Chapter 3

Sustainability

Becky Mansfield

Introduction

'Sustainability' is wildly popular as a way of thinking about how to simultaneously meet the needs of people and the environment by enhancing human well-being without undermining ecological integrity. Since it came into prominence in the 1980s, debate about sustainability has underscored the political nature of conservation, economic development, human well-being, and links among them. Sustainability also highlights the political nature of socio-ecological processes that produce environmental degradation, poverty, and injustice – in short, the political nature of unsustainability. At the same time, it is striking the extent to which politics relations of power – have been written out of the vast majority of discussions about sustainability. While most will recognise that discussion about sustainability is itself contentious and therefore political, the orthodox view is that achieving sustainability is a technical issue. According to this orthodox perspective, all that is needed is better knowledge, incentives, and technology. This orthodoxy, however, ignores relations of power that create problems and impede solutions, and ignores ways 'sustainability', in its attempt to solve problems while avoiding politics, is itself a political project.

This chapter identifies several ways in which sustainability is political. First, in the shallowest sense, sustainability is political because it is the outcome of heated debate, much of it in the formal policy arena. Second, sustainability research and policy addresses itself to real-world processes that are always political in that they are shaped, at least in part, by relations of power. The political nature of these processes must be understood and addressed. Third, the concept of sustainability is inherently political because it is normative; it fundamentally involves value-laden choices. Finally, the current usage of sustainability in many academic and policy circles hides the latter two forms of politics by making sustainability appear to be technical. This chapter argues that this retreat from politics is a form of hidden politics.

The first section provides an overview of the trajectory of the global politics of sustainability, focusing on convergence between sustainability and neoliberalism in

the international policy arena. The second section provides an overview of academic responses to this global politics. The strength of sustainability is that it bridges the social and the ecological both materially (sustainability as the search for 'win-win' solutions) and conceptually (sustainability as a way of thinking about how nature and society are interconnected). The central weakness is that much of the sustainability literature undermines this promise by making sustainability a technical issue. Subsequent sections demonstrate these strengths and weaknesses in three fields to which geographers contribute: conservation biology, sustainability science, and geography more generally.

Sustainability in Global Environmental Politics

Sustainability as it is used today usually references the term 'sustainable development', an idea that became enshrined in global policy discussion in the 1980s. The concept has much deeper roots in Twentieth Century resource management, which used calculations of 'maximum sustained yield' to regulate use of renewable resources such as fish and trees (Larkin, 1977). Sustainability is the level of use that matches the long-term rate of regeneration; using less is wasteful because resources go unused, while using more depletes the resource. The concept has been criticised from many angles (Larkin, 1977, in geography, see, e.g., Demeritt, 2001; Prudham, 2005), and explicit use of this approach was waning just as the term sustainability was coming into prominence in the context of sustainable development.

It was the 1987 UN-commissioned report Our common future (the 'Brundtland report') that launched sustainability into everyday use, defining sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. The aim of the 1992 UN Conference on Environment and Development (the 'Earth Summit', held in Rio de Janeiro) was to implement sustainable development as it had been defined in the Brundtland report (see Adams, 2001; Mansfield, 2008). Sustainable development represented a shift regarding issues of environment and development, which until then had been considered to be largely separate. This shift represents a major victory for governments of the global South who had argued for decades that environmental concerns could not be considered separately from concerns about economic growth and equity. For them, the causes of environmental degradation are the same as those of Third World poverty: exploitative behaviour of governments and corporations from the North in the past and present. Further, attempts to get countries of the South to forgo development in the name of conservation were seen largely as neocolonial efforts to control resources of the South for the benefit of the North. The concept of sustainable development, then, reflected North-South politics in policy discussions, and it reflected the realities of power relations between the North and South.

What is fascinating, however, is how the term 'sustainable development' managed to subvert politics at the very moment politics seemed to erupt most explicitly. It does so by entrenching the idea that economic growth is good for people and the environment. In the 1970s, conservationists considered the major causes of environmental problems to be economic growth through industrialisation (largely in the North) and population growth (largely in the South). In the Brundtland report and at the Earth Summit, policymakers maintained their focus on population but reversed

their stance on economic growth. They argued that population is still a problem, but it is the outcome of poverty, rather than its cause. Because poverty is the problem, economic development becomes the solution to both socio-economic and environmental problems; industrialisation in the South will create economic growth that will decrease poverty, reduce population growth, relieve direct pressure on resources, and provide economic resources for conservation. No longer seen as an environmental threat or cause of global inequality, development became the route to sustainability. Governments around the world could embrace the broad outlines of this sustainable development agenda because they could sidestep discussion of politically difficult changes necessary to reduce poverty, increase equity, and create more environmentally friendly ways of living. Critics responded by claiming that the notion of sustainable development promotes the status quo, i.e. global economic activity that exploits the environment and dispossess the poor of access to resources (The Ecologist, 1993; Chatterjee and Finger, 1994).

Ten years later, the 2002 World Summit on Sustainable Development (the WSSD, held in Johannesburg), further entrenched the idea that sustainable development should be linked to capitalist development and neoliberal globalisation (Luke, 2005; Sneddon et al., 2006; Mansfield, 2008). The approach institutionalised at the WSSD not only subordinates sustainable development to neoliberalism but promotes neoliberalism as the central means to achieve sustainable development. WSSD agreements are emblematic of a private, market-based approach to environmental protection and poverty alleviation. They promote free trade and investment in general, encourage developing countries to increase their level of participation in global trade, and explicitly state that it is necessary to implement agreements of the World Trade Organization to achieve sustainability. They also promote 'voluntary partnerships' in which governments work with the private sector to achieve particular goals. Thus, the WSSD represents the triumph of neoliberalism as a framework for sustainable development. By using the term sustainability, proponents can cast neoliberal, market-based approaches as a form of egalitarianism, justice and ecological economics (Okereke, 2006; Krueger and Gibbs, 2007; Mansfield, 2008).

Sustainability as a Bridging Concept: Promises and Pitfalls

Academic commentators have responded to the troubling trajectory of sustainable development within global politics in different ways. Whereas some argue that the entire concept of sustainability should be abandoned because of its problematic political commitments (e.g., Luke, 2005), others argue that sustainability should be 'resuscitated and rescued from those proponents of sustainable development who use it to advance a development agenda that is demonstrably unsustainable' (Sneddon et al., 2006, p. 264, see also Krueger and Gibbs, 2007). For Sneddon, sustainability is precisely a way of bringing politics back into the debate, asking key questions about what is meant by sustainability and who will benefit from it. Because sustainability is a malleable concept, it has the potential to create bridges among very different people. Discussion about sustainability can be a way in which people recognise their differences and work through the politics of human-environment interactions (Sneddon, 2000; Padoch and Sears, 2005).

A resuscitated sustainability also creates bridges between the human and the natural, and between the social and physical sciences (e.g., Costanza et al., 2007).

Sustainability is generally represented as being at the nexus of environmental, economic and social concerns, such that sustainability can only exist if all three are addressed together (e.g., Sneddon, 2000; Whitehead, 2007). This offers a different way to think about the major problems of our time, and holds out the promise that something can be done to address these problems. In so doing, sustainability also recognises the integration of humans and nature as an inescapable reality. The question is *not* how do we re-integrate humans and nature in order to have a sustainable existence (suggesting that humans are currently an external disturbance to nature), but why do we have socio-ecological systems that are unsustainable and what do we need to create more ecologically friendly and socially just human-environment relations? It is in this sense that the bridging capacity of sustainability as a concept raises key political issues.

However, just as policy debates manage to subvert the political potential of sustainability at the very moment politics seemed to erupt, the same is true of academic debates. As Redclift (1994; 2005) has long emphasised, it is not always clear to what sustainability refers, or what is being sustained. Sustainability can refer to maintaining ecological processes, sustained resource production, or sustained profitability. There is 'strong' sustainability that focuses on ecosystem services in the broadest sense and 'weak' sustainability that focuses on protecting only those parts of nature for which people cannot develop substitutes (Neumayer, 2003). Sustainability can refer to fostering the well-being of all people, now and in the future (both intra- and inter-generational equity). Or it can refer to any set of practices that can be maintained over the long-term, regardless of their effect on particular people or environments! These differences make the neat triangle of sustainability – environment, economy, society – a little less neat. If people mean different things by these terms, and tend to prioritise one over the others, then reference to sustainability becomes a means to avoid hard discussions.

This suggests that using the term sustainability in any seriousness requires having some answer to the question 'sustainability of what?' Further, answers to this question cannot be found through scientific analysis. While research can certainly answer questions about the social and ecological effects of certain actions, it can only tell us if those outcomes are 'sustainable' *if we have already defined* sustainability. In other words, the process of defining sustainability is an inherently normative, political process. Yet many academic researchers fail to address these political issues, trying instead to use supposedly objective research about sustainability to answer questions about what sustainability should mean. In other words, researchers often try to turn sustainability into a technical, rather than political, issue.

The outcome is that there is tension between the promise of sustainability as a bridging concept and the pitfalls of sustainability as a retreat into the technical. In his review of contributions from ecology, ecological economics, and livelihoods, Sneddon (2000) argues that these fields all push the sustainability framework away from that offered by mainstream sustainable development, and do so by creating bridges between social and ecological processes (see also Sneddon et al., 2006). But he also argues that these fields 'tend to side step the power discrepancies embedded within social relations . . . which lie at the heart of many environment and development dilemmas' (2000, p. 538). In other words, they tend to avoid and ignore politics, thus blunting their effectiveness. The following sections build from and illustrate these insights regarding the potential and pitfalls of sustainability by examining several fields to which geographers have contributed most centrally.

Conservation biology

Because the field of conservation biology is centrally concerned with maintaining biological diversity (Society for Conservation Biology, 2007), it necessarily examines interconnections among social and ecological processes: what actions degrade the environment, and which will contribute to conserving it? Yet some conservation biologists criticise the notion of sustainability precisely because it embraces social questions about economics and equity. They worry that sustainability 'poses the particular risk that ecological and biodiversity concerns will be cast aside in favor of more pressing human wants' (Newton and Freyfogle, 2005, p. 23). Writing in direct response, Padoch and Sears (2005) point out that this view is part of the long history of global conservation politics, in which 'poor rural people around the planet have repeatedly received and rejected already too-simplified versions of urban and developed-country conservation priorities' (p. 40). In contrast, they see sustainability as an opportunity for those concerned about the environment to work with, rather than against, poor people of the world to address interlocked 'problems that affect the health and well-being of our own and other communities and of the environments in which we live. We need to know what our roles are in creating those problems and be engaged collectively in solving them' (p. 41).

Geographers are pushing discussion about importance of social issues within conservation in important directions. Campbell (2002) examines debates about sustainable use of the environment (in this case, endangered sea turtles and their eggs), finding that managers have a hard time addressing social concerns; biological science 'remains the privileged language' of the experts she interviewed (p. 1243). McSweeney (2005) engages debates about effects of population growth among indigenous peoples on tropical forests. She finds that in place of strategies such as fertility reduction, conservationists should use social science to address broader social dynamics regarding women's conservation activities and enforcement of indigenous territorial rights. Further, these social dynamics are fundamentally political, in that they are about power relations among various different groups of people.

Sustainability is particularly useful in the context of debates such as this about the necessity of addressing social dynamics. Because it explicitly forges a bridge between social and ecological concerns, reference to sustainability prevents withdrawal from politics into the technical. It does so by highlighting ways that politics are a key part of human-environment interactions, and by showing that a retreat into seemingly objective concerns about the environment is a political tactic. Such a retreat makes a political statement not only about what is important, but about what gets to count as relevant knowledge that can contribute to forging more sustainable human-environment relations.

Sustainability science

Another field to which geographers have made major contributions is sustainability science, which provides information regarding socio-economic and environmental patterns, causes of problems, and potential solutions (Kates et al., 2001; Clark and Dickson, 2003; Clark, 2007). Sustainability science is founded on the premise of bridging and integrating. As one of its founders put it, its 'core focus' is 'coupled human-environment systems' (Clark, 2007, p. 1737). The field is also explicitly

interdisciplinary, and some of the major figures in the field, such as R. Kates, R. Kasperson and B. L. Turner, are geographers. Although young, sustainability science has been recognised by some of the top scientific journals, including *Science* and *Proceedings of the National Academy of Sciences*, which in 2007 started a 'sustainability science' section. This new prominence – which clearly not all fields have been able to achieve – means that both the interdisciplinary, human-environment approach and questions to which it addresses itself are being recognised as legitimate and important. This sort of prominence also gives the field the imprimatur of science (as its name, too, claims), such that the field is seen as the best way to produce rigorous and useful knowledge regarding coupled human-environment systems.

While rising visibility and legitimacy for this kind of integrative approach is to be applauded, one concern is that integration is fairly superficial; the field looks at both social and environmental issues, but does so in ways that do not carefully link them. One example is a pair of synthetic articles by Kates and Parris. The first lists and briefly describes 26 trends related to sustainability (e.g., 'slowing and differential population growth' and 'modification of grasslands and pasturelands') (Kates and Parris, 2003). These are based on trends identified in the NRC report on sustainability, for which Kates was co-chair of the board (National Research Council 1999). The second focuses on the status of four goals (reducing hunger, promoting literacy, stabilising greenhouse gas concentrations, and maintaining freshwater availability) (Parris and Kates, 2003). The trends and goals they address do include those that are social and those that are environmental, yet there is no effort to link them; little in the discussion of each target or goal is actually integrative. Most telling, they themselves say 'two of the goals . . . are selected from the consensus on meeting human needs, and the other two...are selected from the consensus on preserving life-support systems' (Parris and Kates, 2003, p. 8068). 'Human needs' and 'life-support systems' may both be important, but they are not treated as interconnected, either materially or analytically.

A troubling outcome of superficial integration is that researchers rarely attend to complexity of the socio-environmental processes they claim to be examining. Much of the research in sustainability science fails, in particular, to properly identify key social factors, such that not only the analyses but the problems themselves are treated as fairly technical. Parris and Kates fail to address key structural issues that lead to chronic hunger; as a result they advocate kinds of international aid policies that others suggest contribute to the problem in the first place (cf. Lappe et al., 1998). In a project quantifying water needs associated with adequately feeding everyone in the world, the researchers treat the challenge as the need to grow more food, and hence use more water (Rockstrom et al., 2007). They never address how water needs might change if developing countries stopped producing luxury foods (such as coffee) for elite consumers (cf. Lappe et al., 1998). This is a perfect example of the need to ask what it is we are trying to sustain! In a project on socioenvironmental tradeoffs related to agroforestry in Indonesia, the researchers claim that in addition to examining local market forces they also address 'rarely considered cultural factors' (Steffan-Dewenter et al., 2007, p. 4973). Instead they treat in-migration to the study region as an apolitical process of cultural exchange (i.e. learning how to be market-oriented from these outsiders). This fails to analyse changes due to migration as complex political ecologies in which issues of ethnicity, access to resources, control of markets, access to government officials, and the like

may be important (cf. Peluso, 1992; 2005). Reference to 'culture' allows the authors to avoid addressing relations of power in their study site. Against this trend, a more carefully integrative approach is offered by Turner et al. (2003a; 2003b), in their development of a framework for analysis of vulnerability to environmental change (i.e. the likelihood of experiencing harm). As they present it, vulnerability analysis aims not just to understand effects of environmental change on people, but also how those effects are shaped by ongoing coupled human-environment interactions at multiple scales. In other words, it is not enough to note there is a connection between humans and the environment, but one must carefully identify links among multiple, intersecting human-environment interactions.

Another key term in sustainability science (related to vulnerability) is resilience, which refers to the ability of systems to bounce back from (or at least not change state completely after) a stress or perturbation. Systems of humans and nature are 'interlinked in never-ending adaptive cycles of growth, accumulation, restructuring, and renewal' that occur at multiple temporal and spatial scales (Holling, 2001, p. 392). According to this framework, resilience is a function of the ability of the system to restructure and renew, rather than grow and accumulate. A wealth of research has refined the model, including making it more precise and useful for empirical measurement of systems and their sustainability (e.g., Cumming et al., 2005). Resilience theory improves on the literature cited above in that very little distinction is made between human and non-human aspects of systems. The problem, however, is that social dynamics are not well understood or addressed. There is little effort to understand why people do what they do; the resilience model is not explanatory. As a result, scholarship on resilience has very little to say about some of the supposed pillars of sustainability, such as equity or social justice. Instead, resilience is mainly about maintaining a given system and its ability to accumulate resources, with no discussion about who or what benefits from it. Resilience may be about 'understanding complexity' but that understanding is seen as objective and technical, rather than normative and political.

This reflects a larger problem with sustainability science, which is that scholars in this field tend to downplay political aspects of their work. Researchers do recognise that they are participating in a political process. Because their work is problemoriented, sustainability scientists actively and openly 'promote a sustainability transition' (Clark, 2007, p. 1737); this requires engaging in political debates. But they claim to do so only on the basis of their research findings. That is, sustainability scientists see their science as a way of avoiding, and even trumping, the politics of sustainability. Thus Kates and Parris, cited above, imply they are engaged in an apolitical action of characterising goals and trends that already exist, rather than in a political action of choosing which goals and trends are important (cf. Morse, 2004). Similarly, researchers use the resilience model to characterise complex systems and identify key times and places for intervention, and they do so without seeming to engage in subjective and political discussions about which systems and interventions are good for whom and in what ways. Indeed, it is partly the ability to seem apolitical that gives sustainability science its legitimacy, and proponents themselves claim that they are trying to move away from overt politics. As Kates et al. (2001) state, 'during the late '80s and early '90s...much of the science and technology community became increasingly estranged from the preponderantly societal and political processes that were shaping the sustainable development agenda. This is now changing as efforts to promote the sustainability transition emerge from international scientific programs, the world's scientific academies, and independent networks of scientists' (p. 641).

Thus sustainability scientists argue that their scientific approach, because it is objective, can replace the overly subjective and politicised approach prominent in ongoing debates regarding what counts as sustainability and how to achieve it. In other words, science can define for us what should count as sustainable and what processes contribute to a sustainability transition. What should be obvious is that this completely ignores the key questions raised earlier about the normative – rather than objective - nature of decisions about what counts as sustainability. As Redclift points out, the idea that sustainability 'speak[s] to objective scientific method, without the complication of human judgement' has been present in debates about sustainability since at least the 1992 Earth Summit (2005, p. 17). This idea therefore precedes (and even suggests the need for) sustainability science as a new field. Sustainability science aims to bypass politics by making sustainability a technical question, yet in so doing scholars in this area ignore the extent to which they are actually participating in the politics of sustainability. They do so by claiming that their approach to sustainability is objectively better than others, which is also a claim about what kinds of knowledge get to count. Not only does this leave little room for non-academic forms of knowledge, it also denigrates other forms of academic research that are not seen as appropriately scientific. This, fundamentally, is the politics of sustainability.

Sustainability in geography

A very different understanding of sustainability is presented in the more general geographical literature in both human and nature-society geography. (Physical geographers have largely been absent from explicit discussion of what is meant by sustainability, yet a large proportion of the work that physical geographers are engaged in is related to sustainability, in that it is about understanding environmental change, especially as related to human action). Within this geographical literature, there is no unifying approach to the study of sustainability, yet there are some overarching contributions. The first is that geographic work, especially on naturesociety relations, on the whole does a better job at integrating social and ecological concerns and processes, giving special attention to the complexity of these processes. The second is that geographers treat sustainability itself as diverse, rather than singular. It is context dependent, influenced by space, place, and scale, and – above all - is the *outcome* of diverse and complex socio-ecological relations. Although certainly not alone in addressing these issues, geographers contribute to sustainability discussions especially on the basis of their unique, long-standing spatial and humanenvironment traditions.

Turning to the first contribution, geographical literature presents a much different, more textured sense of what human-environment integration means. One way it does this is by challenging the notion that nature and society exist as two separate realms that interact. Instead, geographers demonstrate that the idea that they are separate is itself historical, and is based on a complicated politics of knowledge that is tied-up with the history of science, colonialism, capitalism, and the exploitation of both people and nature (Castree 2005). Further, views of nature, and of a human-nature split, influence actions. Dualistic views of nature not only justify actions that degrade the environment, but they also influence conservation strategies, which are

often based on the idea of protecting external nature (Braun, 2002). This suggests that, because it fundamentally refers to notions such as economy, society, and environment, any discussion of 'sustainability' is always caught up in this politics of knowledge. It also suggests that strategies to achieve sustainability may be based on faulty foundations, and hence may contribute to problems rather than solutions. For example, Benjaminsen et al. (2006) show that deeply held visions of ideal land-scapes and human-environment relations influence seemingly objective scientific notions (such as 'carrying capacity') and serve to obscure socio-ecological relations that do not fit these models, thus leading scientists and policymakers to privilege environmental sustainability over its social and economic dimensions.

Another way geographers present a very different sense of human-environment integration is by working to explain (rather than simply describe elements of) particular socio-ecological systems. In political ecology (broadly defined) researchers reject both the idea that people are only agents of destruction (i.e. humans are outside of nature) and simplistic explanations of environmental degradation and poverty (e.g., overpopulation or backwardness of local people) (Robbins, 2004; Castree, 2005). Researchers document various ways that people – in multiple times and places - have managed to create healthy (sustainable!) socio-ecological relations, and they document the breakdown of these healthy relations as a result of struggles over control of resources. Asking why people do what they do, researchers have found that environmental degradation often results from extensive political and economic processes, including state intervention and integration into capitalist markets (e.g., Prudham, 2005). Problems in one place may be caused at least in part by practices that are quite distant. By offering alternative explanations of both environmental degradation and poverty, this research provides the basis for a critique of orthodox approaches to both development and conservation, such as those offered by the World Bank and major conservation organisations (Robbins, 2004; Goldman, 2005).

This research also provides the basis for a critique of sustainability as a dimension of both global environmental politics and academic discussion. For one, most literature on sustainability fails to address these relations of power that shape what people do. As outlined above, even research that claims to be 'integrative' avoids addressing the politics of socio-ecological relations. Additionally, and partly because of this failure, sustainability is itself part of the politics of control over resources. Reference to the idea of sustainability is a way of making claims about who should have access to resources, on what basis, and for what purpose. In this vein, Adams' (2001) influential work on the history of sustainability gives attention to the deep roots of the idea of sustainability in colonial conservation practices, and shows how orthodox approaches to sustainability reproduce faulty explanations of environmental problems and their solutions. Other recent research argues that the prominence of sustainable development in international debate reflects that it is a form of geo-politics and extension of state power (e.g., Luke, 2005), and shows that efforts to create sustainable livelihoods must attend to gender dynamics, which are key to understanding how people organise access to resources and use of the environment (Hovorka, 2005). These examples show that sustainability participates in and must take into account power dynamics of multiple types and also at multiple scales, including households, states, and international relations.

Attention to sustainability in multiple contexts and scalar configurations brings us to the second major contribution that geographers make to the study of sustain-

ability, which is to treat it as a geographical outcome rather than a transcendent reality. The political ecological literature discussed above clearly demonstrates this. What we consider to be 'local' is produced by processes that cut across scales, yet these 'contexts' do not erase the uniqueness of particular situations, which are the outcome of the intersection of multiple processes. Recent scholarship in human geography also emphasises that sustainability is an inherently geographical project, and space and scale should be central to any attempt to define, plan for, or implement sustainability (Whitehead, 2007). For example, noting that policymakers now emphasise local action as the best means to implement sustainability, a recent set of articles examines local capacities for sustainable development (Gibbs and Krueger, 2005). One finding is that people in specific contexts interpret sustainability on their own terms – such that it is impossible for local people to implement global policy - and these local interpretations are influenced by social relations of power within the locality (Houghton, 2005). Cowell (2003) argues that the scale at which people frame environmental 'assets' profoundly influences what other issues (such as equity) are visible or invisible, and therefore choice of scale influences what is meant by sustainability and who will benefit from it. In one of their contributions to literature on measuring sustainability, Morse and Fraser (2005) contend that focusing on national-scale indicators is particularly misleading because these indicators overgeneralise across the nation-state, which then 'reinforces the prevailing view that the West is better than the developing world' (p. 638). What these articles demonstrate quite clearly is that the production of scale also 'restructures the objects of sustainability' (Cowell, 2003, p. 343). Sustainability is not a universal concept that is scale and space neutral, but instead the choice of scale shapes what we think we know about particular places and how they relate to each other; these ideas subsequently shape actions, which, of course, have material outcomes. Not only is sustainability inherently political, but sustainability politics is a geographical practice.

Conclusions

This chapter has outlined some of the complexities of sustainability as an organising concept. Sustainability has become the dominant way of framing issues of environment and development at the global scale. In this global politics, sustainability has merged with neoliberalism, such that the capitalist market is offered as the only solution to environmental degradation, poverty, and injustice. In this sense, sustainability is clearly not an apolitical concept, but instead serves to legitimise the status quo. Academic responses to this politics of sustainability have varied. Some suggest that we reject the idea completely; others embrace the term despite its shortcomings. Of those who embrace it, some – particularly in the field of sustainability science – try to overcome the political problems of sustainability debates by claiming to reject politics. These scholars try to turn sustainability into a set of technical questions about the right way to live on earth, questions that can be answered through careful science.

Others recognise that making sustainability into a technical question is impossible – these questions are inherently political. Those who treat sustainability as a technical problem engage in this politics implicitly and without examining the political commitments they are making. Many of those who do recognise the political nature of sustainability embrace the term precisely because it is political, and is so on many levels. Its greatest strength is that it challenges the dominant tendency to prioritise

either social or environmental issues at the expense of the other. At its best, sustainability offers a vision of socio-ecological integration that breaks down the categories 'humans' and 'nature' and instead focuses on intersections of multiple and complex processes that do not obey our efforts to neatly categorise them. In so doing, sustainability can also open the door to deep understanding of the causes of environmental degradation and social injustice, and how these are interconnected, a project that requires attending to relations of power.

The malleability of sustainability as a concept should be seen in light of this politics. One outcome of the fact that people can use the term to refer to very different things is that people can avoid difficult discussions about what they really mean simply by reference to 'sustainability'; the malleability of sustainability masks relations of power by subverting political discussion regarding the causes of global inequity, injustice, and environmental problems. Yet malleability is also a reflection of the fact that sustainability is not a closed concept, but is constantly open to revision. Anyone who engages the idea – whether as a scholar, policymaker, lay person, or some combination – is actively shaping what sustainability means. As scholars, and especially as geographers, we can participate in 'writing the story of sustainability' in a way that makes it into 'a progressive project that ameliorates the negative externalities of economic activity for everyone' (Krueger and Gibbs, 2007). In other words, it is impossible to categorically decide whether sustainability is a progressive idea or not; to pretend to do so is, once again, to treat sustainability as an externally given idea that we can know objectively. Instead, we must recognise that sustainability is the outcome of power-laden discussions regarding what is right, what should be done and by whom, and to whose benefit.

BIBLIOGRAPHY

- Adams, W. M. (2001) Green Development: Environment and Sustainability in the Third World, 2nd edn. London: Routledge.
- Benjaminsen, T. A., Rohde, R., Sjaastad, E., Wisborg, P. and Lebert, T. (2006) Land reform, range ecology, and carrying capacities in Namaqualand, South Africa. *Annals of the Association of American Geographers*, 96(3), 524–40.
- Braun, B. (2002) The Intemperate Rainforest: Nature, Culture, and Power on Canada's West Coast. Minneapolis: University of Minnesota Press.
- Campbell, L. M. (2002) Science and sustainable use: views of marine turtle conservation experts. *Ecological Applications*, 12(4), 1229–46.
- Castree, N. (2005) Nature. London: Routledge.
- Chatterjee, P. and Finger, M. (1994) The Earth Brokers: Power, Politics, and World Development. London: Routledge.
- Clark, W. (2007) Sustainability science: a room of its own. Proceedings of the National Academy of Sciences, 104(6), 1737–38.
- Clark, W. C. and Dickson, N. M. (2003) Sustainability science: the emerging research program. *Proceedings of the National Academy of Sciences*, 100(14), 8059–61.
- Costanza, R., Graumlich, L. J. and Steffen, W. (eds) (2007) Sustainability or Collapse? An Integrated History and Future of People on Earth. Cambridge, MA: MIT Press.
- Cowell, R. (2003) Substitution and scale politics: negotiating environmental compensation in Cardiff Bay. *Geoforum*, 34, 343–58.
- Cumming, G., Barnes, G., Perz, S., Schmink, M., Sieving, K., Southworth, J., Binford, M., Holt, R., Stickler, C. and Van Holt, T. (2005) An exploratory framework for the empirical measurement of resilience. *Ecosystems*, 8, 975–87.

- Demeritt, D. (2001) Scientific forest conservation and the statistical picturing of nature's limits in the Progressive-era United States. *Environment and Planning D: Society and Space*, 19, 431–59.
- Gibbs, D. and Krueger, R. (2005) Exploring local capacities for sustainable development. *Geoforum*, 36, 407–9.
- Goldman, M. (2005) Imperial Nature: The World Bank and Struggles for Social Justice in the Age of Globalization. New Haven: Yale University Press.
- Holling, C. (2001) Understanding the complexity of economic, ecological, and social systems. *Ecosystems*, 4, 390–405.
- Houghton, J. (2005) Place and the implications of 'the local' for sustainability: an investigation of the Ugu District Municipality in South Africa. *Geoforum*, 36, 418–28.
- Hovorka, A. J. (2005) The (re) production of gendered positionality in Botswana's commercial urban agriculture sector. *Annals of the Association of American Geographers*, 95(2), 294–313.
- Kates, R., Clark, W., Corell, R., Hall, J. M., Jaeger, C., Lowe, I., et al. (2001) Sustainability science. *Science*, 292(5517), 641–2.
- Kates, R. W. and Parris, T. M. (2003) Long-term trends and a sustainability transition. *Proceedings of the National Academy of Sciences*, 100(14), 8062–67.
- Krueger, R. and Gibbs, D. (2007) Introduction: problematizing the politics of sustainability. In R. Krueger and D. Gibbs (eds), *The Sustainable Development Paradox: Urban Political Economy in the United States and Europe*. New York: Guilford.
- Lappe, F. M., Collins, J. and Rosset, P. (1998) World Hunger: 12 Myths, 2nd edn. New York: Grove Press.
- Larkin, P. A. (1977) An epitaph for the concept of maximum sustained yield. *Transactions of the American Fisheries Society*, 106(1), 1–11.
- Luke, T. W. (2005) Neither sustainable nor development: reconsidering sustainability in development. *Sustainable Development*, 13, 228–38.
- Mansfield, B. (2008) Global environmental politics. In K. Cox, M. Low and J. Robinson (eds), *Handbook of Political Geography*. London: Sage, pp. 235–346.
- McSweeney, K. (2005) Indigenous population growth in the lowland neotropics: social science insights for biodiversity conservation. *Conservation Biology*, 19(5), 1375–84.
- Morse, S. (2004) Indices and Indicators in Development: An Unhealthy Obsession with Numbers. London: Earthscan.
- Morse, S. and Fraser, E. D. (2005) Making 'dirty' nations look clean? The nation state and the problem of selecting and weighting indices as tools for measuring progress towards sustainability. *Geoforum*, 36, 625–40.
- National Research Council (1999) Our Common Journey: A Transition toward Sustainability. Washington, DC: National Academy Press.
- Neumayer, E. (2003) Weak versus Strong Sustainability: Exploring the Limits of Two Opposing Paradigms. Cheltenham, UK: Edward Elgar.
- Newton, J. L. and Freyfogle, E. T. (2005) Sustainability: a dissent. *Conservation Biology*, 19(1), 23–32.
- Okereke, C. (2006) Global environmental sustainability: intragenerational equity and conceptions of justice in multilateral environmental regimes. *Geoforum*, 37, 725–38.
- Padoch, C. and Sears, R. R. (2005) Conserving concepts: in praise of sustainability. *Conservation Biology*, 19(1), 39–41.
- Parris, T. M. and Kates, R. W. (2003) Characterizing a sustainability transition: goals, targets, trends, and driving forces. *Proceedings of the National Academy of Sciences*, 100(14), 8068–73.
- Peluso, N. L. (1992) Rich Forests, Poor People: Resource Control and Resistance in Java. Berkeley: University of California Press.
- Peluso, N. L. (2005) Seeing property in land use: local territorializations in West Kalimantan, Indonesia. *Geografisk Tidsskrift*, 105(1), 1–15.

- Prudham, S. (2005) Knock on Wood: Nature as Commodity in Douglas-fir Country. New York: Routledge.
- Redclift, M. (1994) Reflections in the 'sustainable development' debate. *International Journal of Sustainable Development and World Ecology*, 1, 3–21.
- Redclift, M. R. (2005) General Introduction. In M. R. Redclift (ed.), Sustainability: Critical Concepts in the Social Sciences, Vol. I. London: Routledge, pp. 1–22.
- Robbins, P. (2004) Political Ecology: A Critical Introduction. Malden, MA: Blackwell.
- Rockstrom, J., Lannerstad, M. and Falkenmark, M. (2007) Assessing the water challenge of a new green revolution in developing countries. *Proceedings of the National Academy of Sciences*, 104(15), 6253–60.
- Sneddon, C. S. (2000) 'Sustainability' in ecological economics, ecology and livelihoods: a review. *Progress in Human Geography*, 24(4), 521–49.
- Sneddon, C., Howarth, R. B. and Norgaard, R. B. (2006) Sustainable development in a post-Brundtland world. *Ecological Economics*, 57: 253–68.
- Society for Conservation Biology. (2007) About us. http://www.conbio.org/AboutUs/ (accessed 12 June 2007).
- Steffan-Dewenter, I., Kessler, M., Barkmann, J., Bos, M. M., Buchori, D., Erasmi, S., Faust, H., Gerold, G., Glenk, K., Gradstein, S. R., Guhardja, E., Harteveld, M., Hertal, D., Hohn, P., Kappas, M., Kohler, S., Leuschner, C., Maertens, M., Marggraf, R., Migge-Kleian, S., Mogea, J., Pitopang, R., Schaefer, M., Schwarze, S., Sporn, S. G., Steingrebe, A., Tjitrosoedirdjo, S. S., Tjitrosoemito, S., Twele, A., Weber, R., Woltmann, L., Zeller, M. and Tscharntke, T. (2007) Tradeoffs between income, biodiversity, and ecosystem functioning during tropical rainforest conversion and agroforestry intensification. *Proceedings of the National Academy of Sciences*, 104(12), 4973–8.
- The Ecologist (1993) Whose Common Future? Reclaiming the Commons. Philadelphia: New Society.
- Turner, B. L., II, Kasperson, R. E., Matson, P. A., McCarthy, J. J., Corell, R. W., Christensen, L., Eckley, N., Kasperson, J. X., Luers, A., Martello, M. L., Polsky, C., Pulsipher, A. and Schiller, A. (2003a) A framework for vulnerability analysis in sustainability science. *Proceedings of the National Academy of Sciences*, 100(14), 8074–9.
- Turner, B. L., II, Matson, P. A., McCarthy, J. J., Corell, R., Christensen, L., Eckley, N., Hovelsrd-Brodha, G. K., Kasperson, J. X., Kasperson, R. E., Luers, A., Martello, M. L., Mathiesen, S., Naylor, R., Polsky, C., Pulsipher, A., Schiller, A., Selin, H. and Tyler, N. (2003b) Illustrating the coupled human-environment system for vulnerability analysis: three case studies. *Proceedings of the National Academy of Sciences*, 100(14), 8080–85.
- Whitehead, M. (2007) Spaces of Sustainability: Geographical Perspectives on the Sustainable Society. London: Routledge.