

Conservation Ethos in Local Traditions: The West Bengal Heritage

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In spite of the unrelenting advent of modernization involving industrialization and market-oriented land use policies, traditional ecological ethos still survive in many indigenous societies, albeit in much attenuated forms. Based on a series of our past investigations into the traditional resource use norms and associated cultural institutions prevailing in rural Bengal societies, we demonstrate here that a large number of elements of local biodiversity, regardless of their use value, are protected by the local cultural practices. Certain cultural elements (e.g., auguries) may not have any conservation consequences, yet may reflect, in symbolic terms, a collective appreciation of the intrinsic or existence value of life forms, and the basic love and respect for nature. The study suggests that traditional conservation ethics are still capable of protecting much of the country's decimating biodiversity, as long as the local communities have even a minor share in the management of natural resources.

Keywords biodiversity, biophilia, conservation, culture, Hinduism, India, tradition, West Bengal

Culture plays a significant role in determining the extent of use, maintenance, and preservation of the elements of biodiversity. It is now increasingly being recognized that in the past, high levels of biological diversity supported, and in turn were maintained by, a great diversity of cultures that were dependent on them (Gadgil 1995; McNeely 1995). In particular, the hunter-gatherer-shifting cultivators throughout the world typically shared a *Weltanschauung* in which humans were an integral part of the entire ecosystem. This "organic cosmology" of the indigenous societies shaped an ecological ethic that is undermined by Western science and market-oriented culture (Merchant 1980; Nelson 1993). Many of these indigenous cultures were destroyed by European

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colonial expansion beginning in the 15th century (Jacobs 1985; Diamond 1992). Nevertheless, most indigenous cultures surviving in the world still retain their traditional ecological ethic, which now seems to have profound conservation consequences (Gadgil et al. 1993).

In India, a rich ecological ethic emphasizing the interconnectedness of people and the rest of nature was reflected in the various forms of nature worship, which permeated across the subcontinent. However, British colonial land use policies destroyed much of the local resource use norms. In postindependence India, the continuation of colonial policies of natural resource use and drives of industrial development, combined with various social drives integrating preindustrial cultures into the mainstream economy, have eroded the ethnic cultural identities and their traditional resource use norms (Devalle 1980; Gadgil and Guha 1992; 1995; Kothari 1994; Deb and Ghosh 1999). Nevertheless, recent experience of “joint forest management” in the southwestern districts of West Bengal (Malhotra et al. 1992b; Deb and Malhotra 1993; 1997) indicate that indigenous conservation ethos is still capable of protecting much of the country’s decimating biodiversity, as long as these communities have even a minor share in the management of natural resources.

We attempt here to delineate the conservation potential of indigenous traditions, based on a series of our past investigations into the local traditional ecological knowledge and ethics. The general objective of this study is to examine the extent to which a society’s *Weltanschauung* can shape its cultural behavioral repertoire that influences a society’s norm of natural resource use.

Study Sites and Survey Methods

The process of erosion of the indigenous cultures has perhaps been the most stringent in West Bengal where intensive agriculture, mining, and development projects have taken place over a century, resulting in deforestation, urbanization, and conversion of the uprooted tribals—the ecosystem refugees—into a reserve of cheap labor force. The southwestern districts (Medinipur, Bankura, Puruliya, and Birbhum) of West Bengal contain the largest tribal population in the state. A large segment of the tribal population of the region still depends on the dry deciduous sal (*Shorea robusta*) forest for subsistence (Malhotra et al. 1992a; Deb and Malhotra 1993), and much of the traditional local cultures related to forest resource use still survive in the area (Malhotra et al. 1992b). In this demographic and socioeconomic backdrop, the southwestern districts of West Bengal (Figure 1) offer appropriate field sites for an examination of the ecological ethic embedded in the local cultures. We have conducted our surveys in this area to understand these cultural traditions from the conservation perspective.

Our survey, conducted over the period 1991–1999, spanned a total of 80 villages in Medinipur, Bankura, Puruliya, and Birbhum districts. The survey had different research agendas at different phases over the decade. Most of the villages surveyed had multiethnic populations. The tribal communities studied in these villages were Bhumij, Kora, Lodha, Munda, and Santal (or Sàotal). Hindu and Muslim populations comprised the nontribal community. The data thus collected are treated herein under three rubrics: (1) the elements of biodiversity still used for religious purposes, (2) socioreligious mechanisms or institutions restraining extraction and use of biore-sources, and (3) the elements of biodiversity surviving as a consequence of these institutions. A questionnaire based on recall method was employed to record the plants and animals associated with different cultural–religious ceremonies. We participated in men’s hunting expeditions and women’s trips for gathering nontimber forest

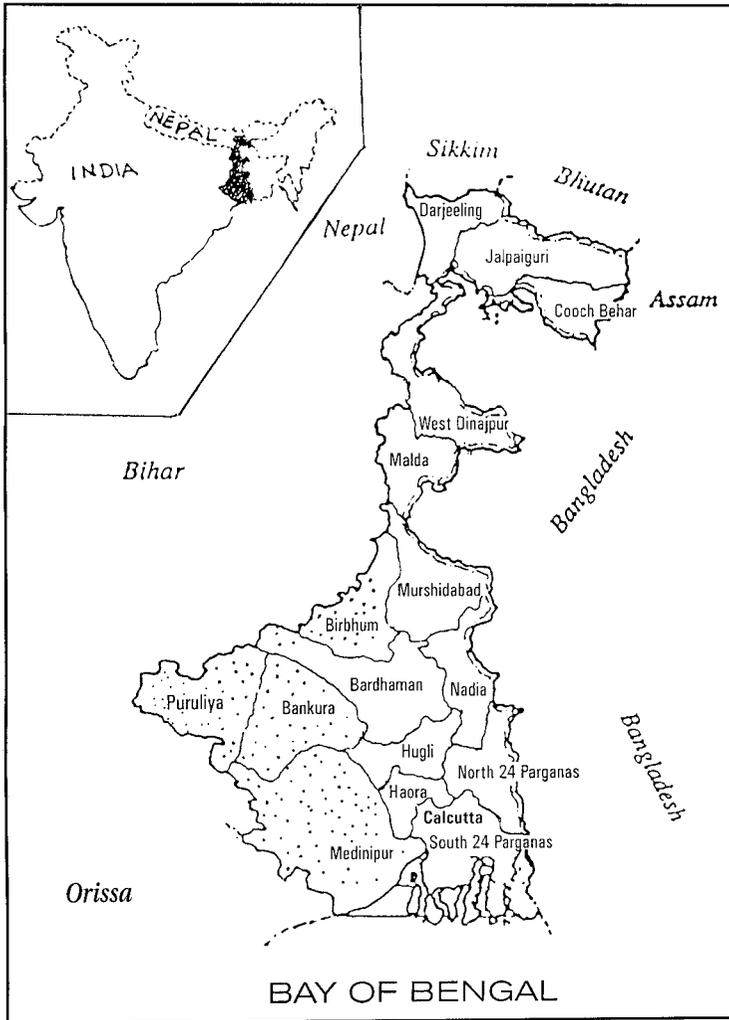


FIGURE 1 Map showing study sites (stipped) in West Bengal.

produce (NTFP). We adopted such short-term participant observation to record norms of natural resource harvesting and use.

An inventory of flora and fauna in the region was prepared for natural habitats under state protection (the state forests) as well as for those traditionally protected by local communities. The species inventory included angiosperms, edible fungi, herpetofauna, birds, and mammals. For inventorying plants, we adopted a combination of conventional and parataxonomic methods. During the initial phase of the survey, a local medicine man and an experienced forester were assigned by us as guides who helped us in recording local names of all the trees shrubs, herbs, climbing plants, and mushrooms. The names were verified by the local people who accompanied the team. Botanical names of most of these plants were ascertained by experienced foresters. Herbaria of plants that could not be identified on the field were identified with the help of taxonomists at the Botanical Garden, Sibpur. A preliminary list of plants occurring in the Medinipur forests is given in Malhotra et al. (1992).

Vertebrates were identified by one of us (D.D.) and our assistant zoologist. Direct sightings, indirect evidences (scats, pugmarks/footprints, scratch marks on trees, skins/bones/horns/scales of hunted animals) and reports from local people were combined to ascertain the presence of the animals. Most of the reports of faunal presence were cross-verified by showing books of animals containing photographs (e.g., Prater 1971; Sanyal and Roychoudhury 1994; Deuti and Bharati Goswami 1995) to the local adults and children. A few species of amphibians, mammals, and birds were captured by local tribal hunters, and occasionally by our assistants. Specimens captured during this survey were released after identification. The inventories of avian and mammal species seem to have been exhaustive, owing to their narrow diversity in the region and to the ease of identifying them by direct sightings. An exhaustive list of resident land birds occurring in different types of habitat in the region under study is given in Deb et al. (1997).

Customs Conducive to Conservation

We examine here the local resource use norms in the context of protection of species, and that of habitats in the region under study.

Species Protection

The customary restrictions may be arranged under the following broad rubrics: taboos on killing of selected species, seasonal prohibitions on the use of specified species, regulations on the quantity of harvest, and salient rites and ceremonies in the local cultures that may ensure sustainable use of selected species.

Sacred Species

Socioreligious sanctions are prevalent against mutilation of organisms held sacred in local cultures. Thus, in Lodha mythology, grasshoppers are offspring of the sun god, and are therefore considered sacred to the Lodha. The strength of traditional reverence for the sacred species is demonstrated by a 70-year-old specimen of banyan tree whose roots tore down the walls of an old Shiva temple at Panchami, Birbhum. Pieces of the ruptured wall are still held in the interstices of the tree's prop roots. Clearly, people had not destroyed the sacred banyan tree in spite of the temple's demolition.

Sometimes the sacred species constitute clan totems. There are about 250 totemic clans in the Munda group of tribals (Baské 1993). An illustrative range of organisms protected by such totems among five Bengal tribes is given in Table 1.

Seasonal Restrictions

Restrictions on the use of resource items for specified seasons are observed in the local tribal and Hindu cultures. The Santal and the Munda do not harvest any part of the sal (*Shorea robusta*) tree until their Salui/Sarhul festival is over in March–April. Similarly, no part of the karam (*Adina cordifolia*) tree is harvested by the Kora, Santal, Munda, and Bhumij until the Karam festival in August–September. These festivals seem to mark the termination of periods of restrictions on important resource use.

Apart from the five tribes described here, several other tribes, such as the Mahali, Ho, and Shabar, also observe similar seasonal restrictions on the use of various species (Baské 1993). Among the Hindus, *Zizyphus* fruits are not eaten until the full moon day of January; eating of mango is forbidden until the Baruni ceremony in late end March; and drumstick (*Moringa oleifera*) fruits are not consumed after the Charak festival in mid April.

TABLE 1 Examples of Totemic Plants and Animals for Five Tribes

Tribe	Plant	Animal
Bhumij	Wild yam (<i>Dioscorea</i> spp.)	Mollusc Sacred chank (<i>Xancus</i> [= <i>Turbinella</i>] <i>pyrum</i>) Fish Bhuya (<i>Channa gachua</i> ?) Shal (<i>Channa marulius</i>) Bird Geese Ducks (<i>Anas</i> spp.) Kites and buzzards Crow (<i>Corvus splendens</i> , <i>C. indicus</i>) Indian roller (<i>Coraicus benghalensis</i>) Mammal Tiger (<i>Panthera tigris</i>)
Kora	Betel nut palm (<i>Areca catechu</i>) Baola alu (<i>Dioscorea</i> sp.)	Fish Shal (<i>Channa marulius</i>) Shol (<i>Channa striatus</i>) Ban (<i>Mastacembelus armatus</i>) Bird Crimson-breasted barbet (<i>Megalaima haemacephala</i>) Crow pheasant (<i>Centropus sinensis</i>) Reptile Tortoises Mammal Squirrel (<i>Ratufa</i> spp.) Pig Ox Goat
Lodha	Chirka alu (<i>Dioscorea</i> sp.)	Insect Grasshoppers Dragonflies Fish Shal (<i>Channa marulius</i>) Shol (<i>Channa striatus</i>) Chand (<i>Chanda chanda</i>) Reptile Turtles and tortoises Bird Magpie robin (<i>Copsychus saularis</i>) Mammal Tiger River dolphin (<i>Platanista gangetica</i>)

Continued overleaf

TABLE 1 (Continued)

Tribe	Plant	Animal
Munda	Kul (<i>Zizyphus</i> spp.)	Mollusc
	Shaluk (<i>Nymphaea</i> spp.)	Sacred chank (<i>Xancus pyrum</i>)
	Padma (<i>Nelumbo nucifera</i>)	Fish
		Shal (<i>Channa marulius</i>)
		Reptile
		Snakes
		Tortoises
		Gharial (<i>Gavialis gangeticus</i>)
		Crocodiles (<i>Crocodylus</i> spp.)
		Bird
		Gray partridge (<i>Francolinus pondiceriarus</i>)
		Ducks (<i>Anas</i> spp.)
	Mammal	
	Horse	
Santal	Bael (<i>Aegle marmelos</i>)	Insect
	Supari (<i>Areca catechu</i>)	Tassar silkmoth (<i>Anthaeria paphia</i>)
	Dhaw (<i>Anogeissus latifolia</i>)	Mollusc
	Palash (<i>Butea frondosa</i>)	Sacred chank (<i>Xancus pyrum</i>)
	Piyal (<i>Buchania latifolia</i>)	Reptile
	Parashi (<i>Cleistanthus collinus</i>)	Rat snake (<i>Ptyas mucosus</i>)
	Amla (<i>Embllica officinalis</i>)	Lizards (<i>Calotes</i> spp., <i>Mabuya</i> spp.)
	Sal (<i>Shorea robusta</i>)	Bird
	<i>Ischemum rugosum</i> (grass)	Geese
	Champa (<i>Michelia champaka</i>)	Ducks (<i>Anas</i> spp.)
	Murum mushroom	Kites and buzzards
	Tulsi (<i>Ocimum sanctum</i>)	Jungle fowl (<i>Gallus sonneratii</i>)
	Kath-champa (<i>Plumeria rubra</i>)	Gulls (<i>Larus</i> spp.)
	Kurchi (<i>Holarrhena antidysentrica</i>)	Blue rock pigeon (<i>Columba livia</i>)
		Vultures
		Crow (<i>Corvus</i> spp.)
		Mammal
		Squirrel (<i>Ratufa</i> spp.)
		Horse
		Nilgai (<i>Boselaphus tragocamelus</i>)

Customary Quotas of Harvest

The household economies in the study area crucially depend on gathering of NTFP, which is a major occupation of the women of all forest-fringe villages (Malhotra et al. 1992a; 1992b). However, none of the women harvest more than the amount required for subsistence consumption. Most NTFP items are seldom collected by the communities in quantities exceeding the household need over a few days. The only exception is the cultivator caste Sadgope, who tend to gather fuelwood by cartloads, because there is

a religious sanction against carrying anything on their heads or shoulders (Malhotra et al. 1992a).

The tribal men abide by certain ethics of hunting. Since most of the wild fauna have dwindled in the highly degraded sal forest, the principal prey of the tribal hunters comprise birds, squirrel, hare, bush rat (*Golunda elliotti*), and bandicoots (*Bandicota bengalensis* and *B. indica*). Although the rodent population is very high in the forest-fringe ecotones, the hunters were typically found to abandon the day's hunting after having killed two or three animals. The bird traps of the Lodha and Munda hunters are designed so as to capture the prey unhurt: the trap door does not injure the bird while shutting. This care in devising the trap is taken in order that the hunter may release any undesired animal without injuring it.

Ritual Use and Statutory Domestication of Species

All religious ceremonies and festivals require use of a range of plant parts. As presented in Table 2, a wide diversity of plant resources is also needed in ceremonies associated with rites of passage in the tribal cultures (Deb and Malhotra 1997). A large number of plants are also used in Hindu ceremonies and rites. Excepting the banana, betel nut, and tulsi (*Ocimum sanctum*), all such plants required for the ritual uses are found in the forest.

The ritual usefulness of certain species necessitated the practice of statutory domestication. For example, *Ocimum sanctum* is grown on each Hindu homestead. A consequence of such domestication is that such plants are found most abundantly in human settlements but scarcely in the wild.

Domestication for Subsistence and Food Cultures

Following the introduction in the 1960s of Green Revolution crop varieties, thousands of indigenous rice, wheat, and oilseed varieties have been lost (Shiva 1991; 2000). A recent survey indicates that over 90% of rice genetic diversity has disappeared from local farms due to monocultures of modern hybrid varieties (Deb 1999). Most of the extant indigenous crop varieties survive in the study area because tribal farmers still rely on local landraces for food production in dry uplands and inundated lowlands. Farmers also grow the folk crop varieties because these are required in special cuisine for specific religious and social ceremonies.

Habitat Protection

Sacred Groves

A number of wildlife habitats are protected by local communities as sacred places, the most prominent of which are sacred groves, consecrated to deities or ancestral spirits (Deb and Malhotra 1997; Malhotra et al. 1997). Sacred groves—patches of vegetation where harvesting of any living matter is generally prohibited—are a common element of the landscape in the area under study. These groves, locally called *Jahiristhan*, are important cultural sites where community festivals (like Salui) regularly take place. These groves generally consist of old specimens of a large number of native floral species. Hundreds of ancient sacred groves in the State were destroyed over the past centuries either by the revenue department for agriculture, or by the forest department for timber. Most of the surviving *Jahiristhans* contain between 5 and 20 old trees (Deb and Malhotra 1997), but are reported by old villagers to have had much larger dimensions even 50 years ago. The average girth of tree specimens in the groves,

TABLE 2 Plants and Their Parts Used in Rites of Passage

Tribe	Rite of passage				
	Birth	Naming	Menarche	Wedding	Death
Bhumij			Banana (fruit) <i>Ocimum sanctum</i> (leaf)	<i>Bassia latifolia</i> (flower, fruit, twigs) Banana (fruit) <i>Terminalia chebula</i> (fruit) <i>Lagerstroemia</i> <i>parviflora</i> (twig) <i>Jatropha gossipifolia</i> (twig)	<i>Azadirachta</i> <i>indica</i> (wood) <i>O. sanctum</i> (whole plant)
Kora	<i>O. sanctum</i> (whole plant)			<i>B. latifolia</i> (flower) <i>Mangifera indica</i> (leaf) <i>Terminalia</i> <i>chebula</i> (fruit) <i>L. parviflora</i> (twig) <i>Cynodon dactylon</i> (grass)	<i>O. sanctum</i> (whole plant) <i>Chrysopogon</i> (grass) <i>Areca catechu</i> (fruit) <i>Saraca indica</i> (leaf) <i>T. chebula</i> (fruit) <i>Shorea</i> <i>robusta</i> (resin) <i>Continued overleaf</i>

TABLE 2 (Continued)

Tribe	Rite of passage				
	Birth	Naming	Menarche	Wedding	Death
Lodha	<i>O. sanctum</i> (leaf), Turmeric		Seven kinds of flowers	Banana (fruit) <i>B. latifolia</i> (flower and twig) <i>Shorea robusta</i> (twig) <i>M. indica</i> (twig) <i>Ficus hispida</i> (flower) <i>Calotropis</i> <i>indica</i> (flower) <i>A. marmelos</i> (leaf) <i>O. sanctum</i> (whole plant) <i>C. dactylon</i> (grass) <i>S. robusta</i> (twig) <i>B. latifolia</i> (flower)	<i>Ficus religiosa</i> (twig)
Munda	<i>O. sanctum</i> (leaf)				<i>Aegle marmelos</i> (leaf) <i>O. sanctum</i> (whole plant) <i>S. robusta</i> (twig)
Santal		<i>Terminalia</i> <i>tomentosa</i> (leaf), turmeric, <i>A. indica</i> (leaf)			<i>F. bengalensis</i> <i>F. religiosa</i> (twig) <i>Zizyphus</i> <i>jujuba</i> (twig) <i>A. indica</i> (twig) <i>B. latifolia</i> (twig)

measuring 35–56 cm (at breast height), and the average crop height of ~11 m according to the standard dipterocarp growth tables, indicate their age to be over 60 years.

The Kanak Durga temple grove (22 acres) at Chilkigarh, Medinipur, and the Shib-pahari grove (14 acres) attached to an old Shiva temple, near Mallarpur, Birbhum, appear to be the largest ones in the region under study, with rich floral diversity. The lianas and many of the lichens found in these groves are not found in the regenerating sal forests. An inventory of local land birds in five forest ranges of Medinipur district revealed a distinct preference of 18 birds for the sacred groves. Four of these birds were sighted exclusively in the sacred groves (Deb et al. 1997).

In addition to the tribal and Hindu sacred groves, we recorded in Birbhum a small grove attached to a hut that was once inhabited by a Sufi monk (*Pir*). The *Pir*'s place (*dargah*) is held sacred by both Hindu and Muslim devotees.

Sacred Ponds

In Chhandar village, near Beliapore of Bankura district, a small pond is affiliated with the goddess Manasa. The villagers believe that human use of the pond might disturb the goddess, and that whoever pollutes the pond water would be mortally punished by the angry goddess. The villagers observe a strict taboo on using the pond water for any purposes, except for a brief ritual ablution on the Manasa festival in mid June. At least eight fish species, a freshwater turtle, and two frog species of the pond are given protection. Preliminary results of an ongoing taxonomic survey indicate that several endemic zooplanktonic species may exist in the pond.

Another sacred pond (~0.5 acre) is religiously protected in Belboni village, Bankura district, and is used as a principal source of drinking water for three villages. In order to prevent pollution by outsiders, the villagers have fenced the pond with barbed wire, the cost of which was borne by every household.

Discussion

Conservation Consequences: Calculated or Incidental?

One school of ecological history argues that human societies, based on centuries of experiences of the consequences of their early resource use modes and environmental exigencies, learned to fine-tune their social behaviors toward ensuring sustainable resource use (Gadgil and Guha 1992; Gadgil 1995). Such behaviors signify the society's recognition of the "bequest value" of the elements of biodiversity. Institutions such as sacred groves may have been originally designed by native cultures, plausibly with a view to sustain the resource base for posterity. Considering the fact that the periods of restriction on plant resource use coincide with the reproductive seasons of specific trees, such restrictions might have evolved in order to ensure sustained availability of the resources. However, the original purposes of these practices are eventually forgotten, although the customs themselves are ritually observed over centuries.

In contrast, other customs may have evolved on purely religious grounds, and their implication on resource use, if any, may be incidental. For example, grasshoppers (a totem of the Kotal clan of the Lodha) and the grass *Ischemum rugosum* (a totem of the Champa Mandi subclan of the Santal) are not used by local communities. Thus any cultural protection given to them seems at best fortuitous.

Also, members of a culture showing ecologically prudent behaviors often use certain resources in a wasteful manner (Daniels and Vencateshan 1995). However, such inconsistencies only indicate the complex dynamics of cultural evolution of

human societies, a complexity that forbids any simplistic presumption regarding which customs were promulgated by the ancestral societies for explicit or implicit conservation purposes, and which were designed for some other motives.

The Non-Use Value of Biodiversity and Biophilia

The assignment of religious value to a species or an ecosystem, regardless of its consumptive end uses, seems to be a symbolic recognition by local cultures of its “existence value,” the importance of which has not yet been fully captured by mainstream economics. In most indigenous cultures, norms against callous or cruel conduct toward animals and excessive and gratuitous exploitation of plant resources are often motivated by “sentiments of affinity” and are unrelated to a calculated empiricism (Kellert 1996, 151). The sacred pond of Chhandar, the sacred karam tree, and the shrub manasa (*Euphorbia nerifolia*), which have no direct use values, were nevertheless deified in local cultures. The concept of sacred in these cultures implies a moral attitude of society toward nature in general. This attitude has been described by Fromm (1973) and Wilson (1988) as *biophilia*—an innate love and respect for all that is alive. Biophilia tends to be reflected in the entire belief system of the culture. Furthermore, “*Biophilous* ethics have their own principles of good and evil. Good is all that serves life; evil is all that serves death. Good is reverence for life, all that enhances life, growth, unfolding. Evil is all that stifles life, narrows it down, cuts it into pieces” (Fromm 1973, 365–366).

Good and evil omens may thus assume special semiotic significance with respect to biophilia. For example, the Santal consider as good omens the sighting of footprints of cattle, tiger, and leopard during a marriage ceremony. Likewise, the sighting of cattle, fox, and mango are auspicious signs to the Munda. Ill omens for the Santal include the sight of a headload of fuelwood, and for the Munda, that of the felling of a tree (Baské 1993). Ill omens in the Hindu culture include the sighting of a hunted turtle, and of cut fuelwood (Bhattacharya 1978)—signs that are carefully noticed during the rites of passage. These omens and related auguries may be shown as an expression of the underlying belief that the presence of a variety of animals around people is a sign for “good living,” whereas acts of destruction of nature are bad for human life.

Biophilia in Religious Traditions

Numerous tribes were drawn within the pale of Hindu society (Hunter 1984; Lal 1974). Many Bengal tribes observe all the Hindu religious rites, while retaining many features of their tribal identity (Baské 1993). Conversely, the Hindu pantheon has a range of icons, myths, and rituals borrowed and adopted from local cultures (Datta 1944; Kosambi 1975; Thapar 1993). Several tribal deities (e.g., Shiva, Kâli, Hanumân) and the animistic institutions of sacred species and groves were incorporated into Hinduism. Such religiosemiotic exchanges between cultures over centuries have woven the general biophilous ethic into the local traditions.

Although Islam does not explicitly protect any bioresource through rituals, several Muslim shrines in India have trees (such as *Punica granatum*) that are locally considered sacred (Malhotra et al. 1993). However, biophilia was incorporated in the tenets of Sufism (e.g., love for the whole of creation, oneness with the cosmos, etc.), and won a considerable popularity in medieval Bengal.¹ Many ancient shrines erected in Bengal by Sufi saints are still visited by Hindu and Muslim pilgrims, and are often attached to sacred groves and ponds.

Conclusion

Three salient patterns of the cultural practices relating to nature emerge from the preceding discussion. First, the cultures of primitive technology that were empirically predicated on past experiences of resource crunch are likely to forbid resource use modes that are known to have had adverse consequences in the past. “Profligate” modes of use of other resources, especially the ones that had not affected resource availability in the past, would tend to remain unrectified. The “neutral” practices with no conservation consequences may appear under changed circumstances to be profligate, and vice versa.

Second, some of the current practices that signify “profligate” use of resources may have evolved in response to certain external influences on the local culture and economy. The erosion of traditional social organization, loss of community control over natural resources, and inclusion of the resource items into market economy inevitably disrupt the cultural restraints on overexploitation of the resource (Ostrom 1990; Redford 1992).

Third, all the cultural practices with any conservation implications—incidental or otherwise—seem to depict a reverential attitude toward nature, an attitude that is likely to prevent exhaustive extraction and use of vital resources. Thus, the assigning of the “sacred” status to a multitude of plants and animals and the design of the Lodha and Munda bird traps to prevent injury to the captured animal seem to reveal the respect for nature inherent in these cultures.

Obviously, certain practices regarding natural objects may not have any conservation consequences, yet may serve to reveal the *Weltanschauung* of the culture. Figure 2 depicts the semiotic plane of a culture on which the basic reverential attitude toward nature is reflected in, and reinforced by, various cultural institutions and belief systems. Some of these practices may have conservation consequences to varying extents, while others may have no significant impact on the resource base. Sacred groves and seasonal restrictions of harvest are examples of the former; the omens described earlier, and the myths and beliefs about various plants and animals (Shepard 1993; Nelson 1993; Jahn 1993), are examples of the latter and express the biophilia of the society along the metaphorical corridor.²

The pattern of cultural interpenetration in the region under study illustrates that a quintessentially biophilous ethic seems to be a common factor in all the local socioreligious institutions, and has been retained over centuries across ethnic and religious

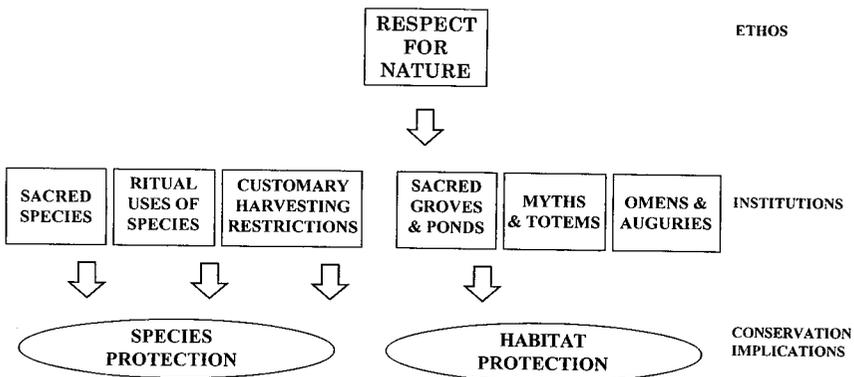


FIGURE 2 Conservation consequences of the semiotics of biophilia in indigenous cultures.

boundaries at the subaltern level. The existence of the institution of sacred groves in Mollarpur block of Birbhum reveals the strength of the traditional ethos in spite of the stone quarry business that has resulted in erosion of traditional resource base and values. It appears that as long as there is scope for development of biophilia, the traditional conservation ethic is capable of reasserting itself. This hopeful finding ought not to warrant complacency. Rather, it highlights the need of a rational policy toward conservation of biological and cultural resources. The national resource use policies and international directives must be predicated on “purely rational reasons” to cultivate biophilia (Wilson 1988, 140), which would require, foremost, the conservation of our heritage of cultural diversity.

Notes

1. The confluence of Sufism and Vaishnava movement in medieval Bengal heralded a new cult of *Satya-Pir*, which unified Vishnu and Allah, and preached nonviolence and vegetarianism.
2. Omens, auguries, and related myths may thus be described as a “syntactical” extension of the biophilous “semantic” structure.

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