

People Perception towards Conservation and Management of Protected Areas: A study from villages adjacent to Rajaji National Park, India

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ABSTRACT

Protected area-people interface that occurs at different level among multiple stakeholders leads to conflicting interests. For the final notification of any wilderness area as national park, cessation of any resource extraction and exclusion of human habitation from the area is a prerequisite that results in conflict of interests among different stakeholders in these areas. The attitudes of local people towards protected areas and their perceptions regarding the services provided by these forests were studied in the adjoining villages of Rajaji National Park selected on the basis of stratified random sampling. The villagers gave highest importance to direct use values such as Tourism, fuelwood, fodder and NTFP, followed by indirect value such as historical/religious and aesthetic. Restriction on resource extraction and poor relationship with park management were the main problems perceived by the residents. Building of fences (45.2%), restoration of traditional rights (21%), providing employment to locals (11.2%) and joint management of the park (15.3%) were suggested as ways to help in improving management of Park. Majority of people (91%) were in favour of an integrated conservation and development programme and were willing to cooperate with the forest department in this regard.

Keywords: Rajaji National Park, perception, stakeholders, conflict, wildlife conservation, India

1. INTRODUCTION

Forests have great economic value and are a sustained source of income to many people. Therefore, they can be seen as a contested resource over which different sectors of the society seek to assert control (Hazra, 2002). When, there are multiple users who exert a claim on natural resource, management of the resource almost inevitably requires a robust system for addressing conflicts arising from these multiple claims. As human populations expand, their increasing demand for land and resources increases their dependence on forests in the absence of any alternatives and lack of adequate development in these areas. This ever increasing demand of the forest resources, have led to the decline of the forest cover and also led to loss of biodiversity. The continuous loss of biodiversity in tropical forests propelled the need for creation of protected areas across the globe (Green & Paine, 1997). Although national parks and nature reserves are an effective tool for preserving nature, even in the most industrialized and urbanized areas, however, conventional management strategies that prohibit local access to protected areas have escalated conflicts between local communities and management authorities in the tropics (Wells *et al.*, 1992). The International Union for the Conservation of Nature (IUCN) has defined a protected area as 'an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means' (Bishop, Phillips, & Warren, 1995).

Exclusionary models of land management can be traced back to the first millennium B.C. Conservation through the establishment of 'national parks', pioneered in USA and applied world-wide though has helped in conserving the resources, but has also violated the rights of indigenous people causing impoverishment and social problems. In the following century, the US model of nature conservation was exported world-wide and has also strongly influenced conservation policy in India (Tucker, 1991). International laws now recognise indigenous peoples' rights and new conservation policies accept that indigenous peoples may own and manage protected areas (Colchester, 2004). On the other hand community management of natural resources does offer promise, but must explicitly consider the linkages between community management, environmental management, and conflict management (Haro, Doyo, & Mcpeak, 2005). Dual aim of preserving natural resources and sustaining local livelihoods but lack of institutional and financial support to complete these aims results into conflicting interests among various stakeholders. 'Multiple stakeholder negotiations' is a way of resolving multiple interests in or uses of forests (Hazra, 2002). In order to manage protected areas successfully, nature conservation needs to be seen as constructive and supportive for local interests, yet clear in its mandate and intent. One essential precondition is to ensure adequate political and economic support for nature conservation, to award it higher priority, and to fund it appropriately. Such an approach should release resources for more agency personnel, plus supportive training in facilitation techniques (Stoll-kleemann, 2001). There is rarely a single approach that solves the problems of any PA. Instead, it is useful to think of the problems and possible solutions in terms of the temporal scale involved and whether or not they deal with proximate or ultimate issues (Struhsaker, 2002, 2005). Therefore in order to avoid threats to the integrity of the proposed park and to ensure local community support, the coordinated resource management (CRM) approach is recommended. CRM, through its focus on consensus and local empowerment, the recognition of all stakeholders including public land agencies and interests in joint problem-solving, appears to be the best strategy for the management of protected ecosystems in most developing countries (Gbadegesin & Ayileka, 2000). To do this, we must abandon the simplistic solution of spatially separating people from forests and instead build partnerships of co-management in which conservation and livelihood objectives are sought in the same space (Roth, 2004). We need to take into account both the symbolic and material dimensions of local practices if we are to understand the dynamics of the interactions between local populations and their environment (Fraga, 2004). As the resultant transition in socio-economy and land use pattern of local human communities can result in complex conservation problems. Conservation policies therefore, ought to bear in mind the transient nature of local human communities residing even in seemingly remote protected areas (Mishra, 2000).

There are few studies with a holistic perspective of the linkages between local inhabitants and creation of protected areas. Protected areas have played and continue to play an increasingly important role in conservation of forest and wildlife resources. Although they offer nature conservation and economic opportunities for local communities, they suffer from many threats and thus may become a source of conflict. The major threats to protected areas include land encroachment, poaching (Aung, Swe, Oo, Moe, Leimgruber, Allendorf, Duncan, & Wemmer, 2004; Blom, Yamindou, & Prins, 2004; Abuzinada, 2003) and fragmentation (Armenteras, Gast, & Villareal, 2003; Johnsingh & Negi, 2003; Pattanavibool & Dearden, 2002; Alexander & Waters, 2000; Pressey, Ferrier, Hager, Woods, Tully, & Weinman, 1996). Many studies have revealed the need for a management scheme with the participation of local communities in the decision-making process (eg., Newmark, Leonard, Sariko, & Gamassa, 1993; Trakolis, 2001; Becker, 2003; Holmes,

2003; Nagothu, 2003; Chang, Hwung, & Chuang, 2012) and ignoring the dependence of the local people for their subsistence needs on resources of protected areas leads to conflicts between protected area managers and the local inhabitants (Mishra, 2000; Rao, Maikhuri, Nautiyal, & Saxena, 2002; Liu, Ouyang, & Miao, 2010; Acuña, 2015). It is also found that people more involved in local economic activities showed more negative attitudes toward natural protected areas (generally and specifically) and higher degrees of regional identity and place attachment than subjects more involved in ecological and pro-environmental activities (Maikhuri, Nautiyal, Rao, & Saxena, 2001; Bonaiuto, Carrus, Martorella, & Bonnes, 2002). Badola (1998) examined the dependency and attitudes of local people living in and around the forest corridor linking the Rajaji and Corbett National Park, and found that the dependence of the people on the forest is due to lack of alternatives to the forest resources, inability of the people to produce alternatives from market, and in some cases it is habitual or traditional.

The wise use and sound management of the forest resources aim at the need for a new administration and management scheme with the participation of local communities in the decision-making process to maintain a balance between the utilization and the development of resources. Therefore, it becomes imperative to undertake study to understand and analyze complex situations where multiple stakeholders interact. This study concerns environmental attitudes of one of the major stakeholders of RNP, change in their lifestyle and resource use pattern as a result of formation of protected natural areas and ensuing conflict.

2. THE STUDY AREA

This study was undertaken in Rajaji National Park (RNP) situated along the hills and foothills of Shiwalik ranges of Himalayas between 29°52'41" and 30° 15'56" north latitudes, 77°57'7" and 78°23'3" east longitudes in North-western India. The National Park encompasses a geographical area of 820.42 km² at the foothills of the Himalayas and was formed on amalgamation of three sanctuaries – Rajaji, Motichur and Chilla in the year 1983, and has myriads of stakeholders– including *Van Gujjars*, a transhumant pastoral community and the number of villages on the periphery of RNP.

Van Gujjars one of the main stakeholders in RNP; which used to live inside the Park have been relocated to rehabilitation sites of Pathri and Gandikhatta, however a considerable population still lives in the peripheral areas of RNP. They used to live in temporary dwellings called '*dera*' built on small clearings in the midst of thick forest of RNP. They rear large herds of buffaloes, which are the basis of their economic activity. The study area was selected based on the presence of Gujjar communities on the periphery of RNP from three different sites – Dudhli and Bidholi in Lachhiwala Range and Mohammadpur Barkali in Ramgarh Range of RNP.

3. METHODOLOGY

Detailed data for this study was collected by administering a close-ended structured questionnaire to households of both stakeholders to get an overview of their attitudes towards various issues pertaining management of RNP and their support for conservation. Information was also gathered from key informants within the stakeholder communities, who included informal leaders during focus group discussions. Care was taken to ensure that women were present and supplemented information during the surveys. Demographic data related to profession, income, occupational patterns, *etc.* were collected. This was followed by questions related to their dependency on RNP for resources, their attitudes towards relocation and conservation (qualitative and quantitative data), their involvement and benefits from RNP. Some of the questions had fix responses, and the respondents were asked to agree or disagree.

To identify the key stakeholders, to assess their interests and to understand their interaction stakeholder analysis was undertaken. Stakeholder analysis is a tool commonly used within collaborative planning and conflict management efforts (Gbadegesin & Ayileka, 2000; Gladstone, 2000). Stakeholder's perceptions of planning and management issues of protected area is low cost but powerful method that can be ultimately used to investigate activities and decision to promote collective action, recovery of the resource and improved management performance and ensuing conflicts due to lack of local community participation in the designation procedure and in the decision-making process (Gbadegesin & Ayileka, 2000; Trakolis, 2001).

4. RESULT and DISCUSSION

Van Gujjars are the main stakeholders in RNP and a considerable population has moved to adjoining areas of the park boundary after they were relocated from inside the park. The

formation of sanctuary and subsequent notification of National Park formation has had considerable impact on the lifestyle and resource use pattern of the *Van Gujjars* families.

Important changes in their attitude towards the conservation efforts and aspects of management deduced from the questionnaire survey and focus group discussion.

A total of 104 households were surveyed for present study from all the three villages for this study, the average family size was over nine individuals (9.75) per household (Table 1) and they live and move in joint family groups. Other main consideration for settling down in the current place of residence was it near to their old *deras* (Settlement inside the park from where they were relocated) and easy access to fuel and fodder.

Majority of the population (96%) was engaged in livestock rearing and the average annual income of the family was approximately 13046 INR, they also work as unskilled labourer as number of livestock has decreased (7.41 ± 4.26) since their move from park as since they do not have space to house a large number of livestock and they are also not allowed to extract the amount of fodder required for sustenance of large livestock herd.

People's awareness about the formation and the role of the RNP was very high (97%), they perceived formation of RNP was for conservation of wild animals (Table 2, i). People were asked about the benefits of RNP, they gave highest ranking to direct benefits they received from the RNP, with large number of people perceiving the benefits provided by the park as the increase in tourism, getting fuelwood, fodder or NTFP. However some people also accepted that it has aesthetic or historical value too (Fig 1). From the responses of the people, it is evident that they have strongly negative attitude towards park formation. A total of 78.2% people felt that the responsibility for the protection of flora and fauna of the Park was of FD and only 21.8% felt that they were also responsible for conservation of forests of RNP (Table 2, ii). Most respondents held negative view towards the Forest Department and felt that the Forest Department had failed in managing RNP effectively. A very high number of people (85.4%) felt that condition of forest has not improved after formation of RNP, a small number of people agreed that number of wild animals had increased in RNP but they also complained about inability of FD in controlling illegal lopping and tree felling (Table 2, iii).

People unanimously agreed on the fact that the relationship with the FD has worsen after the formation of RNP. Almost half of the respondents (47.6%) complained about harassment from the FD and said they had to live under constant fear of getting booked under false charges, while 52.4% people were angry, because they were stopped from extraction of forest resources from RNP (Table 2, iv). Most people complained that they received no monetary help from FD in case of any case of wildlife attacks or crop depredation (59.7%), few accepted getting monetary assistance in cases of crop depredation or wildlife attack (10.2%) however some found the provided assistance inadequate (30.1%) (Table 2, v).

Majority of people faced problems due to living near the vicinity of RNP (80.3%), they listed attacks by wildlife on livestock or humans and fear of crop depredation as the major concerns (Table 2, vi). Most people refused to move to some other place to live as they have no other alternative (59.7%) or they have been living in the area for the generations (34.7%), they cited emotional and social ties to the area as the reason to stay and also because they are emotionally attached to the forest (Table 2, vi). Almost half of the people said that wildlife should be prevented from entering the villages and wanted electric fencing (47.5%), few people (21%) were in favour of restoration of their traditional rights to extract forest resources and living in RNP, 15.3% people wanted to be given an opportunity to manage RNP with the Forest Department or 11.2% demanded job opportunity in the park (Table 2, viii).

5. CONCLUSION

From the present study it can be concluded that the lack of income generation options and low income are the major causes for *Van Gujjars'* dependency on forests for their livelihood. Due to dependency on the nearby forest for their daily needs of fuel and fodder has caused contention of interests with forest department, and an inclusive participatory management model would be better suited for arriving to a satisfactory solution for the existing issues of conflict. By following an inclusive management model that tries to get stakeholders together who have competing interests, will help in achieving long term conservation goals. This study lays a

simple foundation for more in depth qualitative research among *Van Gujjars* to evaluate their dependency on forest resources after being relocated. The villages where they have taken up residence since relocation possesses most of the basic amenities however there seems to be a lack the coordination and policy failure that is preventing the relocated people from receiving any of the various beneficial governmental programmes.

While relocating people there needs to be a robust for monitoring the process of relocating as well a protocol for studying the effectiveness of this process in respect to changes faced by the affected after relocation. This approach needs to recognize that there are many parties and issues involved in which lead to conflicts, all parties and all issues have to be recognized and addressed. Incorporating the values of diverse stakeholder groups and a shift towards a more participatory approach to wildlife conservation began in the 1990s and now this participatory approach needs to be followed for solving the relocation related conflicts.

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Table 1. Demographic features of the respondent households

Demographic parameters	$\bar{X} \pm SD$ (n=104)
Average household size (no.)	9.75 \pm 6.73
Respondent's age (years)	53.16 \pm 16.02
Mean cattle population (no.)	7.41 \pm 4.26
Income per annum (Rs.)	13046.51 \pm 10167.50

Table 2. Perception of respondents on various issues of conservation and management of RNP

Views	%
(i) Awareness about the reason for setting up RNP (n=104)	
Don't know	3.0
For wildlife protection	97.0
Total	100
(ii) Responsibility for conservation of forest (n=104)	
People	21.8
Forest department	78.2
Total	100
(iii) Condition of forest after formation of RNP (n=104)	
Not improved	85.4
Wild animals protected, but trees are still cut	14.6
Total	100
(iv) Reasons for worsening of relationship between FD and People (n=104)	
FD books people under false charges and harasses them	47.6
People stopped from extraction of forest products	52.4
Total	100
(v) Getting help from FD in case of human wildlife conflict (n=104)	
Help received	10.2
Help received but is not adequate	30.1
No help received	59.7
Total	100
(vi) Problems faced due to living near RNP (n=104)	
Crop depredation by animal	41.9
No Problems	17.7
Fear of wild animal attack	40.4
Total	100
(vii) Will they agree to move to other place (n=104)	
Have nowhere to go	59.7
They have lived in the area for generations	34.7
No answer	5.6
Total	100
(viii) Suggestions for better management of park (n=104)	

No suggestions	7.3
Prevent wildlife by electric fencing	45.2
Restoration of traditional rights	21.0
People should be involved in management of RNP	15.3
Job should be given to them	11.2
Total	100

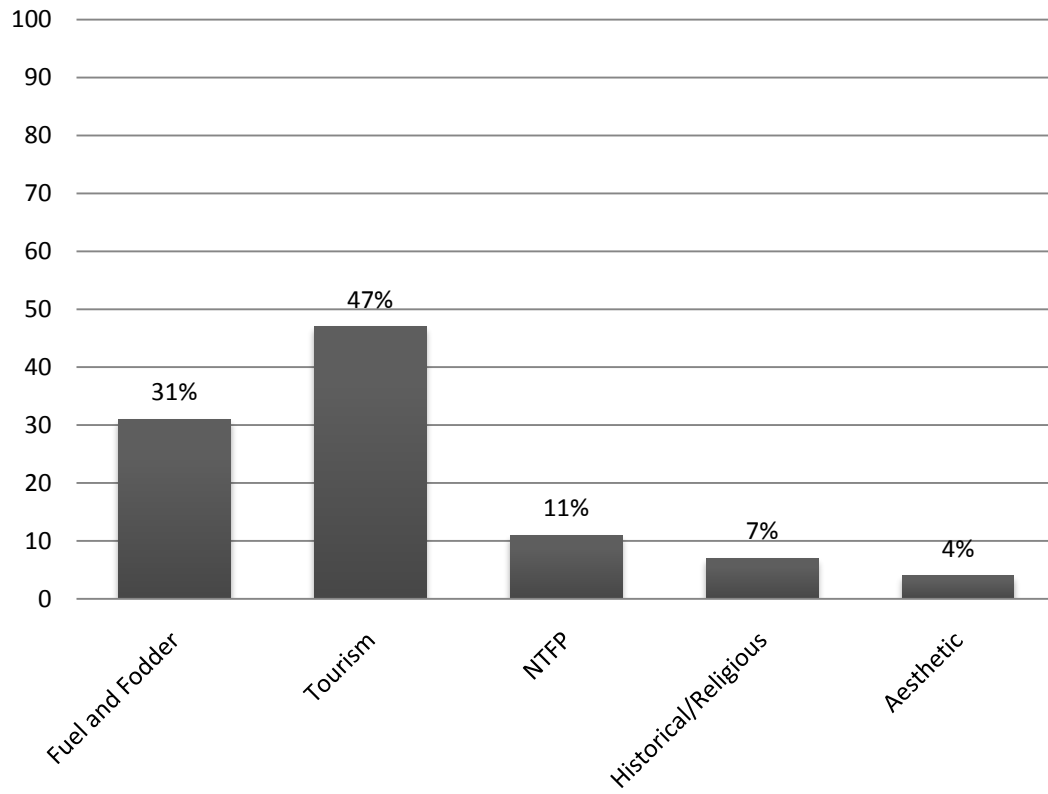


Fig. 1 Importance of services provided by RNP