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Title of Paper: Masked by the tiger: an evaluative study of rural livelihoods and conservation values in northeast India

Author Name: Sugato Dutt

Affiliation: Dept. Of Geography University of Hawaii Manoa

Contact email: sugato@hawaii.edu

Contact address: 2211 Date Street, Apt. # 91

Honolulu HI 96826

1.INTRODUCTION

While complicity between institutions of power and knowledge (Brockington 2002, Bryant 1998, Neumann 1997, Peluso.1992) for control of natural resources remains a common enough theme in political ecology, the controversies promoted by the global endeavor to protect charismatic mammals, frequently referred to as “flagship species” of the conservation effort, remain relatively less well explored. The widespread popularity of these conservation icons ensures substantial following and a large constituency keenly interested in the well being of the species in question (Leader Williams and Dublin 2000, Lorimer 2007). The ability to generate high volumes of funding from such a constituency then endows international conservation organizations with considerable clout in shaping national policies involving conservation particularly in the developing world (Alcorn 2005, Jeanrenaud 1997). The “endangered” status of these species, the degradation of their habitat, evokes images of a lost paradise, populated by ideal creatures but despoiled, as in the biblical story, by man’s relentlessly exploitative presence and therefore worthy of restoration to a former, supposedly “pristine” status. The fact that these prized locations, also overlap with habitations of indigenous populations (Chapin 2004), dependent on biomass resources of the “wilderness” for their very subsistence nevertheless remains less widely known or understood.

Much of the critique against the flagship species approach, with its emphasis on high publicity and strong lobbying with those in political power, was because it promoted an environmentalism of the elite, their values and interests. Ostensibly such an approach, especially when it focused on “endangered” mammals was based on strong ethical principles underscoring mankind’s moral obligation in preventing the extinction of his “fellow voyagers” in natural evolution (Callicott 1989 citing Leopold’s well known phrase). Scientific rationale added yet another layer of justification with studies by conservation biologists documenting the need to

maintain habitats of these species in a state free from “anthropogenic disturbance.” In practice, however, the approach only encouraged a vast ecotourism industry profiting from the charisma exuded by these animals and benefiting only a small section of larger society.

A turnaround in this elitist bias in conservation, characterized by a narrative that treated “people as a problem,” essentially began with the realization that excluding people was not only ethically unjustifiable but also politically unfeasible in a growing ethos of post-colonial democratic governance. (Jeanrenaud 1997). An emerging “people as participants” narrative then began to emphasize the need to seek support at a local level if the lofty ideals of restoring pristine nature were to be realized. A large array of donor funded projects have since invaded protected areas in developing nations seeking to evolve more inclusionary conservation strategies towards the realization of what was still essentially a stand alone model of protected area management aimed at ecological security for the species in question. Conservation approaches increasingly emphasize a more “sustainable” management that facilitates “alternative” livelihoods in the local community.

Several reviews of this new conservation paradigm have been pursued by scholars and practitioners and not surprisingly have evoked mixed reaction. Success stories and “best practices” are duly eulogized, while the larger reluctance of the administrative machinery to engage in dialog with the local community and project mode delivery are often cited as stumbling blocks for an otherwise widely acceptable “concept” per se (Wells and MacShane 2004). As introspection continues, questions are now being raised as to the ultimate goal of conservation and phrases such as “conservation of what” or “conservation for whom” are increasingly being raised (Robbins et. al. 2006, Sheil et. al. 2006). As the inevitability of population growth and market penetration increases anxiety among natural resource managers, the real issue has been on how the support base for the protectionist agenda can be expanded. In this connection, it is increasingly becoming apparent that social values within a largely poor agrarian society have remained unfathomed

in the developing world. Answers to questions such as who, within the socially and economically heterogeneous rural society, supports the protectionist agenda and what components of a complex ecosystem engage attention need to be addressed more urgently. In addition, since questions of ecological compatibility with human and wild species will remain paramount to conservation practitioners, it is also important to understand the extent and patterns of “anthropogenic disturbance” An evaluation of information produced when such questions are answered can help formulate management strategies that will address the ultimate goals of the conservation enterprise. This study evaluates the rural livelihoods among residents abutting an Indian tiger reserve to understand its conservation implications.

1.1 The case of the Indian tiger: Earnest in its acceptance of the call for the protection of this wild carnivore by the World Wide Fund for Nature in 1972, Indian authorities have also faced the critique of social activists. India’s tiger reserves have been seen as yet another form of internal colonization by her urban elite wishing to promote either their leisure or scholastic needs. (Guha 1989, Kothari et. al. 1995). India’s remotely located tiger reserves, declared under the aegis of its federally sponsored “Project Tiger” are peopled by traditionally marginalized indigenous tribes who now clamor for their share in the benefits of the nation’s remarkable economic progress. Amidst allegations that the inequity in the nation’s attempt at wealth distribution is compelling many of the desperately poor to explore the profitable wildlife poaching trade, a serious search has begun to reconcile tribal livelihoods with conservation concerns (GOI 2005).

The collection of fodder and fuelwood, important resources for rural livelihoods in an agrarian economy (Hegde and Enters 2000, Bahuguna 2000, Narain et. al. 2008) is also a bone of contention between management and the local community. This “resource degrading” behavior of the local community is seen to compete with the ecological needs of wild herbivores, a vital food base for the tiger. The Wildlife Protection Act of India curtails both activities and reduction of this source of anthropogenic disturbance is a serious preoccupation with managers. Incidents of

shooting to prevent these are not uncommon, although more modern approaches seek to facilitate “alternative” livelihoods.

The roots of management antipathy to the villager’s livelihood needs can be traced to a tradition of amateur naturalists liaising with the Indian state in documenting “adverse” effects of local dependence on biomass since the British rule (Rangarajan 1996). Colonial forestry operations discouraged livestock grazing and fuelwood removal so as to maximize the growth of state owned timber through a coercive administrative machinery. Modern day foresters continue the colonial legacy to protect India’s national animal in her tiger reserves. Several studies by Indian biologists also point to the possibility of enhancing carnivore densities by enhancing prey availability and add legitimacy to this perception (Karanth and Stith 1999, Madhusudan and Karanth 2000, Harihar et. al. 2009). With management energy focused on the reduction of anthropogenic pressures, a spirited debate has arisen between social activists and wildlife aficionados on whether denial of access to resources really results in conservation gains (Gadgil 1992, Sabherwal and Rangarajan 2003, Ghate 2003, Beazley 2009). Indian social scientists are seized with the issue. In a study of wood fuel collection and livestock grazing Badola (1998) documented the non-availability of alternatives as a primary cause of continued dependence on biomass from protected areas by the local population. Nagothu (2001) pointed out however that local populations would indeed make use of alternatives if the opportunity costs of collection were high. Shahabuddin and Verma (2003) and Kumar and Shahabuddin (2005) review several locations in India and observe that the ecological impact of anthropogenic disturbances, especially with regard to impacts on the ecology of wild ungulates, needed more detailed study.

Much conflict has resulted from this lack of clear understanding of the relationship between social, economic and ecological concerns. In this context, the compulsions before the local population must become known before we can craft a solution that alter both the behavior of the local community and improve the ecological state of

the protected area. Towards this end, this field research first proceeds to evaluate the extent of dependence on forest resources along the boundary of the Buxa Tiger Reserve (BTR) in West Bengal state. It assesses the income earning opportunities available to the local population and the constraints imposed on these through policy directives initiated at India's centralized decision taking institutions. It follows this with an evaluative study of local perceptions on the ecological damage from forest resource use. It concludes with a set of recommendations for a reappraisal of biocentric prescriptions that have traditionally dictated management.

2. STUDY AREA AND METHODOLOGY

2.1 Description of study area: Buxa Tiger Reserve (BTR) is located in the foothills of the Eastern Himalayas, in the Jalpaiguri civil district of West Bengal state, India. The forests of the region were valued for their plant diversity and for the abundance of "game" animals including several deer species, Indian bison, rhinoceros and elephant since long (Stracey 1963, Gee 1964). Licensed and regulated hunting of game continued until 1972 when BTR was included as one among the nine original Tiger Reserves under Project Tiger and a blanket ban imposed under India's stringent Wildlife Protection Act. To this day, BTR remains one of the largest patches of intact forests in the region although tenuously connected with other parcels of forested land and increasingly subjected to heavy population pressures from a growing human population (FSI 1999).

Fragmentation of the original forest cover began with the creation of tea estates and its associated transportation infrastructure in 1874 (Grunnings 1911). Since then several small towns have appeared in the area including Kalchini which adjoins the Bokimbari tea estate and contains warehouses which supply chemical weedicides and fertilizers for the tea industry and also houses other businesses and government offices increasing the population in the area and creating an additional demand for increased transportation infrastructure (cite?). An additional dimension has been the significant changes in the demography of the region in the aftermath of ethnic unrest in the neighboring state of Assam and also in Bhutan (Hazarika 2004).

These incidents introduced a large number of new immigrants into Jalpaiguri and their desperate search for income generation has been cited as a prime reason for recent degradation of the forests of the area (Pandey 2002).

The otherwise brisk economy of the study site has seen a downward trend in recent years owing to the general decline in the global prices obtained by Indian tea (Mitra 1991). In addition, the high cost of production, including maintenance (repair of machinery and replanting of growing stock) has resulted in the closure of many of the smaller companies that dominate tea production in Jalpaiguri. Furthermore, forestry operations have significantly declined after an environmentally sensitive judgment was passed by the Supreme Court of India in response to a public interest litigation favoring the interests of wildlife (Thapar 2003). Hence a tense situation exists with many families consisting of unemployed or partially employed members. A wave of outmigration has begun in the recent past with young people of both sexes seeking employment in India's rapidly emerging urban industrial sector.

Four settlements or hamlets located in the western boundary of BTR were selected for the study. These are Godam Dabri (GD), Nimati Dabri (ND), Uttar Latabari (UL) and a tea plantation labor 'colony' of the Kalchini "Outer" Division (KO) of Bokimbari Tea Estate. GD and ND were created for the purpose of settling labor for forestry operations that began in the district in 1879 and consist of families traditionally dependent on forestry operations for livelihood. Land in these two settlements is still owned by the state and its residents only have a right to the agricultural produce (Das 2000). The settlement history of UL is less discernible though local individuals narrate that private owners began to cultivating crops in the area at about the same time as tea plantations were opening up. Resident families of KO were historically settled as labor for the tea plantation industry and continue to be primarily dependent on it for their income.

Ethnically, ND is comprised of the indigenous Rabha community, who were initiated by British colonials into the forestry industry. Rabhas today appear to have been

socially and politically overpowered and feel reticent about joining the mainstream as they speak a language unfamiliar to the majority of the population. Their sense of isolation is compounded by their poor education and inability to acquire coveted jobs in government, despite affirmative action measures initiated to engage the minorities.

Other communities have more recently settled in the area having been brought in by British tea planters for the labor needs from Nepal as well as neighboring Bihar state. The Nepalese largely comprise upper caste Chhetris, who rapidly acquired good education and held supervisory positioning the tea industry besides joining coveted governments services such as the military and the police. They have also been comfortable with market practices unlike the Rashes who long relied on subsistence agriculture and thus have the capital to engage in small businesses as well. Amnesias who comprise a cluster of closely related tribal groups from the Chita Nagpur plateau in Bihar were also a colonial period introduction into the demography and have been less progressive than the Nepalese. The latter communities have mixed population in the remaining three settlements.

Methodology: The primary interest of this study is to document local attitudes to conservation and their variation across demographic parameters within the local community. The aim of this exercise is to locate local ecological values and to understand why these contrast with the global agenda that is expected to be adopted. By delineating the constraints faced by the local community, the study seeks to offer recommendations for the management to better integrate local concerns within their own goals and objectives.

The study draws on the seminal works of Ajzen and Fishbien (1980) who have theorized that, while social norms impact the behavior of individuals, they nevertheless carefully weigh costs and benefits associated with their actions before adopting any particular behavior. It adapts an analytical framework proposed by environmental psychologists Stern and Oskamp (1987), which suggest that

consideration should be given to background factors including income, recent events related to income generation issues and social norms prevailing in the community under study. Field data were collected through a variety of methods including structured interviews (household economic surveys, Likert scale questionnaires), focus group discussions and semi-structured interviews.

In total 113 households were interviewed between October 2008 and March 2009. Four villages were selected that represented of the ethnic groups of the region and their land use restrictions. Households within villages were chosen using a stratified random sample. Twenty five percent of the population in each village was shortlisted for detailed interviews from a census list maintained in each settlement. In addition two or three key informants provided valuable information on the choice of livelihoods before the individual households were surveyed. Information obtained from them helped to verify the data provided by the interviewees themselves. In addition focus group discussions were held with unmarried young men, women and also mature housewives in order to understand the context of the livelihood choices, the constraints and the promises before the community.

RESULTS

a) Background factors: Farming is an important economic activity in UL, ND and GD while residents of TE do not own land for cultivation. Nevertheless only 15 households engaged in agricultural production for sale. UL households typically have owners of large land parcels that produce surplus food grains and/or cash crops for the market while ND and GD barely attain subsistence levels of agricultural production although they are experimenting with jute and vegetables. These latter settlements are subject to crop damage by wildlife and have poor access to irrigation water, considered crucial to the production of additional crops of food

grain. Wage labor generates cash and has always been practiced as a livelihood strategy is increasingly practiced as a livelihood strategy in the majority of households in all four villages, although it is especially important in TE. The main motivations to obtain cash are for health care and education. Loss of opportunities for wage labor in forestry, and the closure of tea estates, are forcing a search for new strategies including migration to distant urban centers for employment. The National Rural Employment Guarantee scheme, which offers 100 days of paid labor opportunity to (all rural residents) (Right to Food Campaign 2007), is emerging as a promising solution, although presenting huge administrative challenges owing to the large numbers of individuals under its scope. Those with a better education typically earned higher income with clerical positions in government emerging as especially prestigious occupations.

Settlement	Average quarterly value of crop produced	Average wages earned per month per household	Number of High School graduates	Individuals in government or permanent jobs
ND	Rs. 236.43	Rs. 850.00	3	1
GD	Rs. 871.43	Rs. 1300.00	4	3
UL	Rs. 1131.67	Rs. 1250.00	7	7
TE	Not applicable	Rs. 2500.00	12	22

Table 1. Income earning indicators in the BTR region

b) The role of the forests in livelihood- Firewood from forests is the dominant source of domestic energy exclusively serving 76 of the 113 households interviewed. Electricity and kerosene oil are seen as inappropriate alternatives requiring cash for purchase and therefore unattainable. In TE, kerosene is mixed with wood shavings (obtained from a nearby saw mill) and used as a source of domestic energy in households. Only three households in the entire study

admitted a willingness to convert to LPG and this source was seen as an impossible luxury by all other households interviewed. Although all households interviewed collected firewood from forests for their cooking needs at some time or the other, sixteen households in ND and five in GD admitted to selling firewood regularly in the absence of other sources of income. Income was not earned through the sale of firewood in UL and TE. Several interviewees confirmed that the collection of firewood for sale had increased after the reduction of forestry operations and the closure of tea estates had diminished previous sources of income. Timber poaching is emerging as an attractive option for those who wish to get rich quick.

Fodder for livestock (both as grass or lopped tree branches) is another critical forest resource in the household economy. In the face of uncertainty in the tea plantations, where some managers have locked out their workers, TE residents have begun to rear cattle rearing as a source of cash income and eleven households among twenty interviewed possessed cattle. Here, as in other settlements, forests were an important source of fodder. In some cases forests were the only source of fodder and in others it augmented stall feeding.

c) Cash income and savings, Formal banking is still intimidating to the local community, many of whom are illiterate to semi-literate and banks were seen as cumbersome institutions as transportation available to reach them was poor. Investments in betel nut trees were instead seen as a viable alternative for those who had the land. A hundred trees were seen to yield annual income of \$ US 430 (Rs. 20,000). In households where land was scarce, investments were made in livestock, mainly milch cattle instead. Several interviewees admitted that cattle rearing were a form of insurance against calamity. Cows and calf could both be sold at a good price and in addition the milk yielded also was sold for additional income. Pigs, which could also be sold for a high price, were popular among the Rabha and Adivasi households as well and their maintenance costs were lower than cattle. A large cross-section of the households interviewed essentially perceived the

possession of livestock as a symbol of well-being and expressed a preference for increased possession of these assets.

d) Norms and ethics * – Perceptions on what actions and behaviors are degrading to the forest ecosystem contrast sharply between management and the local community. Firewood collection was viewed as a benign act if the collector took care to limit herself to fallen twigs and branches. Ironically many of those interviewed claimed that they sought branches and roots left over after the timber poachers had felled the trees, but wanted to be respectful to the standing trees and its green branches. Some Rabhas pointed out that they still worshipped trees and prayed before felling them even when they worked in regular forestry operations. All regretted that illegal removal of firewood had increased with unemployment in the tea estates, thus adding to the degradation of the forests. Despite this fact, many of the interviewees claimed that livestock grazing was not damaging to the forest ecosystem arguing that the cattle actually provided dung to the forest floor.

By and large, residents in the study site are concerned about the survival of the tiger even though they are unaware of the nature of the impact of human activity on the degradation of the forests. Thus, while the ecological rationale for reducing anthropogenic disturbances was not fully understood or agreed with, local residents nevertheless had normative perceptions against the removal of timber and wildlife. They reasoned that poaching of timber and wildlife were reprehensible crimes involving both destruction of life and exploitation of another's (the state's) property. In addition, it was generally agreed that timber poaching differed from regular forestry in that it was not accompanied by replanting with new saplings thus adding to the deficit of trees.

The community appeared willing to collaborate with management in policing the forests, as they believed that the protection effort would discourage those who

* See tables 3 and 4

engaged in the removal of forest biomass merely for profit thus distinguishing between poaching for profit and the use of forest resources for subsistence.

Perception	ND	GD	UL	TE
Forests are being degraded by livestock grazing				
Agree	75	36	56	55
Neither agree not disagree	15	40	10	0
Disagree	10	24	24	45
Forests are being degraded by firewood removal				
Agree	90	100	77	80
Neither agree nor disagree	0	0	3	0
Disagree	10	0	20	20
Forests are being degraded by firewood				
Agree	90	97	84	70
Neither agree nor disagree	10	3	3	0
Disagree	0	0	13	20

Table 2 Perception of factors causing degradation of forest ecosystem

Most residents of TE, and higher income residents of UL, appeared to be most forceful in their censure of forest harvesting activities treating those who made their living from illegal sale of forest products with contempt.

Regarding the outcomes of the protection effort, there appeared to be much difference again between the perception of the management and that of the local community. A fierce animal like the tiger, and a large animal like the elephant, were largely viewed as capable of protecting themselves and a good enough detriment to the average person to stay away from the forest interior. However, it was also

agreed that poachers were getting bolder by the day and the profit motive was contributing to a state of ruthlessness among them. In regards to what products would be enhanced once the forests were successfully protected, many residents in the forest villages stated that there would actually be more fuelwood and fodder for their subsistence needs as the commercial interests of the outsiders would be curbed. They reiterated that they had actually worked to protect the forests for several generations and did not appreciate the idea of “outsiders” (referring to the tea estate workers) coming in a benefitting. Interestingly most UL residents seemed happy with the farmyard wastes and the trees in their own backyard as a source of fuel and did not feel a need to harvest these from the forests.

Perception	ND	GD	UL	TE
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Table 3. Perception of outcomes of the protection effort at BTR

Protection will help improve the tiger habitat				
Agree	73	70	85	90
Neither agree nor disagree	8	10	10	5
Disagree	19	20	15	5
Protection will help improve the local climate				
Agree	0	0	0	5
Neither agree nor disagree	10	54	26	20
Disagree	90	46	54	75
Protection will help improve supply of fodder and firewood				
Agree	90	87	80	90
Neither agree nor disagree	10	13	20	10
Disagree	0	0	0	0

Several discussions were held on the willingness of the community to help in the protection effort. Often these proved to be awkward and individuals were not forthcoming as there were others known to then who engaged in illegal activities. However, in the forest villages there was usually a consensus that the trees needed to be protected from poaching. From the focal group discussions across age and gender, it was clear that individuals had an emotional attachment owing to the fact that their forefathers had planted the saplings that were today full-grown trees.

Perception	ND	GD	UL	TE
Those engaging in poaching timber should be punished				
Agree	95	93	100	100
Neither Agree nor disagree	5	7	0	0
Disagree	0	0	0	0
Those engaging in poaching wildlife should be punished				
Agree	95	93	86	100
Neither agree nor disagree	0	7	7	0

Disagree	5	0	7	0
Those engaging in removal of firewood should be punished				
Agree	70	50	56	60
Neither agree nor disagree	20	7	26	0
Disagree	10	43	18	40
Those engaged in grazing their cattle in the forests should be punished				
Agree				
Neither agree nor disagree				
Disagree				

Table 4. Normative views on punitive measures to control resource use

However, they admitted that timber poaching as such had increased because of the quick returns, easy access to transportation via the railways and road network, wide extent of support by those in positions of influence in local government (many of whom were themselves part of the timber commodity chain) and the poor level of protection offered by the state agency itself. Some claimed that the department personnel were unwilling or unable to help when they apprehended criminals on their own initiative. Others claimed that it was difficult to apprehend criminals without legitimate authority and merely as a volunteer. Notably there was still a consensus that there was a need to cooperate with the state machinery in their venture to check poaching. There was also a perception that timber poaching was engaged in by a few of the “more greedy” within the community.

Discussion –

Two separate but interconnected issues came into the spotlight in the course of this research. The first relates to sources of livelihood of the local residents including their income generating options. The second relates to their attitudes towards these sources of livelihood. The use of forest resources for earning income in several households in the study site is a reality and despite strict legislation to the contrary

this phenomenon continues. For conservation practitioners interested in the ecological integrity of the habitat, it is crucial to know the degree of dependence on forest biomass and what are the possible “alternatives.”. What is needed is not just conservation that is “pro-poor” but one that seeks an increasing integration between the goals of poverty alleviation and conservation itself, often referred to by the clichéd phrase “sustainable development”.

Livelihoods are defined as capabilities and assets (including material and social resources) required for a means of living (Conway and Chambers 1992, Ellis 2000) As Bebbington (1999) observes, these assets or capitals provide individuals with “capabilities” to earn income and escape poverty. Following the initial framework suggested by Scoones (1998) they include social, natural, financial and human capital. Individuals residing in the study area employ a variety of strategies to maximize their utilization of assets. However, they are constrained by the “structures and logics at work in larger economic and political spheres” (Bebbington 1999). In the study site these structures and logics have to do with how externally conceived ideas of nature and natural resources have been imposed over local residents time and again. As the discussion reveals, these have more adversely affected households that reside in the vicinity of the forests.

From the data collected during the field research, wage labor doubtless remains the largest component of the income earning strategy. This has been the trend in the region since the inception of the industries generated by the colonial state. Those engaged in forestry operations, however, served as bonded or corvée labor for nearly a century working off the land allocated to individual families (Das 2000). Earnings from cash crops provided surplus income with which to purchase necessities but farming largely remained of a subsistence nature. Ironically the land holding per household has shrunk to one seventh or one eighth of the original with the growth of population. ND residents are particularly resentful of neighboring tea estate residents who have begun to forage in the forests for both firewood and small game and also to engage in illicit timber poaching degrading habitats of large

herbivores such as the elephant who now have begun extensive crop raiding in what is left of their farms.

A widespread view prevailed that cash income has become an increasing requirement. Not only is there now a need to purchase food grains from a land resource that is quite depleted compared to the past, but households are increasingly required to provide for newer items of expenditure such as education for the children widely considered the most significant means of gaining status and economic well being. Health care costs are also said to have risen. ND residents, importantly have had a later start than others in the acquisition of education and hence lag significantly behind other residents in the study site in acquiring this asset. Being located in the forest interior, Rabha youngsters were also largely constrained by their lack of familiarity with the language of instruction in the local primary and middle schools and found it difficult to acquire the education their distant neighbors did. This feature has also jeopardized the residents from qualifications that have landed well paying jobs in the government and private sectors.

Livelihood diversification has become an important strategy to cope with the problems of reduced wage labor availability in the study area and the insufficiency of food grain production (Ellis 2000). Migration is emerging as a significant option for most of the tea estate workers with a increasing number of educated youngsters seeking more specialized professions in distant urban locations. Clerical positions in government have proved to be especially important in this regard. Again, the ND residents appear to be the most adversely affected by failing to take advantage of the new opportunities provided. In the other "forest village" GD, residents had begun to acquire education and were also more fortunate in that their farmlands were less in proximity to the forests. In addition, many GD residents had begun to utilize the new opportunities for wage labor in the emerging construction industry provided by the upcoming highways in the area.

In conclusion, the use of these forest resources as a coping strategy in the face of the economic crisis they faced seemed mostly restricted to the landless or land-poor who could not avail the opportunities to migrate to distant urban locations for the better chances of cash income offered. Fifteen ND households admitted that selling firewood was the only option left to cope with the phenomenon of reduced wage labor opportunities in the present times. Several of the younger generation had begun to take education very seriously and were preparing themselves for jobs like the armed forces or the local police constabulary but lacked confidence about their success.

Meanwhile, an erosion of the traditional sense of moral obligation to protect the forests present among residents of the forest villages appears to be arising in response to the strict policy provisions favoring wildlife. Several interviewees claimed that certain officials are more enthusiastic than others in implementing the provisions of the Wildlife Protection Act. Instances were cited when the collection of root tubers during a drought period by the residents were forbidden stating that these were more important for the wild herbivores. Interviewees also cite the example of TE residents who poisoned the remnant carcass from a tiger kill so that the predator could be killed. This was to avenge the officials who had impounded their cattle for grazing inside the reserve. These instances point to a weakening of the implementation provisions and a growing distrust between the local community and BTR management.

Much of the local angst was because of their own helplessness in transitioning to what were perceived as modern modes of livelihood. Education (including vocational training) was increasingly being seen as a “must” to equip themselves for a “better life” and all those who could were investing in it. The illiterate and land poor felt especially handicapped in these circumstances and would frequently point to the greater opportunities provided to those who had thus advanced in life.

RECOMMENDATIONS – The widespread local support for the tiger’s “cause” evidently must be nurtured. The following four recommendations are made to promote common ground between the perceptions of management and locals and increase co-operation between these two interest groups:

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1. Facilitating educational and vocational training opportunities (through loans and grants) will allow better access to urban economic opportunities and enhance goodwill with the local populations.
 2. Subsidizing costs for alternative sources of domestic energy will potentially reduce the current scale of firewood collection.
 3. Subsidizing costs for stall-feeding livestock could also reduce the scale of livestock grazing.
 4. Biological monitoring of the impacts of reduction in forestry operations and closure of livestock grazing on the ecology of the tiger will help management to review and revise current restrictions.
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words

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