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Debate

Lessons from Two Local Extinctions: Sariska and Kailadevi (Ranthambhore) in Rajasthan, India

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Abstract

The local extinction of the tiger (*Panthera tigris*) from the Sariska National Park (NP) in India triggered a series of reactions, actions and policy prescriptions. The Tiger Task Force of the Government of India considered this to be a failure of the state machinery in controlling poaching. The Government of Rajasthan adopted the viewpoint that people living within the sanctuary were responsible for the crisis and revived relocation plans to shift people from the NP. The non-governmental organisations' engaged in ecological sociology considered the state government's move to relocate people from within the sanctuary a knee jerk reaction and argued that relocation was not the most desired step to conserve the remaining wildlife. This chain reaction of various actors brought back the issue of people within NPs, their impact on wildlife and options for relocation to create inviolate spaces. Preceding the Sariska incident, tigers had also become locally extinct from the Kailadevi Wildlife Sanctuary (the buffer area of the Ranthambhore Tiger Reserve), which has often been promoted as a successful model of participatory conservation. Kailadevi has people-initiated natural management institutions and additionally, through the World Bank funded India Eco-development Project, the government invested heavily to support these institutions. Despite such favourable environs, this sanctuary could no longer sustain the tiger and its prey. In this response to the debate on relocation from protected areas, I revisit the issue of people within NPs, and the co-existence agenda for humans and wildlife. Using a scientific study conducted by the Wildlife Institute of India as the basis, I demonstrate that the Kailadevi case confirms the dictum that human pressures even under well defined controlled mechanisms may be incompatible with wildlife conservation.

Keywords: social impact of PAs, people in PAs, displacement, species area curves, inviolate spaces, co-existence agenda, tiger crisis, relocation

INTRODUCTION: CURRENT STATUS AND CONFLICTING REMEDIES

THE DISPLACEMENT OF PEOPLE is the least desired aspect of development as well as that of conservation. The broad definition of conservation displacement includes two processes, '(1) the forced removal of people from their homes; and (2) economic displacement, the exclusion of people from particular areas in their pursuit of a livelihood' (Brockington & Igoe 2006: 425). Topics relating to conservation initiated displacements and the social impacts of protected areas (PAs) were neglected aspects of conservation (West *et al.* 2006), but are gaining attention in current debates about future conservation management strategies. The future of biodiversity conservation, in countries such as India, hinge significantly on how these debates shape up and are adopted into conservation policy and action.

This article is the response to a debate on the issue of relocation from PAs that appeared in a recent issue of *Conservation and Society* (see Rangarajan & Shahabuddin 2006 and responses within this issue). The local extinction of the tiger (*Panthera tigris*) from two PAs in Rajasthan in western India is examined as a case in point and evaluated within the context of co-existence between people and wildlife. The local extinction of tigers from the Sariska Tiger Reserve (TR) came as a shock to the conservation community in India and was the first confirmed tiger extinction in a TR. However, local extinction from the Kailadevi Wildlife Sanctuary (WLS), which is

the buffer zone of the Ranthambore TR, went completely unreported and unheeded, until local extinction of the tiger in Sariska, became a national issue.

Thanks to the crisis, both the federal and state governments reacted in unison and constituted committees to investigate the problems of wildlife conservation including that of the tiger, and to suggest long term conservation measures. The Tiger Task Force (TTF) investigated the disappearance of tigers in the Sariska TR and inferred that the present crisis of wildlife conservation in the country was because of exclusionary policies and that wildlife could be better saved by co-existence (GoI 2005). The report questioned the valid claims of the conservation community in excluding people from PAs. The recommendations of the TTF, constituted by the Government of India, were based on one of the key findings that 'there is no empirical assessment of the impact that these people have on protected areas' (GoI 2005: 111).

The State Empowered Committee constituted by the Government of Rajasthan, on the contrary, recommended the relocation of villages from within Sariska's core area to halt further degradation of habitat and to create conducive conditions for potential relocation of tigers in the future (GoR 2005). Coinciding with the tiger crisis and adding a new dimension to the old debate of people in NPs, the Government of India also enacted the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 (hitherto referred to as the Forest Rights Act 2006), with provisions to acknowledge rights within forests including within PAs. There has also been a newfound interest in conservation-induced displacement and the social impact of PAs and the need to espouse for sustainable use models of conservation and development (Kabra 2007).

Contradictory recommendations of the two committees and the Forest Rights Act 2006 brought back the issues of conservation and people within NPs, the extinction of species, relocation and people's rights in management to the fore. For reasons unknown, both committees that looked into the tiger crisis did not appreciate much the study conducted by the Wildlife Institute of India (WII) though it was a part of the inquiry process. The WII study demonstrated that human presence was responsible for pushing wildlife out of Kailadevi WLS. For the first time, a scientific body was involved in evaluating wildlife populations (David *et al*. 2005). The findings were too startling to be neglected, yet perhaps startling and 'inconvenient' enough to ponder over in these reports.

At this juncture it is pertinent to revisit the WII study and to analyse the co-existence agenda. I argue that it is essential to examine the impact of uncontrolled human pressures on wildlife, before we promote sustainable use models of conservation and to look for solutions beyond parks. In the case of Rajasthan, the extent of biotic pressures created by human populations within and surrounding areas of the Ranthambhore NP have to be considered to understand the flawed rationality of co-existence. Alternately, if the current situation continues, the Ranthambhore NP could be the next potential site for the extinction of the tiger.

MATERIALS AND METHODS

Historically, the state of Rajasthan in northwestern India had a significant population of tigers. In 1955 tigers were reported in 23 districts of Rajasthan and tigers have never been reported from desert districts. By 1999 the tiger had became extinct in a majority of districts and the only remaining population was mostly confined to Sariska and Ranthambhore TRs (Soni 1999). With the disappearance of tigers in Sariska, Ranthambhore has the only remaining population in northwestern part of India. Though isolated, Ranthambhore has a very high density of prey base making it a very suitable site for high densities of tigers (Karanth *et al.* 2004).

Ranthambhore Tiger Reserve

The Ranthambhore TR (1,394 sq km) is the only viable habitat remaining for tigers in the state of Rajasthan. It is a popular destination for both wildlife enthusiasts and tourists alike due to the ease of sighting wild tigers. Ranthambhore NP is the core area (282 sq km); the buffer zone is constituted by the Kailadevi WLS (674.5 sq km), the Sawai Man Singh WLS (131 sq km) and a thin strip of reserve forest (RF) (about 130 sq km). Three distinct legal entities (NP, WLS and RF) constitute the TR. However, the Kailadevi WLS is separated from the core area by the River Banas, and the core and buffer areas almost have no connectivity left between them (Figure 1).

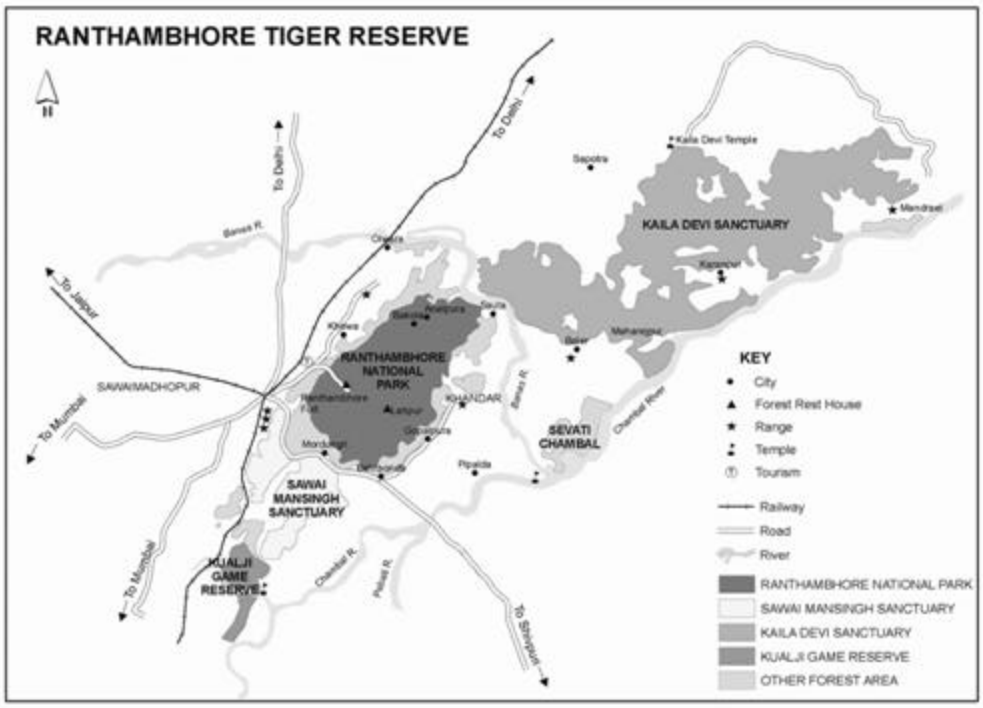
Ranthambhore NP has four villages within the NP and adjoining the RF area and 60 villages (77,260 livestock) within the buffer area. Kailadevi WLS has 24 villages (16,923 cattle) within it and 85 villages (74,556 cattle) within 2 km of its boundary. The resource dependency is significant if one is to go by the number of conflicts with the NP (GoR 2002).

Over 100,000 tourists visit Ranthambhore TR annually and the average revenue is USD 200,000 (RFD 2003). It is significant to know that though there is only one village within the NP and three within the RF area, during the rainy season, the majority of the villagers from peripheral villages illegally graze their cattle within the NP limits. The peak grazing season is between October and January and the maximum pressure is on the periphery. When challenged by NP authorities, frequent clashes result, sometimes violent, between the Forest Department and the graziers.

Similarly, villagers surrounding the Kailadevi WLS graze their cattle during the rainy season within the sanctuary for 4–5 months. Over 17,000 livestock (RFD 2002) from 24 villages compete for resources and an additional

Figure 1

Ranthambhore Tiger Reser ve



75,000 livestock from nearby villages add to the numbers during the rainy season. The graziers camp within Ranthambhore NP or Kailadevi WLS in *kirkari* or temporary camping areas. Grazing in Kailadevi WLS is extensive and gregarious, and there have been little or no attempts by the Forest Department to constrain grazing due to the magnitude and shortage of staff.

Kailadevi

Kailadevi WLS is also known for its community-based resource conservation initiative, popularly known as *kulahadi bandh panchayat* and has been projected as a success story of community-based conservation (Saberwal 2003; Das 2007). However, it is to be noted that Das (2007) points out that there are fissures along occupational and caste lines among the villages. The Forest Department and village protection agencies have had reasonably good working relationships with active partnerships from the civil society in resource management. The amicable working relationship was hailed as a model for participatory community-based resource management because of self-initiated *kulhadi panchayat* (self imposed restraint on tree felling) (Tyagi & Singh 2000). Kailadevi WLS was considered the model for spreading the concept of participatory conservation. The self-initiated community-based resource management institution, though informal, has a well organised structure to implement its decisions. The *patels* (heads of all castes) function as the arbitrating authority, and their decision is binding on the village. Political institutions favour graziers due to the sheer numbers involved and also due to their community affiliations. As a result, the Forest Department has adopted the approach of least resistance and barely enforces the law.

The Government of India, through the India Eco-development Programme (IEDP), implemented between 1997–2003, spent USD 4.16 million (JPS 2004) to support these village institutions to enhance their support for wildlife conservation. Some of the *kulahadi bandh panchayats* were supported under the IEDP to develop alternate economic activities (Tyagi & Singh 2000).

The TR officials were responsible for conducting yearly census operations for monitoring the population of key species. The report of the sudden disappearance of tigers from Sariska questioned the very basis of objective assessment and reporting of census data by the Forest Department. The WII was therefore assigned the task of assessing wildlife populations using state of the art techniques.

The significant findings of the study conducted by the WII (David *et al.* 2005) include: (1) no tiger sightings or indirect evidences were reported from Kailadevi WLS; (2) all large-bodied (>20 kg) wild ungulate species such as chital or spotted deer (*Axis axis*), sambar (*Cervus unicolour*) and wild pig (*Sus scrofa*) were absent; (3) only

domestic ungulates dominate the Kailadevi WLS landscape; (4) Ranthambhore NP has a good population of wild ungulates; and (5) no livestock were encountered in Ranthambhore NP during the study period. Some of these results are reported in Figure 2 and Table 1. Based on these results, the WII urges that:

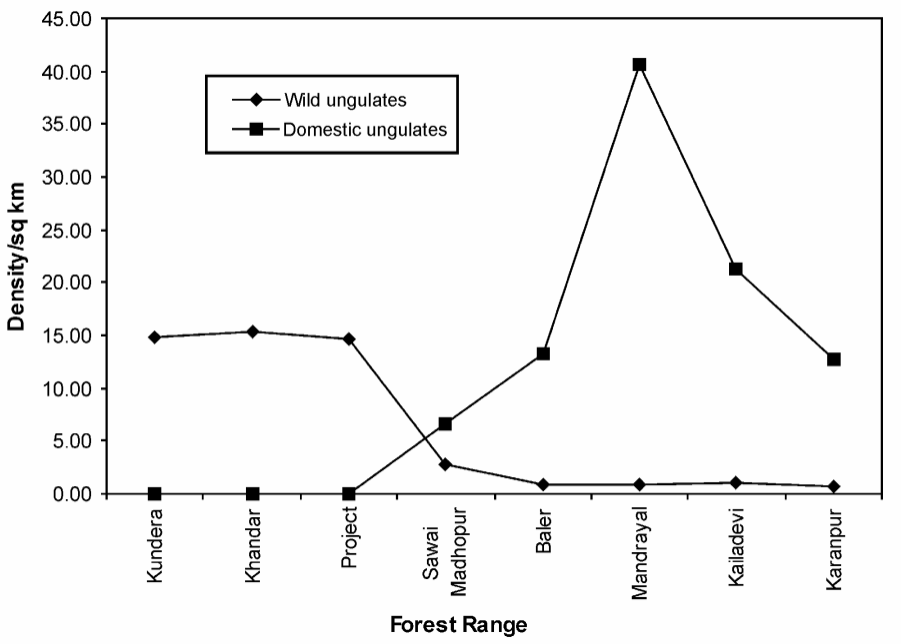
> *It is important to mention that during the recent census no tiger or tiger signs have been reported in these ranges. Unless drastic steps are taken to reduce the livestock numbers in these ranges, the future of tigers dispersing from the National Park to these areas would remain absolutely bleak* (David *et al.* 2005: 8).

DISCUSSION

The WII study results clearly highlight that Kailadevi WLS is an 'empty forest' devoid of wildlife and recommends that it could be termed as a paper sanctuary as whatever remnants of wildlife populations found here seem to be based on 'chance survival'. The peoples' institutions (*kulahadi bandh panchayats*), the government's effort of provisioning for alternate economic development, the active involvement of civil societies and the amicable working relationship between various partners played very little role in preventing the ecological extinction of prey and predators from the Kailadevi WLS. Moreover, the *kulhadi bandh* villages are resource depen-

Figure 2

Wild and domestic ungulates in Ranthambhore Tiger Reserve



Source: David *et al.* 2005

Table 1

Wild and domestic ungulate densities in the study area (Ranthambhore Tiger Reserve)

Area	Name of the range	Length of transect	Wild ungulate density/km	Domestic ungulate density/sq km
Ranthambhore NP	Kundera	148.38	14.89	0
Ranthambhore NP	Khandar	144.88	15.34	0
Ranthambhore NP	Project	148.95	14.67	0
Sawai Madhopur WLS	Sawai Madhopur	94	2.78	6.65
Kailadevi WLS	Baler	107.8	0.93	13.32
Kailadevi WLS	Mandrayal	158.9	0.84	40.71
Kailadevi WLS	Keladevi	171.55	1.12	21.3
Kailadevi WLS	Karanpur	144.9	0.64	12.75

Adapted from source: David *et al*. 2005. For individual species distribution, please refer to original text.

dent communities, concerned with resource use, and biodiversity conservation was never the prime focus (Das 2007). It can be inferred in the case of Kailadevi WLS that despite the presence of peoples' institutions, anthropogenic pressures in this PA intensified to a point where the tiger had no prey base for survival.

With the absence of tigers from Kailadevi WLS, tigers are now confined to the Ranthambhore NP (core) area, with an effective PA of only 282 sq km. Even this core area is not free from human pressures as livestock (77,260) from 60 villages within 2 km from the NP boundary compete for grazing access in the core. With a small area of less than 300 sq km, the NP is unable to sustain of the extent of grazing pressure. Under the existing sociopolitical and legal system, it is not feasible for communities to graze their livestock within sustainable limits and there are no institutional enforcement mechanisms to regulate this.

The condition in Sariska is no better. Though the disappearance of tigers from Sariska is largely attributed to the failure by the government machinery in stopping poaching (GoI 2005; GoR 2005) the ungulate density at Sariska is clearly at viable densities (GoR 2005). However, communities within and outside Sariska are eroding the ecological integrity of the NP through overexploitation (Shahabuddin & Kumar 2005).

The Sariska crisis and the unreported extinction of tigers from the Kailadevi WLS are symptoms of a serious impending conservation debacle in the country. Though unnoticed, this human induced extinction may be happening in other PAs as well, although it is yet to be acknowledged. In 1989, the compilation of anthropogenic pressures in PAs was carried out for the first time by the Indian Institute of Public Administration (Kothari *et al.* 1989). Many of the NPs (56 percent) and WLSs (72 percent) had human populations within its boundaries. Of the 84 percent of WLSs which reported grazing rights, 37 percent had more grazing pressure than the national average. Household surveys conducted in connection with relocation revealed that 73 percent of the domestic economy comes from forests and that natural resources declined, both qualitatively and quantitatively, over the years (Shahabuddin *et al.* 2007).

Although over 15 years have elapsed since the completion of this study, there have been no systematic assessments to analyse the impacts of these pressures on biodiversity on a national scale. Many could have already taken the path of Sariska and Kailadevi WLS leading to the 'empty forest' phenomenon. The continued presence of people with livestock can be deeply damaging to the core mission of securing biodiversity and of maintaining ecological integrity of a PA. It is evident from the examples of both Kailadevi and Sariska that the shrinkage of the tiger's effective habitat has been facilitated not halted by such *de facto* though not *de jure* control.

Considerations Before the Co-existence Agenda

The pressure on natural resources is mounting with the increasing human population. There is constant improvement/demand for improvement of living conditions from people living within/or around the PAs with forest dwelling communities being no exception. Development is invariably associated with changing consumption patterns. The magnitude of the impact is the product of the number of humans, the per-capita resource consumption and the technology factor. These ever increasing factors are going to influence the impact adversely. It is not possible, ethically or legally, to restrict the growth in population, the acquisition of newer technologies or the change in consumption patterns. Extractive human pressures though beneficial to local communities might not prove helpful to biodiversity conservation (Terborgh *et al.* 2002). In some exceptional cases, contrary to general observations, limited human pressures helped in maintaining biodiversity. Often quoted examples include limited grazing in Bharatpur NP (Lewis 2003) and the impact of grazing in the Valley of Flowers NP in the Uttaranchal Himalayas (Naithani *et al.* 1992). The claims of benign disturbances are not fully accepted.

To conclude that there is a lack of empirical assessment of the impact of these people have on protected areas is a blatant mistruth and not just naiveté. The statement that thousands of human beings and their cattle have lived and would continue to live in perfect harmony with wildlife in PAs is questionable. Tigers disappeared from 95 percent of their distributional range; the key populations are today confined to PAs covering 2 percent of the geographical area (Karanth 2003).

Realising and accepting the needs of rural communities living within and around PAs, and providing just and humane relocation packages will be a win-win solution for both wildlife and people. This approach underscores the right as well as the need of the rural communities to have complete access to development, and more importantly providing them with sustainable rural employment opportunities.

Without PAs, the conservation of wildlife, especially large-bodied ecologically sensitive species is unthinkable. As is the case with India, globally PAs have been cornerstones of biodiversity conservation (Shahabuddin & Rangarajan 2007). Hence, maintaining the integrity of these PAs is essential to protecting biodiversity.

Meeting the livelihood needs of forest dependent people and providing alternate development options will be a huge challenge. In India, PAs with their mandate to protect biodiversity cannot be the sole instruments of poverty alleviation. Continuation of human presence within PAs will neither benefit people nor biodiversity. There is a need to look beyond PAs for more viable, long term options. Poor budgetary allocations and unviable relocation packages with inadequate safeguards for implementation

of development activities are the real causes for the miseries of the people living within or around PAs. However, there is scope for improvement. Past failures of relocation have been due to poor planning, gaps in implementation, poor compensation packages, lack of thorough alternate development livelihood options, non-existence of post-resettlement support, lack of transparency, bureaucratic hurdles and non-participatory implementation (Kabra 2007; Shahabuddin *et al.* 2007). However, *these lacunae should not impede us in thinking solutions beyond parks*. The Samatha Judgement (SJ 1997) of the Supreme Court of India is a landmark judgement about the rights of tribal people on the mineral resources in Scheduled Areas. It provides us with immense scope to demand far more funds for the development of the forest dwelling communities. The Supreme Court prescribed that at least 20 percent of the profits should be set aside as a permanent fund for development needs apart from reforestation and maintenance of the ecology. Minerals should be exploited by tribal people themselves either individually or through cooperative societies with financial assistance of the state. It would also be open to the appropriate legislation, preferably after a debate/conference of all chief ministers and ministers concerned, to take a policy decision in order to bring about a suitable enactment in the light of these guidelines, so that there emerges a consistent scheme throughout the country with respect to tribal land under which national wealth, in the form of minerals, is located.

The choices regarding the continued presence of people in PAs should be based on the consequences that are supported by the empirical evidence available in the vast scientific literature. It is also pertinent to let the precautionary principle take precedence when there is uncertainty regarding such a situation.

> *…where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat* (CBD 2002: 177).

Our conservation strategies or poverty alleviation of people will succeed if they follow Leoplod's land use ethic, 'A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise' (Pyle 2003: 206–214). The choice is ours.

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