

ABSTRACT

The indiscriminate use of natural resources and the resultant loss of biodiversity have shifted the focus of the world community towards participatory management of Protected Areas (PAs) for effective conservation and local livelihood outcomes. The present study attempts to identify various threats to biodiversity conservation and assess the conservation outcomes, analyze local households' participation in PA management institutions and dependency on PA, assess economic damage due to human-wildlife conflicts and people's tolerance towards wild animals, and analyze communities' attitudes towards relocation in Buxa Tiger Reserve (BTR). The study is based on both primary and secondary data. Primary data was collected from 300 households residing inside the BTR using a semi-structured questionnaire. Secondary data from various reports, forest departments, and remote sensing were also utilized. Besides, focus group discussions, key informant interviews, transect walk methods, and informal meetings were carried out. Descriptive statistics, econometrics models (e.g. OLS, logit, ordered logit) and Geographic Information System (GIS) techniques were used to analyze the collected data. Rapid climate change, frequent natural hazards and immense anthropogenic pressure have adversely affected conservation efforts. Also, the lack of wide-ranging active participation of local communities in Joint Forest Management Committee negatively influences the conservation outcomes. Temporal remote sensing data from 1990 to 2020 show a 4% decline in forest area, which is significantly influenced by livestock population, availability of local institutions, beat location, and forest fire. Further, most of the flora, fauna population, and fundamental ecosystem services are perceived to have decreased over the last decade. Most sampled households rely on BTR for fuelwood (88%) and livestock grazing (56.67%), and the extent of reliance is subjected to different households' socio-economic and demographic factors. Although ecotourism development in the BTR seems to have lessened extractions of forest resources, it is inadequate to alleviate the impact of PA restrictions on their livelihoods. Further, substantial crop damage by elephants (INR 1403750) and livestock depredation by leopards (INR 776500) was observed in the last year and has reduced peoples' tolerance towards elephants and leopards. Most households (59.17%) residing inside were reluctant to relocate from the BTR because of the low compensation amount, job insecurity, emotional bonding, and relatively comfortable living there. Hence, sustainable use and management of the BTR require both effective conservation measures and local livelihood strategies, adopting active participatory strategies in which both park authority and local people work collectively towards achieving sustainable conservation and livelihood outcomes.

Keywords: Protected area; Threats; Conservation outcomes; Local livelihoods; Participation; Human-wildlife conflicts; Relocation; Buxa Tiger Reserve; India