Introduction

Environmental studies past, present and future

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The environment and environmental studies

'The environment' refers to that which surrounds us in our day to day lives. Though natural environments have presented both threats and opportunities to humans for millennia, much of our 'habitat' is today artificial – it consists of buildings, transportation networks, power generation systems, urban parks and much more besides. As people utilise these constructed environments they often create a raft of unintended and unwanted environmental problems, such as warming of the global atmosphere because of greenhouse gas emissions from cars and cement factories. At the same time, we are intentionally transforming the natural environment to an unprecedented degree: deforestation, conversion of land to farming, urban expansion and other activities are 'denaturalising' the Earth's surface. This means that, for many of us alive today, our 'environment' is truly global: each time we fly in a plane or buy an imported product we are having an impact way beyond where we live. Indeed, some geologists believe that human effects on the non-human world are now such that this moment should be marked by declaring a new epoch of Earth history, the 'Anthropocene'. Such a naming

has many interpretations. Some see it as an opportunity for contemporary humans to reflect on whether the world we are creating is one we want to bequeath our successors. Perhaps we can rethink our way of interacting with land, water and air; perhaps the Anthropocene is an overdue wake-up call for us to better conserve and restore the wonderful diversity of animate and inanimate phenomena created through natural evolution. Others see the Anthropocene as an incitement to take better control of the hydrosphere, atmosphere, cryosphere, lithosphere and biosphere. They envisage a technology-led future in which the division between the natural and the artificial disappears as humans exert more conscious and sophisticated influence on the planet. Still others question the undifferentiated status the Anthropocene gives to all humans; not all humans have equal power to shape the world-in-the-making and many remain disadvantaged, discriminated against and destitute. Social justice should be at the centre of the Anthropocene world.

'Environmental studies' describes the plethora of disciplines, sub-disciplines and inter-disciplines that together study the non-human world, both in its own right and the way humans affect (and are affected by) that world. These disciplines have existed for decades. For instance, in the 19th century, geographers like Mary Somerville and George Perkins Marsh sought to understand the world's physical configuration and how people were both adapting to it and exploiting it. However, since the early 1970s, the academic study of natural and constructed environments has grown prodigiously. In large part, this reflects both the increased power of many societies to alter the biophysical world, as well as escalating moral and political concern about how wise it is to exercise this power without restraint. Today, systematic studies of the non-human world, and how societies interact with it, can be found in disciplines as diverse as philosophy, theology and anthropology reflecting the humanities, sociology, cultural studies and economics from social sciences, and oceanography, archaeology and fisheries science from the natural sciences. And this diversity of engagements continues to grow.

In some countries, 'environmental studies' is distinguished from 'environmental science' and only encompasses disciplines that study human perceptions, uses of and responses to the non-human world. Environmental science came of age during the 1970s as an attempt to study the connections between elements of the earth surface too often previously studied in isolation. The 'earthrise' image, photographed by the Apollo 8 mission in 1968, offered a visual metaphor of this new interconnected science. In this volume, by contrast, we approach environmental studies more broadly, with an eye toward the full spectrum of disciplinary contributions to the field. Why so? Increasingly, it seems to us, it is limiting to study environments without reference to societies or to study societies without proper consideration of their biophysical underpinnings and affects. If we are, indeed, to declare the Anthropocene, then research (and policy informed by research) will need to reckon with the seamless character of our material and cultural lives. Today, it seems, everything from our diets to our clothing choices demands that we comprehend both their material dimensions and the value judgements, social relationships, historical legacies, economic practices and political regulations that they express and reproduce. Today we should talk not of societies *and* their environments but, increasingly, of 'socio-environments' wherein varied degrees of *co-constitution* apply to people and the biophysical worlds they inhabit.

Key concepts, approaches, and topics

Given the considerable cross-disciplinary breadth of environmental studies, one may imagine that the most logical way to navigate the field would be discipline-by-discipline: economics, ecology, philosophy, and so forth. However, we have chosen not to organize the volume in this manner. Why? Disciplinary divisions of environmental studies are just one way to cut the metaphorical cake and do not, in fact, encompass all the pieces. In recent years, a multitude of sub-disciplines and cross-disciplinary approaches have emerged that address one or more aspects of environment and society. They mean that environmental studies is, to use another metaphor, an expanding ecosystem (of knowledge) where new niches are being created, yet not all the 'species' are in a direct or balanced relationship. This is not necessarily a 'problem': it does not merely reflect the gap between present day understanding and the 'total picture' some might one day like to paint of complex human–environment interactions. More positively, the 'heterodox' character of environmental studies arguably reflects the range of legitimate ways to comprehend its subject matter. For instance, while the sciences of environment can describe, explain and predict things like volcanic eruptions and El Niño events with relative accuracy, there are debates about how to value things like the Amazon rainforest, cows and freshwater. These debates cannot be resolved into one 'true' perspective. Environmental studies spans the 'fact-seeking' disciplines as well as those that try to foster intelligent discussion of how humans might best relate to nature according to diverse ethical, aesthetical and spiritual principles.

This book is the most comprehensive introduction to environmental studies published to date. It offers a 'wide angle' perspective on the field, ranging across environmental science, environmental social science and the environmental humanities. A fruitful way to navigate the field of environmental studies involves moving between its primary *concepts*, *approaches*, and *topics*. Concepts are the key ideas or organizing frameworks that circulate in the context of environment and inform our understandings; approaches are the ways we study environment, including disciplinary and cross-disciplinary tools and methods. For both concepts and approaches, we differentiate here between *classic* instances, corresponding to early developments of environmental studies from the mid-20th century on (though some are even older), and *contemporary* instances, which have arisen in the last few decades in response both to intellectual developments and the ever-changing world. It is important to keep in mind that the contemporary field of environmental studies includes *both* classic and contemporary influences – thus, rather than wholly replacing classic notions, contemporary notions often further diversify the field. Sections 1.1 through 4.2 include these four categories of classic/contemporary concepts and approaches.

This diversity of concepts and approaches is typically applied to a wide range of environmental topics, introduced in Sections 5.1 through 7.19. Here we consider three facets of these environmental topics. First, *Environmental challenges and changes* set the stage, helping us understand a dynamic Earth System replete with anthropogenic (human-induced) transformations. Next, *Human responses to environmental change* consider how individuals and institutions have addressed these changes in artistic, cultural, economic, political, scientific, and other arenas. Finally, *Key debates* considers topics related to environmental change and the human response for which there have been important, ongoing disagreements or challenges. Given the sheer breadth

of the field, environmental studies has been and remains a meeting-ground of topics where sometimes widely differing concepts and approaches come into contact with each other; the ensuing dynamism of the field is an enduring strength, yet effectively guarantees that certain debates will persist.

Navigating this book

You may be reading this volume to learn about a specific idea associated with environmental studies, perhaps in one discipline you are specializing in for your university degree. If so, navigating the volume via its table of contents, cross-references and index may be the best way to proceed. Yet bear in mind that there are well over 100 chapters, each introducing multiple ideas related to environmental studies, and so it may be difficult to assemble a complete, coherent picture of contemporary studies in this way.

You may wish to consider a more systematic approach, building on the notions of environmental studies *concepts*, *approaches*, and *topics* (and related older and contemporary periods) introduced above to help navigate this volume successfully, so that you can start to organize the highly diverse information you will encounter in this volume into a more coherent picture. You may wish to consider, for instance, how a particular concept is put into practice via various approaches, and/or in the context of various environmental topics; or, how classic and contemporary notions in environmental studies compare.

We expect you will find both synergies and differences in the chapter contents: in spite of noble attempts to unify the field (around, say, the idea of sustainability), environmental studies is incorrigibly plural. This, we feel, is one of its main strengths, but also a point of potential confusion for the would-be traveller simply hoping to chart the field successfully. We hope this volume helps you explore environmental studies in a fuller, clearer way, and wish you well on your journey in this exciting and deeply relevant field.