

CRITICAL INTRODUCTIONS TO GEOGRAPHY

Paul Robbins

Political Ecology

Third
Edition

A Critical Introduction



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Political Ecology

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Political Ecology
A Critical Introduction

THIRD EDITION

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WILEY

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Preface to the Third Edition

The 15 years between the first edition of this book and the one you now hold in your hands have continued to make the relevance and urgency of political ecology a difficult thing to gauge. On the one hand, the field has grown so dramatically, and in so many directions, that it is even easier to say of this contested enterprise that it has become too diffuse to matter. References to “political ecology” in the Web of Science database have more than tripled in the intervening years but now reflect a huge range of approaches. One might think that political ecology has finally “jumped the shark,” a phrase from the television industry suggesting the creative end of a franchise. I am sympathetic with those who may hurriedly wish to get on with the “next thing” as well as those who are still not sure what political ecology is, let alone whether it has a purchase on a special kind of explanation.

But the field is also marked by its ubiquity and vibrancy. Books with titles like *Ecologies and Politics of Health* (King and Crews 2013) and *Land Change Science, Political Ecology, and Sustainability* (Brannstrom and Vadjunec 2013) have shown how interest in political ecology has transgressed diverse disciplinary boundaries. A number of international political ecology networks, like ENTITLE and POLLEN, have emerged in the last several years, moreover, leaving the parochial Anglo-American tradition behind and showing the energy of political ecology in Athens, Barcelona, Rome, Bangalore, Taipei, and beyond. Political ecology has fledged from the nest, for sure, and is now beyond any call to return to a marginal place in the footnotes. We are all political ecologists now, I suppose.

And if political ecology is no longer cutting-edge, *the world continues to be at the sharp end of vast entangled political ecologies*. The United States has vowed retreat from international accords on climate change even while global consensus has connected the open sea lanes across the Northwest Passage with disastrous heat waves across Europe,

increasingly uneven Asian monsoons, and cataclysmic calving Antarctic ice. Areas gazetted for conservation mushroomed in recent years without consensus on how to deal with the displacement of people and loss of productive resources this entails. Mining concessions have ballooned on indigenous land. Hazardous waste has perfected the habit of seeking out the world's most marginal communities.

And Hurricane Katrina in 2005 came closer than perhaps any other single event of recent memory to tear back the veil on the structural inequalities of race and class in the United States, which are physically inscribed into the seascape, implicated in the ecological transformation of the coastal zone, and inseparably linked to the technologies that govern the flow of water through the Mississippi delta. That event came *closer*, but clearly not yet close enough. There is simply no way to pass through that obscure barrier without continuing to research, produce videos on, analyze, ecologically track, and mount soap boxes to shout about the swirling political and economic relationships that dialectically produce levees and slums, soils and dams, tourism and hunger, energy and climate, and people and things. I am forced to conclude that there is as much or more need for political ecology now than decades ago when my journey began, and the revised version of the book you have in your hands is the result.

Those familiar with the first and second editions will notice changes in the book, though perhaps fewer than between my last two efforts; I maintain a judicious attempt not to throw in the "kitchen sink." I have attempted to update examples but many cases continue to draw on canon from the field. Many boxes have been added, including key recent works, but necessarily at the expense of some important older work. I have also made judicious cuts in the otherwise long-winded prose, to the tune of 1 in 10 words or so. For those who miss my exegeses on the merits of cultural ecology, the 2004 edition is out there in circulation.

Most important, I have continued to stress, despite the frustration of some readers, that political ecology is not a method or a theory, nor even a single perspective. Rather, I maintain that political ecology is an urgent kind of argument or text (or book, or mural, or movie, or blog) that examines winners and losers, is narrated using dialectics, begins and/or ends in a contradiction, and surveys both the "objective" status of nature as well as stories about the status of nature.

In light of this last revelation, I have clung to the insistence that one might be a political ecologist only in the same way those who consistently and exclusively write gothic novels might be considered gothic novelists. But this should not encourage any of us – whoever we are or whatever we do – to shy away from researching, reading, writing, and witnessing political ecologies, whenever or wherever it is scientifically enlightening or socially and environmentally urgent. One need not be a political ecologist to mobilize the resources, or learn from the insights, of political ecology. I hope more non-political ecologists continue to read and write political ecology; indeed, this may be our only hope.

Acknowledgments

Writing requires a rare space that is comfortable and intellectually challenging. I've been lucky to have had three such spaces. Thanks to Ohio State University Geography and Larry Brown for being my first intellectual home and to University of Arizona Geography and Development, John Paul Jones, and Sallie Marston for being my second. My last seven years as Director and Dean of the Nelson Institute for Environmental Studies at the University of Wisconsin-Madison have been perhaps the most transformative for me, since I have been surrounded by so many pragmatists and innovators as to make my ambivalent commitments to problem-solving more apparent, at least to me.

All of the researchers I approached in the preparation of this volume and the previous editions were invaluable, including Arun Agrawal, Tom Bassett, Fikret Berkes, Betsy Beymer-Farris, Piers Blaikie, Harold Brookfield, Judith Carney, David Correia, Diana Davis, Susanne Freidberg, Larry Grossman, Julie Guthman, Suzanna Hecht, Christian Kull, Rebecca Lave, Tania Li, Nancy Peluso, Dianne Rocheleau, Joel Wainwright, and Michael Watts. I am also in debt to my many colleagues around the world, who answered e-mails, read drafts, and explained complex problems so that even I could grasp them, including Simon Batterbury, Tor Benjaminsen, Denis Gautier, Tony Bebbington, Susanna Hecht, Noriko Ishiyama, Brad Jokisch, Thembela Kepe, Rheyne Laney, Becky Mansfield, Brian Marks, Kendra McSweeney, Ian Scoones, and Randy Wilson. My dawning recognition of the revolutionary power of international political ecology is owed to many, but these certainly include Giorgos Kallis and Christos Zagrofos. Michael Shellenberger and Ted Nordhaus edited some of my most confusing text and restored to me some critical part of my modernity.

The several years of my own fieldwork described throughout the book would have been impossible without the help of David Bennett, Anil Chaangani, Ashwini Chhatre,

Jody Emel, Susan Gilbertz, Douglas Johnson, David McGinnis, Krithi Karanth, Ilse Kohler-Rollefson, Komal Kothari, S. M. Mohnot, Julie Sharp, and Hanwant Singh Rathore. Thanks also to Justin Vaughan and Ben Thatcher at Wiley-Blackwell. The work and thinking of all members of my graduate “collective” are present throughout this volume, but most notably Trevor Birkenholtz, Kristina Bishop, Heidi Hausermann, Justyn Huckleberry, Stephen Martin, Katharine Meehan, Jennifer Rice, Vaishnavi Tripurenini, and Mayank Vikas. Thanks to Bob Toborg, Frank Forgione, and Dave Feroe for being the intended audience of the volume. The Department of Geography at the University of Denver and the Kulturstudier program in Ghana are wonderful institutions and were generous with collegiality and space. Thanks there to Andy Goetz, Matthew Taylor, Siri Fagerheim, and Liv Adams. Finally, and very likely against their wishes, Billie Lee Turner II and Andrew “Pete” Vayda remain inspirations for this work. China Mieville gave me a lesson on utopia and dystopia during our productive encounter in 2014 which I will never forget.

Most importantly, throughout the whole process Sarah Moore continued to insist not only that another edition of the book would eventually get finished (despite my strong doubts) but that at least one person would eventually agree to read it; her comments on and support for my writing have saved a great many confusions and embarrassments over the years (the word “penultimate” means next to last, for example; who knew?). Her knowledge of the politics of waste and consumption was invaluable and her contributions are evident throughout this book.

Having said this, the interpretations and perspectives contained within the text are my own, and I certainly can't lay blame at anyone else's feet for controversial, confusing, or bizarre claims. The reader will have to address any complaints to me.

Paul Robbins, July 2019

Introduction

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When Hurricane Harvey made landfall in August of 2017, only 1 of an astonishing 17 named storms in North America that season, its winds ripped the top off the shining veneer that hides so many contradictions in the heart of the city of Houston. Waters rose throughout that city as the storm squatted overhead, raining between 30 and 60 inches (75 and 150 cm) down on the overdeveloped streets of metropolis. Four hundred square miles were underwater at the height of the flooding, which was nearly 10 feet (3 meters) deep in many locations. The storm spawned several tornadoes, which plowed through suburban neighborhoods. Power failed across the grid and several sites containing toxic hazards spilled their stored waste into the flooded streets where people waded, swam, and paddled their way to safety.

The ecology of this storm is political in so many ways.

First, the most likely chain of causation makes a tidy circle of political irony. Warm gulf waters fed the intensity of the storm and its seemingly endless supply of rain. These waters, in turn, have experienced elevated temperatures for some time – the average water temperature in the Gulf of Mexico during the period between August and October has risen between 1 and 2 °F (1.1 C) over the last 40 years. These waters have warmed in response to overall regional warming, especially throughout the summer, and the period leading into storm season. That warmth has in turn been driven by the increased loading of greenhouse gases into the atmosphere, which are predominantly released by the global petrochemical-based economy. That economy built Houston, of course, which is home to more than 5,000 energy-related firms. The disaster in Houston is a tragic loop.

This is made all the more complicated by the fact that many of the foremost community and political leaders in the region either deny trends in climate change, or accept them with the caveat that they are “natural.” The events of Hurricane Harvey are

as much about the political impacts of storytelling – claims about nature – as they are the physical impacts of a storm.

At a more local level, moreover, the storm's effects were exacerbated (or perhaps even caused) by the history of urban development. A vast carpet of impervious pavement covers the city, disallowing the torrential rainwater from seeping into the wetlands, grasslands, and streams that the city displaced over decades. That blanket of cement was encouraged to cover the land by a local political system that doggedly eschewed basic instruments of urban planning, including zoning codes that might keep flood-resilient land covers on the ground. Deeply vested development interests keep these lax laws unchanged, since reforms might be costly or inconvenient. Harvey's flooding is by no means a natural disaster; it is precisely an unnatural one.

There is a deeper and even more problematic politics to the ecology of the 2017 Hurricane season, however. The spectacular scenes of flooding in an American metropolis, however startling, represented a short, relatively minor event, relative to the impacts of that season on other parts of the region. Puerto Rico was ravaged under the heavy rains and high winds of Hurricane Maria in September, and the impacts of the storm were far more devastating for the people of that island than for those of Houston. The death toll remains unclear at the time of writing, but will likely eclipse that of Hurricane Katrina, once all the grim accounting is done. The electrical grid failed totally, as in Houston, but its restoration in Puerto Rico would take months. Hospital systems failed. Half the island was still without power by the turn of the New Year. Thousands were put out of their homes while aid to rebuild families and businesses languished in storage. More than 140,000 Puerto Ricans fled to the state of Florida alone. This has been a devastating spectacle of neglect, rooted in a colonial and racist history.

The reasons for these incredibly divergent outcomes, after all, have nothing to do with geography and everything to do with political economy. Puerto Rico is a territory of the United States and not a state, acquired in a lopsided military conflict more than a century ago. As such, its residents are US citizens but ones who have repeatedly been treated as less-than-equal by their mainland counterparts. The lack of attention to the suffering on Puerto Rico stands in marked contrast to the rapid response in Texas.

This outcome was made all the worse by local political economic conditions, insofar as Puerto Rico entered the hurricane season reeling from a debt crisis that left the island's infrastructure frail and vulnerable. That debt crisis was itself a product of local mismanagement and a grossly disadvantaged position in the global economy. Like all other "natural" disasters, events on Puerto Rico show the terrible unevenness of human vulnerability.

The 2017 hurricane season tells us many things. It highlights that environmental hazards and transformations are unequally distributed, with winners as well as losers. It shows the dialectical relationships between people and things: investors, carbon, and rain; developers, blacktop and water. It reveals a system of relationships that begin and

end in contradictions. It points to the way claims about nature matter to nature itself. It shows that nature is inextricably entwined with political economy.

It also suggests the need for a wide-ranging kind of research and theory to understand fully, from technical assessment of ocean-atmosphere relationships and the extensive study of oil markets, to intensive survey of urban development investment and state-led institutions of redistribution. This single season might tell us many crucial stories.

This book is an effort to survey these kinds of tales and to describe the hard work that underlies researching and telling them well. By introducing *political ecology*, a field that seeks to unravel the political forces at work in environmental access, management, and transformation, I hope to demonstrate the way that politics is inevitably ecological and that ecology is inherently political. But more than this, I intend to show that research in the field can shed light on environmental change and dynamism, thereby addressing not only the practical problems of equity and sustainability, but also basic questions in environmental science.

The normative goal of the book is not over-ambitious. By explaining and constructively exploring the body of research sometimes called political ecology, I intend only to clarify the most persuasive themes in a highly disparate body of writing and show the politics of nature to be both universal and immediate. This, I think, may make a small contribution to helping us all break from an image of a world where the human and the non-human are disconnected, a fiction that remains so stubborn a part of our modern reasoning that it is as difficult to unimagine as it is to picture a world without patriarchy or class. I believe, however, that an alternative picture, where nature and society are undivided, is as much an act of remembering as one of inventing. Since the popular environmental movement has already done such an admirable job of getting many of us started, it may only be a matter of completing the revolution by rendering it more explicitly political.

It is my hope, therefore, that though this book is aimed at an academic audience, it presents the claims of the field in a plain enough way that picnickers, hikers, and hummingbird-watchers can find in it a compelling argument for the way their concerns are implicated in those of working communities, disenfranchised minorities, and subsistence producers around the world. In this sense, the book departs from some theoretical and programmatic approaches to the politics of nature, especially those that eschew alliances with traditional environmental movements. This rejection of "bourgeois" environmentalism, a hallmark of some political economic approaches to nature, is both shortsighted and impractical; what more radical challenge to the political economic status quo exists in US law than the Endangered Species Act?

Having said this, it is also my goal to persuade those concerned about the condition of forests, the threat of climate change, and the fate of wild animals that it is no blasphemy to admit that the world is crafted by political forces and human industry, even and especially those dearly held wildernesses that sell so many Sierra Club calendars.

At the same time I hope to encourage those concerned with more traditional political economy that an increased sensitivity to the influence (and perhaps even the interests) of non-humans is essential for better politics, explanation, and ethics. The potential power of a popularized political ecology is so great, in fact, that merely shedding a few tightly clasped shibboleths on either side might make way for a very new world, emerging from these dark times when progressive politics in both human and non-human realms seem so painfully paralyzed.

The Goals of the Text

It would be impossible to survey the field of political ecology in its entirety. The contributors are too many, the breadth of topics too vast, and the regional diversity too great. I do not, therefore, intend here to provide exhaustive case studies of political ecological research (see especially Peet and Watts 1996a; Peet, Robbins, and Watts 2010; Bridge, McCarthy, and Perreault 2015b) or a general account of the relationship between science and politics (Forsyth 2003), since this is a task well performed by others. Neither can I place this field and approach within the longer history of geographic science in more than a cursory way, though there are other excellent sources for this (Castree 2005, 2011), nor do I intend to survey the world system as a whole, pointing to the processes, players, and dynamics that are at work politicizing the natural environment. Many excellent books survey the condition of global debt, the position of local producers in commodity markets, and the dwindling power of the state in managing nature (Bryant and Bailey 1997; Sheppard et al. 2009).

Rather, I intend to do something different here. Whereas most summary texts on the state of global political ecology are designed to show political ecology as a body of knowledge, this book is designed also to show political ecology as *something people do*. And whereas collected volumes highlight a number of separate and distinct cases, this book also gropes for *common questions* that underlie them. Finally, where some work highlights the field as a specific approach, I suggest instead that it constitutes a *community of practice* and characterizes a *certain kind of text*, albeit an extremely valuable one.

The book is also designed to serve as an introduction and companion volume to the key books, articles, arguments, and research statements that make up the core of the field, and should serve to introduce any interested party to its major works and contested ideas. In this regard, it is offered as a remedy for the purported problem that the field is so fragmented that citation in it, as senior political ecologist Piers Blaikie once remarked, “is largely a random affair.”

But more than this, the book is a critical review of the work that goes on in the field, one that advocates a very particular vision of which approaches work and which do not and which lines of inquiry have the most political and analytic power and which do not. In the process, I further hope that the book reveals areas where the field might yet improve its analytical tools. I hope to show, notably, that political ecological analysis

and argument have shifted from a focus on the destruction of environments, with a stress on human influences, to a more powerful focus on the production of socio-environments and their co-constitution by many kinds of human and non-human actors. Even so, the book will suggest that there may and must be ways to move “beyond” political ecology or to leverage political ecological texts to better effect. Even while showing the strength of the approach, therefore, the book is written to demonstrate weaknesses, while pointing the way forward towards a more coherent and simultaneously more critical way of doing research.

I will not provide and rehearse, however, the laundry list of more typically pronounced criticisms often made of the field – usually centered on the fact that it is too focused on the broadly defined “underdeveloped world,” that it is too “rural” in character, and that it lacks commitment to scientific ecology. These claims are true, but such biases, as discussed here, grow quite inevitably from the professional and intellectual seeds from which the tree of political ecology sprouted – critical development research, peasant studies, environmental history, cultural ecology, and postcolonial theory. We have already seen in the past few years how political ecology has become more symmetrically concerned with the traditionally defined “first world” and urban areas and issues. We have also seen an unprecedented set of partnership emerge, within political ecology (and its sibling: critical physical geography) towards taking environmental systems and science seriously. These changes have not guaranteed, however, that political ecology approaches have become more coherent, or that the use of either ecological science or critical deconstruction has been managed with greater rigor. These explanatory problems, I argue, are prior to, and more important than, the specific topical and regional choices made in research.

The Rest of the Book

The remainder of this book directs itself to describing political ecology as a set of grounded arguments, attempting to show what makes political ecology researchers tick, what makes their work urgent to them, and what useful lessons they have provided for addressing important questions.

In Part I, I describe how political ecology came to be the way it is, with its inherent possibilities and limits. Chapter 1 introduces the term political ecology, distinguishing it from apolitical ecologies of various kinds, and showing a unity of practice amidst much diversity of thought. Chapter 2 reviews the deep roots of this line of inquiry, arguing that political ecologists have been around a very long time. Chapter 3 describes the historical development of a critical science of the environment, showing the disparate fields and eclectic tools that converged in the last three decades of the twentieth century to give greater analytical form to the field. This chapter is dense with history and referencing, but is intended to be a source to which the reader can return. Chapter 4 draws this opening section to a close to stress the common character of diverse political ecological texts: they stress winners and losers, are narrated with dialectics, begin or

end from contradictions, and stress simultaneously the politicized state of the environment and the politicized nature of accounts about the state of the environment.

The three chapters in Part II review challenges to the field from a range of sources. Chapter 5 examines challenges from ecology, and the question of environmental change as environmental degradation or destruction, while Chapter 6 attends to challenges in the way researchers have considered the environment to be imaginary or constructed. Chapter 7 examines other approaches to nature/society study, including those in “land change science” and those from the perspective that stresses “causal” explanation. These approaches are shown to provide useful, indeed critical, lessons for political ecology, while at the same time they continue to reflect and reinforce some problems political ecology has evolved to address.

Part III examines five central theses of political ecological research, each in its own chapter, which I describe as degradation and marginalization (Chapter 8), conservation and control (Chapter 9), environmental conflict and exclusion (Chapter 10), environmental subjects and identity (Chapter 11), and political objects and actors (Chapter 12). The case materials in each chapter are selected to represent a range of research regions across the world, including cases from the “developed” and “underdeveloped” worlds. The biases of my training and experience will be evident throughout. The research described comes predominantly from the discipline of geography, though it is coupled with work in environmental history, development studies, anthropology, and sociology. While I have tried to include examples from both the global north and south, including cases from North and South America, Africa, and Asia, I have mentioned little of Western or Eastern Europe or of Australia. Research and theory in English predominates in the volume, despite the strong parallel threads of continental European political ecology (Whiteside 2002; see also the volume in French by Gautier and Benjaminsen 2012). Referencing of North American work outweighs that from other places. Finally, numerous international case examples were cut in final editing, owing to a lack of space.

Each of the chapters in this section also includes case histories of how, in my own work, I have tried to do research, and how on many occasions I have been tripped up by hidden pitfalls. These sections only reflect what I have done in research rather than what political ecologists have done more generally, but I think my methodological choices are not unique and the problems I have faced are common not only to political ecology, but also to much research in general.

The conclusions in Part IV will critically evaluate the status of the field and point to ways political ecology can expand and improve. My central argument here is that political ecology must attend to the future, by imagining new alternatives based either on the promises of degrowth or on a kind of emancipatory and modest modernism, all the while breaking loose from both the apocalyptic and green utopian imaginaries that otherwise hold the future captive.

Scattered throughout the text are boxed critical summaries of important individual contributions to political ecology and the people who made them. These are based on

my own reading, but wherever possible these also include direct reflections and responses from those authors kind enough to provide them.

The sum of the effort can only be said to give the reader a “feel” for a field of practice that certainly has come to be influential and whose reach has crossed many social and environmental sciences. Curiously, however, for a field of this stature, it seems odd that political ecology is so hard to define! We first must attend to why this might be so.

Chapter 1

Political versus Apolitical Ecologies

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For many of us who are unable to travel to the plains of East Africa, our images of the region are given life on late-night cable wildlife television, in bold IMAX presentations at natural history museums, or perhaps in the vivid spectacle of Disney's *The Lion King*. The imagined patterns of the "circle of life" in these media – complete with lions, hyenas, and baboons – play out on a yellow-filtered savanna where migrations of wildebeest cross the Serengeti, chasing seasonal rainfall, hunted in turn by stoic predators. The scenes are compelling and they inspire in us a justifiable affection for the beauty and complexity of the non-human world around us. These images are also ecologically important, since they give us a picture of connectedness, which is essential to understanding life on the savanna. Across the borderlands of Kenya and Tanzania forage grasses follow rainfall, wildebeest pursue forage, predators pursue wildebeest, scavengers pursue predators, and so on.

The absence of people from these imaginary landscapes seems in no way strange for most of us; these are *natural* landscapes, apparently far from farms, factories, and the depredations of humankind. It is perhaps inevitable, therefore, that an intuitive reaction to the news that wildlife populations are in crisis – including declines in giraffe, topi, buffalo, warthog, gazelle, and eland – is to imagine that the intrusion of humankind into the system is the cause of the problem. Growing populations of impoverished African people, we might imagine, have contaminated the natural rhythm of the wilderness. Indeed, the sense of loss in contemplating the declining biodiversity and destroyed landscapes may inspire frustration, coupled with a feeling of helplessness; the situation in the Serengeti and the steady march of growing populations seem far beyond the control and influence of life where we live (Figure 1.1).

Stepping back from the savanna, however, and gazing across the Serengeti–Mara ecosystem both in time and in space, habitat loss and wildlife decline appear more complex and more connected to the daily lives and routines of urban people in the developed world. A cross-border analysis shows that the decline in habitat and



Figure 1.1 Wildebeest crossing the Mara River in Kenya. The migration of wild animals across the region occurs amidst a fully humanized and highly political environment.

Source: Photo © Paul Banton/Shutterstock.

wildlife in Kenya is far higher than that in Tanzania. Why? Rainfall, human population, and livestock numbers do not differ significantly. Rather, private holdings and investment in export cereal grains on the Kenyan side of the border have led to intensive cropping and the decline of habitat. These cereals are consumed around the world, as part of an increasingly globalized food economy. As Kenya is increasingly linked to these global markets and as pressure on local producers increases, habitat loss is accelerated. Less developed agricultural markets and less fully privatized land tenure systems in Tanzania mean less pressure on wildlife. The wildlife crisis in East Africa is more political and economic than demographic (Homewood et al. 2001).

These facts undermine widely held apolitical views about ecological relations in one of the most high-profile wildlife habitats in the world. They also point to faulty assumptions about the nature of “wild” Africa. First, the image of a Serengeti without people is a fallacious one. The Masai people and their ancestors inhabited the Central Rift Valley for thousands of years before European contact, living in and around wildlife for generations. Indeed, their removal from wildlife park areas has led to violent conflicts (Collett 1987). More generally, the isolation of these places is also a mistaken perception. Export crops from Kenya, including tea and coffee in other parts of Kenya beyond the Central Rift Valley, continue to find their way to consumers in the first world, even as their global prices fall, constraining producers who must increase production, planting more often and over greater areas, further changing local ecological conditions. With three-quarters of the population engaged in agriculture, economic margins for most Kenyans become tighter every year, and implications for habitat and wildlife more urgent.

The migration of the wildebeest, and its concomitant implications for grasslands and lions, therefore, does not occur outside the influences of a broader political economy. Land tenure laws, which set the terms for land conversion and cash cropping, are made by the Kenyan and Tanzanian states. Commodity markets, which determine prices for

Kenyan products and the ever-decreasing margins that drive decisions to cut trees or plant crops, are set on global markets. Money and pressure for wildlife enclosure, which fund the removal of native populations from the land, continue to come largely from multilateral institutions and first-world environmentalists. All of these spheres of activity are further arranged along linked axes of money, influence, and control. They are part of systems of power and influence that, unlike the imagined steady march of the population “explosion,” are *tractable to challenge and reform*. They can be fixed.

The difference between this contextual approach and the more traditional way of viewing problems like this is the difference between a *political* and an *apolitical* ecology. This is the difference between identifying broader systems rather than blaming proximate and local forces, between viewing ecological systems as power-laden rather than politically inert, and between taking an explicitly normative approach rather than one that claims the objectivity of disinterest.

When the bottom drops out of the coffee market, as it did in 2014, what happens to the peasants who depend upon it and the forests in which it is harvested? When the government of India spends billions of dollars on massive afforestation programs, aimed at expanding tree cover and animal biodiversity, what actually happens to the areas designated for plantation and the people who live there?

These are the questions of political ecology, a field of critical research predicated on the assumption that any tug on the strands of the global web of human–environment linkages reverberates throughout the system as a whole. This burgeoning field has attracted several generations of scholars from the fields of anthropology, forestry, developmental studies, environmental sociology, environmental history, and geography. Its countless practitioners all query the relationship between economics, politics, and nature but come from varying backgrounds and training. Some are physical scientists (e.g., biologists, geomorphologists, and hydrologists), others are methodological technicians (e.g., geographic information or remote sensing specialists), while most are social scientists. All share an interest in the condition of the environment and the people who live and work within it. These researchers, moreover, advocate fundamental changes in the management of nature and the rights of people, directly or indirectly working with state and non-governmental organizations (NGOs) to challenge current conditions. This book reviews the work that these people do, pointing towards the common factors evident in a research area often noted for its diversity, and revealing the strengths and weaknesses in a field that has grown far too quickly to prepare a comprehensive survey or census of its accomplishments and failures.

What is Political Ecology?

The term political ecology is a generous one that embraces a range of definitions. A review of the term from its early use (first used to describe this kind of work by Wolf in 1972) to its most recent manifestations shows important differences in emphasis. Some definitions stress political economy, while others point to more formal political

institutions; some stress environmental change, while others emphasize narratives or stories about that change (see Table 1.1). Even so, there seems to be a set of common elements. The many definitions together suggest that political ecology represents an explicit alternative to “apolitical” ecology, that it works from a common set of assumptions, and that it employs a reasonably consistent mode of explanation.

Challenging apolitical ecologies

If there is a political ecology, by implication there must be an apolitical one. As such, research in the field commonly presents its accounts, whether explaining land degradation, local resource conflict, or state conservation failures, as an alternative to other perspectives. The most prominent of these apolitical approaches, which tend to dominate in global conversations surrounding the environment, are “ecoscarcity” and “modernization” accounts.

It is not my intention to provide sustained criticisms of these two approaches here; later chapters of the book should reveal the characteristics of these perspectives and demonstrate their ethical and practical weaknesses. An outline of each should suffice to present their basic arguments, with which readers are probably already very familiar, common as these approaches are to most environmental explanation.

Ecoscarcity and the limits to growth

The dominant contemporary narrative of environmental change and human–environment interaction is a well-established one with a long history. In Western Europe since the late 1700s, when human influence and response to the environment was first submitted to scientific scrutiny, the central driving explanation for social/ecological crisis has been increasing human population, measured in absolute numbers. Following from Thomas Malthus’ *Essay on the Principle of Population*, the argument is straightforward: as human populations grow out of proportion to the capacity of the environmental system to support them, there is a crisis both for humans, whose numbers fall through starvation and disease-based mortality, and for nature, whose overused assets are driven past the point of self-renewal. This argument took many forms during the twentieth century, from the *Population Bomb* of Paul Ehrlich (1968) to the Club of Rome’s *Limits to Growth* (Meadows et al. 1972), but its elements are consistent. All hold to the ultimate scarcity of non-human nature and the rapacity of humankind’s growing numbers.

For ecoscarcity proponents, this is nowhere a more serious problem than that in the underdeveloped world, where growth rates and absolute numbers of people remain the highest in the world. That the poorest regions of the world are the repositories for what are viewed as important and scarce environmental goods makes the problem doubly serious. In this way of thinking, the perilous decline of Kenya’s wildlife, as described above, can be predicted to follow inevitably from the growth of Kenya’s population.

Table 1.1 Defining political ecology.

Author/source	Definition of “political ecology”	Goal
Cockburn and Ridgeway (1979)	“a useful way of describing the intentions of radical movements in the United States, in Western Europe and in other advanced industrial countries ... very distant from the original rather sedate operations of the ecolobby” (p. 3)	Explicate and describe first-world urban and rural environmental degradation from corporate and state mismanagement; document social activism in response.
Blaikie and Brookfield (1987)	“combines the concerns of ecology and a broadly defined political economy. Together this encompasses the constantly shifting dialectic between society and land-based resources, and also within classes and groups within society itself” (p. 17)	Explain environmental change in terms of constrained local and regional production choices within global political economic forces, largely within a third-world and rural context.
Greenberg and Park (1994)	A synthesis of “political economy, with its insistence on the need to link the distribution of power with productive activity and ecological analysis, with its broader vision of bio-environmental relationships” (p. 1)	“Synthesize the central questions asked by the social sciences about the relations between human society, viewed in its bio-cultural-political complexity, and a significantly humanized nature” (p. 1).
Peet and Watts (1996b)	“a confluence between ecologically rooted social science and the principles of political economy” (p. 6)	Locates “movements emerging from the tensions and contradictions of under-production crises, understands the imaginary basis of their oppositions and visions for a better life and the discursive character of their politics, and sees the possibilities for broadening environmental issues into a movement for livelihood entitlements, and social justice” (pp. 38–39).
Forsyth (2003)	“the politics of ecology as a scientific legitimization environmental policy” (p. 4)	To “establish the political forces behind different accounts of ‘ecology’ as a representation of biophysical reality” (p. 4)

Table 1.1 (Continued)

Author/source	Definition of “political ecology”	Goal
Heynen, Kaika, and Swyngedouw (2006b)	“formulating political projects that are radically democratic in terms of the organization of the processes through which the environments that we (humans and non-humans) inhabit become produced” (p. 2)	To “untangle the interconnected economic, political, social and ecological processes that together form highly uneven urban socio-physical landscapes” (p. 16)
Bridge, McCarthy, and Perreault (2015a)	An environmental research field marked by a set of “common commitments” to “critical social theory”, to “in-depth, direct observation involving qualitative methods”, and a “normative political commitment to social justice and structural political change” (pp. 7–8)	“not just to explain social and environmental processes, but to construct an alternative understanding of them, with an orientation to social justice and radical politics” (p. 8)

Table 1.2 Who is overpopulated? Comparative per capita consumption of resources and production of waste. (Data adapted from World Resources Institute 2005).

Resource	India	United States
Meat (kg, 2009) ^a	4	120
Water (m ³ , 1996–2005) ^b	1,089	2,842
Energy (kg oil equivalent, 2013) ^c	606	6,915
Carbon emissions (metric tons, 2013) ^c	1.6	16.4

India is three times larger than the United States, in terms of population, but consumes a comparatively tiny quantity of key resources and produces a fractional amount of waste.

^a Food and Agriculture Organization of the United Nations

^b Water Footprint Network (<http://waterfootprint.org/en/resources/water-footprint-statistics/#CP3>)

^c World Bank – World Development Indicators

The problems with this line of argument are many. In general terms, and as will be shown throughout this book, the demographic explanation is a consistently weak predictor of environmental crisis and change. First, this is because the mitigating factors of affluence and technology tend to overwhelm the force of crude numbers. A very few members of the global village, after all, consume the majority of its resources (Table 1.2).

The more fundamental problem with this formulation, however, is that it posits the environment as a finite source of basic unchanging and essential elements,

which set absolute limits for human action. However intuitive (divide a limited stock of earth materials by a potentially infinite hungry human population and the result always approaches zero), this assumption has proved historically false and conceptually flawed.

Market “optimists,” expressing the problem in economic terms, suggest that any form of resource scarcity creates a response that averts serious crisis. As a good becomes scarcer, they suggest, its price tends to rise, which results either in the clever use of substitutes and new technologies to increase efficiency, or in a simple decreased demand for that good. The result is that apparently finite resources are stretched to become infinitely available as consumers use less and producers supply more efficient alternatives and substitutes (Rees 1990). Even if populations rise on a limited land area, for example, the demand for land and rising land rents will increase its efficiency of use, with more and better production on each unit of land. Even if petroleum becomes scarce, the rising price per barrel will encourage the use of otherwise expensive alternatives like wind and solar power, or simply cause consumers to drive less, endlessly stretching the world’s energy supply. While such optimistic prognoses are themselves fraught with problems, they do point to an important and increasingly well-accepted truism: resources are constructed rather than given.

Finally, the overall global trajectory of population is actually headed in the reverse direction from that predicted by Malthusian catastrophists. As of 2017, more than half the countries of the world were in a state of population decline, where fertility rates have fallen to less than the replacement rate (approximately 2.1 children per family). The seriousness of this transition is notable insofar as the greatest challenge for many countries in demographic decline is labor *scarcity*, not a surplus of people (Robbins and Smith 2017).

Since it was first offered up in Malthus’ 1793 formulation, the ecoscarcity argument has been presented as an explicit justification for social policy. In particular, Malthus insisted that since famine and starvation were essential to controlling runaway human populations, such events are “natural” and inevitable. England’s Poor Laws, the modest redistributive welfare subsidies to feed the most marginal groups, were pointless and counter-environmental. By increasing rather than decreasing their numbers, such subsidies were the source rather than the solution of misery (Malthus 1992, book 4, ch. 3, p. 227).

The implications for contemporary global environmentalism are equally programmatic. Environmental crises as demographic problems exist at the site of resource use, in and amongst the world’s poor, who are simply too numerous. Subsidies of the poor do little to alleviate the crisis, since they only serve to reinforce the demographic trend. Population control, rather than reconfiguration of global distributions of power and goods, is the solution to ecological crisis. The continued advocacy of an apolitical natural-limits argument, therefore, is implicitly *political*, since it holds implications for the distribution and control of resources. Even so, Malthusianism regrettably remains a typical way of thinking about environmental change, and so provides a unifying target for many political ecologists.

Other apolitical ecologies: diffusion, valuation, and modernization

Other prominent accounts of environmental change also dominate current thinking, asserting apolitical answers to extremely political questions. It is commonly argued, for example, that ecological problems and crises throughout the world are the result of inadequate adoption and implementation of “modern” economic techniques of management, exploitation, and conservation. Generally, this way of thinking is underpinned by a commitment to economic efficiency.

These approaches to environmental management and ecological change generally assert that efficient solutions, determined in optimal economic terms, can create “win-win” outcomes where economic growth (sometimes termed “development”) can occur alongside environmental conservation, simply by getting the prices and techniques right. Such approaches are persuasive, at least insofar as they reject the cataclysmic prognoses of Malthusian catastrophe described above. By freeing individuals and firms to seek their own best and most efficient use of resources, propelled by competition on an open market and sustained by modern technology, waste, environmental destruction, and resource degradation might be tamed.

For global ecology, such an approach suggests several general principles and policies. (1) Western/northern technology and techniques need to be diffused outwards to the underdeveloped world. (2) Firms and individuals must be connected to larger markets and given more exclusive property controls over environmental resources (e.g., land, air, wildlife). (3) For wilderness and biodiversity conservation, the benefits of these efficiencies must be realized through institutionalizing some form of valuation; environmental goods like wildebeest, air, and stream quality might be properly priced in an open market.

The debates and critiques surrounding such approaches and the logics that underpin them are too numerous to summarize here; even so, there are some serious general conceptual and empirical problems with this perspective. First, the assertion that modern technologies and markets can optimize production in the underdeveloped world, leading to conservation and environmental benefits, has proven historically uneven. The experience of the green revolution, where technologies of production developed in America and Europe were distributed and subsidized for agrarian production around the world, led to what even its advocates admit to be extensive environmental problems: exhausted soils, contaminated water, and increased pest invasions (Lal et al. 2002). Beyond these failings, the more general assertion that superior environmental knowledge originates in the global north for transfer to the global south is in itself problematic, reproducing as it does paternalistic colonial knowledge relations and a priori discounting the environmental practices of indigenous and local communities (Uphoff 1988). Efforts to price the economic value of environmental systems – most commonly referred to as “ecosystem services” in this approach – can result in remarkable unjust outcomes (Sikor 2013). A call to intensify these forms of exchange must be viewed skeptically.

On the other hand, certain kinds of modernization, at least those technological advances that have been seized by the world’s poorest people to unleash their capacities

and meet their aspirations, are unquestionable environmental goods (Shellenberger and Nordhaus 2007). Consider the power and ubiquity of cell phones across Africa and South Asia, which have allowed farmers to time their access to markets and improved livelihoods and the efficiencies of their systems of production. Similarly, revolutionary advances in modern rural medicine have empowered women, enabled careful planning of labor and reproduction, all the while improving the day-to-day quality of life. Even genetically modified organisms, with their many downsides, have availed themselves to the inventiveness of rural people, curtailed pesticide usage, and opened new livelihood strategies (Herring 2006, 2007). It would be folly for critical theorists and thinkers to allow their distrust of economic thinking to blind them to the power of progressive technological change (Phillips 2015; see also Chapter 13).

Asserting and adopting the apparently apolitical approach suggested in market and modernization approaches, however, because of the institutional and political changes that such an approach requires, is inherently political. To individuate and distribute “collective” goods like forests or water by necessity requires the alienation of previous user groups. To implement new technological approaches in agriculture, resource extraction, or wilderness management requires a transformation of existing and traditional institutions, where new winners and losers might emerge. There is nothing apolitical about such proposals.

The first lesson to draw is that the dominant contemporary accounts of environmental crisis and ecological change (ecoscarcity and modernization) tend to ignore the significant influence of political economic forces. As we shall see, this is to ignore the most fundamental problems in contemporary ecology. The other lesson is that apolitical ecologies, regardless of claims to even-handed objectivity, are implicitly political. It is not so much that political ecology is “more political” than these other approaches to the environment. Rather it is simply more *explicit* in its normative goals and more outspoken about the assumptions from which its research is conducted.

Common assumptions and modes of explanation

Following Bryant and Bailey, political ecological accounts and research efforts also share a common premise, that environmental change and ecological conditions are the product of political process. This includes three fundamental and linked assumptions in approaching any research problem. Political ecologists: “accept the idea that costs and benefits associated with environmental change are for the most part distributed among actors unequally ... [which inevitably] reinforces or reduces existing social and economic inequalities ... [which holds] political implications in terms of the altered power of actors in relation to other actors” (Bryant and Bailey 1997, pp. 28–29).

Research tends to reveal winners and losers, hidden costs, and the differential power that produces social and environmental outcomes. As a result, political ecological research proceeds from central questions, such as: What causes regional forest loss?

Who benefits from wildlife conservation efforts and who loses? What political movements have grown from local land use transitions?

In answering, political ecologists follow a mode of explanation that evaluates the influence of variables acting at a number of scales, each nested within another, with local decisions influenced by regional policies, which are in turn directed by global politics and economics. Research pursues decisions at many levels, from the very local, where individual land managers make complex decisions about cutting trees, plowing fields, buying pesticides, and hiring labor, to the international, where multilateral lending agencies shift their multi-billion-dollar priorities from building dams to planting trees or farming fish. Such explanation also tends to be highly (sometimes recklessly) integrative. And as we shall see, a group of people and institutions has emerged around such integrative transgressions, a global assemblage of diverse practitioners who make certain kinds of movies, write certain kinds of books, and advance certain kinds of arguments.

So, rather than adding yet another definition to a crowded field, it is best to suggest at the outset that political ecology is a term that describes a *community of practice* united around a *certain kind of text*. The nature of this community and the quality of these texts, as well as the theory and empirical research that underpins them, are the topics of the remainder of this book. But broadly they can be understood to address the condition and change of social/environmental systems, with explicit consideration of relations of power. Political ecology, moreover, explores these social and environmental changes with an understanding that there are better, less coercive, less exploitative, and more sustainable ways of doing things. Finally, it is a field that stresses not only that ecological systems are political, but also that our very ideas about them are further delimited and directed through political and economic processes. As a result, political ecology presents a Jekyll and Hyde persona, attempting to do two things at once: critically explaining what is wrong with dominant accounts of environmental change, while at the same time exploring alternatives, adaptations, and creative human action in the face of mismanagement and exploitation, offering both a “hatchet” to take apart flawed, dangerous, and politically problematic accounts, and a “seed,” to grow into new socio-ecologies (see Chapter 4).

Five Dominant Narratives in Political Ecology

In this sense, political ecology characterizes a kind of argument, text, or narrative, born of research efforts to expose the forces at work in ecological struggle and document alternatives in the face of change. This does not mean that political ecology is something that people must write and think about all the time. Much of this work is carried out by people who might never refer to themselves as political ecologists, who count writing, researching, or arguing as only one part of their job, or who might do so in only one sphere of their work. Neither is political ecology restricted to academics from the “first world.” Indeed, the critical ideas and arguments of political ecology are produced

through the research and writing, blogging, filming, and advocacy of countless NGOs or activist groups around the world. This may actually comprise the largest share of work in political ecology. Published only in local meeting and development reports, or uploaded as short documentary videos or slide presentations, this work is as much a part of the field as the well-circulated books or refereed journal articles of formal science.

Big questions and theses

What unites the diverse work in these many locations is a general interest in five big themes. Over-simply, political ecology research has demonstrated (or attempted to demonstrate) the theses shown in Table 1.3, each of which receives a chapter later in this book.

The degradation and marginalization thesis

Otherwise environmentally innocuous production systems undergo transition to overexploitation of natural resources on which they depend as a response to state development intervention and/or increasing integration in regional and global markets. This may lead to increasing poverty and, cyclically, increasing overexploitation.

Table 1.3 Five theses of political ecology and the things they attempt to explain.

Thesis	What is explained?	Relevance
Degradation and marginalization	<i>Environmental conditions</i> (especially degradation) and the reasons for their change	Environmental degradation, long blamed on marginal people, is shown in its larger political and economic context.
Conservation and control	<i>Conservation outcomes</i> (especially failures)	Usually viewed as benign, efforts at environmental conservation are shown to have pernicious effects, and sometimes fail as a result.
Environmental conflict and exclusion	<i>Access to the environment and conflicts over exclusion from it</i> (especially natural resources)	Environmental conflicts are shown to be part of larger gendered, classed, and raced struggles and vice versa.
Environmental subjects and identity	<i>Identities of people and social groups</i> (especially new or emerging ones)	Political identities and social struggles are shown to be linked to basic issues of livelihood and environmental activity.
Political objects and actors	<i>Socio-political conditions</i> (especially deeply structured ones)	Political and economic systems are shown to be underpinned and affected by the non-human actors with which they are intertwined.