

and material benefits to compensate for their loss of access to resources. This follows from the logic that resistance to conservation has been due to economic consequences for people's livelihoods. O'Neil's commentary on the collection argues against this kind of analogy between environmental and use values. Many of the articles develop the 'dwelling perspective' of Ingold to highlight the dissonance that can be expected when the environment is regarded merely as a source of income detached from human involvement, rather than as part of a way of life.

It is not then merely a matter of compensation or alternatives for livelihood support that is necessary to forge consent for conservation. These kinds of solutions, based on economic assumptions of human behaviour being motivated by rational cost-benefit calculations of resource alternatives, appear from the policy perspective as the more benign and people-friendly components of 'participatory conservation'. Such measures of replacing ecological dependence with alternative livelihoods do not address a key anthropological reality. This reality is that managing the environment by the regulation of resource use implies conceiving of the environment as something that is external, quantifiable and controllable, and frequently involves a 'cultural' transformation in the ways that people place themselves in their relational life contexts. In other words the expectation of convergence between traditional relationships with ecology and modern conservation has an important gulf to contemplate - the latter views nature as a non-human domain subject to human intentions, as opposed to a cosmology in which environmental entities are accorded all manner of responsive agency, including the care of humans.

This is not a simple matter of clearly identifiable 'moderns' and 'pre-moderns'. The studies discuss ways in which discourses of social

and ethnic identity enter the moral contexts of environmental projects in different contemporary states. In Greece, Portugal, Spain and Finland, examples are presented where people are exhorted to conform to stereotypes of communities with iconic ecological livelihoods: artisanal fishermen, transhumant pastoralists, and specialist reindeer herders. Those who find difficulty transforming themselves into folkloric images of national nostalgia, whose livelihood practices are more hybrid, and whose communities are more global, often find themselves subject to censure from environmental authorities that only permit culturally prescribed varieties of resource use, corresponding to 'proper' indigenous behaviour.

Practices of eco-governance in protected areas put into place regulations on movements of people, animals and 'natural' things within desired topological states. This effects a new territorialisation of life process, mediated through bureaucratic surveillance, check-posts, patrols, and permits. Legitimate user groups or other collectivities are established on the basis of property, birth, ethnic affiliation, or licensing arrangement. Likewise, non-human species are subject to an accounting of presence, recruitment, and loss, as if species can be pinned to the ground. Ingold argues that this 'parking' of nature is a distinct kind of place-making that assumes illusory borderlines between nature and humanity.

For O'Neil, the abstract, un-placed, discourse of global environmentalism makes assertions about environmental goods and ethics that are taken as universal and not relative to time, place, and culture. The authors of this collection of articles suggest that context-rich ethnographic environmental description is of as much intrinsic value for understanding how to make conservation politically and culturally sustainable.

## Role of Monitoring in Institutional Performance

Forest management in Maharashtra, India

Rucha Ghate and Harini Nagendra

Research on common property has pointed to the crucial role of 'monitoring' for its effective management. Institutions governing a common property resource such as forests need to safeguard themselves against situations where individuals extract more than their share. Monitoring is essential to guard forest areas against excessive forest use by community members and also against outsider entry. In addition, it is crucial to deal strictly with infractions to ensure compliance with rules.

Concentrating on 'rule compliance' as an indicator of monitoring by community members, we assessed the relationship between institutional structure, monitoring, and forest condition. Three frequently encountered institutional structures engaged in forest protection are those that are community-initiated, those that are promoted by non-governmental organisations (NGOs), and those that are state-sponsored (e.g., Joint Forest Management-JFM). Do communities follow rules stringently if they evolve the rules themselves? How do NGOs approach the question of dealing with infractions of rules? Does the

State encourage conformity with rules in communities that join JFM? We conducted a detailed comparison of rule compliance among forests in similar bioclimatic conditions and social environments but under different institutional regimes through a comparison of 3 case studies in the Gadchiroli district of Maharashtra in central India. We used detailed interviews with communities to assess monitoring, and a combination of forest plot data and evidence of illicit cutting, grazing, and fire, to evaluate forest condition.

Local enforcement was most effective where the community initiated forest management. The forest showed better regeneration and there was negligible evidence of grazing and fire, even though this community started its protection work in a degraded forest that had been under heavy pressure from surrounding communities. In the State-initiated JFM village it was evident that there was uncontrolled grazing and fire leading to heavy damage to the forest, despite their having had the initial advantage of a good forest subject to lower population pressure. There was insufficient monitoring of rule infractions due to the apathy of



Photo: Ben Campbell

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Photo: Rucha Ghate

forest officials entrusted with the task of protecting the forest. In the third case, with NGO-promoted forest management, greater importance was given to protecting the resource from outsiders. Infractions by community members, however, went unpunished by the NGO, since it had other activities in the community and did not want to antagonise some community members.

Our findings indicate the crucial impact of monitoring on the cohesiveness of institutions as well as on the success of forest-management initiatives. Clearly, it is necessary to ensure rule compliance by community members as well as by outsiders. When sanctions are strictly enforced, they prevent the spread of free-riding behaviour,

thereby instilling a sense of trust in the community. It is essential, however, to provide conditions that facilitate a sense of justice and fair play by ensuring that all individuals who break rules are penalised, irrespective of their position in the community. When the users themselves are genuinely engaged in making decisions about rules affecting forest use, the likelihood of their following the rules and monitoring others is much greater than when an external authority (whether the government or an NGO) imposes rules on the community.

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## Culture as Concept and Influence in Environmental Research and Management

Lesley Head, David Trigger and Jane Mulcock

Human activities have been implicated in the vast majority of contemporary environmental problems. Thus, it might be expected that research into those activities, and the attitudes from which those activities stem, would be of central interest to environmental scientists and land managers, and would be strongly supported by funding agencies. Nonetheless, the Australian experience, as reflected, for example, in the federal government's national research priorities, is that environmental research is conceptualised predominantly in scientific terms. Our reading suggests that this is the case in many other countries as well.

There has been significant engagement between the natural and social sciences in two areas of environmental research, however.

First, archaeology, palaeoecology and environmental history have converged to study long term human-landscape interactions. Second, the quantitative social sciences tradition of large-scale survey sampling aims to understand environmental attitudes by correlation with quantifiable variables such as age and social class, often with a view to changing behaviour via education.

While recognising the value of these collaborative trends, we focus here on the other major paradigm that has informed the humanities and social sciences. This is the qualitative method of interpretive understanding that produces historical and ethnographic studies of culture and society. Specifically, we are interested in cultural analysis of the beliefs, practices, and often un-articulated assumptions that underlie human-environmental relations. Our aims are

(1) To show how socio-cultural processes are central to environmental attitudes and behaviours

Australia provides a fascinating diversity of examples and questions. What are the implications of Aboriginal knowledge of place, nature and landscape, developed over millennia of intimate subsistence occupation of the continent? How have British settler cultural traditions changed through interaction with diverse Australian environments? Are there identifiable influences brought from Asia through the historical arrival of migrants and visitors from such countries as China, Vietnam and Indonesia? We are not presenting a fixed view of culture transmitted as a total package through generations.

Rather we approach it as a dynamic mix of practices, beliefs, and symbols that is actively made and remade in time and space.

(2) To illustrate the sorts of contributions research on culture can make to the practical challenges of environmental sustainability

Examples include the clarification of land use conflicts among different cultural groups, such as between rural landholders and National Parks Services over fire regimes, or between large immigrant groups of picnickers and managers over appropriate behaviour in national parks. Comparative approaches between Aboriginal and other people's (scientists, bushwalkers, fishers, parks managers) relations to land are an important component of successful joint management arrangements. Influential cultures requiring analysis include those of environmental management organisations themselves, and a number of Australian scholars are making contributions in this area.

(3) To stimulate dialogue between researchers in the humanities/social sciences and the natural sciences

A range of approaches has been suggested, from better communication across traditional disciplinary boundaries to their total collapse. It is not our intention to advocate any one approach, nor are we unaware of the difficulties involved. Rather, we aim to stimulate discussions between culturally-oriented researchers in the environmental humanities and related areas of the natural sciences. As these are international issues, we hope our Australian examples will be supplemented by comparisons from other parts of the world.

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