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Framing the Environment

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Background

Among the many societal problems thrown up during a tumultuous twentieth century, it would be fair to say that "environmental problems" have been salient, and this salience has only grown as we entered the twenty-first century. Pockets of local pollution that popped up in the 1950s and 1960s, such as DDT, which led to thinning egg shells or methylmercury poisoning of fish and people in Minamata, Japan, were the harbingers of the larger and more dispersed crisis to follow—a crisis that has encompassed all aspects of human and nonhuman life, from deforestation and soil erosion to groundwater depletion and river basin closure in many river basins, from urban air pollution in Los Angeles to acid rain in Germany, and from dam-related displacement in China or India to Chernobyl- and Fukushima-type nuclear disasters. Cutting across all these locations, climate change, induced primarily by the burning of fossil fuels, is considered to be the "mother of all environmental problems," not for its own sake, but for the way it introduces stress and uncertainties into this already precarious socioenvironmental situation.

Concern about these problems, popularly labeled as "environmentalism,"[1] has triggered a large body of research and activism. If one uses the presence of terms such as "environment" or "sustainability" in the media or the large number of environmental pronouncements, policies, laws, agreements, and programs enacted at the local, national, and international levels since the 1970s as indicators, one would think that environmental concerns have been mainstreamed. Indeed, some successes are incontrovertible (e.g., the elimination of lead in gasoline or the phasing out of ozone-reducing chlorofluorocarbons). But systemic change is a far cry, and ideas about pathways forward are sharply divisive. We still get the sense that society is hurtling at an ever faster pace

[1] Although all "-isms" have an activist or ideological connotation, we simply mean here any research or action that recognizes some biophysical limits to and linkages between human actions and well-being in the broadest possible sense.

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toward a world depleted of biodiversity, wracked by cataclysmic climate change, and facing a wide array of regional environmental crises due to novel hazards, resource scarcity, pollution, and an ever more "risk society."

What are the obstacles to making progress? Certainly a large part of the problem lies outside the spheres of environmental research or activism—in the deeply ingrained individual affinity to enjoy the fruits of the Industrial Revolution and its aftermath, while externalizing its downside onto future generations, the Global South, or nonhuman living beings. The problem is also embedded in the societal structures that facilitate these unjust, unsustainable, and arguably regressive forms of "development," "well-being," or the ideals of modernity disseminated since World War II.[2] Now there are even efforts to begin resource exploitation in the deep sea and to explore possibilities on other planets or asteroids, so insatiable is the human demand for scarce resources. Environmentalism poses a fundamental challenge to these ideas of development as well as the methods by which we try to achieve it. Thus it is not surprising that it engenders significant, if not virulent, opposition.

Tensions and misunderstandings among environmentalists also contribute to limiting progress on the ground. Some key examples are:

- biological conservation versus rights of indigenous communities (or "tigers versus tribals" as it is referred to in India) (Seminar 2005),
- climate sustainability versus climate equity positions (Dubash 2009),
- conflicts over mega-dam projects that pit nature-as-resource versus nature-as-life perspectives (Whitehead 2007).

Mirroring these conflicts in the activist world are bitter academic debates over the instrumental values of ecosystem services and the intrinsic value of biodiversity, over economic models of climate mitigation or the treatment of uncertainty in climate change mitigation policies, and over the role of population growth versus global consumption in tropical deforestation (Lambin et al. 2001) or environmental degradation, more generally. The intense and almost never-ending debate over whether "sustainable development" is a reasonable characterization of societal goals or a sellout to the status quo is a reflection of these tensions (Colby 1989; Lele 1991, 2013).

Within environmental thinking and research, these tensions originate from the different ways in which environmental problems are "framed." These problem framings differ on at least two dimensions: the values they prioritize and the explanatory theories they use, and therefore on the futures they envision. First, environmental research, like all applied research, is necessarily laden with values (Lele and Norgaard 1996; Jones et al. 1999). Environmental

[2] To give just one example, it is well known that "conventional economic accounting is false: it forgets the physical and biological aspects of the economy, it forgets the value of unpaid domestic and voluntary work, and it does not really measure the welfare and happiness of the population" (Martinez-Alier 2008). Yet, decision makers continue to use gross domestic product as the first measure of a country's health.

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changes—whether in biodiversity, river flows, or forest cover—become "problems" only because some group of people in society cares about them. In other words, environmental change is simply a process: it is human interests and values that attribute negative or positive "value" to such change. Similarly, any goals that are set, such as sustainable development, as well as the criteria and indicators that will be used to measure progress toward them, are value-laden. The values that are included or prioritized determine which environmental processes are seen as problems, in what sense and context, and shape the solutions. When values are not shared widely or are not inclusive enough, the value framing becomes a major arena of debate and contestation, often hampering the achievement of what may ultimately be a common good.

Second, socioenvironmental research and action require an understanding of why human beings act in ways that lead to environmental degradation (in whatever sense of the term). Our understanding of social (and socioenvironmental) systems, however, is incomplete and, in spite of significant efforts, fragmented. The social sciences offer multiple, but often mutually incompatible perspectives, theories, and explanations for environmental change. More often than not, research on environmental problems appears to have been appropriated by academic communities in ways that reinforces epistemological territories as if sufficient in themselves to explain these complex problems (Brondizio et al. 2016). So we have environmental economics, environmental anthropology, cultural ecology, human ecology, environmental sociology, political ecology, environmental values, and environmental ethics, all of which contribute to advance understanding of such issues, but often limit the construction of an integrated understanding of environmental problems.

Objectives of the Forum

To move beyond the current fragmentation of ideas and approaches, environmental research and thinking require a multidimensional framing that transcends the divides between different ways of valuing the environment and understanding its condition. To achieve this requires a self-reflective exploration of how we, as researchers, study and mobilize evidence about environmental problems. This exploration was the unifying goal behind this Ernst Strüngmann Forum, which aimed (a) to understand how different framings of environmental problems are driven by differences in normative and theoretical positions and (b) to explore ways in which more inclusive framings might enable more societally relevant and impactful research and more concerted action/practice. Researchers from across the world gathered in Frankfurt, Germany, to discuss and debate these propositions in four sectoral or thematic areas:

- forests and other high-diversity ecosystems,
- urban environments,

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- energy and climate change, and
- water.

This book is the outcome of those discussions.

In this introductory chapter, we outline the concept of framing, which was central to our deliberations at the Forum, and discuss in some detail two dimensions of framing environmental problems: the normative and the descriptive. The normative ideas of sustainability, diversity, and justice are central themes in the environmental discourse, and we provide an overview of the ways in which they have evolved as well as the nuances and linkages that have emerged. The descriptive (and analytical) dimensions of framing (i.e., the multiple perspectives on explaining and then proposing solutions to environmental problems) are then summarized in brief. A more tangible engagement with these and other dimensions of the framing of environmental problems emerges in the subsequent chapters, which are organized along the four themes mentioned above. These chapters are introduced in the penultimate section, followed by a summary of the key insights from the Forum.

Framing

In a highly cited article, Robert Entman (1993:52) provided a succinct definition of framing:

> [t]o frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described. Typically frames diagnose, evaluate, and prescribe...

The example he gives to illustrate this concept is quite pithy:

> An example is the "cold war" frame…[that] highlighted certain foreign events—say, civil wars [in third world countries]—as problems, identified their source (communist rebels), offered moral judgments (atheistic aggression), and commended particular solutions (U.S. support for the other side).

Cognitive scientists point out that all thinking and talking involves using structures—consciously or unconsciously—that provide meaning and predict relationships (Lakoff 2010). They also invoke specific emotions, and often simplistic stereotypes. A single word (e.g., whales, forests) that is closely associated with a frame can trigger a set of emotions and ideas, including stereotypes. From an activist perspective, therefore, the question is not whether framing can be avoided, but rather whose frame is activated in the brains of the public (Lakoff 2010). In political communication, the "selection" that Entman refers to can be very deliberate and even manipulative, as certain causes or outcomes may be blocked out and others emphasized so as to garner support for particular (often narrow) policies or actions.

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In academia or research, frames emerge less deliberately and are deployed less manipulatively, being more the product of internal "sense making" (Fiss and Hirsch 2005; Oughton and Bracken 2009); that is, ways of structuring a complex real-world situation so that one can understand and grapple with it. Using Entman's definition and applying it to environmental research, we see that framing an environmental problem happens by

- identifying a *phenomenon* (e.g., say tropical deforestation),
- evaluating it, implicitly or explicitly; that is, indicating *why* it is a problem in a societal sense[3] (e.g., because it results in loss of biodiversity, which is the heritage of humankind),
- identifying possible *causes* (e.g., expansion of cattle ranching), and
- eventually offering *solutions* (e.g., promoting agroforestry as an alternative).

Given, however, that the task of research is actually to uncover these links (in this case, between deforestation and biodiversity loss, between cattle ranching and deforestation, or between different solutions and their impact on cattle ranching and forests), one might be tempted to assume that research does not involve framing, or at least that it is accompanied with a certain amount of reflexivity—an awareness that one is using a particular frame that both values, bounds, and simplifies a problem in particular ways. Many researchers consider "objectivity" to be a necessary feature of the scientific method. Yet while subjectivity can be minimized, the influence of the researcher cannot be completely removed and "frameless" research is impossible.[4]

Additionally, all applied research relates to societal goals and is thus necessarily value loaded. All research also involves making choices about scale and scope, variables to include, the functional form of their interaction, and method of data collection and analyses (Lele and Norgaard 2005). Disciplines and subdisciplines crystallize these practices into spaces where most of these choices about what to study and how to study it are taken for granted, leaving a narrow but comfortable space within which conventional research then continues (Oughton and Bracken 2009). In doing so, choices about problem scope and framing may be rendered less visible or, alternatively, self-evident, making reflection and questioning difficult (Spangenberg 2011). To the extent that some subdisciplines have emerged that take an explicitly normative label, such as conservation biology (Soule 1985) or sustainability science (Kates et al. 2001), there appears to be some willingness to make the normative concerns explicit. This is a step forward, but, as we discuss below, these framings may still not include other environmental concerns.

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3 That is, a problem as something societally undesirable rather than a problem as a puzzle (as in a mathematical problem).

4 The widespread use of the drivers-pressures-state-impact-response (DPSIR) frame for environmental problems, for example, has been shown to implicitly favor some discursive positions over others (Svarstad et al. 2008).

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Our attempt is not to suggest that these choices, and therefore frames, can be done away with. We would, however, like to see an increased awareness of them and, if possible, greater inclusiveness in framing socioenvironmental research. As a first step, it would be worth exploring the central ideas or central tendencies in such research when it comes to both the normative and the descriptive dimensions of environmental problem framing. These are, of course, not the only dimensions involved in framing an environmental problem: framing also involves important choices about epistemology, methods, handling of uncertainty, and so on (Leach et al. 2010). Neither are the normative and descriptive, or these other dimensions, entirely separable. Nevertheless, for brevity, we have focused on these two main dimensions.

Why Care about the Environment?

Environmentalism does not have a single origin, either historical or geographical (Guha 2000; Guha and Martinez-Alier 1997). Not surprisingly, therefore, it also does not have a unitary value framework. Indeed it may be more appropriate to talk of environmentalisms. If DDT and methylmercury were of concern because of the threat they posed to animal and human health, the concerns about charismatic species such as whales, pandas, or tigers have different ethical bases, and the destruction of marine fisheries due to overfishing or the vulnerability of the urban poor to environmental events are of concern from yet other perspectives. What constitutes the underlying values or ethical or moral arguments in such cases has been the subject matter of much discussion in popular and academic writing (Dietz et al. 2005).

From our reading of the discourse, the dominant sets of values underpinning environmentalist positions appear to fall into three broad categories: *sustainability, justice, and diversity*.[5] These are broad labels, each subsuming a range of concepts and terms. Both this "subsuming" as well as individual terms are highly contested. Taken together, however, they appear to capture most environmental concerns in one way or another and, at the same time, there is enough difference to make the categories worthwhile:

- *Sustainability*: Having originated from a specific meaning in forestry that dates back to the eighteenth century, this term has now become a catch-all phrase (Dixon and Fallon 1989) to the point where it is used to denote any form of pro-environment behavior (Thiele 2013). It is useful, however, to consider its original usage: maintaining something over time. Overfishing today will make fish unavailable tomorrow, and thus sustainability in the context of fisheries has intuitive appeal, as does sustainability in forest management. The major question has been whether the intertemporal trajectory can and should be in the form of something resembling an equilibrium or, given a highly dynamic and

[5] This matches the three environmentalisms identified by Guha and Martinez-Alier (1997).

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changing world, in the form of a system bouncing back from shock and stress; that is, resilience (Leach et al. 2010). For some analysts, resilience is a more robust concept than sustainability, especially since it can also incorporate growth and not just stability. Both sustainability and resilience may, in turn, depend on adaptability, whereby a function is maintained in some way despite changing circumstances. Nevertheless, the concern driving the search for sustainability/resilience/adaptability is clearly an intertemporal one: wanting to have tomorrow (by and large) that which you have today. Depending on the time horizon of concern, this can be a rather selfish concern (for one's own future) or one that is more altruistic (concern for future generations). Difficult moral issues can arise in choosing between a known need of people that exist today and a potentially greater (but unknowable) need for future people who have not yet been born.

- *Justice,* equity, fairness, and related concepts have a longer intellectual history than sustainability. They may be invoked in "purely" social contexts, such as the injustice of racial discrimination, but even here there are links to material processes, such as when such racial discrimination deprives some persons from access to land or water or resources essential for life and livelihood (Mohai et al. 2009). Injustice may also be the direct outcome of environmental actions, whether it is the release of pollutants into a river that affects downstream water users or the pumping of groundwater by some that deprives others of that resource.[6] Often, the social and biophysical dimensions are overlaid: people suffering air pollution in U.S. cities have often been people of color, and people displaced by dams have often been marginalized ethnic groups (Bullard and Johnson 2000). The ideas of justice, equity, and fairness as applied in environmental justice are, however, complex and multifaceted, even as the latter continues to expand globally as an approach to socioenvironmental issues (Agyeman et al. 2016). Distributional justice focuses on outcomes, whereas procedural justice and recognition justice address ways in which decisions are taken and who is involved (Schlosberg 2009). In the environmental context, justice has also been expanded to include intergenerational justice (Weiss 1990), thereby overlapping with the concern for sustainability, and fairness to nonhuman species, thereby overlapping with the concern for biodiversity.
- *Diversity*: The concept of *biodiversity* currently captures the core of naturalists' concerns for the environment, subsuming earlier formulations such as wilderness or wildlife (but see Soule and Noss 1998). Here

6 "Biophysical injustice" could be a term to distinguish injustice caused purely by the environmental location of the pollutee vis-à-vis the polluter from "environmental injustice," which is currently used to refer to situations where these locations are the outcome of the social disadvantage of the pollutee, such as the siting of polluting industries in poor African-American or Latino neighborhoods in U.S. cities.

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the goal is to maintain the variety of life on Earth, which in common parlance is usually translated to the local and global number of species. While this measure continues to be the main focus, it has also become clear that diversity is also necessary above and below the species level. For example, genetic diversity within species can buffer species from environmental changes and adds to the variety of valued attributes and functions. Above the level of species, ecosystems differ in composition of species, functions, and attributes. The Convention on Biological Diversity, adopted in 1992, recognizes these three levels (genes, species, and ecosystems) explicitly and is framed in terms of the connection between this diversity and the material and nonmaterial values that societies derive from the environment. This also represents a subtle shift in the discourse from biodiversity as the ultimate goal, to biodiversity as the provider of multiple goals (Chan et al. 2016; Mace 2014). Simultaneously, diversity has been formulated in more social terms—diversity of languages, ethnicities, knowledge systems and ontologies, and institutions or more generally cultural diversity—and this is seen as good in itself (UNESCO 2002). In addition, there is agrobiodiversity—the diversity of crops and livestock—at the biocultural interface (Maffi and Woodley 2012). We believe that these three forms of diversity—biodiversity, cultural diversity and agrobiodiversity—are mutually reinforcing, and so the idea of biocultural diversity has found policy support. While this has allowed indigenous and local communities to reclaim rights to land and resources, and to repair historical social injustices, it has also created homogeneous expectations that local cultures are the guarantors and the producers of biological diversity, often disregarding their marginal social and economic conditions (Kohler and Brondizio 2017) and thus important justice dimensions of diversity.

The above provides only a cursory overview of the depth and breadth of thinking and debate in each of these dimensions of environmental concern. Taken together, we believe that these three overarching concepts capture most, if not all, of the reasons why environmentalists care about the environment. Although there is some conceptual or operational overlap[7] between these concerns, it is, however, clear that they are still quite distinct: championing one does not ensure progress on the other. In fact, there can be trade-offs: creating pristine "wilderness" areas will definitely impinge on the livelihoods of forest-dwelling communities; an exclusive focus on reductions in greenhouse gas emissions will impose unfair burdens or constraints on those who have

[7] Conceptually, for example, when sustainability is articulated as a form of equity. Operationally, for example, when it is argued that lesser disparity in sharing a resource is more likely to ensure collective action that is required to prevent resource degradation. Or when it is claimed that conserving the tiger will also sustain the flow of rivers for downstream water users, because tiger conservation requires forest conservation.

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been least responsible for climate change (Brondizio and Le Tourneau 2016). Since an inclusive or "cross-cultural" environmental ethic (as espoused by Guha 1997) is rare, tensions and fragmentation along the dimensions described above are common within the environmental movement, and are mirrored or refracted in environmental research in complex ways.[8]

Central Tendencies in Explanatory Theories

Environmentally damaging behavior, as viewed from these different lenses, can also be explained variously, ranging from theories that focus on political and economic processes to those concerned with various dimensions of human behavior. These theories, embraced by different social science subdisciplines, vary in scope, scale, and level of analysis, types of causality, and level of determinism (VanWey et al. 2005). They invoke, inter alia, individual agency and societal structures, sociocultural and environmental determinants, values and attitudes, population and consumption, technological change, and institutional arrangements (see, e.g., Robbins et al. 2011; Moran and Brondizio 2013). It would be impossible to do justice to these theories in the course of this chapter, but it would be fair to say that one of the major divides concerns structural versus agency-based explanations. Structural explanations privilege processes and conditions that drive and constrain individual actors, whereas agency-based explanations assume that individual actors have enough freedom to be considered as the drivers of change. In an environmental context, these divergent perspectives are exemplified by political ecology and neoclassical environmental economics, respectively. This and other divides, such as differences in language and terminology and different notions of evidence, constitute significant barriers to building more comprehensive explanations for environmental problems (e.g., Lele et al. 2002).

During the past two decades, however, conceptual and analytical "frameworks" (as opposed to theories) have emerged as metatheoretical tools aimed at uniting "pieces of a puzzle" and serving as vehicles for collaboration around complex and cross-scale socioenvironmental problems (e.g., Ostrom 2009). Such frameworks provide a common structure and language to support the analysis of a given phenomenon and/or problem. They identify relationships and directionality between components of a phenomenon without necessarily imposing a predefined causality between them. These frameworks can be organized at different levels of generality, from showing broad components and relationships that underlie a phenomenon (e.g., land use and cover change) to describing more specific processes (e.g., land-use intensification). Productive

[8] Tensions are not restricted to defining the "environmental goal." Sustainability and equity concern the temporal and spatial distribution of "human well-being," which is itself a value-laden concept. Making trade-offs between different goals requires additional choices about which process should be used to resolve these tensions. Thus, differences among environmentalists exist on these dimensions as well.

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collaborations have emerged through the deployment of such frameworks (Binder et al. 2013) and, in the best cases, they have brought theories into the conversation rather than into false competition.

This is not to say that fundamental tensions have been resolved. However, the potential contribution of different theoretical tools to different problems at different scales is slowly being recognized. For instance, world system theory may best explain the unequal impacts of expanding extractive commodities, whereas collective action theory may explain the way people can overcome a commons dilemma. As the chapters that follow illustrate, there is increasing recognition that socioenvironmental problems are multidimensional, political, and value-laden; they are shaped by context and scale, and are subject to multiple framings. In other words, more than disputing the value of specific theories for their own sake, the focus needs to be on acknowledging the limitations of these theories, finding how they interrelate, and whether there are possible leveraging points of complementarity.[9] As such, we seem to be progressively moving toward subjecting multiple theories to a problem, rather than multiple problems to one theory or theoretical orientation. It is noticeable that the chapters converge in highlighting the importance of how a given social-environmental issue is "problematized," rather than starting with the selection of particular theories or specific conceptual frameworks. In other words, the authors ask what do we learn, who gains, and who loses when different theoretical, epistemological, and/or sociopolitical perspectives are used to address socioenvironmental problems. This is an important step toward bridging justice, diversity, and sustainability framings of environmentalism.

Overview of Chapters

As mentioned, four thematic areas were chosen to focus discussion at the Forum. Each section contains chapters that provide background to the theme as well as a synthesis of the discussions that took place during the Forum. Here we wish to highlight key aspects of these chapters.

Forests and Other High-Biodiversity Areas

The term forests today invokes ideas of naturalness, biodiversity, and various other environmental benefits with which high biodiversity areas are generally associated—ideas that drive conservation action. But what is it that we are trying to conserve, and is conservation even the best way to describe the goal? Speaking squarely to this question, Kent Redford and Georgina Mace (Chapter 2) focus on traditional biodiversity conservation and describe some recent debates in international conservation organizations and among academic

[9] For instance, political ecologists are asking how collaborations with commons or resilience theorists might be possible (Turner 2014, 2016).

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conservation biologists. Despite the apparent simplicity of the idea that biodiversity conservation represents a concern to maintain the overall diversity of life on Earth, there are many different perspectives on what this means, how to measure it, at what scale, and using which kinds of values. Some of the most profound differences have arisen around the assumed or desired relationships between people and other species, how important these relationships are compared to purely biological or physical measures of diversity, and whose values are being prioritized. While long-running, these debates show little sign of convergence, and new issues are now emerging, such as debates about monetary valuation, new technologies such as genetic modification, and national versus international rights and responsibilities.

In Chapter 3, Peter Minang addresses the conceptual linkages between values and incentives in the context of forests, specifically focusing on three types of values: assigned, relational, and held values. Using the framing of ecosystem services and, in particular the payments for ecosystem services and reducing emissions from deforestation and degradation schemes, he shows how these different values interact in complex ways, affecting behaviors and choices as well as the outcomes of such schemes. Minang highlights especially the nonalignment of financial/economic and local/cultural values. Understanding the value-incentive relationship is shown to be important to avoid unanticipated and often perverse outcomes of apparently well-intentioned plans and policies. This requires sound knowledge of the context and may need to include multiple incentives or mixtures of incentives.

In the synthesis chapter, Leticia Merino-Pérez et al. analyze the diversity dimension of environmentalism. Although they use forests as a starting point, their discourse could apply to many other systems (e.g., coral reefs or tropical freshwater lakes), where the variety of species is a defining feature and diversity is valued in its own right. These areas are the traditional domain of conservation biology. The large, international conservation organizations have focused much of their work here, as these areas represent hotspots of both diversity and threat; substantial projects have been funded over many years, with some very successful and well-known outcomes. However, these areas are also where tensions between conservation and local people's rights have become increasingly evident, and where issues of justice and equity have grown over time at local and national scales. Merino-Pérez et al. review a suite of conservation initiatives across a range of geographic and political contexts, covering a variety of different values and objectives. The case studies presented highlight the wide diversity of values that underpin different framings of outcomes for forest systems, as well as the disparate governance mechanisms that are in place. Increasing attention has been directed to involving a wider range of stakeholders, especially local and indigenous communities, in the face of the evidence that some early conservation successes have stalled or will founder. The sustainability of many of these initiatives is also variable, especially as novel pressures and threats are encountered that were not originally anticipated

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when the initiatives were developed. Some novel pressures derive from global forces, such as climate change, international security, and migration, while others have to do with local factors such as land tenure and rights. All are affected by changing values over time, and new ways of working with or prioritizing different groups and their interests are needed. Often, these issues were not considered when the initiatives were initially planned and implemented, and in many cases, the project managers and governing institutions are not well set up to deal with them.

Urban Environments

Conventionally, urban environmental problems have been considered synonymous with air or water pollution and their associated challenges. The two background papers in this section, however, highlight other kinds of issues and, in the process, demonstrate how broad "environmental" framings can be.

In Chapter 5, Amita Baviskar presents an eloquent account of how social position and political-economic power influence the framing of urban environmental problems and priorities in unequal urban spaces in India. Through the lens of two neighbors—an upper middle-class family living in a comfortable high-rise apartment and their housemaid whose family occupies a shack next door—Baviskar shows how economic and sociopolitical power structures can define what is considered an environmental problem, and thus a priority, in complex and fast-changing urban areas. Drastically different lived experiences coexist next to each other. Deplorable sanitation conditions coexist with luxury, as much as manicured green spaces coexist with garbage dumps. This story of conviviality and distance, inequality and interdependence encapsulates the reality of cities across the Global South. It also addresses the way urban environmentalisms can be mobilized to the interest of different social groups, without necessarily addressing its contradictions and discrepancies.

Nancy Grimm and Seth Schindler (Chapter 6) use a social-ecological-technological system framing (SETS) to discuss the nature of cities as well as the nature in cities. They provide an instrumental approach to examine the potential integration of "green" and "gray" infrastructures as solutions to urban environmental problems. In doing so, they pinpoint the need to address deficiencies in urban services (e.g., sanitation), which particularly affect the Global South. Specifically, this is found in many fast-growing urban areas in Latin America, Africa, and Asia, where the absence of basic services and environmental degradation disproportionately burdens the urban poor. Grimm and Schindler provide an excellent overview of trends and patterns in global urbanization, raising questions about the social and environmental implications of highly concentrated settlements which, on the one hand, draw resources from vast areas around the globe and yet, on the other, represent the most vulnerable spaces to global environmental change. In approaching urban environments from the perspective of SETS, their aim is to avoid separating "nature" in

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urban spaces from built infrastructure. An urban SETS represents an ecosystem where nature, built infrastructure, and social conditions are coproduced by humans and nonhumans, biophysical endowments and the built environment. In making a case for the interdependence of the social, ecological, and technological components in urban spaces, they call for new approaches to urban design and planning in cities of the Global North and South.

In synthesizing the discussions, Xuemei Bai and colleagues provide in Chapter 7 a comprehensive review of multiple approaches to urban environmentalisms. They highlight how different types of concerns—from those related to species diversity to ecosystem services to the distant environmental impacts of cities—have influenced different types of framings and problem definitions. To examine these connections, the authors review five prominent framings applied to urban environmental issues and explore their relationship to persisting dualisms mobilized in such discussions: urban–rural, Global North versus Global South, brown–green agendas, and private versus common property rights. The five framings reviewed are (a) cities as SETS, (b) urban metabolism, (c) complex urban environments, (d) environmental justice, and (e) cities as solutions. Bai et al. show that urban environmental issues cannot be considered without attention to their regional and global connections. They issue a call for collaboration in the development of integrated conceptual framings and new analytical tools for reimagining urban futures. They make a case for the role of diverse urban constituents in bringing about desirable changes. Finally, recognizing that sustainable, diverse, and just urban futures require transformative change, they highlight the challenges associated with promoting plural environmental framings.

Energy and Climate Change

Since 1820, dramatic increases in per capita energy use have been matched by an eightfold increase in per capita income and a corresponding eightfold increase in per capita CO_2 emissions, the principal greenhouse gas responsible for climate change. While energy use, economic growth, and climate change are causally related, it is also true that their interrelationship has so far yielded socially unequal results. Different framings of the energy–climate problem emphasize different normative dimensions: unequal access to energy, long-term unsustainability of the global economy, threats to biodiversity under runaway climate change, or highly unequal impacts of even the current climatic changes. Analytically, the discourse is often polarized in terms of top-down governance versus bottom-up voluntarism and economic instruments versus more radical measures.

The two background chapters by Patrick Bond (Chapter 8) and Manfred Fischedick et al. (Chapter 9) take the Paris 2015 climate agreement as a starting point. Both chapters note that the governance "architecture" post-Paris seems fragmented and lacking vigorous enforcement mechanisms, but they

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offer different insights into how this may be triggering a rethinking of environmentalism in the energy–climate arena. Bond traces the positions taken by four individual South African environmentalists and a larger set of environmental organizations that have all been highly critical of the inadequate progress in international climate negotiations, but disagree over the implications of the Paris accord. At the heart of the divergence are different perspectives on the role of markets and of technology. The reformist approach accepts that change can only be incremental and achieved through market instruments and technological fixes. The radical approach rejects market-based solutions, such as cap-and-trade, and looks for stronger controls on corporate pollution complemented by local action. Bond suggests that a middle ground can, however, be found in concepts such as natural capital accounting, which uses some of the language of economics without going further down the path of complete monetization. Instead of treating capitalism as inevitable or just rejecting capitalism, Bond argues for an ecosocialist approach that uses multiple levels of mobilization and situates science to engage constructively with the challenge of reorganizing production and distribution.

For Fischedick et al. (Chapter 9), the recent emergence of "polycentric" social action has created more ambitious policy commitments than the earlier Kyoto Protocol structure, which had modest and weakly enforceable targets. The aspirations of decentralized or "bottom-up" efforts such as "100% renewable energy cities" and "carbon-free" mobility planning are collectively far surpassing the models championed by international treaties. Moreover, these efforts do not primarily rely on market mechanisms for their implementation. Instead, they use local and regional planning vehicles and civil society campaigns to contest carbon-intensive development and to mobilize communities to adopt much deeper energy conservation actions and accelerate renewable energy adoption more quickly than past national and international efforts. Indeed, these community-scale approaches deliver "governance by diffusion": multiple strategies are pursued and with each iteration a nonlinear process of action and innovation ensues. Finally, explicit inclusion of "climate justice" demands has been shown in the polycentric policy architecture to be crucial to obtaining diverse stakeholder support.

With this background, the synthesis chapter by Sun-Jin Yun et al. (Chapter 10) offers a detailed typology of framings of the energy–climate debate. This typology is presented as a means to distinguish clearly the aims, assumptions, and values of participants in the debate. The authors encourage an understanding of the conflicts between the framings as the basis upon which social change, or its hindrance, can be expected. They draw specific attention to the increasingly problematic status of market-based arguments and policies. Having been unable to realize sufficient political support to produce meaningful change after 20 years of the use of these arguments in international climate negotiations, and given their muted incorporation of climate justice concerns, Yun et al. suggest that participants in the debate are now focusing more intently

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on what are identified as analysis-focused framings and postmarket economy framings. Regarding the former, groups such as the Intergovernmental Panel on Climate Change could prepare justice-based transformation pathway analyses and climate life-cycle studies, while nongovernmental organizations could engage in critical policy analyses and action research to support the search for transformative change.

Postmarket economy framings are seen as focusing our attention on efforts that engage in political action rather than market-based policies to secure change. Examples are the efforts by a partnership of local government, citizen organizations, research groups, and advocacy movements in Seoul (South Korea) to reduce energy demand sufficiently to justify closure of coal and nuclear power plants; and a campaign to identify "unburnable fossil fuel reserves" as a means to require a shift toward sustainable energy options. The idea is to build political and economic support for "starving" the carbon energy regime by social means. Yun et al. recognize that transformative change is not, currently, favored by most political and economic leaders. The secession of the United States from the Paris Agreement stands as the most obvious example. Still, understanding framings and their conflicts, and looking for bridging concepts, is essential to addressing our mounting energy–climate conundrum, whether in the sphere of research or action.

Water

Water is as essential to human life and livelihood as energy. The particular characteristics of water—its mobility, bulkiness, cyclical nature, non-substitutability, and multiple uses (Savenije 2002)—make it one of the most contentious environmental issues. The academic literature on water is replete with instances where a disconnect results from alternative framings. Margreet Zwarteveen et al. (Chapter 11) explore one such disconnect: the differences in ways of knowing (modern versus traditional), in knowledge itself (universal versus particular), in the means of decision making (expert versus democratic), and the linkages that connect these issues to solving water problems. Taking a social constructivist position, the authors examine the water accounting approach (or frame) and argue that it is the product of layering (and mixing) particular values (e.g., efficiency or productivity) with certain readings of the waterscape (e.g., remote-sensing data interpreted in particular ways) to produce detailed explanations and policy recommendations (e.g., promoting drip irrigation in agriculture). They argue that while the water accounting approach is not "wrong," it is incomplete (because it misses out on other reasons for overuse), is insensitive to other concerns (such as equity), and often inaccurate (as remote sensing is plagued with inaccuracies that are only revealed by extensive ground-based work) (e.g., Heller et al. 2012). In addition, it can get easily aligned with a particular set of powerful actors that focus exclusively on technical and economic efficiency. In response, they call for toning down the

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ambitions and claims made by proponents of water accounting and combining it with other ways of understanding the values embedded in and the drivers of water use.

In the synthesis chapter (Chapter 12), Amber Wutich et al. engage in an in-depth discussion of how water questions are framed in different ways. Examining a range of frames common in the literature (e.g., integrated water resource management, water as a common-pool resource, the hydrosocial cycle), they describe the intellectual history of each frame, the values it emphasizes, the explanations it favors, and the assumptions it makes in the process. Further, they highlight points of overlap and tension between these different frames and outline some innovative ways to create more inclusive frames. They also ask whether more "inclusive" frames are always possible and/or desirable, and discuss the challenges and constraints connected with such inclusive framing. More integrated and inclusive framing of research may not emerge from academia but may need to be demanded by socioenvironmental movements.

Concluding Remarks

This Forum was convened with the idea of understanding the "internal" barriers to progress in environmentalism; that is, differences in the way that people concerned with environmental problems, particularly environmental researchers, think about these problems. Participants used the concept of problem "framing" as a tool to explore these differences in an effort to examine the potential for expanding the problem frames and the resulting challenges. To ground these explorations, we used the context of four sectors or thematic areas, each of which has a fairly distinct literature and set of environmental debates. Admittedly, much of the learning is individual, indirect, and hard to capture in words. A few common threads, however, did emerge that are worth summarizing in brief.

First, there is no question that different researchers bring very different perspectives to environmental problems: the normative dimension (why it is a "problem") and descriptive dimension (why the problem "occurs") are intertwined in complex ways, which makes mutual intelligibility and dialogue very challenging. Among academics, however, differences extend beyond the normative and descriptive dimensions into differences over method, over what constitutes evidence, or questions of "knowability" of the world. Among activists, differences may also be driven by strategic choices in a particular context.

Second, any discussion on sustainability, equity, and diversity is incomplete without a consideration of the fourth dimension—human well-being itself—that is sought to be sustained over time or distributed equally within society or modified to include the presence of wilderness or nature in it. To cast environmentalism as sustainability-ism or environmental justice-ism or diversity

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conservation-ism is to limit the idea. What is really needed is to rethink what constitutes societal well-being and how we might achieve it.

Third, the concept of "framing" does help unpack implicit normative and descriptive positions that are being taken in the analysis of an environmental problem, but such unpacking requires patience, reflexivity, and openness. Even then, there may be no easy "bridges" between different framings, because of the strongly intertwined nature of concerns, assumptions, methods, and so on. Some of the thematic groups concluded that the best case scenario might be increased self-awareness, or at least a partial integration of a few elements to increase understanding. There was also the perception that explicitly front-paging all values may sometimes reduce the chances of making an impact on the ground, because all stakeholders may not immediately be amenable to explicitly multidimensional approaches.

Fourth, academic structures, and the incentives or disincentives they create, generally reinforce centrifugal tendencies, aiding the mutual un-intelligibility of perspectives. Over the past decade or so, several attempts have been made to create space for a "different" science, such as a "sustainability science," or inclusive frameworks, such as the social-ecological systems framework. Much will depend, however, on how the structures and incentives within academia are changed to support such centripetal or integrative efforts.

Fifth, it seems likely that the push for integration will come from the crucible of action, and so the test of "adequacy" of integration will come from praxis. However, this requires reflective praxis, because community mobilization or resistance can be as limiting as dry intellectualism. In that context, the "bridging" across academics, practitioners, and activists seems as crucial as the bridges within academia.

Finally, it is clear that much of the "bridging" happens internally in unknowable ways: the process, in a sense, is the outcome. Multiple, continuous, and more diverse forums of this kind will enable more cross-disciplinary and cross-perspective dialogue within the environmental research community as well as between researchers, practitioners, and activists. This is necessary to bring about a better, more self-reflective understanding of environmentalism(s).

References

Agyeman, J., D. Schlosberg, L. Craven, and C. Matthews. 2016. Trends and Directions in Environmental Justice: From Inequity to Everyday Life, Community, and Just Sustainabilities. *Annu. Rev. Environ. Resour.* **41**:321–340.

Binder, C., J. Hinkel, P. Bots, and C. Pahl-Wostl. 2013. Comparison of Frameworks for Analyzing Social-Ecological Systems. *Ecol. Soc.* **18**:26.

Brondizio, E., and F.-M. Le Tourneau. 2016. Environmental Governance for All. *Science* **352**:1272–1273.

Brondizio, E. S., K. O'Brien, X. Bai, et al. 2016. Re-Conceptualizing the Anthropocene: A Call for Collaboration. *Global Environ. Change* **39**:318–327.

From "Rethinking Environmentalism: Linking Justice, Sustainability, and Diversity," edited by Sharachchandra Lele et al. 2018. Strüngmann Forum Reports, vol. 23, series editor Julia Lupp. Cambridge, MA: MIT Press. ISBN 9780262038966.

Bullard, R. D., and G. S. Johnson. 2000. Environmentalism and Public Policy: Environmental Justice: Grassroots Activism and Its Impact on Public Policy Decision Making. *J. Soc. Iss.* **56**:555–578.

Chan, K. M. A., P. Balvanera, K. Benessaiah, et al. 2016. Why Protect Nature? Rethinking Values and the Environment. *PNAS* **113**:1462–1465.

Colby, M. E. 1989. The Evolution of Paradigms of Environmental Management in Development, SPR Discussion Paper No. 1. Strategic Planning and Review Department, The World Bank. http://documents.worldbank.org/curated/en/160721468764740558/pdf/multi-page.pdf. (accessed Nov. 1, 2017).

Dietz, T., A. Fitzgerald, and R. Shwom. 2005. Environmental Values. *Annu. Rev. Environ. Resour.* **30**:335–372.

Dixon, J. A., and L. Fallon. 1989. The Concept of Sustainability: Origins, Extensions, and Usefulness for Policy. *Soc. Nat. Resour.* **2**:73–84.

Dubash, N. K. 2009. Environmentalism in the Age of Climate Change. *Seminar* **601**:63–66.

Entman, R. M. 1993. Framing: Toward Clarification of a Fractured Paradigm. *J. Commun.* **43(4)**:51–58.

Fiss, P. C., and P. M. Hirsch. 2005. The Discourse of Globalization: Framing and Sense Making of an Emerging Concept. *Am. Sociol. Rev.* **70**:29–52.

Guha, R. 1997. Towards a Cross-Cultural Environmental Ethic. In: Varieties of Environmentalism: Essays North and South, ed. R. Guha and J. Martinez-Alier, pp. 77–91. London: Earthscan.

———. 2000. Environmentalism: A Global History. New York: Longman.

Guha, R., and J. Martinez-Alier, eds. 1997. Varieties of Environmentalism: Essays North and South. London: Earthscan.

Heller, E., J. M. Rhemtulla, S. Lele, et al. 2012. Mapping Crop Types, Irrigated Areas, and Cropping Intensities in Heterogeneous Landscapes of Southern India Using Multi-Temporal Medium-Resolution Imagery: Implications for Assessing Water Use in Agriculture. *Photogramm. Eng. Remote Sensing* **78**:815–827.

Jones, P. C., J. Q. Merritt, and C. Palmer. 1999. Critical Thinking and Interdisciplinarity in Environmental Higher Education: The Case for Epistemological and Values Awareness. *J. Geogr. High. Ed.* **23**:349–357.

Kates, R. W., W. C. Clark, R. Corell, et al. 2001. Sustainability Science. *Science* **292**:641 – 642.

Kohler, F., and E. S. Brondizio. 2017. Considering the Needs of Indigenous and Local Populations in Conservation Programs. *Conserv. Biol.* **31**:245–251.

Lakoff, G. 2010. Why It Matters How We Frame the Environment. *Environ. Comm.* **4**:70–81.

Lambin, E. F., B. L. Turner, H. J. Geist, et al. 2001. The Causes of Land-Use and Land-Cover Change: Moving Beyond the Myths. *Global Environ. Change* **11**:261–269.

Leach, M., I. Scoones, and A. Stirling. 2010. Dynamic Sustainabilities: Linking Technology, Environment and Social Justice. London: Earthscan.

Lele, S. 1991. Sustainable Development: A Critical Review. *World Dev.* **19**:607–621.

———. 2013. Rethinking Sustainable Development. *Curr. History* **112**:311–316.

Lele, S., G. Kadekodi, and B. Agrawal, eds. 2002. Interdisciplinarity in Environmental Research: Concepts, Barriers and Possibilities. New Delhi: Indian Society for Ecological Economics.

Lele, S., and R. B. Norgaard. 1996. Sustainability and the Scientist's Burden. *Conserv. Biol.* **10**:354–365.

———. 2005. Practicing Interdisciplinarity. *Bioscience* **55**:967–975.

From "Rethinking Environmentalism: Linking Justice, Sustainability, and Diversity," edited by Sharachchandra Lele et al. 2018. Strüngmann Forum Reports, vol. 23, series editor Julia Lupp. Cambridge, MA: MIT Press. ISBN 9780262038966.

Mace, G. M. 2014. Whose Conservation? *Science* **345**:1558–1560.
Maffi, L., and E. Woodley. 2012. Biocultural Diversity Conservation: A Global Sourcebook. London: Routledge.
Martinez-Alier, J. 2008. Languages of Valuation. *Econ. Polit. Wkly.* **43(48)**:28–32.
Mohai, P., D. Pellow, and J. T. Roberts. 2009. Environmental Justice. *Annu. Rev. Environ. Resour.* **34**:405–430.
Moran, E. F., and E. S. Brondizio. 2013. Introduction to Human-Environment Interactions Research. In: Human-Environment Interactions, ed. E. S. Brondizio and E. F. Moran, pp. 1–24. Dordrecht: Springer Scientific.
Ostrom, E. 2009. A General Framework for Analyzing Sustainability of Social-Ecological Systems. *Science* **325**:419–422.
Oughton, E., and L. Bracken. 2009. Interdisciplinary Research: Framing and Reframing. *Area* **41**:385–394.
Robbins, P., J. Hintz, and S. A. Moore. 2010. Environment and Society: A Critical Introduction, vol. 13. Chichester: Wiley-Blackwell.
Savenije, H. H. 2002. Why Water Is Not an Ordinary Economic Good, or Why the Girl Is Special. *Phys. Chem. Earth* **27**:741–744.
Schlosberg, D. 2009. Defining Environmental Justice: Theories, Movements, and Nature. Oxford: Oxford Univ. Press.
Seminar. 2005. Forests and Tribals, Special Issue 552. http://www.india-seminar.com/semsearch.htm. (accessed Nov. 1, 2017).
Soule, M. E. 1985. What Is Conservation Biology? *Bioscience* **35**:727–734.
Soule, M. E., and R. Noss. 1998. Rewilding and Biodiversity: Complementary Goals for Continental Conservation. *Wild Earth* **8(3)**:18–28.
Spangenberg, J. H. 2011. Sustainability Science: A Review, an Analysis and Some Empirical Lessons. *Environ. Conserv.* **38**:275–287.
Svarstad, H., L. K. Petersen, D. Rothman, H. Siepel, and F. Wätzold. 2008. Discursive Biases of the Environmental Research Framework Dpsir. *Land Use Policy* **25**:116–125.
Thiele, L. P. 2013. Sustainability. Chichester: John Wiley & Sons.
Turner, M. D. 2014. Political Ecology I: An Alliance with Resilience? *Prog. Hum. Geogr.* **38**:616–623.
———. 2016. Political Ecology III: The Commons and Commoning. *Prog. Hum. Geogr.* **1**:1–8.
UNESCO. 2002. Universal Declaration on Cultural Diversity. UNESCO. http://unesdoc.unesco.org/images/0012/001271/127160m.pdf. (accessed Nov. 1, 2017).
VanWey, L. K., E. Ostrom, and V. Meretsky. 2005. Theories Underlying the Study of Human–Environment Interactions. In: Seeing the Forest and the Trees: Human–Environment Interactions in Forest Ecosystems, ed. E. F. Moran and E. Ostrom, pp. 26–53. Cambridge, MA: MIT Press.
Weiss, E. B. 1990. In Fairness to Future Generations. *Environ. Sci. Pol. Sust. Develop.* **32**:6–31.
Whitehead, J. 2007. Sunken Voices: Adivasis, Neo-Gandhian Environmentalism and State: Civil Society Relations in the Narmada Valley 1998–2001. *Anthropologica* **49**:231–243.

From "Rethinking Environmentalism: Linking Justice, Sustainability, and Diversity," edited by Sharachchandra Lele et al. 2018. Strüngmann Forum Reports, vol. 23, series editor Julia Lupp. Cambridge, MA: MIT Press. ISBN 9780262038966.

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