

Conservation, Relocation and the Social Consequences of Conservation Policies in Protected Areas: Case Study of the Sariska Tiger Reserve, India

Maria Costanza Torri

Department of Social Sciences, University of Toronto Scarborough, Toronto, ON, Canada

E-mail: mctorri@yahoo.it

Abstract

The coercive, top-down approach to managing protected areas has created socio-cultural disruption and often even failed to conserve biodiversity. This top-down conservation approach has led to management decisions seriously threatening the livelihood and cultural heritage of local people, such as the resettlement programme established to move people from villages inside the park, and the reduction of access to resources and traditional rights. This article presents findings from an analysis of the resettlement program, documenting the consequences of the relocation process on people's livelihood in the Sariska Tiger Reserve, Rajasthan, India. The results show that local people have had little influence on the relocation process, and hardly any say on the limitations of access and use of resources linked to the constitution of this protected area. The article challenges the existing conservation paradigm practiced currently by the authorities in most protected areas in India, and calls for park management to rethink their vision of conservation, by adopting new approaches toward a more collaborative paradigm integrating conservation and development needs.

Keywords: Sariska Tiger Reserve, relocation, wilderness, conservation policies, local communities, conservation authorities, India

INTRODUCTION

The preservation of natural ecosystems has long been on the agenda of institutions concerned with biodiversity. Representative samples of ecoregions have been set aside and put under strict protection. This 'northern' vision of an untouched wilderness has permeated global policies and politics for decades and has resulted in the classic approach to meeting biodiversity conservation needs, which is still at the heart of conservation agendas.

In the wilderness approach, biodiversity is seen to be at its optimum in undisturbed natural areas. The national government

is viewed as the guardian and the supplier of biodiversity and has sovereignty and nominal control over the areas required for conservation (Panayoutou & Sungsuwan 1994).

Recent conservation policies and the creation of protected areas in developing countries have often given rise to considerable conflict between governments, development institutions and local populations, and have led to the expulsion or marginalisation of the populations living in these territories. These policies have very often ignored the dependence of local communities on the environment, and have taken little heed of the knowledge and traditions of the rural populations in the conservation of natural resources and biodiversity.

In many developing countries, official policies and laws governing wildlife and the conservation of ecosystems have had adverse social consequences on native populations (Colchester 2004). The restrictions put in place by current conservation methods have deprived these communities of opportunities necessary for their survival and development, including basic social services (Berkes *et al.* 2003).

Often in protected areas, the lack of guaranteed access to resources is an impediment to a truly participatory approach

Access this article online	
Quick Response Code: 	Website: www.conservationandsociety.org
	DOI: 10.4103/0972-4923.79190

at the community level (Berkes *et al.* 2003). The lack of security in land ownership and the erosion of local statute laws have diminished the capacity of communities to stand up to outsiders, like poachers and wood smugglers, and have also contributed to the loss of biodiversity (Brosius 2004). In India, moreover, communal land surrounding villages is being increasingly privatised, which leads to the dwindling of the little parcels of communal land available to farmers (Baviskar 2001).

In the wake of the creation of protected areas, local communities have frequently been subjected to eviction, often with grave consequences to their identity and future development. Indeed, eviction also creates a kind of 'socio-cultural stress'—relocated populations lose not only the economic base of their survival, but also undergo a "considerable reduction of their cultural heritage, due to the temporary or definitive loss of their behavioural models, their economic activities, their institutions and their symbols" (Scudder 2005: 36). Evaluations of these processes have highlighted how the living condition of the communities evicted from the forests has become worse as a direct result of their dislocation (Gadgil *et al.* 1993). Indeed, they are generally relocated in inadequate areas that provide opportunities for subsistence that are often entirely insufficient for them.

Rural communities in developing countries have always been largely dependent on natural resources for their day-to-day lives. This dependence continues even today for millions of forest dwellers (Gibson *et al.* 2000). The conservation of natural resources is thus closely linked to the sustainable development of native populations in developing countries, and to the conservation of their way of life. As a result, the problem concerning the conservation of resources has profound and direct implications on local populations and greatly affects their development possibilities and living conditions (Heltberg 2001). As such, the conservation of natural resources is not only important in terms of aesthetics, ecology or leisure activities, but also includes a dimension of equality and social justice.

The issue of relocation outside protected areas is controversial and contentious, and profoundly divides the conservation community (Wilkie *et al.* 2006; Brockington & Igoe 2006). Those who are advocates of the idea of wilderness maintain that the presence of local communities is highly detrimental to conservation objectives (Oelschlaeger 1991) and therefore human displacement is inevitable (Terborgh & Peres 2002). Some other scholars challenge the historical and philosophical adequacy of the concept of wilderness (Cronon 1995; Brockington 2002; Schmidt-Soltau 2003). On ground, human rights' and indigenous peoples' organisations accuse conservation organisations of evicting people from parks (FPP 2003; Colchester 2003; Chapin 2004; Dowie 2005). These accusations are actively denied by the organisations involved (Seligmann *et al.* 2005).

Borgerhoff-Mulder and Coppolillo, two leading authors in the domain of evictions and conservation, affirm that the literature on relocations from protected areas offers "a massive cataloguing of past, recent and ongoing abuses" (Borgerhoff-

Mulder & Coppolillo 2005: 36). In contrast, Wilkie and colleagues, when announcing a research project into Gabonese protected areas originally called "Do protected areas hurt local people", claimed that the "assertion that establishing national parks without recompense compromises the... welfare of people who live in these protected landscapes is... largely apocryphal... because to date little empirical evidence exists to substantiate the contention that parks are bad for local people" (Wilkie *et al.* 2006: 247).

Literature on the subject of relocation and protected areas is dispersed and often unsystematic, many reports are of poor quality, a few merely mention the fact of removal, and also does not examine numerous protected areas. At the global level, there are almost 5,000 strictly protected areas (IUCN categories 1–4) larger than 100 sq. km in size, which, by virtue of their size, may well have restrictions on local resource use. Yet a recent literature review of physical displacement by Brockington & Igoe (2006) highlights how there are reports on less than 200 protected areas.

Only few studies, that we are aware of, systematically use consistent methodology to assess involuntary resettlements and evictions from protected areas at the regional level (Cernea & Schmidt-Soltau 2003; Cernea & Schmidt-Soltau 2006). On the other hand, there are some detailed examinations of individual parks and regional case studies. Diverse detailed case studies from all over the world support their findings and demonstrate that the displacement of people from parks resulted in the impoverishment of those affected (Brockington 2002; Burnham 2000; Fabricius & de Wet 2002; Galvin *et al.* 2002; Turton 2002; Nabakov & Lawrence 2004; Ganguly 2004).

As regards developing countries like India, an important factor is the fact that the tribal populations mostly reside in forest areas. With the exception of certain tribes, communities coexist with the environment, with production and reproduction systems that depend on the biodiversity of forest ecosystems.¹ These local communities, estimated at 200 million people, constitute 20% of the Indian population and their lives depend on the preservation of biodiversity of forests (McNeely & Scherr 2003).

Poffenberger (1999) highlights the close link between the location of tribal populations, forests and particularly poor areas. Forests represent an important source of life, especially for poorer rural populations, since according to some estimates 60% of forest products make up the food supply for these communities.² In India, forests satisfy close to 80% of the energy needs in rural areas. However, the prevailing conservation approach in India considers the needs of local communities to be incompatible with the interests of conservation.

More than half of protected areas the world over are inhabited by local populations, like in India, where human populations live in over two-thirds of protected areas (Kothari 1997). Policies for eviction and dislocation of people from protected areas, already adopted in many cases, are difficult to execute without incurring high human and social costs.

Unfortunately, as numerous examples show (Pinedo-Vasquez & Padoch 1993; Fairhead & Leach 2003), conservation projects and programmes that fail to consider the interest of local residents, undermine existing indigenous management systems, and restrict local authorities in their decision making on resource management, only intensify the loss of biological diversity.

In recent times, concern has been raised on the best practices that can be adopted within protected areas for the sustainable conservation of natural resources (Heltberg 2001). The realisation by many countries that the way forward in the control of conflicts within protected areas should involve the adoption of measures that seek to integrate the indigenous communities into the conservation scheme, is rapidly gaining momentum. In other words, there is a need to ensure that the bottom-up rather than the top-down management approach is practised within protected areas. The bottom-up management approach will enable communities surrounding protected areas to be actively involved in the management and administration of their regions. In addition to this, there is a need for protected area managers to put in place measures that can aid communities to enhance their living standards, e.g., improved educational and infrastructure facilities (Agrawal & Redford 2006). Alternative development options (e.g., skills acquisition training in tailoring, sustainable farming, carpentry, etc.) can provide a background for the shift from dependence on the natural environment to sustainable forms of livelihood development.

Protected areas, which today account for only 1.4% of the Earth's surface, are home to almost half of all plant species and more than one-third of all vertebrates (Heltberg 2001). The expansion of parks and nature reserves has not stopped the destruction of living species. Based on the wilderness model, the most widely used conservation approach today excludes zones outside protected areas, focussing only on the conservation of ecosystems and species within the reserves, which are thus transformed into isolated ecological oases (Gadgil *et al.* 1993).

The biological sciences have devoted a broader, deeper and more systematic research effort than the social sciences for understanding what is happening when biodiversity is lost, how it occurs, and what the consequences are. Social scientists have not been absent from the debate, but their analyses of livelihood issues inside parks and outside parks has been less systematic and more happenstance (mostly through case reports, but with little or no syntheses). Social research has not developed a cogent generalised argument apt to escalate the social issues vested in conservation work at the same higher policy levels at which biological sciences research has succeeded in articulating and placing their concerns. This has resulted in a perceivable lingering imbalance in public discourse about the two sides of the dilemma, with the social side of the discourse left insufficiently linked to the systematic economic, cultural and legal analysis, statistical evidence and generalised policy argument.

The upshot of this imbalance is that solutions proposed on

either side of the dilemma are, in turn, one-sided, and thus also imbalanced. They tend to be clearer and directly prescriptive on the biological side, and fuzzier, insufficiently imaginative, and a little tested on the social (people) side. Further, biological concerns have gained policy backing and financial resources toward their practical implementation (park establishment), while recommendations made by social research remain both under-designed and woefully under-resourced (Cernea & McDowell 2000; Schmidt-Soltau 2003).

The purpose of this paper is to analyse the case of the Sariska Tiger Reserve, an Indian protected area characterised by a top-down management approach. The paper aims to show how this conservation approach has led to decisions, such as the resettlement programme, which put the livelihoods of the local communities dwelling in the Reserve seriously in danger. Drawing from existing literature on the subject of relocation in Sariska Tiger Reserve (Rangarajan & Shahabuddin 2006; Shahabuddin *et al.* 2007), the author aims to provide evidence of the socio-economic impact of delocalisation and conservation policies on the local communities. Rangarajan & Shahabuddin (2006) adopt an historical approach to analyse habitat changes in the Sariska Tiger Reserve, highlighting the administrative misgovernance, which includes ineffective forest protection from commercial interests. In our paper, we particularly emphasise understanding current conservation policies and analysing how the unbalanced relations of power between villagers and forest authorities have resulted in increased conflicts and vulnerability of the local communities.

The paper analyses the consequences of the relocation programme and of other management decisions by the Sariska Tiger Reserve authorities. By doing this, it challenges the wilderness conservation paradigm adopted in many protected areas in developing countries such as India, and calls for a shift in the mentality of the Sariska Tiger Reserve authorities, and the adoption of new approaches toward a more inclusive paradigm, that is able to integrate conservation and development objectives.

METHODOLOGY

We used a community-based approach, comprising a qualitative analysis considered important in understanding rural areas and the position of local communities (Maxwell 1996). A pilot study was carried out in August 2001. During this first phase, some preliminary interviews were carried out with forest staff in the Sariska Tiger Reserve and with the director of Tarun Bharat Sangh, a local NGO active in the Thanagazi block area. Extensive interviews with villagers were carried out subsequently in July 2007. The interviewees consisted of 30 households living in Haripura and Devri, two villages in the core area of the Sariska Tiger Reserve. These villages were chosen due to their location; being inside the core area of the reserve, presenting higher diversity and forest surface, the risk of delocalisation was higher.

In an attempt to select a representative sample of village society, parameters such as gender, age and economic

conditions were taken into account. Economic background was evaluated on the basis of average monthly income and number of livestock owned by the household of the interviewee. The age of the interviewees ranged between 23 and 74. Half of the interviewees were represented by villagers belonging to the ethnic group of the Gujjars, who are traditionally cattle herders; the other half were villagers belonging to the Meena community, a community in the Sariska Tiger Reserve, that practices small-scale agriculture and occasionally rears livestock. Considering the difficulty in interviewing women, due to social and cultural norms which hinder interactions with those considered to be 'outsiders', two-third of the interviewees were men.

Half of the villagers interviewed were selected using a snow-ball technique, according to which a person interviewed referred another one. In order to reduce the pitfalls associated with this sampling method, the latter was matched with a sample of ten randomly selected members of the community. These interviews were designed to get villagers' opinions about forest department authorities and official conservation policies—with particular emphasis on complex issues like delocalisation, and trade-offs between conservation and social development—with which these communities were confronted. These interviews also aimed to understand the consequences of conservation policies from a social point of view.

Some of the interviewees, especially the elderly and women, were not very comfortable with expressing their opinions about the forest department officials. This could be explained by the presence of unequal power relations characterising the relationship between villagers and forest authorities. Yet, upon understanding the neutrality of my position and being assured that the identity of the interviewees will remain anonymous, villagers gradually felt more confident and ready to share their point of view.

Two group discussions were also carried out in order to complement and cross check the data previously collected in individual interviews with members of two randomly selected villagers. In order to facilitate interaction between members, the groups consisted of 10 villagers each who were not previously interviewed. The age of these villagers ranged between 32 and 68, the majority of whom were men (13 out of 20). The main topic addressed in these groups was the local perception of conservation activities undertaken by the authorities of the protected area, and the socio-economic impact of the relocation of human settlements outside the Sariska Tiger Reserve. In particular, the questions aimed at understanding the villagers' point of view regarding the impact of the human settlements on the local biodiversity.

In an attempt to compensate for the lack of cultural and linguistic background, four local interpreters belonging to the ethnic group of the interviewees were employed. Two of them (recruited with the support of the District Rural Development Agency, Tarun Bharat Sangh, a non-governmental organisation in the area that tries to promote integrated development programmes for the local communities) were field workers, with previous professional experience. Being aware of the

fact that translation from different backgrounds may facilitate access to different social groups, two English speaking villagers were also recruited. Moreover, to protect respondent privacy, we ensured that the interpreters lived in villages different from those of the interviewees. All interviews were recorded and transcribed in the local language. These scripts were subsequently translated into English, and the two versions were compared for data triangulation. Additionally, open-ended in-depth interviews were carried out with eight forest department officials, including the Chief Conservator of Forests, the Director of Project Tiger in the Sariska Tiger Reserve, three senior assistant conservators, and three junior assistant conservators.

PRESENTATION OF CASE STUDY: THE SARISKA TIGER RESERVE

The Sariska Tiger Reserve (866 sq. km), declared as a protected area in 1978, lies in Alwar district in the state of Rajasthan, in the Thanagazi block zone. Before independence, the forests within the Reserve were part of the erstwhile Alwar State and considered a hunting reserve for the local Maharaja. After independence, in 1955, these wooded areas were registered as a State reserve. In 1975, in order to achieve the most effective conservation, some forest areas contiguous with the reserve were also incorporated in the Sariska Tiger Reserve and have officially become protected areas.

The protected surface includes three zones which are submitted to high protection: core zone I, II and III. About 3000 villagers live inside and at the periphery of the Sariska Tiger Reserve, and exercise their traditional rights of use over the forest, which is submitted to the Sariska Tiger Reserve authorities' management.

Relationship Between Villagers and Forest Authorities in the Sariska Tiger Reserve

The relationship between villagers and forest authorities are characterised by a sense of antagonism. In order to understand the relation between forest authorities and local communities, it would be necessary to consider the generally negative conception of the Indian society towards tribal communities. The tribals are named *bhiladas* by the *bazarias* (city dwellers) and the *survan* (those that belong to a superior caste), and are considered backward and underdeveloped. Majority of the forest staff, usually from the city, believe that forest dwellers occupy the lowest level in the social ladder, and that they must be treated according to their social status. Forest dwellers are considered subordinate to forest officers, and encounters with the latter are often feared by villagers. When a villager hears the noise of a forest guard's moped, he hides in the forest; when he sees a civil servant walking toward him, he tries to change the direction of his path.

Forest officers are often the object of mockery; the villagers call them the *dhoglias* (men in trousers). The villagers also tease the forest staff, e.g., by obliging them to take the longest

and steepest path which leads to their village. Sometimes the feeling of resistance can assume stronger forms that can push villagers into conflict with forest authorities. Bhawar Singh, a forest officer who was assigned to Tehla village, affirms to have been attacked by a villager resulting in a severely injured arm.

Consequences of Conservation Policies on Local Communities in the Sariska Tiger Reserve

We examine in detail the social consequences of the top-down approach adopted by the authorities in the Sariska Tiger Reserve towards local communities. These social consequences are mainly attributable to 1) reduction of traditional use and access rights, 2) displacement of local communities, and 3) lack of basic social services.

Reduction of Rights of Access and Use

Following the designation of forest reserves, property rights regimes (incorporating land tenure and access rights) changed considerably. All land designated in the reserves was appropriated by the government, and any members of the community who lost land were provided with plots elsewhere. Although this process was intended to reduce the impact on livelihoods (since farming is the primary economic activity), in practice the newly assigned plots had lower productivity due to poor soil conditions. More importantly, a ban on access to the new reserves impinged on the local communities, who had previously visited the forest frequently (on a daily basis for over half the respondents) to collect goods such as timber for building, firewood, fodder and honey.

The authorities also impose restrictions on the collection of wood and other forest products. Villagers were allowed to take dry wood for fire, however the removal of dry wood was forbidden for the construction of dwellings, which the villagers consider unfair. Limited permits for woodcutting had been granted by the forest department for the more widespread local tree species and were limited to a particular period of the year.

Illegal removal of wood is a source of conflict between different villages, especially if the forests are common. According to these communities, restrictions on wood withdrawal have had important repercussions on the sustainable use of forest resources. Since a majority of activities in forests were forbidden, villagers had a tendency to pay less attention to their removal in the reserve. Some villagers, especially young women who are in charge of fodder and timber collection, affirmed that when they entered the forest in search of wood, since they were afraid to be discovered by the forest staff, especially in the areas where all removal activity is forbidden, they quickly cut some branches rather than spending time to look for the dry wood.

This information seems to be only partially accurate and has been contested by the forest staff, who said that villagers usually lop green branches of dhok (*Anogeissus pendula*) trees to the ground so that their goats can eat the leaves that are otherwise out of reach of the animals. The felled green branches remain on the ground and are collected as fuelwood

at a later instance when they dry up.

Also, the forest staff noticed a systematic collection of Flame of the Forest (*Butea monosperma*) leaves for fodder and women carried long poles with scythes to collect these from even the topmost branches of this tree.

The forest staff generally try to discourage villagers in their compensation requests and do not support them in the administrative procedures necessary to obtain compensation. A forest officer's reply to a villager who asked for compensation was "If you the villagers insist in living in the forest, then be ready to accept as well all the consequences deriving from your choice. You could live elsewhere".

Some villagers never presented a compensation request because they were not informed of their right.

A study of Udaya Sekhar (2003) also emphasised how the forest department in the Sariska Tiger Reserve had hardly tried to involve local communities in tourist activities in the park. The author highlights the current unequal distribution of tourism benefits and the lack of locals' involvement in tourism and development. There is a clear need to address these issues in order to find alternative sources of revenue for villagers; facilitating the reduction of biotic pressures on the local ecosystems would enhance sustainable development measures.

Restrictions on resource use and access imposed by reserve authorities and the necessity to meet the basic needs of survival, sometimes lead to some forms of connivance between local communities and forest staff, whose corruption becomes the most visible expression. Forest staff generally ask for money; during the rainy season when livestock production is more abundant, bribes can also be constituted by milk and dairy products. (reason why it is locally called 'ghee lelana', which locally means to 'accept butter as a bribe').

Theoretical literature on corruption has been largely unsubstantiated in practical terms due to the inherent difficulties in studying such a topic. Corruption was traditionally viewed as rife in colonial countries in the post-independence period due to a lack of loyalty of the citizens to the government, a state that could be remedied by modernisation. Indeed, corruption still refers to a subversion of the existing state of *de jure* regulations. Traditionally stronger enforcement has been advocated to address this problem, even with regard to protected area legislation in India. However, a more recent institutional theorisation has proposed that corruption is "a system of normalised rules, transformed from legal authority, patterned around existing inequalities and cemented through cooperation and trust" (Robbins 2000: 45).

The compromises on which the relationships with authorities are based, deprive villagers of all power to choose, forcing them with no choice but to accept this situation. In trying to obtain some advantages from corrupt forest officers rather than organising themselves collectively, villagers have considerably reduced their capacity to actively promote their own interests. A vertical power structure has thus been created and reinforced between the Department of the Forests, and the local communities.

The Issue of Displacement of Populations from the Sariska Tiger Reserve

It has been estimated that about 21 million people have been displaced in India for big development projects since 1950 (Colchester 2004). Until now, these development projects ignored or underestimated the consequences of possible displacement on local populations. According to present conservation politics, already about 600,000 people have been displaced out of the protected zones in India. As it results from the government's investigations, at least 75% of these communities have not been relocated conveniently. Global assessment of displacement from national parks in rainforest areas concluded that millions of 'conservation refugees' have been displaced, or are facing displacement risks within the next few years (Geisler 2003).

Existing scientific data concerning populations who have been displaced out of the protected zones underline how displacements out of the forest prove to be a traumatic and uncertain experience for the villagers in India, and often a path towards the misery of the big cities without return (Agrawal 2002). Displacement of local communities out of protected zones can therefore entail their pauperisation, and disappearance of traditional culture that links them with wildlife and forest biodiversity.

Almost three decades ago, Brechin *et al.* (2003) while strongly emphasising the need for conservation, also expressed justified alarm about little understanding of social impacts of irresponsible displacements. They emphasised that 'cumulated effects' need to be countered. They asked for a theoretical model to anticipate such cumulated effects before decisions to displace people are made: "What is too little understood, both by professionals and scholars alike, is the social impact of displacement and relocation. When resident peoples are forced to move, certain general impacts can be expected but the collective social impact on the common (or other social organisation) differs widely from case to case; to date, no model exists to predict the cumulative effect... The concern is the negative effects it can have on the rural poor... In addition to concerns of human rights, conservation need to be aware of the effect that protected-area establishment, subsequent relocation, and denial of access to resources might have on the attitudes of local people towards the protected area itself" (Brechin *et al.* 2003: 17).

In the Sariska Tiger Reserve, the forest department believes that the practices of the local communities and their demographic growth, contribute massively to the impoverishment of the biodiversity of the reserve. This point of view is clearly expressed by the Director of Project Tiger in the Sariska Tiger Reserve: "Until when the local communities will live in the reserve, the environment will be damaged. Our priority is to save the tiger and the other wild species. The displacement is not therefore only appropriate but also unavoidable".

According to the ex-director of the Sariska Tiger Reserve, the displacement of communities out of the reserve would be necessary also from a social point of view, since villagers living

in the Sariska Tiger Reserve cannot benefit from services of transportation, health and education. Displacement will thus offer, especially to new generations, opportunities of improving their living conditions.

The displacement of local communities is not a recent issue in the Sariska Tiger Reserve. Already between 1888 and 1938, numerous forests previously under the control of local communities were declared as the hunting reserve of the Maharaja, and villages were consequently displaced. According to the Wildlife Protection Act, 1972, a natural zone, to be a reserve, must not present any permanent human population inside its territory. Therefore, in the Sariska Tiger Reserve, it would mean displacement of 17 villages. Currently, nearly all villagers in the Sariska Tiger Reserve are under threat of displacement by forest staff.

Although the local authorities had the intention of displacing the villages out of the reserve area since 1972, a concrete plan of displacement had not been conceived until 1987. The policy of resettlement from the Sariska Tiger Reserve reflects the objectives of the National Rehabilitation and Resettlement Policy of 2007, which are to minimise displacement and to promote, 'as far as possible, non-displacing or least-displacing alternatives; to ensure adequate rehabilitation package and expeditious', and to integrate rehabilitation concerns into development planning and implementation process.

Nevertheless, provisions of the latest policy are being criticised on a number of grounds, including failure to meet theoretical promises at the practical level. Like the previous policy, exclusion of victims is a major drawback of the present policy. The call for 'the active participation of affected persons' in the process of resettlement and rehabilitation is not reflected in the processes of development of the project. Those who are going to be affected do not have the right to be consulted prior to the finalisation of their lands as the project site.³

The slow nature of administrative processes and lack of consistency between different administrative institutions explain why the displacement process has not been implemented since. During the 1970s, only the village of Karnawas was relocated outside the Sariska Tiger Reserve. The village of Umri had risked displacement in the past, since the plot of land where these communities would be displaced, had already been proposed by local authorities. However, this land was officially classified by the government as forest and has not been considered appropriate in the last instance by the Ministry of Environment and Forests, even though basic infrastructure, like wells, had already been built in preparation of the displacement. An attempt to displace the village of Haripura was made during the 1990s. In this decade, other displacement attempts as well were made for the villages of Pilapan, Kankwadi and Kirashka. The displacement of these villages had not been successful as the villagers came back to their former settlements inside the reserve. Recently, the authorities have finalised another plan of displacement for the villagers still living in the core area of the reserve.

The Director of the Sariska Tiger Reserve affirms that a

proposal of displacement has been prepared on the basis 'of a strategy plan oriented towards the tribal development and after having conducted a thorough survey among the villagers'. According to the Director, an open dialogue took place between the Sariska Tiger Reserve authorities and the villagers regarding displacement conditions. These proposals, nearly considered definitive, will also be implemented with the technical and financial support of international institutions such as the WWF and the World Bank. This plan consists of assigning 5 *bigha* (1 *bigha*=0.25 hectares) of cultivable land for every household, and other compensation measures depending on the size of the household.

Many villagers (24 of 30 interviewed) are aware that displacement of villages localised in the internal zones of the Sariska Tiger Reserve is being planned by the authorities. However, they ignore the different phases of setting up of this project, and the conditions concerning the compensation measures proposed by the forest authorities. Most villagers (27 of 30 interviewed) opposed any measure of displacement and refused to negotiate the conditions of displacement with the authorities. This has led to growing tensions.

According to villagers, their presence did not considerably affect the biodiversity of the forest; on the contrary it prevented illegal activities like poaching or wood cutting by outsiders. On the other hand, the idea that there is no impact on biodiversity due to human activity has been scientifically refuted by several studies (Kibreab 1996; Kumar & Shahabuddin 2006).

Raval (1997) maintains that when socio-political, demographic and other pressures shorten the cycles between land use and regeneration, traditional land management systems become unsustainable and produce a degradation of local biodiversity. Degradation or declining amounts of natural resources frequently lead to a series of human and ecological problems such as adverse impacts on economic and social development, loss of soil fertility, and loss of biodiversity.

According to forest staff, grazing and lopping has caused visible change in the appearance of the forest in the Sariska Tiger Reserve, especially in the buffer area. This point of view is also shared by some of the villagers interviewed, especially elder women who said that when they were younger, they did not need to walk for long distances to look for fodder as they could get it much closer. One third of the women interviewed also highlighted that they spend many hours during the day fetching water, as it is not available in the village.

According to some villagers, the displacement of local communities outside the Sariska Tiger Reserve would not constitute a long-term solution. In their opinion, a human displacement would only add limited supplementary areas to the habitat of the tiger and other wildlife, and would eliminate traditional practices beneficial for the maintenance of forest biodiversity. The reasons that explain their opposition are different. Some villagers, especially elders, associate a sense of security and protection with their present dwellings, even though they are not endowed with comforts.

A third of the villagers interviewed emphasised the importance of social relations, at the inter- and intra-village

level, which are part of their survival strategy, especially during droughts which hit the region periodically. As a villager said: "Sometimes it happens that, we the villagers in the Sariska region, help each other by lending money to buy fodder for livestock in case of necessity. Who will help us during the hard times if we are far from Sariska?". These villagers express apprehension about the weakening and the possible disappearance of these linkages in case of displacement.

Nevertheless, there are other opinions regarding displacement. For instance, villagers from the village of Bhagani were apparently keen to move out as quickly as possible because of the tough conditions inside the Sariska Tiger Reserve, and they even expressed their concern at the slowness of the relocation process.

Five of 30 villagers emphasised the possible difficulties of displacement outside the Sariska Tiger Reserve, fearing hostility from communities already living at the displacement location.

The risk of marginalisation results directly from the instant loss of traditional rights and the status of those displaced, and is also related to the geographical position of the new settlement area. When the new neighbours speak a similar language, belong to the same ethnic group or are even the same, the risk of conflicts is relatively limited (Cernea 2006). The alienation and marginalisation occurs especially in cases where the new resettlers end up as strangers (without rights) among homogenous neighbours from a different cultural, social and economic background.

It needs to be noted that people from the Gujjar community who live in villages outside the Sariska Tiger Reserve, are comparatively well 'settled'. They routinely practice cultivation and have better access to social services. This suggests that Gujjars may not be as rigid about leading a predominantly grazier lifestyle. Because the villagers inside the Sariska Tiger Reserve do not own land, do not have concrete dwellings, don't have electricity, they face social implications, e.g., people from the same community but living outside the Sariska Tiger Reserve are wary to give brides to suitors from Haripura, Kirashka and other villages located in the core area of the Sariska Tiger Reserve because of the difficulties and restrictions involved in living inside.

Local officials, and sometime even researchers or international experts, often confuse the mere 'settling' of the conservation-refugees at the new location with instant 'local integration'. This certainly is not social rearticulation. Kibreab (1996) has de-constructed this 'confused interpretation'. He convincingly critiqued the "tendency among scholars and international agencies to use local settlement and local integration synonymously" and explained why "local integration and local settlements are two separate conceptual categories with different substantive meaning" (Kibreab 1996: 67).

A third of the villagers, who are shepherds, estimated that their livestock will hardly survive in case of displacement, especially if the relocation area is far away from the forest. The loss of the domestic herds will cause, in their opinion, negative effects on their livelihoods, as they are conscious that the

breeding activity is extremely important for the perpetuation of their socioeconomic systems.

The opposition to displacement is also seen with a deep sentiment of distrust towards the government policies by the majority of the villagers. This fact probably derives from the experiences of the other communities displaced outside the Sariska Tiger Reserve or other protected areas in India. There is no effort by the concerned agencies to avoid or reduce the adverse socio-cultural impact of the conservation related displacement measures on the affected communities in India. In fact, there is not even an approved code of procedures to conduct the logistics or relocation, or accepted standards for compensation.

Compensation of losses is either simply not paid or is much below the actual inflicted losses, illustrating the general deficiencies of compensation for displacements (Cernea 2006). Donors who finance park establishment do not provide investment resources for reconstructing the livelihoods of those displaced at outside-the-park locations.

Five out of 30 villagers interviewed were aware of the traumatic experience linked to the displacement of rural communities that resided in the National Park of Ranthambore, Rajasthan. "They have been ruined" was the common comment of these villagers to summarise the consequences of the displacement of these communities.

Government officials implementing forced displacement for park creation sometime openly argue that the costs involved in resettling inhabitants of national parks according to socially sound guidelines (World Conservation Union 2005) would be too high. This argument aims to justify and perpetuate the current practice of externalising the cost of park creation upon one of the poorest segments of developing societies, namely the displaced and uncompensated park residents.

The displacement of villages is also associated, according to these communities, with episodes of violence and abuse committed by local authorities. One villager affirmed how he had heard that the dwellings in Kirashka village have either been burnt by the forest staff or by the local police. In the small village of Jodi, some villagers recall that a group of policemen, accompanied by the forest field officers, came to the village and destroyed their dwellings, damaged their personal properties and threatened to kill them in case they made any resistance to leave the village. The programmes of displacement in the Sariska Tiger Reserve have also been an opportunity for illegal gains by some corrupt forest officers who, in some cases, paid the villagers only a part of the compensation offered of by the government. It also happened that some forest officers displaced the villagers in plots of mediocre soil quality and little extension, renting instead to rich local landowners the parcels that had been allocated by the authorities for the villagers.

Even though the predominant attitude about displacement is generally negative, there are also some exceptions. For example a couple of households in Haripura expressed willingness to leave the village in the event an appropriate compensation would be offered. These households also underlined the

precariousness of their present situation and recalled their hardships during the drought as well as the blackmail by the forest staff, of which they are constantly victims.

The threat of displacement seems to have had a great impact on the life of the villagers, causing many hardships. As a result of a possible future displacement, many villagers abandoned the idea of carrying out long term investments for their household, such as building a well, or a house in cement or in stone.

The Lack of Social Services in the Sariska Tiger Reserve

The conservation authorities in Sariska do not seem to be concerned by the absence of basic social services and infrastructure for the communities living inside the reserve. According to them, this issue shouldn't be present since, according to the Wilderness Act, all human presence shouldn't be permanent in a protected area. Some forest officers affirm that "if the villagers should be conveniently displaced they will be able to benefit from the necessary basic services which will allow them to live with dignity".

Although the lack of infrastructure and social services in rural areas does not represent a determinant factor that pushes the villagers to move outside the Sariska Tiger Reserve, members of the communities in the Sariska Tiger Reserve did express the difficulties they faced living without them. In many villages of the Sariska Tiger Reserve, due to a lack of basic structures, classes take place under the shade of a big tree or close to the village temple.

The villagers dwelling inside the reserve affirmed that the education services organised by volunteers or NGOs are not sufficient to guarantee an effective and continuous education. In the remote villages located in the Sariska Tiger Reserve, parents are afraid to send their children to school, as this means walking deep in the forest, and getting exposed to dangers such as encounters with predators. Consequently, most villagers, and especially women, in the region of the Sariska Tiger Reserve are illiterate.

The villagers are aware of the importance of education, especially for the younger generation, and complain because the interdictions set by the authorities do not allow them to benefit from quality education facilities. One of the reasons that justify the importance of education for the villagers, is the idea that education would allow them to defend their rights and their lifestyle against external forces. A fourth of the villagers affirmed that the presence of a school in the village would allow the girls to attain a better level of education. Locally, girls having to travel out of the village for education is not culturally acceptable. In the logic of the traditional society, where the woman finds her main expression inside the house, it seems a useless risk to send a girl out of the village. The socioeconomic and cultural factors explain the difference in the education of girls and of boys. Where income is limited, educating the sons is given priority. Often parents do not invest in their daughter's education for another reason; women are supposed to move in with their in-laws after marriage. Hence, they invest in their sons, who remain with their family, as that

is more profitable. In the case of the Sariska Tiger Reserve, the difficulties linked to the lack of basic infrastructure, and also cultural and economic order oppose the education of women. As a consequence, women in Sariska risk remaining penalised with regard to education, which could provide an important opportunity to overcome the state of marginalisation.

The model of education in cities such as Delhi or Jaipur is far from the world of children living in rural areas. Books hardly explore the aspects of life in the villages, and carry visions of an antithetic world of the urban areas. The child, living in narrow contact with the trees and animals of the forest, and having absorbed traditional values and principles, must adjust at school to a model of education the world that has been previously transmitted to him. The encounter with the traditional system of beliefs and knowledge with 'modernity' generates tensions and contradictions to which the young generations are confronted.

Even basic health services are hardly accessible to the villagers. This causes grave inconvenience to the local communities. A villager of Devri, a village located in the core area of the reserve, recalls that he had to carry his brother who was very ill to the local medical centre 10 km away on his shoulders. Child mortality is high in the communities living in isolated villages in the forest. Often this is caused by common illnesses that could be easily treated, given basic medical facilities. Some villagers express the need to have medical facilities close to the village. Generally, among these tribal communities, the knowledge linked to traditional medicine is not spread; it constitutes the prerogative of some families or groups of individuals. This can contribute to and reinforce the existant power structures in the community.

FINAL OBSERVATIONS AND CONCLUSIONS

In the twenty-first century, earlier battles over nature and conservation among the forest department, forest-dwellers, wildlife and the urban constituency are not only unresolved but have intensified at the local, regional and national levels (Rangarajan & Shahabuddin 2006). The 'guns and fences' approach has undermined conservation itself by creating arenas of conflict when the forest dependent and forest-dweller communities were forcibly evicted or denied their usufruct rights.

In India, indigenous peoples comprise the majority of communities living in or near protected areas; thus they have been disproportionately affected. The restrictions imposed on them pose a severe threat not only to their economic security, but also to the complex and multidimensional linkages between their cultures, livelihood systems and the natural environment, and their cultures and identity. In addition, the failure to recognise the deep links between ecological and cultural systems, and the imposition of top-down conservation programmes and projects rarely achieved an effective protection of biodiversity.

As the example of the Sariska Tiger Reserve shows, the protective regulations to be respected by the local communities

should take into account their needs as much as possible. Indeed, villagers whose survival is menaced by regulations that are too restraining have no choice but to infringe on them in order to ensure their livelihoods. The way the villagers perceive conservation measures is extremely important as it can influence their willingness to respect them or not. This vision, and the lack of dialogue between the authorities and the local communities can make conservation measures unpopular, and can increase conflicts and boycott. Conservation efforts in the Sariska Tiger Reserve, that failed to take into consideration local people and other stakeholders affected by the establishment of protected areas, are failing to achieve conservation goals, and are perceived as being illegitimate in the face of human development needs.

The forest officers are often seen by the local communities as authoritarian individuals who have the arbitrary power to punish and to deny access to resources. Conservation policies should shift from the current focus on control and sanction to a growing emphasis on rural development, an essential component of every conservation programme. A change in the attitude of the conservation authorities *vis-à-vis* local communities is essential. Several informal comments were heard in the Sariska Tiger Reserve from forest officers who described the tribal populations as 'ignorant', 'primitive', 'under-developed' and 'economically irrational'. As a consequence, many forest officers believe that they are aware of 'what's best for the villagers', as is evident in the case of the displacement of villagers from the Sariska Tiger Reserve.

Such negative attitude clearly undermines the mutual trust necessary for a form of effective partnership and joint management of resources between the conservation authorities and the local communities. D'Silva affirms that foresters are "generally a conservative, inward looking, much more comfortable with forest botany than with social concerns that dominate forestry nowadays". A majority of forest departments in many developing countries, including India, were set up in a colonial era with the objective of extracting timber and producing revenue. "While the demands and expectations of society have changed, the structure of most forest departments has remained largely unchanged" (D'Silva 1997: 51).

Since the beginning, the answer to the question of *what, how* and *by whom* biodiversity should be protected must be based on an interactive form of dialogue between local populations and conservation authorities. This is vital for understanding the expectations and the potential contribution of local communities in the conservation process. Understanding the priorities of the local communities is important, since professionals often have the tendency of imposing their own priorities and vision of conservation on the local population. The real impact of villagers' activities in the forest, such as livestock grazing, wood gathering, etc., is often miscalculated by forest officers, as they know little about traditional practices, as it is underlined by the Sariska Tiger Reserve field study.

Only in recent years, with support from international conservation and development agencies, India has started exploring the potential of collaborative approaches in protected

area management, e.g., some 'pilot projects'. The best of those initiatives try to craft, out of complex and historically entangled situations, win-win solutions that conserve protected areas while satisfying the economic, social and cultural needs of legitimate stakeholders. Based on terms the partners jointly define, these 'partnerships' work toward mutually agreed aims that typically include biodiversity conservation and sustainable use of natural resources. Park boundary enforcement could be effective only if combined with a strategy of bringing together stakeholders, including the local community, to participate in the decision-making processes and to negotiate the costs and benefits of conservation efforts. There is a need to link "protected areas together with human needs [to] support ecologically sound development which takes on practical meaning for governments and local people". (McNeely 1993: 78).

Nevertheless, the participation of local communities in the conservation of protected areas is still too often envisaged only from an organisational point of view. In the Sariska Tiger Reserve, as in many other protected areas in India, local knowledge and know-how continue to be underestimated in the conservation process. Beyond simply 'consulting' local people, co-management processes are to be set up to jointly develop management plans, rules and corollary agreements, to formalise benefit-sharing arrangements, to develop the capacities of all stakeholders, to help set up suitable pluralist management organisations, and to formalise the sharing of authority and responsibility in managing the protected area at stake. By recognising both the mandate of the state and the needs and concerns of local communities, it is expected for collaborative management to reduce destructive conflicts, and mobilise state and local knowledge, skills, resources and institutions towards mutually agreed goals.

Ultimately, conservation strategies have to respond to local contexts and mobilise local cultural perceptions of nature, by taking account of their appropriation, the use and the abuse of nature. The appropriateness of community-based conservation will depend on five factors: nature of community participation, objectives of conservation, incentives for conservation, community structures, historical and cultural linkages of the adopted conservation strategies (Kothari 1997). Any policy aiming to harness or revive community-conservation practices will need to address these interrelated questions: "Who is the local community and what are the livelihood needs?" "What are their local practices and indigenous knowledge?" "What is the current relevance of their local environmental knowledge?" "Who is to conserve what and for whom?"

Changing the current mentality of conservation authorities would require measures at the institutional level. Developing skills among forest officers to work with communities, enhancing forms of cooperation and facilitating a learning process in a spirit of mutual trust and respect is very important in order to promote effective conservation measures. This is a key condition for the development of future participatory management initiatives, in the Sariska Tiger Reserve as well as in other protected areas in India. A mutually respectful

dialogue between the forest officers and the villagers, will be essential in making that first step. Nevertheless, this shift will not automatically lead to the adoption of a participatory culture, or bring about a sudden change in professional attitudes. The promotion of a participatory approach between forest authorities and local communities requires a wider process of reorienting institutional policies, procedures and development practices.

Notes

1. Jodha (1990), in a study carried out in 82 villages in India's semi-arid states, shows that the use of biomass accounts from 14% to 23% of the total revenue of village households.
2. In the Bastar District in Madhya Pradesh, for example, approximately 75% of rural communities complement their diet with tubercles and fruits from the forest. In the Andaman and Nicobar islands, several tribes survive on food found in the forest.
3. Under Clause 6.1, in cases where displacement is 400 or more families en masse in plain areas, or 200 or more families en masse in tribal or hilly areas, DDP blocks or areas mentioned in Schedule V and Schedule VI of the Constitution of India, the Appropriate Government shall declare, by notification in the Official Gazette, area of villages or localities as 'an affected zone of the project'. The affected persons have no say in the process of determination of a project site even if it is on their lands. There is no provision for consultation with the affected families during the final preparation of the Social Impact Assessment (SIA) and Environmental Impact Assessment (EIA) reports prior to their submission to the expert group for examination. The Commissioner and the Administrator for Resettlement and Rehabilitation are not independent of the State control.

REFERENCES

- Agrawal, A. 2002. Indigenous knowledge and the politics of classification. *International Journal of Social Science* 54(173): 287–297.
- Agrawal, A. and K. Redford. 2006. Poverty, development and biodiversity conservation shooting in the dark? New York: Wildlife Conservation Society Working Paper No. 26.
- Baviskar, A. 2001. *Written on the body, written on the land. Violence and environmental struggle in central India*. Berkeley: University of California Press.
- Berkes, F., J. Colding and C. Folke. 2003. *Navigating social-ecological systems: Building resilience for complexity and change*. Cambridge: Cambridge University Press.
- Borgerhoff-Mulder, M. and P. Coppolillo. 2005. *Conservation: Linking ecology, economics and culture*. Princeton: Princeton University Press.
- Brechin, S.R., P.R. Wilshusen, C.L. Fortwangler and P.C. West. 2003. *Contested nature. Promoting international biodiversity with social justice in the twenty-first century*. Albany: State University of New York Press.
- Brockington, D. 2002. *Fortress conservation. The preservation of the Mkomazi Game Reserve, Tanzania*. Oxford: James Currey Press.
- Brockington, D. and J. Igoe. 2006. Eviction for conservation. A global overview. *Conservation and Society* 4(3): 424–470.
- Brosius, J.P. 2004. Indigenous peoples and protected areas at the World Parks Congress. *Conservation Biology* 1(8): 609–612.
- Burnham, P. 2000. *Indian country god's country: Native Americans and national parks*. Washington, DC: Island Press.
- Cernea, M.M. 2006. Population displacement inside protected areas: A redefinition of concepts in conservation politics. *Policy Matters* 1(4): 8–26.
- Cernea, M.M and C. McDowell. 2000. *Risks and reconstruction experiences*

- of resettlers and refugees. Washington: World Bank Editions.
- Cernea, M.M. and K. Schmidt-Soltau. 2003. The end of forcible displacements? Conservation must not impoverish people. *Policy Matters* 12(3): 8–34.
- Cernea, M.M. and K. Schmidt-Soltau. 2006. Poverty risks and national parks: Policy issues in conservation and resettlement. *World Development* 34(10): 1808–1830.
- Chapin, M. 2004. A challenge to conservationists. *World Watch Magazine* 1(1): 17–31.
- Colchester, M. 2003. *Salvaging nature. Indigenous peoples, protected areas and biodiversity conservation*. Moreton-in-Marsh: Forest Peoples Programme Editions.
- Colchester, M. 2004. Conservation policy and indigenous peoples. *Cultural Survival Quarterly* 2(1): 17–22.
- Cronon, W. 1995. The trouble with wilderness; or getting back to the wrong nature. In: *Uncommon ground. Rethinking the human place in nature* (ed. Cronon, W.). Pp. 69–90. New York: Norton Editions.
- Dowie, M. 2005. Conservation refugees. When protecting nature means kicking people out. *Orion* 2(3): 16–24.
- D’Silva, E. 1997. Why institutional reforms in forestry? Lessons from international experience. *Natural Resources Forum* 21(1): 51–60.
- Fabricius, C. and C. de Wet. 2002. The influence of forced removals and land restitution on conservation in South Africa. In: *Conservation and mobile indigenous peoples. Displacement, forced settlement, and sustainable development* (eds. Chatty D. and M. Colchester). Pp. 149–163. New York: Berghahn Books.
- Fairhead, J. and M. Leach. 2003. *Science, society and power: Environmental knowledge and policy in West Africa and the Caribbean*. Cambridge: Cambridge University Press.
- FPP. 2003. *Indigenous people and protected areas in Africa: Forest people project report*. Moreton-in-Marsh: Forest peoples programme Editions.
- Gadgil, M., F. Berkes and C. Folke. 1993. Indigenous knowledge for biodiversity conservation. *Ambio* 2(2): 151–156.
- Galvin, K.A., J. Ellis, R.B. Boone and A.L. Magennis. 2002. Compatibility of pastoralism and conservation? A test case using integrated assessment in the Ngorongoro Conservation Area, Tanzania. In: *Conservation and mobile indigenous peoples. Displacement, forced settlement and sustainable development* (eds. Chatty D. and M. Colchester). Pp. 36–60. New York: Berghahn Books.
- Ganguly, V. 2004. *Conservation, displacement and deprivation. Maldhari of Gir forest of Gujarat*. New Delhi: Indian Social Institute Publications.
- Geisler, C. 2003. Your park, my poverty: Using impact assessment to counter the displacement effects of environmental greenlining. In: *Contested nature: Promoting international biodiversity with social justice in the twenty-first century* (eds. Brechin, S.R., P.R. Willhusen, C.L. Fortwangler and P.C. West). Pp. 217–229. New York: State University of New York Press.
- Gibson, C.C., M.A. McKean and E. Ostrom. 2000. *People and forests: Communities, institutions, and governance*. Cambridge: MIT Press.
- Heltberg, R. 2001. Determinants and impact of local institutions for common resource management. *Environmental and Development Economics* 6(4): 183–208.
- Kibreab, G. 1996. *People on the edge in the horn: Displacement, land-use and the environment*. London: James Currey Publications.
- Kothari, A. 1997. *Building bridges for conservation: Towards joint management of protected areas in India*. New Delhi: Indian Institute of Public Administration Publications Editions.
- Kumar, R. and G. Shahabuddin. 2006. Consequences of rural biomass extraction for bird communities in an Indian tropical dry forest and the role of vegetation structure. *Conservation & Society* 4(4): 562–591.
- Maxwell, J.A. 1996. *Qualitative research design: An interactive approach*. New Delhi: Sage Publications.
- McNeely, J.A. 1993. Economic incentives for conserving biodiversity: Lessons for Africa. *Ambio* 2(2): 144–150.
- McNeely, J.A. and S.J. Scherr. 2003. *Ecoagriculture. Strategies to feed the world and save wild biodiversity*. Washington DC: Island Press.
- Nabakov, P. and L. Lawrence. 2004. *Restoring a presence: A documentary overview of native Americans and Yellowstone National Park*. Oklahoma: University of Oklahoma Press.
- Oelschlaeger, M. 1991. *The idea of wilderness*. New Haven: Yale University Press.
- Panayoutou, T. and S. Sungsuwan. 1994. An econometric analysis of the causes of tropical deforestation: the case of Northeast Thailand. In: *The causes of tropical deforestation* (eds. Brown, K. and D.W. Pearce). Pp. 192–210. London: UCL Press.
- Pinedo-Vasquez, M. and C. Padoch. 1993. Community and governmental experiences protecting biodiversity in the lowland Peruvian Amazon. In: *Perspectives on biodiversity: Case studies of genetic resource conservation and development* (eds. Potter, C.S., J.I. Cohen and D. Janczewski). Pp. 199–211. Washington: AAAS Press.
- Poffenberger, M. 1999. *Communities and forest management in Southeast Asia*. Gland: International Union for the Conservation of Nature Editions.
- Rangarajan, M. and G. Shahabuddin. 2006. Displacement and relocation from protected areas: Towards a biological and historical synthesis. *Conservation and Society* 4(3): 359–378.
- Raval, S.R. 1997. Perceptions of resource management and landscape quality of the Gir Wildlife Sanctuary and National Park in India. Ph.D. thesis. University of Michigan, USA.
- Robbins, P. 2000. The rotten institution: corruption in natural resource management. *Political Geography* 19(4): 423–443.
- Schmidt-Soltau, K. 2003. Conservation-related resettlement in central Africa: Environmental and social risks. *Development and Change* 3(4): 525–551.
- Scudder, T. 2005. *The future of large dams: Dealing with the social, environmental and political costs*. London: Earthscan.
- Seligmann, P., J. Supriatna, O. Ampadu-Agyei, C.S. Roberts, C. Hails and S.J. McCormick. 2005. A challenge to conservationists: Phase II—Letters. *World Watch Magazine* January/February: 5–20.
- Shahabuddin, G., R. Kumar and M. Shrivastava. 2007. Creation of ‘involute space’: Lives, livelihoods and conflict in Sariska Tiger Reserve. *Economic & Political Weekly* 42(20): 1855–1862.
- Terborgh, J. and C.A. Peres. 2002. The problem of people in parks. In: *Making parks work: Strategies for preserving tropical nature* (eds. van Schaik, C., L.J. Terborgh and M. Rao). Pp. 123–137. Washington: Island Press.
- Turton, D. 2002. The Mursi and the elephant question. In: *Conservation and mobile indigenous peoples: Displacement, forced settlement and sustainable development* (eds. Chatty D. and M. Colchester). Pp. 97–118. Oxford and New York: Berghahn Books.
- Udaya Sekhar, N. 2003. Local people’s attitudes towards conservation and wildlife tourism around Sariska Tiger Reserve, India. *Journal of Environmental Management* 69(4): 339–347.
- Wilkie, D.S., G.A. Morelli and J.L. Demmer. 2006. Parks and people: Assessing the human welfare effects of establishing protected areas for biodiversity conservation. *Conservation Biology* 20(2): 247–249.
- World Conservation Union. 2005. Benefits beyond boundaries. Proceedings of the fifth World Parks Congress. Cambridge: World Conservation Union Editions.