

Interface Between Biodiversity and Tribal Cultural Heritage : An Exploratory Study*

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ABSTRACT The use of forest products for socio-religious purposes has hardly been brought into focus in the recent studies concerning indigenous forest use patterns in the Indian context. The preliminary findings of this study of five West Bengal tribes has identified all the bio-resources used in rituals performed at both the family and community levels, and has produced an inventory of the flora and fauna which are protected through taboos. The study also reports for the first time the existence of a number of evanescent sacred groves in West Bengal. Despite the historical processes causing much attenuation, these sacred groves are still maintained by the tribal villagers. In the face of severe economic hardships of the tribals in the region under study, the persistence of much of the socio-religious ethos of protecting the bio-resources reveal the strength of the conservationist tradition of our indigenous cultures.

1. INTRODUCTION

Since the late 1980s a number of studies have focused on the extent of extraction and use of wild biota (chiefly plants) by indigenous societies (e.g. Malhotra and Deb, 1992; Panayotou and Ashton, 1992; Plotkin and Famolare, 1992), and the estimation of their economic value (Malhotra et al., 1991, 1992; Appasamy, 1993; Chopra, 1993; Gunatilake et al., 1993). However, the use of biodiversity for socio-religious purposes has seldom been mentioned in these studies, with the exception of Malhotra et al. (1991). In fact, no detailed study of the use of wildlife in relation to the tribal socio-religious customs in India is available till date. Considering the significance of an investigation into the existing relationships between the extent of

tribal socio-religious practices and the extent of wildlife protection, we undertook in August 1994 an exploratory survey among five tribes, viz., Bhumij, Kora, Lodha, Munda and Santal of Midnapore district, West Bengal.

The main objective of the survey was to examine the social organization of these tribes from the point of view of conservation of biodiversity.

For the sake of convenience, data have been described here separately for each tribe. However, the sacred grove and the biological conservation implications are described in separate sections.

2. STUDY SITES

Southwestern districts of West Bengal were once characterised by huge tracts of luxuriant dry deciduous forest, interspersed with small settlements of hunter-gatherers. Soon after the Permanent Settlement of 1793, large areas of forests were brought under cultivation by zamindars, and local tribals were displaced from their forest homeland. Destruction of the region's forest mantle escalated in the 1840's to supply timber for railway expansion (Deb and Malhotra, 1993). Following the 1865 Forest Act, all forests came under state monopoly, resulting in waves of migration and depauperisation of all the tribals of Chotanagpur plateau. Despoliation of the woods continued after Independence, until Joint Forest Management (JFM) programme set to reverse the process in the 1980s (Malhotra et al., 1992; Deb and Malhotra, 1993). A relatively high proportion of tribal and low-caste Hindu populations inhabits the villages surrounding the forests (Table 1), and the trib-

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Table 1: Demographic composition of South-West Bengal districts

District	Forest area (ha)	Population (x 1000)	Scheduled Caste (%)	Scheduled Tribe (%)
Bankura	19,730	2375	28.90	10.55
Midnapore	170,189	6743	14.60	7.99
Purulia	92,254	1854	18.78	18.79

From Malhotra et al. (1992)

als' involvement has been found to be instrumental in the success of JFM in the area (Malhotra et al., 1991). Considering the demography and the existence of regenerating natural forests in the region, we selected for our survey the following forest-fringe tribal villages in Jhargram Range of Midnapore district: Ghati-doba, Kendua, Patharnala, Upardiha and Kesia.

3. TRIBES STUDIED

3.1. BHUMIJ

3.1a. Flora and Fauna as Totems

S. No.	Clan	Subclan	Totemic species
1.	Hansda		Ducks and Geese
		Chilbinda	Kites, Geese
		Hans	Ducks, Geese
		Bandu	Wild yam, Geese
2.	Kauri		Crow
3.	Chalki		Tiger
4.	Bhuiya		Bhuiya (?) fish
5.	Sari	Tesawu	Tesa bird
		Sankhariwu	Conch
		Baghbinda	Tiger

3.1b. Other Species Protected

Karam, Neem, Aswath, Bat, Bel, Amlaki. Use of the wood of these species are prohibited.

3.1c. Rites de passage

Event	Species associated
First menstruation	Banana, Tulsi (Indian basil).
Wedding	Mahul, Sidha twigs, Banana and Haritaki fruits.
Cremation	Neem wood, Tulsi plant.

3.1d. Festivals

Festivals	Months	Special associated
Karam	Bhadra	Amlaki, Haritaki, Bel, Karam.
Salui	Falgun	Sal, Mahul, Mango
Kali	Kartik	Pyna Lata

3.2. KORA

3.2a. Flora and Fauna as Totems

S. No.	Clan	Totemic species
1.	Kisku	Ban fish (Bodo mach), Coucal (Crow pheasant)
2.	Hembrom	Betel-nut and mouth parts of goat.
3.	Soren	Sal fish
4.	Singh	Puk-Puk bird (Coppersmith)
5.	Hansda	Geese and Ducks
6.	Huret	Sal fish
7.	Tudu	Baola alu (tip of the tuber)
8.	Besra	Squirrel

3.2b. Other Species Worshipped and Protected

Plants : Sal, Mango, Mahul, Dalim, Bel, Tulsi, Rohin, Sidha.

3.2c. Rites de passage

Event	Species associated
Birth	Tulsi
Marriage	Mahul liquor, Sidha, Mango leaves, Haritaki fruit, Durba grass (<i>Cloropsis</i>).
Cremation	Tulsi, Shar, Betal-nut, Haritaki, Ashok leaves, Sal latex.

3.2d. Festivals

Festivals	Season	Species associated
Salui pooja	Chaitra	Sal twig, Mahul flower, Mango flower and fruit, Bel leaf, Tulsi plant.
Rohin pooja	Jaistha (13th)	Rohin fruit, Mango leaf.
Manasa pooja	Shravan	Bhalkua, Poddar flower, Lotus leaf, Banana.
Ganga pooja	Jaistha (10th)	Tulsi, Mango leaf.
Dak Sankranti	Ashwin	Baola alu.

3.3. LODHA

3.3a. Flora and Fauna as Totems

S. No.	Clan	Subclan	Totemic species
1.	Bugta (Bhukta)		Chirka alu (Yam)
		Boro	
		Choto	
2.	Mallik		Sal fish
3.	Kotal		Grasshopper
4.	Layek (Laik)		Sal fish
		Boro	
		Choto	
5.	Pramanik		Manik bird (Indian robin)
6.	Dandapat		Tiger
7.	Ari (Ahari)		Turtles, Chand fish
8.	Bhuiya/Bhunia		Sal fish
9.	Digar		River dolphin

3.3b. Other Species Portected/Worshipped

Plant : Sal, Mahul, Bel, Tulsi, Halud (turmeric), Mango, Jaba, Basak, Bat, Aswath.

Animal : Elephant, Grasshopper, Dragonfly.

3.3c. Rites de passage

Event	Species associated
Birth	Tulsi, Hauld
First menstruation	Seven types of flowers : Jaba, Bel, Basak, Marigold, Rose*, Lemon, Mango, Banana, Mahul, Sal (Branches)
Marriage	Jackfruit (prohibited)
Pregnancy	Aswath
Cremation	

3.3d. Festivals

Festivals	Season	Species associated
Salui pooja	Chaitra	Sal
Gorooi (Goroyi)	Kartik (new moon)	Lotus, Rice (ear).
Robin	Jaistha (13th)	Rohin fruit

3.4. MUNDA**3.4a. Flora and Fauna as Totems**

S. No.	Clan	Totemic species
1.	Tuti Kili	Tuti plant (?)
2.	Mandu Kili	Kul
3.	Shol Kili	Shol Fish
4.	Horo/Kachua Kili	Land tortoises
5.	Nag Kili	Snake
6.	Chamru	Lotus
7.	Kanchi	Conch

3.4b. Other Species Protected

Plant : Sal, Karam, Bel, Tulsi, Haritaki, Tentul, Khejur.

3.4c. Rites de passage

Event	Species associated
Marriage	Gulaj and Akanda Flowers, Bel leaves, Tulsi, Durba.
Death	Banana, Bel leaf, Tulsi, Dumur (fig), Sal, Aswath, Bat, Plum-twigs.
Sraddha	Sal, Dumur, Aswath, Bat, Kul

3.4d. Festivals

Festivals	Season	Species associated
Karam	Chaitra	Lotus, Bel, Tulsi, Haritaki, Mung dal
Salui	Chaitra	Sal, Mahul, Mango
Garam pooja	—	Khejur, Doka, Tentul

* The rose is not an indigenous species, nor does it occur in the wild; the Lodha collect it from the homestead gardens. The rose has plausibly replaced some other species that is not found in today's forests.

3.5. SANTAL**3.5a. Flora and Fauna as Totems**

S. No.	Clan	Subclan	Totemic species
1.	Hansda	Chilbinda Hans Bandu	Geese Kites, Geese Duck, Geese Wild Yam, Geese
2.	Murmu	Murut Champa baha Murum-ot	Palash Champa Murum mushroom
3.	Besra	Hawal Sarna Champa	Rat snake Wild fowl Champa
4.	Hembrom	Sal Gua Hat Siri Tulsi Deobam	Sal Betel-nut plam Kurchi Parashi Tulsi Bel
5.	Mandi	Gua Champa	Betel-nut, weed grass Champa, weed grass (<i>Ischemum rugosum</i>)
6.	Saren	Turku Luman	Tassar (silk moth, larva & pupa)

3.5b. Other Species Protected

Amlaki, Karam, and Aswath are sacred species, and their wood are not used either for fuel or for making tools.

3.5c. Rites de passage

Event	Species associated
Naming ceremony	Asan leaf
Wedding	Mango leaf
Cremation	Neem and Mahul twigs

3.5d. Festivals

Festivals	Season	Species associated
Salui/Baha	Falgun (Full moon)	Sal, Mahul
Karam	Agrahayan (Full moon)	Karam
Magh Sim	Magh	Tulsi, Kul
Jam Sim	Baisakh (Full moon)	Amalki, Bel, Satamuli.
Mahamore	Jaistha/Ashadh	Satamuli Khudijam

Taboos : All totemic species associated with the clan names are given protection from the

members of the respective clans. Sometimes, even touching any parts of the totemic organism is not permitted. For example, the Ari Lodha and the Horo Kili Munda are not only prohibited from killing any turtles, but also from touching their shells; the Chalki Bhumij are not allowed to touch the skin or any other body parts of the tiger, let alone kill the animal; the Besra Kora are prohibited from killing the squirrel, and also from touching its pelt; the Gua Hem-brom Santal are not permitted to use any parts of the betel-nut tree. However, members of other clans are allowed to use those species. Thus, ducks and geese are a taboo for all Hansda people, but not so for other Santal clans.

4. SACRED GROVES

Sacred groves are forest patches dedicated to some local tribal deity, and are totally inviolate to any human interference. Today, such groves occur in many parts of India, both in tribal tracts and outside of it. As Kosambi (1962) has remarked, the nature of deities being worshipped today in the sacred groves outside of the tribal tract is highly suggestive of their origin in times of the hunter-gatherer societies. The tribals also worship and give protection to certain plants and animals as sacred - practices that extend outside the tribal tracts as well.

Sacred groves are one of the finest examples of traditional conservation practices (Gadgil and Chandran, 1992). To a great extent, these groves are a legacy of the hunter-gatherer-shifting cultivators, and also formed an integral part of numerous agricultural settlements, ranging in size from a few hectares to a few hundred hectares. In the Western Ghats, they are known to have preserved the biological diversity endemic to the region which has vanished from other surrounding areas (Gadgil and Chandran, 1992).

The British colonial forest policy failed to understand the tribal ethics regarding land and resource use. After 1865, all forests, including the sacred groves and shifting cultivation fal-

lows, became state property. The sacred groves often merged with the regeneration forests on past cultivation areas and other woodlands, and eventually lost their identity. They were, therefore, often organised under forest working plans for commercial extraction of timber and firewood as well as other forest products. While numerous sacred groves remained largely undisturbed in the Western Ghats and the north-eastern States, almost all were expunged in Bihar, Bengal and Orissa - the States under Permanent Settlement - where they were either systematically depleted by the forest department or cleared by zamindars for cultivation to generate revenue.

In all the villages of Southwest Bengal (Midnapore, Bankura and Purulia), inhabited by any of the five tribes herein studied, sacred groves of varying sizes seem to have existed in the past. The remnant patches of the sacred groves still contain species of trees and climbers endemic to the region, and tribal social and religious festivals are still held in these places. Community worship and gatherings take place in these groves during Salui festival, as well as at wedding ceremonies. Thus the patches of the groves still continue to function as important islands of biodiversity as well as centres of cultural and religious life for the tribal people over centuries.

In the Lodha village visited in this study, the sacred groves are of two types, called *Garamthan* and *Seethal*. Both are community sacred places. The sal and *Ficus* species are found in the groves. In the Kora village there are about 12 trees spread over an area of more than an acre. The species available are *sal*, *dhaw*, *sidha*, *bahera*, *chapati*, *neem*, *gulaj* and bamboo. A handful of terra-cotta horses (as symbols of offerings to the deity) were also found. In the Bhumij village the sacred grove is called *Garamthan*. It is a remnant of an ancient sacred grove containing 15 old trees of the following species : *sal*, *asan*, *haritaki*, *kurchi*, *seora*, *dhaw*.

Not only in the surveyed villages, but also in many of the villages of Southwest Bengal have

we found sacred groves (unpublished records). All these groves are remnants of the once large tract of dry deciduous vegetation and contain mainly the following species: *sal*, *doka*, *bahera*, *chapati*, *karam*, and *dhaw*, *kurchi*, *neem* and *asan*.

5. CONSERVATION IMPLICATIONS

The exploitation of the resource base seems to be partitioned among the clan groups within a tribe. Such resource partitioning is likely to have most effectively conserved the totemic species when the population was small in the past. The large variety of plant and animal species protected by specific clans and subclans indicates that the entire forest biodiversity, from the top predator (e.g. kite) down to the basal producer (e.g. tubers) and decomposer (e.g. mushroom), was encompassed as an important living entity by the tribal world view.

It is known that population growth, technological changes and above all, loss of control over natural resources, can lead the indigenous people to deplete them (Godoy and Bawa, 1993). However, the rate and extent of exhaustion of natural resources is apt to depend on the economic-demographic imperatives as well as the strength of cultural sanctions against profligate extraction of the resources. Among the tribal communities of Southwest Bengal, a number of such socio-religious constraints on resource use are still prevailing. Although the biological diversity of the region's natural forests has dwindled over the last 50 years under pressure of resource demands from the expanding impoverished population, the remaining bastion of local wildlife is thriving in a few patches due to the active protection by the villagers.

The social protection of wildlife has been possible in the region due to the continuation of the cultural and religious values attached to them, values which encompass as well as transcend their use values. The sacred species such as *amlaki* (*Emblia officinalis*) are extremely

valuable in indigenous medicine, and the sacred *Ficus* species are now recognized by ecologists as important keystone species. The ecological and medicinal usefulness of the wild biota were thus earmarked symbolically by the tribals through sanctification of the species.

Direct utility of a resource species may also have contributed to its preservation. The specific requirement of particular species for the performance of important social rites implies that in a close-knit tribal society, those species are apt to be protected from exhaustive use. The frequent occurrence of the social rites in a tribal settlement is likely to ensure that the associated species would not be driven to local extinction, particularly if their availability in the wild becomes scarce. Many of those species are also found to have been planted in the homestead land - a process strengthening the species' domestication and preservation.

The plants that are ritually essential for festivals, are given special importance in the tribal social life. In Salui and Karam festivals, the deities worshipped are *sal* (*Shorea robusta*) and *karam* (*Adina cordifolia*), respectively, which are both held sacred. No one is permitted to use any part of *sal* or *karam* until the festivals are over. The months during which festivals are held are the periods when the flowers blossom or fruits ripen. Statutory protection of the species during the important reproductive phases of the plants ensures the sustainable use of the plants.

Sacred groves are known to have served as excellent prey refugia where no life-form was destroyed. Through the commercially-oriented forest policies of the pre-Independence period, most of the sacred groves were destroyed by the forest department through auction of coupés to timber merchants as well as through despoliation of the forests surrounding the sacred groves. The persistence of the socio-religious sentiments towards the remnants of the groves in modern times, in the face of the mounting crisis of fuel wood, reveals the strength of the traditional conservation ethic.

To understand the special significance of the existence of a sacred grove in the Lodha village we have surveyed, particular attention to the history of the Lodha of Bengal is necessary. When the customary use of forests by all forest tribes was forbidden by forest laws, Lodhas migrated from central India into Bengal in mid-nineteenth century (Bhowmick, 1965). Incapable of settled cultivation and bereft of any natural resource base of their own, they were obliged to eke out their subsistence from what the mainstream culture defined as "property crime". Ignorant of the concept of private property, the Lodha were considered by foresters and the police as "incorrigible thieves", and like the Chenchu of Andhra Pradesh, were declared a "criminal tribe" in 1922.

The historical fact that the Lodha people cannot have come into Midnapore prior to the 1860's, indicates that the sacred groves of their villages were actually raised by them after they had settled in the villages. The "incorrigible criminals" do not steal any twigs from the trees growing in their sacred grove, even during periods of severe wood famine. The point we want to emphasize here is that the sacred groves maintained over a century by the Lodha in Midnapore reveal the inadequacy of the positivist criminology to understand the tribe's cultural ethos. Just like the Ik of Uganda (Turnbull, 1971), the Lodha lost their cultural identity because they had been driven to destitution by the forest regulations as well as social legislations which they neither could understand nor adapt themselves to.

This preliminary study indicates that direct control of the resource base in the hands of the ecosystem people is a plausible solution to the problem of state forest protection. Increased accessibility to the forest resource and its management by the people who are directly dependent on it are likely to reinstate their traditional conservationist ethos through conserving their ethnic cultural identity. While further intensive study in this line is required to yield more definitive answers to the problem of con-

servation of biological and cultural diversity, the hallmarks of contemporary conservation movements point toward the need of empowering ecosystem people with local control of natural resources (Gadgil and Guha, 1995; Sahgal, 1995). This conjecture, albeit incompletely framed here, seems to find support from the huge success of joint forest management in the region (Deb and Malhotra, 1993), though it constitutes a fragmentary sharing of forest management responsibilities with the customary forest users.

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APPENDIX

Wild plants associated with festivals, referred to in the text.

Local name	Botanical name
Akanda	<i>Calotropis indica</i>
Am (mango)	<i>Mangifera indica</i>
Amlaki	<i>Emblica officinalis</i>
Asan	<i>Terminalia tomentosa</i>
Ashok	<i>Saraca indica</i>
Aswath (peepal)	<i>Ficus religiosa</i>
Bahera	<i>Terminalia bellerica</i>
Baola alu	<i>Dioscorea sp</i>
Basak	<i>Adhatoda vasica</i>
Bat (banyan)	<i>Ficus bengalensis</i>
Bel (wood apple)	<i>Aegle marmelos</i>

Local name	Botanical name
Bhalkua	<i>Bambusa balcooa</i>
Chapati	<i>Millettia velutina</i>
Champa (pagoda tree)	<i>Plumeria alba</i>
Dalim (pomegranate)	<i>Punica granataum</i>
Dhaw	<i>Anogeissus latifolia</i>
Doka	<i>Lannea grandis</i>
Dumur (fig)	<i>Ficus hispida</i>
Durba	<i>Cloropsis sp.</i>
Gaenda (marigold)	<i>Tagetes erecta</i>
Gulaj	<i>Thespesia sp.</i>
Haritaki	<i>Terminalia chebula</i>
Hat/Parashi	<i>Cleistanthus collinus</i>
Jaba	<i>Hibiscus rosa-sinensis</i>
Kala (banana)	<i>Musa sapientum</i>
Kanthal (jackfruit)	<i>Artocarpus integrifolia</i>
Karam	<i>Adina cordifolia</i>
Khejur/Palui (wild date)	<i>Phoenix paludosa</i>
Khudjam (wild blackberry)	<i>Syzygium cumini</i>
Kul (wild plum)	<i>Zizyphus jujuba</i> , <i>Z. oenoplia</i>
Kurchi	<i>Holarrhena</i> <i>antidysentrica</i>
Lebu (lemon)	<i>Citrus sp.</i>
Mahul/Mahua	<i>Bassia latifolia</i>
Mung (kidney bean)	<i>Phaseolus aconitifolius</i>
Neem (margosa)	<i>Azadirachta indica</i>
Padma (lotus)	<i>Nelumbo nucifera</i>
Palash	<i>Butea frondosa</i>
Rohin	<i>Soymida fabrifuga</i>
Sal	<i>Shorea robusta</i>
Satamuli	<i>Asparagus racemosa</i>
Seora	<i>Streblus asper</i>
Shar	<i>Saccharum bengalense</i>
Sidha	<i>Lagerstroemia parviflora</i>
Supari (betel nut)	<i>Areca catechu</i>
Tentul (tamarind)	<i>Tamarindus indica</i>
Tulsi (sacred basil)	<i>Ocimum sanctum</i>