



# **RECONCILING THE NEEDS OF MAN AND WILDLIFE IN INDIA**

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### 1. INTRODUCTION

Wildlife conservation in India, as in most parts of the world, is complex and often contentious. What on the surface appears to be a simple and unassailable goal of protecting wild animals and plants from forces beyond their control, quickly dissolves, on closer inspection, into a complex tangle of conflicting issues: human rights versus the protection of animals and forests; the total exclusion of humans from protected areas versus the possibility of human coexistence with wildlife; exclusive state control over protected areas versus increased local participation in protected area management. Indeed, beyond the broad objective of preserving nature, there is often little in common among the various positions adopted by conservationists as to the specifics of what is to be protected, for, by and from whom.

Conservation practice necessarily entails the imposition of regulations over access to certain resources, with specific people or institutions attempting to define who has access to resources, and on what terms. The outcomes of negotiated access to resources are largely a reflection of power relations at the local, regional and national levels. There are critical questions about how ecosystems work, and the need to use accurate science in the management of protected areas, but here too, the links between power and knowledge influence our perception of the natural world, and the optimal means of managing it. Conservation practice is, therefore, a profoundly political process. I will make a simple point in this essay: what gets conserved, and by whom, will ultimately be determined by social and political processes as much, if not more, than by the scientific knowledge we bring to bear on resource management.

### 2. STATE VS. LOCAL CONTROLS

The most contentious and momentous issue in contemporary Indian conservation efforts is the question of whether protected areas should be inviolate and managed by the State, or whether local communities should have a bigger say in the management of such areas, including access to resources. In this context, neither the demonizing of the State nor the romanticizing of local communities is of much value in resolving these issues.

Can the State enforce unpopular policies that exclude local communities from conservation areas? The simple answer is no, at least not on a sustained basis. While the posting of guards may exclude villagers from the more high profile sections of National Parks, there is little the state can do against anonymous "crimes," such as the setting of a forest on fire or the laying down of poisons in the hope of killing lions, tigers, and other carnivores. Such actions are in part an expression of the alienation of villagers from conservation programs that deny them access to basic necessities. In turn, such animosity may translate into heightened support for poaching, an activity that is most effective and pervasive when aided and abetted by local communities, but also most effectively checked through the use of local contacts.

Whether the state or the poacher captures the support of the local communities largely depends on the degree of alienation by the latter from the resource and the State. The divided nature of the State is another reason for its ineffectiveness in controlling local access to resources. The State is divided both vertically and horizontally. Rarely do the agendas of the lowest functionary of the State align with those of policy-makers, if only because of the inability of the state to provide adequate salaries to staff on lower rungs of the ladder. In the absence of adequate compensation, but even if compen-

sation were to be raised, there is little reason to assume an alignment of forest guard and policy maker interests regarding what needs to be conserved and the means of conserving such resources. Guards hired from local villages are far more likely to have sympathies with the people among whom they have kin and other long-standing ties. Guards may of course choose to enforce restrictions on the activities of some members of the community. However, this is as likely to be motivated by the thrill of exercising power as an effort to conserve, say the wild flowers of the Himalaya, and is a shaky foundation for long-term efforts at conserving natural resources.

There are also horizontal divisions within the State, deriving in part from conflicting mandates of different departments. But let us leave that for the moment, and concentrate on what to the author's mind is the more crucial issue of potential differences in the agendas of politicians and bureaucrats. However imperfectly Indian democracy may appear to function, politicians will eventually respond to voter demands for the lifting of restrictions on access to forest resources. It is simply a question of the issue becoming sufficiently salient to critical constituencies. Politicians elected on an anti-conservation plank will, eventually, denotify protected areas, as has happened in parts of Gujarat (Kothari et al. 1996), and for which there are demands in many parts of Madhya Pradesh. They will do this for two reasons: they benefit personally by allowing industrialists preferential access to the mineral and forest wealth within these areas, and they benefit politically from fulfilling electoral promises. Variations on this theme have been reported within the context of local access to reserve forests in Himachal Pradesh and Karnataka (Saberwal forthcoming, Someshwar 1995). In such instances, the use of forests and grasslands is being determined by local community leaders and politicians and not by the Forest Department, the agency mandated to manage these resources.

There is, then, a *political* problem associated with exclusionary conservation policies of the Indian Forest Department, and long-term effective implementation of such policy borders on the impossible. In response to what has been perceived to be a fundamentally unjust policy, numerous environmental and social activists have argued for the need to provide local communities with a greater role in protected area management. This is seen as being both inherently more equitable than an exclusionary policy, and a more effective means of conserving natural resources.

Some social activists have demanded that all protected areas be entrusted to the exclusive care of local communities. But commentators both inside and outside the country have suggested many less drastic alternatives. Following the successes of Joint Forest Management, there have been proposals for Joint Protected Area Management, which would imbue local communities with greater managerial and decision making responsibility than is currently the case. There is also an international interest in eco-development, which many commentators contend will encourage eco-friendly development within villages that may improve the financial status of villagers, thereby reducing their dependence on resources within protected areas.

There are also examples from many parts of the country of local action enabling the Forest Department to achieve its conservation goals. The Tarun Bharat Sangh, for example, has successfully agitated for a ban on mining activities on land adjoining Sariska National Park, in Rajasthan. Similarly, inhabitants of villages that adjoin the Kailadevi Sanctuary, also in Rajasthan, have successfully come together to prevent migratory pastoralists from moving through the sanctuary, based on the fear that the annual migrations of lakhs of sheep and goats are responsible for the absence of forest

regeneration. In each instance, there is a convergence of local and State interests, with the latter's interests being served by the (political) mobilization of the villagers.

While the call to hand over control to local communities has incontestable moral authority, even those who embrace its precepts acknowledge the need to de-construct the concept of a "community" (see also Rangarajan 1996). It is clearly in the interests of both the Forest Department and local villagers to reduce pastoralist presence in the area. Pastoralists, however, would argue that they too are long-standing members of the local community, and as such their rights to use the area are at least as traditional as those of the villagers. Riven as Indian communities are by caste, class and other divisions, and the multiplicity of stakeholders, how does one identify contours of the "local community" that will control access to resources?

Many commentators have romanticized local communities, particularly with regard to the ecological harmony of their lifestyles and the egalitarian and equitable functioning of their institutions. Research has demonstrated, however, that local power structures are often equally or more responsible than the State for engendering conditions of dependency and poverty (see Yang 1989, Sivaramakrishnan 1996). Simply shifting control from the state to the local level may ultimately do little more than reinforce unequal relations of power at the local level. The means of empowering local communities needs to be carefully thought out, including a conceptualization of the possible role the State can play in effecting and sustaining such change.

It is by no means an incontrovertible proposition that local communities will better protect and more equitably allocate resources. However, continued alienation of communities by denying them at least some control over lo-

cal natural resources virtually ensures that they will not mobilize in support of conservation initiatives. Rather than battling to deny local communities access to natural resources, conservationists might find it judicious to expend their political capital on efforts to evict extractive industries, such as mining and forestry, from critical ecosystems.

### 3. KEEPING PEOPLE OUT, LETTING THEM IN

Of course, from the perspective of policy making, we must define the contours of community involvement in conservation programs. Let us assume that our purpose is to generate support for conservation initiatives, or at least minimize villager hostility to conservation measures. To focus on the latter: as I have pointed out above, a key source of animosity towards conservation programs initiated by Forest Departments is the attempt to exclude people from National Parks, Tiger Reserves and the like. The question that arises is whether a blanket ban on human use of resources within National Parks is necessary. If the answer is a conditional no, then one has a potential means of enhancing local support for conservation. Let us examine the scientific debate over the exclusion of people from conservation areas in some detail.

Various justifications have been used over time to keep people out of ecologically sensitive natural areas. The notion that subsistence hunting pressures would lead to a decline in wildlife populations was used in much of the colonized world, even as sport hunting, often on a massive scale, was both permitted and extolled (Rangarajan 1996). Over the past two centuries, however, a second, more powerful idea has supported the exclusion of people from Protected Areas: the notion of a delicate balance in nature. Viewed vis-à-vis this construction of nature, arguably the progeny of Christian my-

thology (see Worster 1985), nature is conceived of consisting of a vast number of individual components linked through various chains in a complicated web. Each delicate and easily disturbed link helps to maintain the balance of nature. Under this view of the world, human activities such as fire, grazing, and shifting cultivation are deemed to be “unnatural” perturbations that threaten the delicate web of life.

Indeed, the notion of nature as delicate web has constituted a key underpinning to theoretical ecology until as recently as the 1980s, and continues to inform popular perceptions of the natural world. For society at large this is often the most powerful rationale for exclusion of humans from Protected Areas.

More recent research, however, has suggested a more chaotic, and less deterministic, model of the natural world. Human disturbances in such situations are simply viewed as part of the system. For example, fire regimes have been shown to play a significant role in shaping the structure and composition of savannah, prairie, and forest communities. East African pastoralists regularly burn dead vegetation in order to encourage the growth of fresh shoots, and to prevent the conversion of savannah to scrub bush (Homewood and Rodgers 1991). Serengeti National Park is a part of this savannah, and the periodic pastoralist burning it is subject to is deemed to be an integral part of the system that sustains the greatest assemblage of wild mammals in the world. There are other examples of fire playing critical roles in shaping forest and grassland communities (Cowling et al. 1986, Langston 1995, Belsky 1992, Howe 1994).

The response of systems to fire is primarily dependent on the evolutionary history of the species that comprise the system. Thus, given a long history of being subject to a particular burning regime, an ecosystem can be expected to be comprised of fire-tolerant or fire-dependent

species. In such cases, the cessation of fire may lead to an invasion of exotics that are competitively superior in a decreased fire environment. Conversely, the introduction of fire to a system unaccustomed to being burned may result in the invasion of exotics capable of withstanding the stress of fire. Thus, a shift to a fire regime is likely to alter system characteristics. How one evaluates such change is a function of one’s management objectives.

Similarly, intense grazing pressure may be responsible for maintaining high levels of species diversity within grasslands that have historically been subject to such grazing pressure, as has been demonstrated by research in the East African savannah, the North American prairie, and the species-rich chalk grasslands of England and Northern Europe (Belsky 1992, McNaughton 1993, During and Willems 1986, Howe 1994). In the absence of grazing, taller species may outgrow shorter species, thereby shading the latter out. In effect, grazing may reduce the height advantage a dominant species may hold, thereby reducing the dominance of a few species and increasing overall species diversity. Reports indicate respective decreases in bird and plant species diversity in two areas where livestock grazing has been prohibited, Keoladeo National Park and the Valley of Flowers National Park (Ali and Vijayan 1986, Naithani et al. 1992).

Research suggests that grassland species that have evolved under an intense grazing regime have developed physiological adaptations that enable a high tolerance to grazing losses (Caldwell et al. 1981). On the other hand, in regions with a shorter history of grazing pressures, intense grazing can devastate flora species, leading to the invasion of unpalatable grasses and woody species, as has been demonstrated in the Galapagos islands and the inter-mountain American West (Hobbs and Huenneke 1994). Whether grazing constitutes

a disruption to a system, or, as a disturbance is an integral part of the system, depends very much on the history of the region's grazing regime.

Theoretical treatments of fluctuations in biodiversity indicate low levels of biodiversity at both the high and the low extremes of the disturbance spectrum, and high levels of species diversity at moderate levels of disturbance (Connell 1978, Milchunas et al. 1988, Petraitis et al. 1989). Climatic disturbances such as fire, drought, flooding and hurricanes have been viewed as factors that often increase the general heterogeneity within an ecosystem, thereby leading to both a greater diversity of habitat types, and consequently, greater faunal diversity. The same heterogeneity of habitat types can result from human use of a system, including heavy grazing, burning, and indigenous farming systems. Of course, the disturbance hypothesis cannot be used to suggest that any and all human activity can be encouraged within a Protected Area. The idea, however, that *all* human resource utilization within protected areas is inimical to the conservation of biological diversity is hard to sustain in the face of such empirical evidence. Thus, from a purely ecological standpoint, there may be value in allowing a continuation of certain local land use practices.<sup>1</sup>

Such a position, of course, assumes that some level of regulation will take place to ensure that resource use remains in harmony with the achievement of conservation objectives. In turn, this implies management based on monitoring, and the use of judgments regarding what constitutes acceptable levels of resource harvesting. Once again, we arrive at a political crossroads in conservation. Who will make the decisions as to what constitutes land degradation? In response to this question, one often hears the claims of superior expertise articulated by officials of the Forest Department and by research scientists. This expertise is premised on

the scientific, and hence purportedly superior, training of scientists. Government agencies and scientists often characterize herders, cultivators, and forest users as unsophisticated stakeholders that have little or nothing to contribute to forest management efforts. In counterpoint, one also hears claims, some rather shrill, of the superiority of indigenous knowledge over western science, derived as the former is from a lived experience rather through the unreal world of experimentation.

This piece's portrayal of the situation in India may be deemed by some to be a caricature of the polarized nature of positions adopted by different groups of people, but only marginally so. There is often an explicit dismissal by some of local knowledge as being per se unscientific, and a romanticization by others of local knowledge as a panacea for all resource management problems. It is the political issue par excellence, for the claim to knowledge is also the claim to power. As with most issues related to conservation, the reality is necessarily somewhere in between the two positions. The scientific community has tremendous capabilities to acquire knowledge of how systems function, through the use of statistics and the appropriate design of experiments. The problem is that environmental variability from one year to the next, coupled with the co-variation one is routinely confronted with in nature, makes it difficult to establish causality with regard to ecological phenomenon. By contrast, years, and in some contexts, generations of experience, may yield insights into normal and deviant ecosystem behavior. The question is whether we can develop the sophistication to mix deductive and inductive reasoning, or are we too fixed in our ways to be willing to look at complex problems using any and all sources of information?

## 4. CONCLUSIONS

There are no easy solutions to the resource issues discussed in this paper. However, this is to be expected, given that one is dealing with emotionally and politically charged issues. But as we individually or collectively claim the high moral ground in speaking on behalf of those unable to express themselves (plants, animals, or helpless local communities), there is a need to recognize our tendency to work with dualities that are necessarily simplifications of inherently complex phenomenon. Should people be out or in? Should the state or should local people manage protected areas? Should western science or indigenous knowledge provide the basis for resource management?

For the most part, these are political questions, but to reiterate the point pressed throughout this paper, conservation *is* about politics. And to effect better conservation we need to function as part of the wider political process, not solely as social scientists and scientists who purportedly possess all of the answers. In a situation in which the livelihoods and security of a huge number of people are at stake, there are no solutions that will satisfy everyone. The relevant question is whether we can prevent the politicisation of conservation initiatives, whereby the backlash from exclusionary measures results in politicians making decisions regarding the future of national parks rather than the managers, scientists and local communities that currently stake claims to this management.

Perhaps the unwillingness of conservationists of different hues to give ground to those from other camps accentuates the larger truth of the extreme difficulties involved in creating working coalitions. But as with the larger national political scene, and perhaps related to the growing number of political fora for disadvantaged communities, I suspect that the era of a single constituency controlling all that happens

within India's Protected Areas is drawing to an end. We can try to bring local communities on board, along with all the complexity that entails, or we can stand by and watch as protected areas are encroached upon by industry, cultivators of the land, herds of animals, dams . . . Much of this will happen with the support, or in response to the demands, of local communities alienated by an environmental movement rooted in what is ultimately an urban pre-occupation with a monolithic, culturally defined vision of nature.

## NOTES

<sup>1</sup>A key response to this position is that most such examples are from areas with low population densities, and that the same logic would not be apposite in India, where population pressures imperil ecosystems. I would argue the need examine the issue on a site-specific basis, i.e. there is a need to deconstruct the Indian "population problem." Certainly, many parts of the alpine meadows of the Himalaya are not necessarily subject to increasing population pressures (Saberwal, forthcoming). The same may be true of other parts of India with difficult terrain - including the Thar Desert and the northeast Himalaya. In any case, a blanket ban on human resource use may not be necessary, and we need to explore the conditions under which human resource use is compatible with achieving conservation goals.

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