

of female aging that also shows how the cultural construction, medicalization, and subjective experience of menopause differs in Japan and North America.]

———. 2001. *Twice Dead: Organ Transplants and the Reinvention of Death*. Berkeley: University of California Press. [An examination of the creation of the concept of brain-death and the contradictions and anxieties associated with the procurement of organs from brain-dead bodies in North America and Japan.]

Nguyen, Vinh-Kim. 2001. "Epidemics, Interzones, and Biosocial Changes." In *Entangled Histories*, ed. Wolf Lepenies. London: St. Martin's Press. [A discussion of globalization and the interrelationship of politics, culture, and biology in the HIV/AIDS epidemic in West Africa.]

Scheper-Hughes, Nancy. 1992. *Death without Weeping: The Violence of Everyday Life in Brazil*. Berkeley: University of California Press. [An exhaustive exploration of the exploited existence of slum dwellers in northeast Brazil and its effect on affiliation, health, and physical survival.]

Young, Allan. 1995. *The Harmony Of Illusions: Inventing Post-traumatic Stress Disorder*. Princeton, NJ: Princeton University Press. [An examination of the creation of the concept of trauma with emphasis on its contemporary psychiatric management as post-traumatic stress disorder.]

Zarowsky, Christina. 2000. "Trauma Stories: Violence, Emotion, and Politics in Somali Ethiopia." *Transcultural Psychiatry* 37: 383–402. [An ethnographic account of the experience of war-related distress among Somali refugees in Ethiopia.]

Anthropology, Culture, and Environment

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Environmental concerns are now highly prominent in debates about global development and futures, whether in international policy circles or among populations influenced by increasingly global media. International agendas are being set to address problems such as desertification, deforestation, biodiversity loss, greenhouse gas emissions, and climate change. Environmental degradation threatens "sustainable" development which would—in the widely repeated terms of the Brundtland Commission—"meet the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987, 8). The extent to which similar environmental problems appear to recur across the world, the transnational nature of many environmental problems, and the ultimate sanction that there is "only one earth" on which we all face a tragedy of the commons, might suggest the truly global nature of the environmental crisis and the need for universal scientific values and a global environmental ethics to respond to it. More than any other important, contemporary discourse, the debate on the environment has adopted the concept of the global perspective as both motive and motif.

Yet global environmental problems have local origins and impacts. Anthropologists demonstrate the cultural diversity with which any globalized aspirations must contend. In this they also show, and have succeeded in bringing to international attention, that "traditional" forms of knowledge and organization have contributed to environmental sustainability in many localities. They can be learned from and built upon. Contemporary anthropology also examines the multifaceted character of environmentalism in the West and its constitution both in specific popular cultures and policy institutions. It thus explores the spectrum of sites in which environmentalisms are produced and their effects felt.

The perspective that anthropology takes highlights the significance of social relations and culture in mediating people-environment relations. Hence it reveals the problems in approaches, still present, which view environmental issues in purely technical terms, or which conceive of environmental problems simply in terms of imbalances between sheer numbers of people and overall resource availability. Yet anthropological approaches have been many. While endorsing the growing attention to "culture" in environment-development debates, this chapter also questions the ways in which it has been incorporated.

Furthermore, diverse cultural perspectives have been harnessed selectively, and with distortion, to suit globally defined environmental agendas which, rather than being shared or universal, actually reflect the priorities of those in positions of power. Yet local realities and alternative cultural perspectives can offer very different views of change from the orthodoxies on which global environmental agendas rest. In this respect anthropology reveals global agendas, and the science and notions of environmentalism with which they are associated, to be equally partial, cultural perspectives. This poses a challenge not only for the ways that "culture" is used, understood and defined, but also for approaches to the governance of environment and development processes.

To set the scene for this argument, we begin by illustrating how people interact with local environments—with their "surroundings," as the environment can be broadly defined—in culturally grounded ways. With the focus largely on rural settings, selected examples are used first to show the significance of cultural diversity in the ideas and knowledges through which people comprehend and work with ecological processes. Second, we discuss anthropological perspectives on the social institutions which shape people-environment interactions.

LOCAL CULTURAL KNOWLEDGES

Much anthropological research now illustrates the culturally diverse and creative ways in which people interact with their environments. In many rural and urban localities, people are directly dependent on environmental resources and services for their lives and livelihoods, so many local environmental concerns and representations are technical; they are about manipulating the environment for day-to-day survival and prosperity. Yet as work on local people's conceptions of their ecology (ethnoecology) has shown, technical concepts are not merely utilitarian, but embedded in broader sets of ideas and beliefs—ways of thinking about and understanding the world. Whether or not environmental processes and phenomena have a material existence in and of themselves, anthropology stresses that the meanings which people impose on them are always socially and culturally shaped. For instance, when African farmers describe and manipulate the soils and veg-

etation which are basic to agricultural livelihoods, they use culturally embedded concepts. Kinship terms such as "companionship" or "brotherhood" may be used to describe situations in which particular trees, crops, or weeds coexist; equally, terms such as "killing" or "struggle" can be used to describe competitive suppression, whether in fallows or crops. Soil fertility may be described in terms of heat and cold, damp and dry, hard and soft, with farmers managing these attributes to balance their qualities. Such vocabularies find echoes and gain their meaning in the broader frames in which people understand their world and their place in it, which might include phenomena—such as kinship and social relations—that Western science would not treat as "environmental." For example, Kuranko-speaking farmers in West Africa use the term *tomboridu* to refer to a soil which has acquired softness, "oiliness" and "maturity" through prolonged, intensive cultivation. Literally meaning "abandoned settlement," the term makes metaphorical reference to the way old village and hamlet sites acquire such characteristics through habitation, gardening, and rubbish disposal. The concepts of oiliness and maturity are also applied to girls who have completed their initiation rites, establishing them as fertile women; within this broader frame of reference, then, *tomboridu* soils are "initiated" through work into a newly fertile, productive status.

Because of their cultural embeddedness, local idioms used to categorize and explain ecological phenomena frequently do not translate easily into those of Western environmental science. For example, scientists have often assumed that farmers do not manage for crop diseases, because when presented with diseased specimens, they sometimes neither distinguish diseases, nor consider the poor health of crops in terms of disease. It was thus presumed that they could not see the disease vector. However, farmers may have other frameworks for understanding and influencing crop health. Farmers in the Bwisha area of Kivu, in DR Congo, formerly Zaire, for instance, consider rain, dew, and humidity to have particular cooling and putrefactory qualities, and manage for these—the conditions in which disease develops—in their cropping, through altering sowing time, weeding, variety selection, and so on. Understandably, within this cultural framework, they refer to fungicides as "medicines against the rain."

Equally, people may consider agencies and processes which have little place in the classificatory schemes of contemporary Western thought and science as important influences on environmental processes. They may think land and vegetation retain enduring links with those who worked it in the past, so that maintaining correct relationships with ancestors is essential to current land productivity. The environment may be inhabited by numerous spirits or deities, perhaps associated with particular trees, rock complexes, water bodies, or animals, and maintaining correct relationships with these is considered important to people's livelihoods and pro-

peoples. Many African agricultural peoples seem to view their relationships with such entities as one of necessary respect and mutual accommodation. For instance, among Kuranko-speakers, interfering with *djinn* spirits by felling the forest patches which are their homes can prompt death and ill-fortune for the feller's family. For these reasons, they carefully conserve "djinn villages." In contrast, a number of peoples with primarily hunter-gatherer economies, including the Nayaka in southern India and groups in the rain forests of Central Africa, seem to understand their environments as "giving freely" to them, as part of a "cosmic economy of sharing" which also ideally permeates social relationships. This sort of view of the environment is very different from the Western one, common since the Enlightenment, of the environment as the subject of control by society and technology.

In many cultural settings, the concepts used to describe ecological processes are also used to describe aspects of people's health and fertility. Thus, where Western science conventionally draws its boundary between body and field, local beliefs may draw causal links which cross-cut such boundaries. For example, several West African peoples believe that if a woman who is menstruating or in the early stages of pregnancy enters a stream or pond as part of a fishing group, both the fishing and her future fertility will be ruined (plate 5). Equally, a hunter's fortunes can be influenced by his wife's sexual activities; if she engages in adultery while he is hunting, a hunter in Sierra Leone's forests will say that "the bush will close," and he will kill nothing.

Such examples begin to indicate how, within particular cultural understandings, people's behavior and relationships can have direct consequences for the "natural" environment and vice versa. In this sense, a network of conceptually linked processes and causal relationships cuts across the division between "nature" and "society" or "culture" that is so basic to European thought. Unsurprisingly, claims to authority over these sorts of linked ecological and social processes can be central to local political dynamics. The power of the leaders of territorial cults in Central and Southern Africa earlier this century rested strongly on their claims to manage environmental and human fertility concerns. Along Africa's Upper Guinea coast, power relations in women's and men's initiation societies rest on claims to gender-specific knowledge and on claims to power over respective ecological domains.

Knowledge, ideas, and beliefs concerning ecological relations are neither static nor necessarily shared by all the members of a particular society. Knowledge may develop through a creative interplay between theory and practice, and through interaction with ecological processes that are themselves dynamic. It may also develop through local processes of debate between people whose opinions reflect their positions in local society. For example in the forest-savanna transition zone

of Guinea, West Africa, elders of landowning lineages tend to associate the existence of large trees in peri-village forests with the foundation of settlements by their ancestors, reflecting a domain in which they have relative authority. In contrast, young women tend to explain them as the overgrown fence poles of kitchen gardens, reflecting their relative powerlessness in lineage affairs and their more everyday concerns with kitchen gardening.

At one level, therefore, anthropology is well placed to show how particular environmental understandings might be associated with a particular "culture": with a particular society, or with a broad regional tradition encompassing subtle local variations on common themes. But anthropologists have also emphasized the diverse cultural perspectives which may coexist within any given local setting. These may be associated with local axes of social difference (e.g., determined by gender, age, caste, kinship position, socioeconomic status, or occupation) and can be the stuff of local debate. But the anthropological notion of cultural perspective also allows for the recognition of commonalities, coalitions, and alliances across localized cultures. This is especially pertinent in a globalizing world in which the idea of "cultural boundaries" has become even more problematic. Such alliances may be grounded in aspects of common experience: for example, those engaged in commercial logging from urban and rural backgrounds, in southeast Asia and in Latin America, might share similar perspectives on forests as a source of valuable timber. Alliances can also be forged around environmental phenomena as shared political symbols, as when forest dwellers in Malaysia's Penan unite with Western environmental activist groups to valorize medicinal plants, deploying this value symbolically in campaigns for rain forest preservation. Because they are produced through, and supportive of, particular relations of power, these cultural perspectives can usefully be seen as "discourses" on environment; this argument becomes clearer later in the chapter when discussion focuses on the relationship between environmental knowledge and material practices.

Much international attention has focused on cultural diversity in ecological knowledge. It is sometimes argued that nonindustrial societies possess a "primitive ecological wisdom" which could offer pointers towards sustainable future ways of life, or that detailed indigenous knowledge of soils, plants, animals, and so on offer vital resources for global struggles to develop sustainable food-production systems, conserve biodiversity, and so on. Alternatively, localized, culturally specific knowledge is seen as important to fine-tune or adapt generalized technologies to local settings. Such arguments underlie the creation of international networks and centers to record and preserve indigenous knowledge. However, these efforts frequently portray knowledge as static and "traditional," associated with particular cultures. They ignore the intracultural and transcultural diversity and dynamism

discussed above. Equally, these arguments often take an evaluative perspective: culturally specific knowledge is selected and valued insofar as it is recognizable in the terms of Western science, or insofar as it is seen as useful to address globally defined environmental agendas or the goals of externally defined campaigns. At the extreme, local knowledges may be repackaged in scientized terms, or within romanticized notions of "sacred wisdom," to such an extent that they become unrecognizable to those who spawned them and thus suppress local creativity in the process. Taking cultural diversity seriously requires a far more balanced, comparative approach.

CULTURE, INSTITUTIONS, AND SUSTAINABILITY

Work on environmental knowledges treats culture largely in terms of ideas and beliefs. Arguments from this work are often coupled with the perspectives from a second area of anthropological inquiry, emphasizing how local organizations and institutions can promote environmentally sustainable practices. This work has tended to subscribe to a slightly different view of culture, referring to whole ways of life and lifestyles. This view is problematic because it glosses over the relationship between knowledge and practice and the many factors which influence it, and also over the processes and relations of power which produce particular forms of organization.

Nevertheless, this strand of work has been highly influential in bringing cultural concerns into international environment and development debates. In some formulations, including the ecosystems approaches to cultural ecology which became popular during the 1960s, culture is seen as having adaptive value in the maintenance of the environment. Thus, it is argued, culturally defined norms about cooperation, religious institutions, and so on serve to regulate the human impact on surroundings, so that people-environment relations remain harmonious. This perspective has been criticized within anthropology for two reasons: first, for its static and inaccurate portrayal of homogeneous, structure-driven "societies" with common ecological concerns; other approaches have instead emphasized social difference and power relations, the diversity of resource concerns in any local setting, and the playing out of resource struggles through history. Second, conventional cultural ecology—in its emphasis on "unconscious" adaptive regulation—downplayed people's understanding, knowledge, and reflection concerning aspects of ecology and environment. As we have seen, these issues have been key themes of other anthropological work—for instance, on "ethnoscience," "indigenous knowledge," and cross-cultural comparisons of how "nature" and "society" are understood.

Nevertheless, these older anthropological arguments about organization have

been taken up within international debates. Linked with views of environmentally benign knowledge systems, they have contributed to or rejuvenated a concept of "ecocultures": that certain peoples, principally nonindustrial, possess forms of knowledge and organization which make their ways of life more harmoniously integrated with their environments and thus sustainable. Such claims are often made for remote "forest peoples," "hunter-gatherers," and "tribals" in particular. Other societies may "traditionally" have maintained such harmony, but have seen it ruptured by external economic or political forces: the imposition of inappropriate state regimes and the undermining of traditional authority; commercialization; modernity; or new urban aspirations. Defenders of these arguments then go on to claim that (1) certain local culture-environment systems are adaptive or sustainable; (2) the world has much to learn from these; (3) those which are adaptive should be conserved; and (4) on the precautionary principle (similar to arguments used about biodiversity), it is important to retain cultural diversity to avoid the loss now of systems which, in the future, might be valued. Some of these ideas are already embodied in national and donor policies and programs—for instance, in "cultural reserves" created for indigenous peoples to occupy within biodiverse rain forest areas, or in community-based sustainable development which seeks to support or rebuild traditional, environmentally sustainable institutions.

However, some of the same problems found in the treatment of ecological knowledge also apply here. First, there are problems with the view of "cultures" as shared, bounded wholes, relating to single, static environments. For instance, in one area, there may not be a community of homogeneous interests, but an assortment of people who, with different livelihoods and different socially defined responsibilities, give priority to different environmental goods and services within ecologies that are also diverse and variable. In a watershed in Rajasthan, for example, the same hillsides are valued by women of scheduled castes for gathering saleable wild foods; by Rajput women as a convenient source of fuelwood; by men to plant trees for cash sale of poles, and by livestock-raising groups as common grazing grounds. Evidently, such diverse values can come into conflict.

Second, how people use and manage environments depends on the ways they can come to access and control particular resources and services, and perhaps struggle with others to do so. Many social and political relationships and institutions, both local and not-so-local, are involved in these processes and shape their ecological outcomes. To focus on "culture" as knowledge and ideas is to ignore these and thus assume falsely that environmentally benign beliefs translate into environmentally benign practice. Adopting a definition of "culture" so broad and holistic as to conflate all within "ways of life" is to lose analytical insight. For in stance, it may be important to recognize that people fell trees or knowingly allow

soils to degrade because they are only tenants on the land with insecure tenure. Broader processes—state policies, changes in market prices, and so on—interact with these local institutional dynamics in affecting patterns of environmental change. Such processes have a profound impact which tends to be underplayed by analysis framed in terms of static ideas of culture and by images of past environmental harmony ensured by community-level organization, now disrupted by external forces. Instead, highly charged resource politics have been features of most societies, past and present, albeit played out in culturally shaped ways.

Finally—but crucially—an evaluative perspective has dominated international debates about the cultural determinants of environmental change and the value of “conservationist” cultures where knowledge and organization are seen to ensure harmonious environmental relations. Policymakers have tended to value these “ecocultures,” as they are sometimes called, selectively and to the extent that they support environmental values and trajectories of change which are compatible with those in global debates. Thus ecocultures are judged according to their contribution to combatting the problems which global and Western debate have highlighted, such as tropical deforestation, biodiversity loss, or desertification. Equally, many studies of the social and cultural dynamics of environmental change—of deforestation or soil degradation, for instance—frame their analyses in terms of these problems uncritically, without questioning their “reality.” In this way, studies of social and cultural change support a view of these broad environmental problematics as shared, global preoccupations, and of the science that underlies them as universal, objective, and neutral. But as the following cases show, serious attention to diverse cultural perspectives can question these global orthodoxies in fundamental ways, showing them, and their underlying science, to be partial cultural perspectives grounded in particular relations of power.

Forests in West Africa

The forest-savanna transition zone of West Africa has, since early colonial times, been portrayed as undergoing rapid deforestation. “Islands” of forest in a sea of grass-land, they are assumed to be relics of once-extensive natural forest cover, the climax vegetation for the zone’s humid climate, progressively destroyed by local farming and fire setting for hunting and pastoralism. This supposed human disturbance to natural vegetation has led government policies and international aid programs to restrict land use practices thought to be environmentally damaging through regulations and fines, while state agencies have taken control over threatened “natural” trees. Some forest patches have been singled out for more community-based forms of conservation, on the grounds that they are “sacred” forests culturally preserved amid secular destruction around them.

But at least in forest Guinea, local cultural perspectives strongly contradict this view of progressive savannization, presenting an opposed, even reversed, reading of the landscape. Villagers describe how forest patches, far from being relics of destruction, have been created by themselves or their ancestors in savannas. Elderly men frequently emphasize the effects of tree planting, settlement foundation, and the role of forests as early war fortresses, while women tend to focus on the gradual vegetation-enhancing effects of gardening, household waste, and the grazing of domestic animals. Many forest-building and expanding practices are of an extremely common kind, grounded in villagers’ practical ecological knowledge and the fundamental idea that land is improved through use and work. Forests are not “sacred” in local thought, even though they can be sites for initiation activities and ancestral veneration. Many local farming and early burning practices have enhanced the progressive expansion of forest into savanna over the last century; a change confirmed by historical sources such as comparative air photographs and archival descriptions. Yet scientists and administrators have repeatedly overlooked such evidence in favor of data supporting their conviction of deforestation. The latter both conforms with dominant scientific theories and supports particular economic and political interests, not least the revenues to be derived from government-controlled trees.

Environmental Degradation in the Himalayas

The Himalayas have been portrayed as a region of environmental crisis par excellence. Dominant views hold that local farming and fuelwood collection practices lead to the depletion of tree cover (figure 1). Encouraged by rapid population growth, the deforestation frontier is pushed further and further out from settlements onto more mountainous and marginal land, where it leads to soil erosion. This progressive degradation is felt not only locally, but downstream as well, with soil erosion and landslides blamed for flooding on the Nepalese and Indian plains below. This crisis has provided the justification for a variety of government interventions aimed at restricting shifting cultivation and halting deforestation, and for large inputs of international aid into mountain Nepal.

However, detailed research among mountain farmers reveals some very different perspectives. Farmers generally do not interpret the region’s ongoing environmental change as degradation or crisis caused by their practices. Rather than degrade land in response to population growth, they have, through active agricultural innovation and tree planting, been able to intensify production on parts of their land in sustainable ways. While donors and scientists have treated landslides as an indicator of ecological collapse, some farmers consider them advantageous—and even trigger them deliberately—to fertilize valley bottomlands



FIGURE 1 Carrying home dry fuelwood gathered from the forest floor, Nepal. (Photo by Ben Campbell)

Furthermore, many of the erosion processes attributed to careless farming can be reinterpreted as due to long-term tectonic changes. Indeed, a critical review of empirical evidence for and against environmental degradation reveals a vast diversity of possible measurements and interpretations. Depending on the data selected, the Himalayas can appear to be about to become totally denuded, or about to experience a vast increase in tree cover, or anywhere in between. Farmer-induced ecological collapse is only one possible interpretation among many; nevertheless, it has commonly been selected by many aid organizations and governments because it matched their own policy objectives.

Rangelands and Desertification

"Desertification" has long been a powerful concept in international and national policy arenas addressing dryland degradation, and was given renewed vigor following the Desertification Convention discussed at the United Nations Conference on Environment and Development at Rio in 1992. Within the term's original sense as a progressive expansion of desertlike conditions, pastoralists are frequently blamed for ecological damage: persistent tendencies for individual herders to overstock their herds leads to a tragedy of the commons in which rangeland carrying capacity is exceeded, resulting in overgrazing and vegetation decline.

Yet there is considerable scientific doubt over, and very little hard evidence for, the ongoing, long-term expansion of desert margins. Cultural perspectives found among herders point instead to the inherent variability of dryland systems and to cycles of desert expansion and retreat linked to rainfall variation. Their herding strategies are logical in this context, making opportunistic use of heterogeneous and risky rangeland conditions, whether through mobility, cycles of herd-building and decline, or other strategies aimed at living with, rather than overriding, uncertainty. Local cultural perspectives gain support from non-equilibrium perspectives in ecological science which now recognize the inherent "patchiness" of dryland systems over space and time, and the sudden and unpredictable ecological transitions which can occur within them. Nevertheless, perspectives emphasizing rangeland degradation and "desertification" have proved useful to governments and donors, for instance, in providing neutral, technical grounds for aid interventions, and in enabling governments to take politically desirable control over the movements of pastoralists on the grounds of their degrading activities.

ANTHROPOLOGICAL PERSPECTIVES ON GLOBAL SCIENCE AND ENVIRONMENTALISM

Cases such as these suggest that the orthodox views of environmental change which currently dominate international policy debates are, themselves, particular cultural perspectives. Notions such as desertification or deforestation, and the perception that they are occurring in particular places, rest on evidence which fails to describe the whole of a problem, and which may be open to falsification.

The perspectives which inform these dominant positions in international science and policy are just as cultural as the local perspectives which sometimes prove to counter them. Two themes in anthropological research address this: first, a growing engagement by anthropologists in the relationship between scientific knowledge and policy; second, research on environmental movements in popular culture. Both bodies of work necessitate multited ethnographies, straying from more classic, locale-grounded approaches in anthropology. Equally, they engage with other disciplines (such as the sociology of science and media studies) as earlier anthropological genres shade into a postdisciplinary style. Both bodies of work show how, like the perspectives of land users, science and popular environmental movements are cultural: partly rooted in experience of ecological processes; embodying particular ideas, beliefs, and values concerning the environment and people-environment relations; and employing particular concepts, vocabularies, and theories of causation. That a relatively small number of orthodoxies have come to dominate in international circles — including, among

scientists, donors, governments, the northern public, and their environmental movements—seems to reflect significant convergences in, for instance, economic and funding interests, and education and training.

The scientific ideas which underlie these perspectives are clearly not universal or neutral. Formal science is itself culturally produced, as shown by anthropological research which takes the approaches once used to study the cultural perspectives of remote rural peoples into the world of laboratory scientists and climate or land use modelers, or into the meetings in which they debate their findings. Indeed, critical studies of science now emphasize that all attempts to understand ecological processes will reflect cultural ideas or social or political agendas. Different, and partial, scientific knowledges not only theorize environmental change in different ways, but also carry very different implications for how human agency in environmental change is understood and hence for resource claims and policy. Particular scientific theories have underpinned dominant positions in international policy debates. For instance, the notion of “carrying capacity” (and thus of overstocking by pastoralists) has been used as a justification for conventional rangeland policy and for controlling the movement of pastoralists. Equally, theories of island biogeography, compounded by use of the precautionary principle, have underpinned orthodox approaches to the protection of biodiverse areas involving the exclusion of local inhabitants. Alternative scientific theories can suggest very different policy approaches and uphold very different claims over resources.

Formal science is not just culturally grounded; it is far from consensual as well. While an empirical contrast between the perspectives of formal science and those of lay publics may be evident, formal science, too, is clearly not consensual. Many (global) environmental problems, involving long and distant causal chains and complex processes, are the subject of debate within the international scientific community. Major shifts in the theoretical underpinnings of ecological science have also given rise to new debates and opposing positions in understandings of ecological systems. In particular, there is a divergence between conventional, linear perspectives on change and dynamic, non-equilibrium perspectives which emphasize uncertainty, conjuncture, and contingency. Non-equilibrium perspectives—what some have heralded as the “new ecology”—theoretically open the way for a greater pluralism in environmental science—a pluralism in which diverse cultural perspectives and local knowledges may find a voice. In practice, however, the extent to which older ecological theories continue to dominate in administrative and policy circles is striking.

Implicit in culturally specific representations of the environment are particular notions of the environment’s “value,” as derived from prevailing priorities in nat-

ural resource exploitation or from the biases of particular scientific disciplines or popular concerns. A good example concerns the way professional foresters and ecologists in Africa have conventionally valued closed-canopy, or gallery, forest (almost defining “forest” in these terms), so that any conversion of this type of vegetation community is seen to constitute “degradation.” Yet the same conversion may be viewed positively by local inhabitants, for whom the resulting fallow vegetation provides a greater range of gathered plant products and more productive agricultural land. A third set of values, upheld by certain Western environmental organizations and the publics who provide their funding, gives priority to the aesthetic and moral connotations of “wilderness” or to large wildlife species. Thus the same landscape changes can be perceived and valued in different ways by different groups; what for some is “degraded and degrading” may for others be merely transformed or even improved.

The cultural perspectives which drive current environment-development agendas are produced through particular political and economic relations. Frequently, these perspectives reflect the institutional histories of colonial and donor regimes, and they clearly have material effects, justifying control over the land and resources of others in the name of national or global patrimony. Such external claims over resource management and control can have deleterious consequences for local livelihoods. They can marginalize or alienate people from natural resources over which they previously enjoyed access and control, perhaps directly undermining their ability to secure food or income. This has sometimes been the case, for instance, with policies to exclude people from externally managed forest or wildlife reserves, or to confine pastoralists to fenced paddocks. Where inhabitants must, out of necessity, continue to use resources claimed by external agencies, they often find themselves subject to taxes or fines which render them more resource-poor. In some cases, the assertion of professionalized claims over land and resources has also had adverse ecological consequences. For example, external prohibitions on the setting of bush fires in Guinea undermined inhabitants’ early burning strategies, risking greater fire damage by late, dry-season fires. Cultural perspectives on environment, in this light, are perhaps best understood as shaped by discourses. The notion of discourse draws attention to the ways that particular ideas come to embody relations of power and reproduce them. It emphasizes that power-knowledge has real practical consequences, or “instrument effects”—enabling control over resources or people, for instance.

The growth in global environmentalism as a form of discourse involving large sections of the world’s population is significant both as a phenomenon and in its effects. Broadly defined as a concern to protect the environment through human responsibility and effort, environmentalism can itself be seen as a cultural perspec-

tive in the sense that it reflects particular ways of understanding the world and one's place within it. Forms of environmentalism participate in a transcultural discourse *par excellence*, emerging through, and in turn playing a role in, globalization by reducing social distance and compressing the world. Yet, in the globalization of environmentalist discourse, through a range of complex processes and forms of alliance-making, whose perspectives are represented and whose are excluded?

The globalization of environmental discourse has, for instance, been strongly assisted by growth in global information flows, including international conferences, information technology, and the mass media. The mass media do not simply transmit messages to their audiences about "the real world." Rather, they participate in constructing environmental issues in particular ways, by embodying culturally specific "messages" which are interpreted by their audiences according to their preexisting cultural frames of reference. These communicative processes appear to have an inbuilt tendency to generate "crisis" narratives with respect to environmental issues. Equally, as the geographer Jacqueline Burgess (1990) argues, the capacity to give meaning to the environment is being contested in novel forms of cultural politics through the mass media. The alliance between actors, musicians, Brazilian Indians, pop music promoters, conservation organizations, the media industry, and the consumers who buy records to support the campaign against the destruction of the Amazonian rain forest provides a case in point.

A dominant strand in global environmental discourse emphasizes more global integration as the best way to protect the environment. It is here that the notion of a global "common future" and the role of international conventions find their place. This discourse has a number of particular effects. It legitimizes the need for international, global mechanisms to address environmental problems; it justifies the assertion of global rights and claims over resources such as biodiversity, rainforests, and so forth on the grounds that they are global patrimony, over and above local claims; and it supports a reliance on development and Western science as solutions to environmental problems. While arguments for public participation and for support of cultural diversity may be made from within this discourse, they are seen as part of—and as means to achieve—agendas already set by global agencies.

Although the inhabitants of local environments may themselves participate in the production of ideas about environmental change, they now do so with even less power to define the terms of debate. As token participants in global and national forums, they may have little chance to express alternatives to the dominant viewpoint. Equally, it is not uncommon for rural inhabitants in their interactions with development fieldworkers to confirm outsiders' preconceived ideas, given the power relations which operate at such "interfaces." Such confirmation may arise out of fear, suspicion, or a desire to remain on good terms by accepting what

is being offered. Confirmation can also reflect the relations of authority and the memory of past experience which structure these interactions. More significantly, land users may also selectively adopt outsiders' environmental idioms and turn them to their own advantage in struggles over identity and resource control. For example in Guinea, externally derived images of forest loss are invoked by villagers in discourse about ethnicity to identify themselves respectively as "forest people" or "savanna people" in ways which, in colonial and now modern Guinea, have political significance. Yet in other contexts they invoke very different practical ecological knowledge which contradicts these external stereotypes.

Localized discourses which counter, or resist, these globalized environmental perspectives already exist. Indeed, many of the diverse cultural perspectives found among land users, discussed earlier in this chapter, contain the seeds of such discourses. Some strands of radical environmentalism would seem to support such localized perspectives, generalizing from evidence of local knowledge and organization to create broad arguments that advocate eco-friendly localism. In contrast with the dominant views outlined above, radical environmentalist perspectives hold that development is a Western conspiracy which has damaged the environment. They suggest that the replacement of local cultural perspectives by Western science is ecologically destructive. And they advocate opting out of globally defined agendas for sustainable development in favor of local self-determination and forms of development grounded on communal values, subsistence perspectives, and indigenous knowledge, with women's knowledge and perspectives (ecofeminism) frequently seen as key.

But these broad, antiglobalist positions can in themselves be seen as defined by dominant global discourse, having developed in opposition to it. And many of the positions that they uphold, such as the myth of "primitive ecological wisdom," equally risk imposing globally defined values on local cultural diversity, overriding people's own experiences and realities.

To sum up, anthropological work shows that cultural perspectives on ecological processes and people-environment relations are as diverse as the world's ecologies and the historical experiences of their inhabitants. Cultural perspectives are diverse in the concepts and vocabularies through which ecological processes are understood; in the institutions and forms of sociocultural organization through which environmental goods and services are accessed, controlled, and struggled over; in the ways in which particular aspects of the environment are valued; and in how "nature" and "culture," or people and environment, are categorized and bounded. Cultural perspectives are discourses in the sense that they are produced through and supportive of power relations, and can have material effects, support

ing particular positions in struggles for control over environmental goods and services.

But in the context of globalization, and through convergences in information flows, scientific ideas, and economic and political concerns, international debates about environment and development have come to be dominated by a powerful set of global orthodoxies. In keeping with the ideas of Western science and contemporary environmentalism, these orthodoxies frame environmental problems and set agendas for sustainable development in such a way as to admit cultural diversity only on their own terms. In this process (and, paradoxically, sometimes through the very conservation and development programs which claim to build on and encourage local environmental knowledge and organization), localities are reproduced within global discursive images. Land users' own perspectives and creativity are thus silenced or pushed into reformulation as discourses of resistance.

Much current discussion of the cultural dimensions of globalization values the apparent spread of consciousness of a shared earthly ecosystem as an important manifestation of an emerging global culture. Science and the scientific ethos of grounding policies and decisions on empirical evidence and proof are also gaining global ground and are frequently seen to provide a neutral, universal basis on which political decisions can proceed. Yet these trends risk contradicting a third important element of a global ethics—democratic participation and support for a global civic culture—if the supposed “global environmental consciousness” and universal, neutral science are not themselves subjected to cultural critique. For if the arguments and evidence presented in this chapter are valid, then global environmentalism and its supportive science can be seen, at least in part, as the products of particular, Western-dominated cultural traditions and relations of power. The imposition of global orthodoxies and analysis upon different environmental values and notions of sustainability can infringe not only on local livelihoods, but also on cultural freedom, in a deeply decivilizing process.

No single culture or set of cultural perspectives holds the key to understanding and addressing the complex environmental challenges which the world faces now or will face in the future. Achieving environmental sustainability—and certainly, an environmental sustainability which is compatible with livelihoods and citizenship for the world's populations—will require a democratization of expertise in the very definition of environmental issues and problems. It will require the bringing together of diverse knowledges into “hybrid” forms that shed light on problematics from diverse angles. And it will require a science-policy process that, while acknowledging the existence of independent biophysical processes, embraces the plurality of partial, cultural perspectives through which people come to understand these processes and the environmental issues linked to them, with explicit

recognition of the political or economic agendas which may inform them. This chapter has the challenge to develop greater understanding of the culture and politics of global science and policy institutions, with a view to defining where room for maneuver or space to recast debates might lie. And it recasts citizen participation and the sustenance of cultural diversity in far more political terms, with self-illumination in knowledge, ideas, and organization at their core.

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REFERENCES AND SUGGESTIONS FOR FURTHER READING

- Arnold, A. 1995. “Dismantling the Divide between Indigenous and Scientific Knowledge.” *Development and Change* 26: 413–39. [Incorporates some of the critical perspectives taken in this paper.]
- David, N. 1990. “The Giving Environment: Another Perspective on the Economic System of Hunter-Gatherers.” *Current Anthropology* 31, no. 2: 189–96.
- Barrow, J. P. 1997. “Endangered Forest, Endangered People: Environmentalist Representations of Indigenous Knowledge.” *Human Ecology* 25, no. 1: 47–69.
- Barrow, J. 1999. “The Production and Consumption of Environmental Meanings in the Mass Media: A Research Agenda for the 1990s.” *Transactions of the Institute of British Geographers* n.s. 15: 139–61.
- Collins, J., and D. Parkin, eds. 1992. *Bush, Bace, Forest, Farm: Culture, Environment and Development*. London: Routledge. [Reviews the breadth of anthropological perspectives on environmental issues.]
- David, N., and G. Palsson, eds. 1996. *Nature and Society: Anthropological Perspectives*. London: Routledge. [Reviews the breadth of anthropological perspectives on environmental issues.]
- Fairhead, J., and M. Leach. 1996. *Misreading the African Landscape: Society and Ecology in a West Sahanna Mosaic*. Cambridge: Cambridge University Press. [Incorporates some of the critical perspectives taken in this paper.]
- . 1998. *Reframing Deforestation: Global Analyses and Local Realities: Studies in West India*. London: Routledge. [Incorporates some of the critical perspectives taken in this paper.]
- Fairhead, M. 1971. “The Order of Discourse.” In *Unjtying the Text: A Poststructuralist Reader*, ed. R. Young. London: Routledge and Kegan Paul.
- Fairhead, J. 1988. “Situated Knowledge: The Science Question in Feminism and the Privilege of Partial Perspective.” *Feminist Studies* 14, no. 3: 575–99.
- Fairhead, J., and B. Meseth. 1986. *Himalayan Dilemmas: Ruminating Conservation and Development*. London: Routledge and New York: United Nations University.

- Latour, B., and S. Woolgar, with J. Salk. 1986. *Laboratory Life: The Construction of Scientific Facts*. Princeton, NJ: Princeton University Press.
- Leach, M. 1994. *Rainforest Relations: Gender and Resource Use among the Mende of Gola, Sierra Leone*. Edinburgh: Edinburgh University Press; Washington, DC: Smithsonian Institution.
- Milton, K. S. 1996. *Environmentalism: The View from Anthropology*. London: Routledge. [Reviews the breadth of anthropological perspectives on environmental issues.]
- Nyerges, A. E. 1997. *The Ecology of Practice*. Amsterdam, the Netherlands: Gordon and Breach (especially the overview in chapter 1). [Reviews the breadth of anthropological perspectives on environmental issues.]
- Peet, R., and M. Watts, eds. 1996. *Liberation Ecologies: Environment, Development, Social Movements*. London and New York: Routledge. [Incorporates some of the critical perspectives taken in this paper.]
- Scoones, I., ed. 1995. *Living with Uncertainty: New Directions in Pastoral Development in Africa*. London: Intermediate Technology Publications.
- Swift, J. 1996. "Desertification: Narratives, Winners and Losers." In *The Lie of the Land: Challenging Received Wisdom on the African Environment*, ed. M. Leach and R. Mearns. Oxford: James Currey; New York: Heinemann.
- Thomas, D., and N. Middleton. 1994. *Desertification: Exploding the Myth*. Chichester, U.K.: John Wiley.
- Thompson, M.; M. Warburton; and T. Hatley. 1986. *Uncertainty on a Himalayan Scale*. London: Ethnographica, Milton Ash Publications.
- WCED (World Commission on Environment and Development). 1987. *Our Common Future*. Oxford and New York: Oxford University Press.

Hunger in Africa: Untangling Its Human Roots

ELLEN MESSER AND PARKER SHIPTON

Since early recorded history, both environmental and human causes have been implicated in the etiology of hunger. The Old Testament cites drought but also siege warfare and lack of administrative foresight to store food for bad years as sources of starvation, while ancient Chinese texts blame famines not only on bad weather but also on bad emperors. In spite of the vagaries of the weather, European peoples since about 1800, and others elsewhere in this century, have managed to remain mostly free of widespread starvation. Yet we continue to witness dramatic mortality from hunger and malnutrition-related illness at the turn of the millennium, most visibly in Africa, and less visibly but still to a significant extent in Asia.

The droughts and famines that culminated in 1972-73 and 1984-85 in the Sahel and in the Horn of Africa were some of the worst of the past century. Parts of Angola, Burundi, the Congo Democratic Republic (formerly Zaire), Liberia, Mozambique, Rwanda, Sierra Leone, Somalia, and Sudan, lately mired in civil war, have been experiencing severe food shortfalls, and chronic hunger and malnutrition persist in many other parts of the continent, where postconflict countries suffer the legacy of destruction. Hunger persists despite, and sometimes partly because of, the efforts of hundreds of specialists and often well-intentioned workers of aid agencies to illuminate the causes of African hunger and help bring about its end.

It has become conventional wisdom that the causes of hunger and malnutrition in Africa are complex, variable, and dependent. In a continent so vast (more than thirty million square kilometers, just over three times the land mass of the United States), so diverse in ecosystems and livelihoods (foraging, farming, fishing, herding, mining, wage working, and trading in countless combinations), so rich in