make good communication difficult.

I am a sociologist by training, and my outlook on environmental issues is informed by environmental sociology, a subdiscipline that has developed rapidly over the last 30 years. Even so, no single scholarly discipline has a corner on truth about such a multifaceted and important topic. I have therefore attempted to give attention to the work and perspectives of economists, political scientists, anthropologists, geographers, and policy analysts as they address environmental and ecological issues. That makes this book as much

a social science work than a narrow treatise about environmental sociology. But of these fields, the book will draw most heavily on environmental sociology and economics.

SCIENCE, VALUES, AND LANGUAGE

I have tried to write an objective book about the human causes of and reactions to environmental problems and issues. But the book will not ignore scholarly or public controversy and disagreement. It addresses some outrageously difficult and multidimensional issues as reasonably as possible but—obviously—will not do so to everyone's liking. Like all good social science or indeed, all good science of any kind, sooner or later it connects objective "facts" with things that people find important (values), and with criteria for making normative choices among them. As Thomas Dietz put it, speaking about the prospects for a new "human ecology":

> We must become a normative as well as a positive science. I don't mean that human ecologists, as scientists, need continually to be engaged in advocacy. I do mean that we must use our analytical skills to develop arguments for the proper criteria for making decisions. We must help individuals and collectivities make better decisions by offering methods for handling value problems. (1994: 50)

There is, in truth, no completely value-free social science or any other kind of science. So, the book will talk about facts and data, but it also that exhibits my own values, hopes, and fears about the human predicament. It is impossible (and I think undesirable) to eliminate one's own opinions and values from scholarly work. But they should be labeled as such, so I have tried to be careful in putting "I think . . ." statements in front of those places where I am particularly aware that not all would agree.

It's fair to warn you that you will be reading a book that details a lot of bad news about human–environment interactions. Reading sustained fare about problems can be very depressing and can generate fatalism. But it is also important to note that I find some compelling reasons for hope (if not optimism) about the possibilities for a more positive future. Those reasons occur mainly in the later chapters of the book, so if what you read initially depresses you, *read on*. The book moves, after the early chapters, from the more physical to the more social dimensions of environmental issues, and from the more depressing litany of facts and problems to examining some possibilities for positive change. I discovered in writing the book, somewhat to my surprise, that if I am a pessimist, I am a hopeful one.

I should mention one other thing that should be obvious to you by now. As much as possible, this book is written in an informal and, I hope,

unpretentious style. I have often tried to write as if I were carrying on a conversation with you as an individual rather than communicating with an anonymous group of people. It's the way I like to communicate, and I hope it makes the book more engaging to read.

ACKNOWLEDGMENTS

Every intellectual work is in some sense autobiographical. My early college education (of many years ago!) was in biology and the physical sciences. But I subsequently pursued graduate studies in sociology, and for years I have been engaged in a professional life that has dealt only peripherally with environmental and ecological issues. This book attempts to put together the pieces of my education as a coherent whole in a way that addresses some important human and intellectual concerns of our times.

Intellectual works are not just autobiographical. They involve the insights, encouragement, forbearance, and constructive criticisms from many others, and I need to thank them, particularly my colleagues and students at Creighton University. They contributed substantially to this work and tolerated me while I was working on it. Thanks especially to James T. Ault, who had the patience to read and critically comment on many parts of the book. Thanks to a succession of Graduate School Deans at Creighton University who provided modest but important material support.

I also want to thank an amazing network of environmental social scientists at other institutions who encouraged me through various editions. They include Fred Buttel (University of Wisconsin), before his recent untimely death, Eugene Rosa, Thomas Dietz, Robert Brulle, J. Allen Williams, Paul Stern (National Research Council), and Bruce Podobnik. I am especially indebted to William Freudenburg (University of California-Santa Barbara) and Riley Dunlap (Oklahoma State University) for their friendly criticism and encouragement over the years. I do not, of course, hold any of them responsible for errors of comission or omission. Those are mine alone.

I thank anonymous reviewers for their useful comments about this edition at various stages who can now be named. They were Sue Jarnagin, Iowa State University; Robert Wortham, North Carolina Central University; Peter Korsching, Iowa State University; Mariella Squire, University of Maine-Fort Kent; David Tabachnik, Muskingum College; Mike Delaney, Des Moines Area Community College; and Ted Napier, Ohio State University. I owe an enormous debt of gratitude to publisher Nancy Roberts, as well as to sociology editors Chris DeJohn and Jennifer Gilliland, and to several talented and always helpful editorial assistants, the human faces and voices of a large publishing corporation. I thank my copyeditor Tally Morgan, who had the formidable task of making order and sense from sometimes messy prose.

Finally, for her patient and loving support, I thank my wife Anne, to whom this book is dedicated.

If you would like to contact me, I would be happy to hear your comments and reactions to the book and its uses. I look forward to improving it.

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About the Author

Charles Harper is a professor of sociology at Creighton University in Omaha, Nebraska. As a member of the faculty there since 1968, he has developed and taught numerous courses in the sociology department. Dr. Harper's teaching and scholarly interests involve the study of social change, globalization, the sociology of religion, social theory, and environmental sociology. He has published papers in a variety of academic journals.

Along with *Environment and Society*, Dr. Harper is the author of two other textbooks. Coauthored with Kevin Leicht, his book *Exploring Social Change: America and the World* (Prentice Hall, 2007) is now in its fifth edition. Another book, *Food, Society, and Environment* (Prentice Hall, 2003) was coauthored with Bryan F. LeBeau.

As an undergraduate, Dr. Harper studied biology and the natural sciences. He received a bachelor's degree from Central Missouri State University, a master's degree in sociology from the University of Missouri, and a Ph.D. in sociology from the University of Nebraska at Lincoln.

He and his wife, Anne, live close to Creighton's campus near a "clan" of adult children, stepchildren, and grandchildren. He enjoys traveling, bicycling, and reading.

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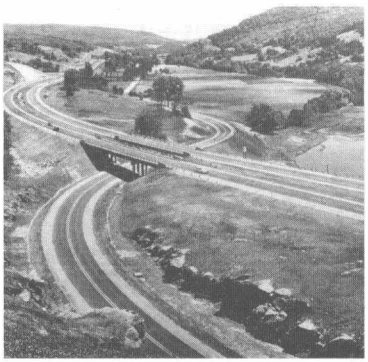
CHAPTER ONE

Environment, Human Systems, and Social Science



The human impact on our environment is so extensive that we live in a "socialized environment."

Industrial societies create a lot of waste and pollution, as seen in Los Angeles cloaked in smog, and a solid waste dump near the New York City skyline.

News about our environment and how humans live within it has not been good in recent decades. Wilderness and soil and water resources are under stress, forests are disappearing, we are awash in pollution and garbage of our own creation, and the earth's climate is warming significantly. Assuming that your parents paid attention to the news, how many of these words or phrases do you think they would have found familiar when they were your age?

> Acid rain, air pollution, smog, thermal inversion, deforestation, global warming/greenhouse effect, carbon sequestration, indoor air pollution, landfill overcrowding, low level nuclear wastes, meltdown, eutrophication, urban sprawl, landfill overcrowding, ozone depletion, global warming, Kyoto treaty, radiation from power lines, species extinction, sustainable development, biodiversity, toxic waste dump, desertification, green politics, green consumerism, NIMBY syndrome

My guess is that they would have been familiar with two or three of them at the most (probably air pollution, smog, and toxic waste dump). You have probably at least heard of many of them. That, I think, is one measure of how rapidly and pervasively environmental issues and problems have entered the popular consciousness and political discourse of our times. This book is about those problems, their human causes, and their implications. The *environment* includes the earth (rocks, soil, water, air, atmophere and living things), but an *ecosystem* means the things that live and interact in parts of the geophysical environment.

ECOCATASTROPHE OR ECOHYPE?

Are all the terms listed about problems just alarmist stuff? How *real* are these problems? Sure, everyone knows that there are environmental problems—pollution and the rainforests, nuclear energy, and the possibility of global warming. But is ecocatastrophe really around the corner, or are the problems greatly exaggerated? Like me, you probably don't spend much time or energy thinking about these problems. The world seems okay: I get up and go to work and enjoy my family life, farmers continue to grow food that is plentiful and normally tasty, and drinking tap water has not made me ill (not yet, anyway). After 2000, and particularly after September 11, 2001, many of us have a sense of unease, for many reasons. Still, to many of us in the richer nations, the biophysical world still seems okay. Perhaps, if you are like me, it is hard to experience directly the environmental devastation depicted here. We are aware, of course, that there *is* human suffering, poverty, disease, and terrorism in the world, and to most of us the economic, political, and individual causes of human problems and misery seem more direct and obvious than the environmental ones. Surely you realize I have been talking about extremely complicated issues and controversies for the human future—if not for you, then certainly for your children and grandchildren. Not "merely"