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Biodiversity conservation, relocation and socio-economic consequences: A case study of Similipal Tiger Reserve, India

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ABSTRACT

The paper examines (i) the factors affecting households' attitude towards conservation and relocation and (ii) the impact of relocation on the livelihood of displaced tribal communities of Similipal Tiger Reserve (STR) in India. The study uses primary data collected from 40 relocated households and compares them with 61 non-relocated households currently residing inside the core zone of STR. The study finds that the average share of income from agriculture, livestock and non-timber forest products are relatively higher in case of households residing inside the core area. Conversely, income derived from non-agricultural wage labour contributes maximum to the total income of the relocated households. Although access to educational facilities, transport and health care are reported to be some of the immediate benefits after relocation, food security of the displaced households is found to be adversely affected due to reduced crop diversity and output. The econometric results find that the working-age population and the literates in the region are more willing to relocate from the reserve. Particularly, the male members in the community are more desirous of participating in the relocation process and reaping the associated benefits as opposed to their female counterparts. The study gainsays the existing conservation paradigm via relocation and suggests that participatory capacity building of the affected community alongside consultation with all the stakeholders can go a long way in achieving the twin objectives of biodiversity conservation and local livelihood promotion.

1. Introduction

Conventional management practices of Protected Areas (PAs) across the globe are primarily based on the concept of habitat preservation by setting aside human-free zones, so that least human interference is ensured for nature to sustain itself (Karanth, 2007; Terborgh et al., 2000). The fundamental objective of human-free zones is to conserve species specific habitat for the survival of many threatened and endangered species and to reduce human-wildlife conflict (Karanth, 2007). However, in reality, PAs in many developing countries frequently house a large number of human habitations. Large-scale displacement of the local communities from the PAs, often termed as '*fortress*' conservation (Schimdt-Soltau, 2003), has resulted in misery and impoverishment (Shahabuddin et al., 2005).

Nevertheless, beneficial outcomes of such exclusionary conservation approaches are now challenged both on the account of failed conservation (Chatty and Colchester, 2002) and reduced livelihood securities in the post relocation period (Schimdt-Soltau, 2003; Geisler, 2003). The literature is replete with cases highlighting gross violation of traditional and legal rights bestowed upon the forest dwellers (Sharma et al., 2011; Kabra, 2009). Relocated people appear to have lost connection to their culture, history, traditions, identity, economic security and social justice (Kabra, 2009). Besides, a number of studies argue that conservation mechanism that fails to recognize entitlements of the local communities, undermines indigenous knowledge system, and limits local peoples' participation in the decision making process, further intensifies biodiversity loss (Sharma et al., 2011; Fairhead and Leach, 2003; McLean and Straede, 2003). Lack of adequate emphasis on livelihood restoration and resettlement planning has often triggered social unrest including the billowing of violent ultra movements in many sanctuaries and tiger reserves across the globe (Kumar and Kerr, 2013; Dash and Behera, 2012; Vasundhara, 2006). However, conservation induced relocation is also seen to have resulted in improvement of livelihood when it involves the local communities in the management of forest resources within a well-defined institutional framework (Dash and Behera, 2015; Karanth, 2007).

However, despite such contradictions, the subject remains highly under-researched in many emerging economies, specifically in India

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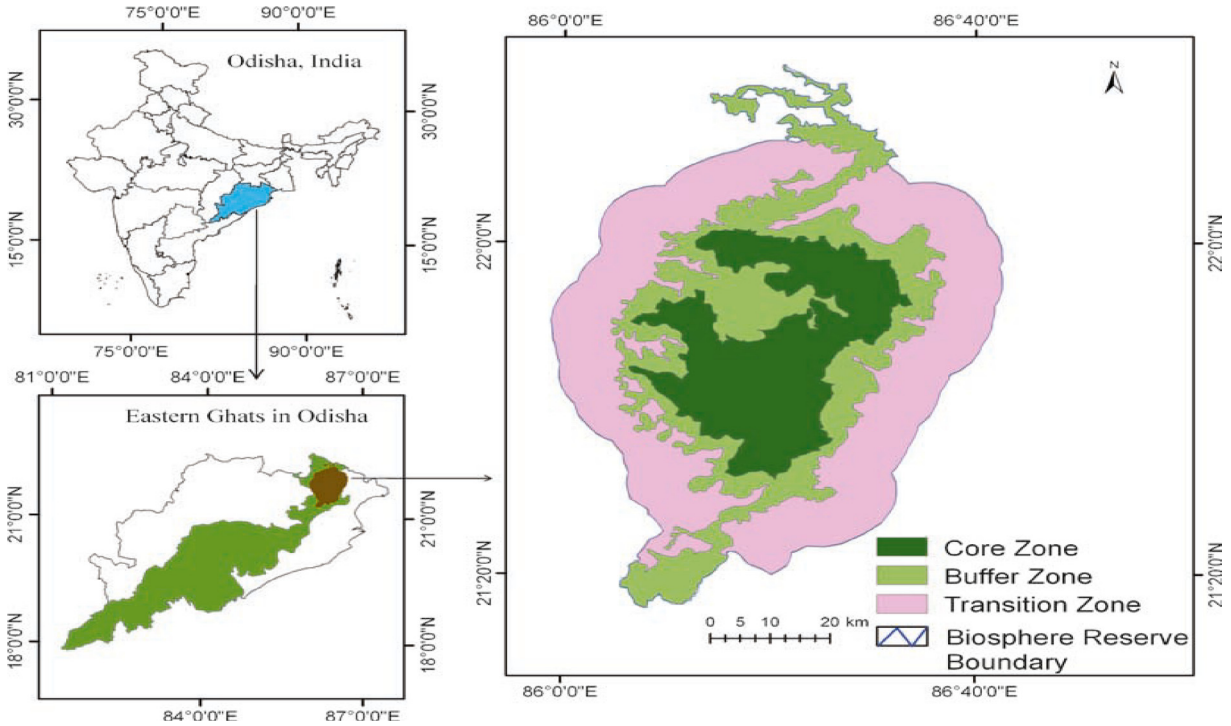

Fig. 1. Map of Similipal Tiger Reserve.
Source: ENVIS Centre on Wildlife & Protected Areas; 20/05/2018.

(Rangarajan and Sahabuddin, 2006). Neither does extensive research on the reasons behind unsuccessful relocation mechanism exist nor have studies on local tribal communities' perceptions toward relocation been studied comprehensively (Kabra, 2009; Karanth, 2007). Therefore, a comprehensive examination of the social, economic and cultural impact of relocation on the livelihood of local communities is essential, which the present study intends to do. In this context, the present study aims to (1) examine the attitude of local communities residing inside the reserve towards conservation and relocation; and (2) evaluate the existing relocation procedures and assess the associated socio-economic and livelihood impacts in the Similipal Tiger Reserve (STR) – a biodiversity rich natural reserve in eastern India. Specifically, the study raises a few fundamental interrelated questions. First, how do local people perceive biodiversity conservation and reserve management? Second, why some households are unwilling to relocate despite lack of access to basic amenities? Third, are the resettled households better-off as compared to those currently residing inside the reserve?

The paper begins with the description of study area, methodology and data as presented in Section 2. Section 3 examines the socio-economic and livelihood conditions of households living inside the core zone of STR. The socio-economic and livelihood conditions of the resettled households are analysed in Section 4. Section 5 concludes the study and puts forth key policy implications.

2. Study area, data collection and methods

2.1. Study area description

The Similipal Tiger Reserve (STR), located in the Indian state of Odisha, has been selected as the study region owing to its significance within the biodiversity map of India (Fig. 1). Similipal was declared as a 'Tiger Reserve' under the national flagship conservation program 'Project Tiger' in the year 1973. The *Indian Wildlife (Protection) Act, 1972* was promulgated in the state in August 1974, and a separate wildlife wing within the state forest department was created in June 1976. Further, the state government declared Similipal as a Wildlife sanctuary in 1979 with a designated area of 2750 sq. km. The reserve has a 'core zone' (1194.75 sq. km) which has been accorded the status of a national park by the state government. However, the central government has not issued final notification due to the non-eviction of three villages from the designated park area. The 'buffer zone' (1555.25 sq. km.) surrounds the core zone and the human activities and resources uses are managed in a way that reduces pressure on the core zone. The STR along with a 'transitional zone' of 2250 sq. km. has been included as a part of the World Network of Biosphere Reserves by UNESCO in 2009. Besides being a major biodiversity hotspot, it is the sixth largest biosphere reserve in the country. Nevertheless, '*Project Elephant*' was launched in 1992 as a conservation strategy for elephants and their habitat. Thus, the STR is a rare kind of PA having been simultaneously declared a biosphere reserve, a wildlife sanctuary and a designated national park, having two flagship conservation programmes, namely – *Project Tiger* and *Project Elephant*.

Nevertheless, the entire forest area of Similipal falls under the *Fifth Schedule*[1] category region (tribal sub plan area), because a majority of the forest dwellers are tribes. The forest is the homeland of tribal communities like the *Kolha*, *Bhumija*, *Bhuyan*, and *Munda*. It is also the abode for primitive tribes, namely *Birhors*, *Hill Khadias* and *Ujias*. Similipal is a grand repository of indigenous knowledge pertinent to conservation of biodiversity, ethno-botanical study and traditional ecological knowledge. The three villages[2] inside the core zone and the 61 villages inside the buffer zone, with a population of 12,500, directly depend on the STR for their daily livelihoods (Annual Report, 2012–13). Besides, the forests and water resources of Similipal also contribute to various livelihood activities of around 1200 villages in the foothills and surrounding areas of the transitional zone (Karanth, 2007).

[1] Under Article 244(1) of the Indian Constitution, designates schedule areas in large parts of country where the interests of the Scheduled Tribes are to be protected. The Scheduled area has more than 50 percent tribal population.

[2] Earlier there were four villages inside the core zone of STR namely – *Kabatghai, Jamunagarh, Jenabil* and *Bakua*. However, *Jenabil* village was relocated from the STR boundary in 2010.