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Is ecotourism a panacea? Political ecology perspectives from the Sundarban Biosphere Reserve, India

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Abstract Ecotourism is increasingly being promoted as an instrument that helps local socio-economic development and generate revenues to strengthen conservation of critically endangered biodiversity. It is often posited the *magic bullet* particularly across protected areas in the Global South. In theory, ecotourism can provide economic benefits to economically weaker communities living around protected areas and inspire them to protect the biodiversity in their own interest. This paper, however, provides empirical evidence that the so-called win–win is not an unqualified truism. With a case study on Sundarban Biosphere Reserve, world's largest mangrove biodiversity and home of highly endangered Royal Bengal Tiger, this article examines complexities involved in ecotourism and urges the need to make it context-specific. It assesses ecotourism's ability to provide livelihood alternatives to local communities and how can it help in conservation. The findings demonstrate an unequal, uneven, and skewed accumulation of benefits of ecotourism, often associated with market mechanisms of global environmental protection. As little as 36% of the interviewees claimed receiving direct or indirect benefits from ecotourism, the study finds. It failed to offer any benefits at all to the poorest and most marginal communities. On the contrary, it offered disproportionately larger returns to the remotely located capital invested in the local ecotourism facilities in the Sundarbans, thus defeating the principle behind the mechanism. In the area of conservation, tourism was blamed for increasing pollution and harming the health of the ecosystem by tourists who were considered *'outsiders'* and insensitive to the ecology by the locals and conservation agencies alike.

Keywords Ecotourism · Political ecology · Community-based conservation · Sundarban Biosphere Reserve · India

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Introduction

The Sundarbans is the largest mangrove forest in the world, spread over 10,000 km^2 across India and Bangladesh, comprising a vital part of the Bengal delta formed by the Himalayan Rivers the Ganges, Brahmaputra, and Meghna. The region is considered a critical global commons, a UNESCO heritage site, for its

ecological significance. Besides a high number of mangrove tree species, accounting for one-third of the global total, high biodiversity in the Sundarbans is also represented by other organismic groups with more than 200 additional plant species, more than 400 species of fish, over 300 species of birds, 35 species of reptiles, 42 species of mammals, as well as countless benthic invertebrates, bacteria, fungi, etc. (IUCN Bangladesh 2001; Gopal and Chauhan 2006). Among many important species, the top predator Royal Bengal Tiger has almost an iconic status. Conserving this ecological marvel has been a dominant agenda among global, regional, national and local governments, agencies, organisations leading to initiatives such as developing a unified programme of protection between India and Bangladesh by declaring the region as Sundarban Biosphere Reserve, under the man and biosphere programme of the UNESCO. However, one of the important barriers in conservation is thought to be a large human population in the area—over five million—constituting some of the most impoverished population even by the socio-economic standards in South Asia (Ghosh 2017). Conservation agencies have often tacitly suggested depopulating the region and pursued such an agenda locally, nationally or even globally (Gibson et al. 2016). However, Sundarbans residents feel that they are one with the nature and do not harm the ecosystem, but protect it and live sustainably (Ghosh 2017).

Ecotourism is thought to be a key instrument that might provide a win–win or a conciliatory yet effective solution to such seemingly polarised positions towards conservation between local residents and the authorities who manage such global commons. It is believed to have the potential of catering to biodiversity conservation and socio-economic development of local communities living around a protected area simultaneously (Blamey 2001; Stem et al. 2003; Stone and Wall 2004; Hearne and Santos 2005). In the Sundarbans, local and federal governments have made several attempts to develop the region as an attractive ecotourism destination for both international and national travellers. Encouraged by the local and national governments, many private operators and enterprises have started ecotourism initiatives along with the government in the past two decades (Ghosh 2014, 2017).

The theory of ecotourism started evolving around early 1990s with the works of Lindberg and Hawkins (1993) who provided detailed prescriptions and guidelines to promote successful implementation of ecotourism. However, the following few years saw a substantial increase in the number of case studies that led to increasingly varied definitions and identification of ground-level failures to the extent that it became discredited (Bottrill and Pearce 1995; Wall 1997). However, despite a lack of consensus on its definition, ecotourism in principle is often believed to be an ideal model of conservation and development—involving tourists, investors (in the tourism business), government officials, and local communities towards ecosystem and biodiversity conservation goals without compromising local development (Wallace 1992; King and Stewart 1996). The Ecotourism Society defines ecotourism as *purposeful travel to natural areas to understand the culture and the natural history of the environment; taking care not to alter the integrity of the ecosystem; producing economic opportunities that make the conservation of the natural resources beneficial to the local people* (Epler Wood et al. 1991, 75 quoted in Ross and Wall 1999). The World Conservation Union's (IUCN) Commission on National Parks and Protected Areas (CNPPA) defines ecotourism as *environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features—both past and present) that promotes conservation, has low visitor impact, and provides for beneficially active socio-economic involvement of local populations* (Ceballos-Lascuráin 1996, 20).

These definitions underline that ecotourism is a complex phenomenon, involving integration of many actors including tourists, resident peoples, suppliers, and managers and multiple functions (Ceballos-Lascuráin 1996), suggesting that, in ecotourism, natural areas and local populations are united in a symbiotic relationship through the introduction of tourism (Ross and Wall 1999). However, available evidence from around the world has uncovered various shortcomings of ecotourism which, in particular, undermine this relationship. Such evidence also uncovers how the implementation and processes of ecotourism deepen existing socio-economic inequalities between community groups, affecting initiatives of conservation (Wells 1996 quoted in Stem et al. 2003). One of the main shortcomings found across literature indicate that revenues from ecotourism do not reach local

communities (Healy 1994; Brandon 1996; Walpole and Goodwin 2000; Che 2006; Shoo and Songorwa 2013). Moreover, negative impacts of ecotourism such as pollution, solid waste generation, degradation of forest, trail erosion, disturbance to plants and animals, unstable income from the fluctuating number of tourists, and the commodification of nature and culture have also been highlighted (Jacobson and Robles 1992; Brandon 1996; King and Stewart 1996).

This study attempts to further our understanding and knowledge about ecotourism in the Indian Sundarbans in particular and Global South in general. Since sustainable development has evolved to be the unified global goal as declared by the United Nations for next 15 years (UNDP 2016), conserving the region's biodiversity has assumed even more importance. Also, with the increasing evidence of climate change and increasing CO_2 emissions, any further loss of this global commons in the form of deforestation can have catastrophic impacts not only locally but also globally. It is thus important to analyse barriers, synergies, and opportunities of ecotourism in providing intended and desired sustainable development solution, striking the right balance between local development and biodiversity conservation.

To analyse the perceived success, uncover barriers, and synergies of ecotourism with conservation and local development in the Sundarbans, this study employs a political ecology framework to disentangle power struggles that typically characterise the ecotourism landscapes in the country. The designs of ecotourism often replicate the propensity of colonial states to turn locally-owned and operated 'commons' resources into state-run territories (Bryant 1998), leading to social and economic marginalization of the farmers and the fisher-folk. Conflicts between politics of access and control over resources engendered by unequal power relations (Ibid.) often hinder ecotourism to help accrue any benefits for either the community or the biodiversity it attempts to conserve. Drawing from Bryant's framework of Third World political ecology, the analysis attempts to combine the concerns of ecology and a broadly defined political economy (Bryant 1998) that cautions against grand theoretical expositions. Since ecotourism, often following the designs and mechanisms of the market, fails to 'give a voice' to the concerns of local communities in the global South who anyway do not 'gain a voice' because of their marginality (Bryant 2015: 17–22), this study analyses discursive constructions of the daily negotiations of local communities with 'ecotourism'. The perceptions, beliefs, and truth claims of various actors and stakeholders uncover a terrain of entangled power struggles offering both an understanding about the possible entry points into the complexities of ecotourism in the Global South and how policies can address some of the seeming gridlocks.

Study area and methodology

There are a total 102 islands in the Sundarban Biosphere Reserve (SBR) (Fig. 1) in India. Among these, 48 islands are forested, and 54 are inhabited by humans (Basu 2010). The tiger habitat across 48 islands in the Sundarbans is different from other tiger habitats in India such as Shivalik Hills and the Gangetic Plains, Central India, the Eastern and Western Ghats, Northeastern Hills, and Brahmaputra Plains (Jhala et al. 2011; Ghosh 2014). It is the only tiger habitat in the mangroves which are salt tolerant halophytic plants found in tropical and sub-tropical coastal areas of the world (Upadhyay et al. 2002; Ghosh 2014). Tigers in the Sundarbans have efficiently adapted themselves with the daily tidal fluctuations of the river water, the salinity of the creeks, and the swampy ground infested with breathing roots.

The State Forest Department has divided the biosphere reserve into three zones for effective natural resource management: core, buffer, and transition. The core and buffer zones of the SBR form the Sundarban Reserve Forest (SRF), covering an area of 4263 km^2 (Mandal 2007). The transition zone spans 5367 km^2 and is inhabited by 4.5 million people (Danda 2010; Ghosh 2013). The SBR includes the STR covering an area of 2585 km^2. The core areas of the SBR and STR overlap with each other while covering an area of 1699.62 km^2. The buffer zone of the STR covers an area of 885.27 km^2. (STR Annual Report 2008–2009; Ghosh 2015). The inhabited islands, located along the boundary of the STR, were historically populated by migrants brought by the colonists in a 'civilising mission' (Richard and Flint 1990; Eaton 1990; Jalais 2010). After independence of India and creation of Pakistan in 1947, immigrants from Khulna, Barishal, and Jessore districts of Bangladesh came here in large numbers (Ghosh 2013).

The State Forest Department divides the buffer area of the STR into two zones: the multiple use zone and the recuperation zone. The rationality of this form of zoning in the buffer area was to avoid any kind of anthropogenic impacts on the core zone.[1] Regulated fishing, honey, and bee wax collection are allowed in the multiple use zone which is comprised of four forest blocks: Jhilla, Arbesi, Harinbhanga, and Khatuajhuri under Basirhat Range (STR Management Plan 2000–2010). The recuperation zone, which covers an area of 362.42 km^2, is also known as Sajnekhali Wildlife Sanctuary and comprises two forest blocks: Pirkhali and Panchamukhani. The Forest Department allows ecotourism in the Sajnekhali Wildlife Sanctuary (STR Management Plan 2000–2010; Ghosh 2013).

Since the establishment of the Sundarban Tiger Reserve in 1973, ecotourism has been consistently encouraged in the buffer area of the STR. Bengal tigers, estuarine crocodiles, spotted deer, and other wildlife attract between 30,000–40,000 tourists annually in the STR (STR Management Plan 2000–2001–2009–2010, 64; Ghosh 2013, 18). In 2012–2013, the number of domestic visitors in the STR was 139,532, and the number of foreign tourists was 3461 (STR Annual Report 2013–2014). The Forest Department regulates tourist flow via permits that are essentially the entry fee paid by each visitor. In 2012–13 tourist season, the entry fee was INR 40 (US$0.74)[2] per individual. Apart from one, all the ecotourism sites are located in the buffer area (885.27 km^2.) of the STR (Ghosh 2013, 2014). Pakhiralaya, one of the villages located on the edge of the buffer area of the STR, is the entry point of forest and wildlife-based ecotourism in the Indian Sundarbans. Until 2011–2012, tourists were allowed to visit one ecotourism spot in the core area, or the Critical Tiger Habitat (Ghosh 2014). However, in July 2012, the Supreme Court of India banned ecotourism from the core area of tiger reserves in India,[3] which was relaxed a little in October 2012 after the National Tiger Conservation Authority (NTCA) framed guidelines for tourism in the core area of the tiger reserves (Ghosh 2014).[4]

This study was conducted with the local communities of the Gosaba, one of the thirteen administrative blocks of the district of South 24-Parganas with a total population of 246,598 (Directorate of Census Operations, District Census Handbook: South 24-Parganas 2011). Extensive fieldwork including ethnography and data analysis was conducted between 2012 and 2015 in the region by the authors. The inhabited parts of Gosaba share a common boundary with the Sundarban Reserve Forest, which makes it the vital entry and exit point of ecotourism. In Gosaba, we particularly focused on three villages or *mouzas*[5] named Sadhupur, Pakhiralaya, and Gosaba for these are adjacent to the boundary of the Sundarban Tiger Reserve. There were 60 semi-structured taped interviews as well as a questionnaire survey conducted in the Gosaba Block. Among these 60 interviews, twenty-five were conducted with the local residents at Pakhiralaya. The remaining 35 were conducted with the local fishing communities to examine the impacts of conservation on their livelihood. Both adult male and females were interviewed. However, interviewees from the fishing communities were largely male, as fishing is predominantly men's occupation. Interviewees were selected using a snowball sampling method (Noy 2008), beginning with key informants already known. These interviews lasted for 20 min–1 h each. All interviews were conducted in Bengali language since authors both are native speakers alike the respondents. Additionally, numerous informal interviews were conducted while living with the members of fishing communities and other residents including the local tourism facilities in Gosaba.

Action research was also carried out as part of ethnography. Authors took part in a three-day ecotourism tour including a river safari, visiting the ecotourism centres of the government, spending time in the watchtowers. The tour also hired a local government tourist guide who was a local resident with experience of working as a guide for over

[1] Interview with the Director of the Sundarban Biosphere Reserve (SBR) on Tuesday, July 31, 2012.

[2] A conversion rate of US$ 1 = Rupees 54.05 (2012) was used.

[3] See, for example, Indian court bans tourism in tiger reserve 'core zones' at http://www.bbc.co.uk/news/world-asia-india-18967906 (last accessed on 17 January 2016).

[4] See, for example, "Supreme Court lifts ban on tourism in core areas of tiger reserves" at http://goo.gl/mek3jK (last accessed on 17 January 2016).

[5] A *mouza* is the smallest administrative unit organized by the British in colonial India. The purpose was to collect revenues. Each *mouza* has a Jurisdiction List (J. L.) number by which it can be identified. There could be one or more than one village in a *mouza*. The Census of India provides village level data and for them, a *mouza* is equivalent to a village.

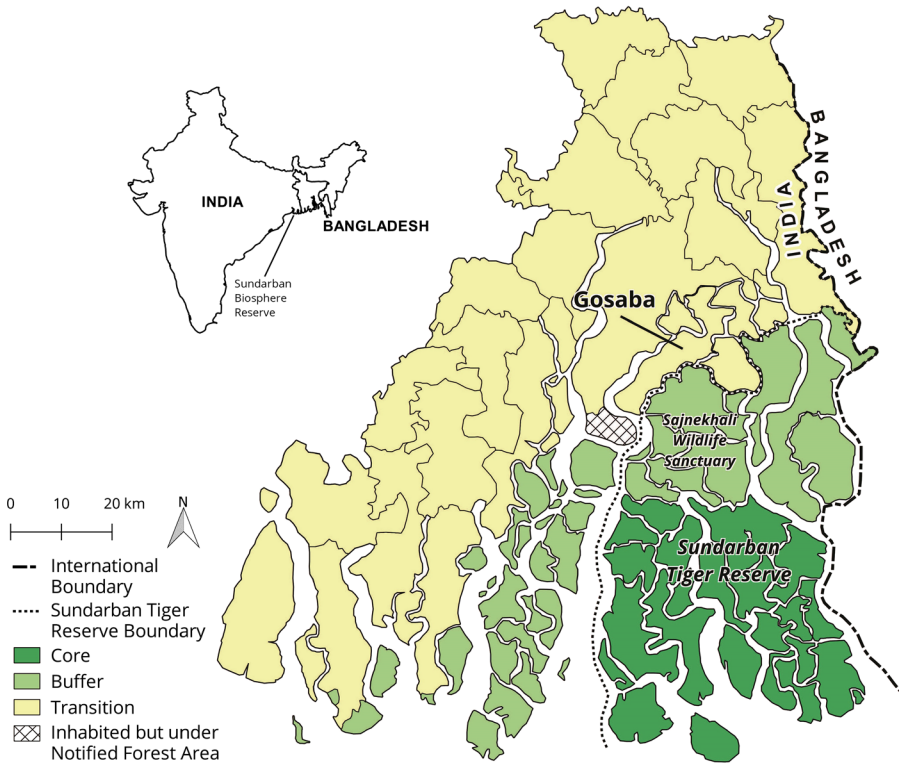

Fig. 1 Sundarban Biosphere Reserve (SBR) is divided into core, buffer, and transition areas. The Sundarban Tiger Reserve (STR) is a part of the larger SBR. The core of the STR overlaps with the core of the SBR. The transition area is the densely settled area located outside the buffer region. Gosaba block, located within the transition area, is the primary research site

10 years in the Sundarbans. The tour based from Bali, located opposite the buffer area of Pirkhali Forest III, which is part of the SRF. The typical day of the river cruise started early in the morning at 6 am and continued till 5 pm. The tour was organised in the lean season, in the month of August, 2015. Two meals—breakfast and lunch—were served in the boat.

The questionnaire survey was conducted with the visitors (n = 100) in the 2011–2012 season to explore the tourism profile of Pakhiralaya. In 2011, a pilot survey was conducted with the tourists to revise the survey questionnaire based on the tourists' feedback. Every fifth visiting tourist was surveyed at Pakhiralaya in the evening when tourists were most available. Several types of data were collected through the questionnaire survey including demographic information, income, cost of tours, tourists' duration of stay, and tourist activities (see Table 1). Only those surveyed data are used that are relevant to the scope of this paper.

Ecotourism in India

In India, ecotourism started gaining popularity in the 1970s (Banerjee 2007). About 90% of India's protected areas are open to tourists (Kumar 2002; Banerjee 2007). Protected areas such as the national parks in Ranthambore, Kanha, Nagarhole, Periyar and Sundarbans are well-known ecotourism destinations in India, famous for tiger sightings (Goodwin and Chaudhary 2017; Banerjee 2012; Karanth et al. 2012). However, the high number of visitors these parks attract during the tourist seasons offten pose additional challenge to the very objecrive of ecotourism—wildlife and ecosystem conservation. In India, conservation efforts are already constrained by high density resource-dependent rural population living on the park boundaries; ecotourism often adds further complexity in the process for its high level of corruption, absence of clear systems of benefit flows,

Table 1 Types of data collected through questionnaire survey with tourists at Pakhiralaya

Sl. nos.	Type of data										
1.	Age	Below 29		29–39		40–50	51–61			Above 61	
		22%		28%		23%	17%			10%	
2.	Sex	Male					Female				
		75%					25%				
3.	Family Income	5001–20,000	20,001–35,000	35,001–50,000	50,001–65,000	65,001–80,000	80,001–95,000	95,001–110,000	110,000–125,000	125,000–140,000	> 140,000
		35%	34%	18%	1%	4%	0%	3%	0%	0%	5%
4.	Tourists' duration of stay	% of tourists stayed 2 days			% of tourists stayed 3 days		% of tourists stayed 4 days			% of tourists stayed more than 4 days	
		37%			58%		3%			2%	
5.	Primary purpose of visit	Wildlife Observation	Recreation	Relaxation	Fieldwork		Traveling	Tour Management	Environmental Education		Enjoying Nature
		44%	43%	20%	3%		4%	1%	1%		11%
6.	Cost of package tour	< INR 3000			INR 3000–6000			INR > 6000			
		48%			39%			13%			
7.	Tourists' activities	Photo taking	Observed wildlife		Riding a dinghy	Took a tour in the village	Talked to the tour guide	Watced Banabibi pala	Bird watching		Others
		91%	89%		2%	22%	11%	17%	41%		1%
8.	Percentage of tourists bought local items at Pakhiralaya	Honey			Crabs		Local artifacts		Others		
		47%			1%		12%		6%		
9.	Level of satisfaction (5 point rating) among tourists regarding condition of watch tower	Fully satisfied	Moderately satisfied		Neither satisfied nor unsatisfied		Unsatisfied	Fully unsatisfied	No Response		Not applicable
		7%	21%		25%		32%	14%	1%		0%
10.	Level of satisfaction (5 point rating) among tourists regarding condition of jetties	Fully satisfied	Moderately satisfied		Neither satisfied nor unsatisfied		Unsatisfied	Fully unsatisfied	No response		Not applicable
		2%	24%		16%		29%	29%	0%		0%
11.	Level of satisfaction (5 point rating) among tourists regarding service provided by the tour operators	Fully satisfied	Moderately satisfied		Neither satisfied nor unsatisfied		Unsatisfied	Fully unsatisfied	No Response		Not applicable
		43%	17%		3%		3%	1%	1%		32%
12.	Level of satisfaction (5 point rating) among tourists regarding state of transportation in Gosaba block	Fully satisfied	Moderately satisfied		Neither satisfied nor unsatisfied		Unsatisfied	Fully unsatisfied	No Response		Not applicable
		3%	40%		21%		11%	6%	1%		18%

Table 1 continued

Sl. nos.	Type of data							
13.	Level of satisfaction (5 point rating) among tourists regarding state of transportation from Kolkata to Sundarbans	Fully satisfied	Moderately satisfied	Neither satisfied nor unsatisfied	Unsatisfied	Fully unsatisfied	No Response	Not applicable
		8%	55%	19%	10%	6%	1%	1%
14.	Level of satisfaction (5 point rating) among tourists regarding service provided by the tour guides	Fully satisfied	Moderately satisfied	Neither satisfied nor unsatisfied	Unsatisfied	Fully unsatisfied	No Response	Not applicable
		4%	7%	1%	0%	0%	0%	88%
15.	Level of satisfaction (5 point rating) among tourists regarding condition of earthen embankment	Fully satisfied	Moderately satisfied	Neither satisfied nor unsatisfied	Unsatisfied	Fully unsatisfied	No Response	Not applicable
		0%	17%	18%	42%	20%	1%	2%

and absence of strong monitoring institutions (Banerjee 2007, 2012; Karanth et al. 2012).

Perception of local communities on the benefits of ecotourism vary across South Asia. In a comparative study conducted in Indian and Nepalese protected areas found ecotourism was perceived more positively in the latter (Karanth and Nepal 2012). Communities living around the Kanha and Ranthambore National Parks in India felt outsiders benefitted more from tourism and complained about negative impacts of tourism on the local culture (Ibid.). Such negative perceptions seem to result in leakage of the tourism revenue either to private tour and lodge operators or leads it only to the government treasury (Kumar 2002; Banerjee 2007). This is often because of the governance of ecotourism in India which is, largely controlled by the Forest Department which lacks formal training in managing ecotourism–less than 5% of revenue earned from the entrance fee in Indian protected areas reach to local communities living around the PAs (Narain et al. 2005; Banerjee 2012). The primary responsibility of the ecotourism managers in India comprise restricting the number of visitors, tourist activities, and infrastructure within PAs (Kumar 2002; Banerjee 2007) but outside park boundaries, they have little control on the private tourist facilities. Often unregulated and unrestricted, such tourism activities—85% of which is located within 5 km of the park boundaries (Karanth and DeFries 2010)—significantly affect wildlife and their habitat (Kumar 2002). Thus, the Forest Department considers tourism in PAs as problematic for its interference with wildlife conservation (Hannam 2004; Banerjee 2012), which compromises livelihood benefits of the local communities that ecotourism can provide (Banerjee 2007). Within the contested terrain, however, ecotourism around protected areas in India grew at a rate of 15% per year (Karanth and Krishnadas 2011, 129) over past two decades.

In 1998, the government of India provided operational guidelines on ecotourism and identified its key constituencies such as the government, operators, visitors, host communities, NGOs, and research institutions (Seema et al. 2006). The role of host communities was focused on protecting local ecology and providing services to ecotourism. The Eco-Development Committee, a constituent of Joint Forest Management (JFM), became an integral part of the National Forest Policy of India in 1990, and by 2004, all of the states in India adopted JFM as an

official management policy (Jodha 2000; Ghosh 2008). It brought a significant change in the Indian forest policy by institutionalising community participation in conservation. However, despite various community-based conservation projects in different parts of India under JFM such as Community Forest Management (Sarin 2007) and *Van Panchayats* or forest councils (Sarkar 2008), its success varies (Springate and Blaikie 2007). JFM has even reportedly undermined the local communities' rights to access the forest (Sarin et al. 2003; Sarin 2007).

Following these guidelines, the state of West Bengal emphasized on ecotourism as one of the key instruments of conservation and community development and in its 2008 tourism policy, the state government recognized 'ecotourism' as a specific tourism product in which local stakeholders should participate. Private stakeholders and the establishment of private hotels and resorts around protected areas were also encouraged (Department of Tourism, Government of West Bengal 2008). In 2011, The Ministry of Environment and Forest, Government of India, prepared detailed guidelines for ecotourism in protected areas of India, which emphasized on the participation of local communities in tourism activities as well as benefit-sharing with local people. All tourist facilities located within five km. of the protected area was needed to pay 10% of their revenue to the state government to be spent on biodiversity conservation and livelihood development.[6]

Findings

Complex governance structure

However, few local stakeholders were aware of this new guideline in 2012 and 2015 when the authors conducted their fieldwork in Pakhiralaya. On the contrary, ecotourism in the Sundarbans was found to be entangled in the multi-layered structure comprising a diverse group of actors and institutions in a highly complex arrangement. The actors and institutions include village-level EDC, tourism, forest and rural development departments, the *Panchayat* or the village councils. Currently, there are 14 EDCs around the STR (STR Annual Report 2007–2008) with varying degrees of influence on ecotourism in the region. Majority of the members and the heads of these EDCs were found to be those already in positions of power either socially or politically, influencing the governance of ecotourism accordingly, replicating existing inequalities entrenched in the forest and ecosystem governance that has already been criticised by other scholars (see Sivaramakrishnan 2000; Banerjee 2013).

'Package tours'—arranged by tourism companies from the nearest megacity, Kolkata, comprise most of the tourism activity in the STR. Such tours include lodging, food, and transportation and all logistics such as park entry. Several price points of the package tours were found: 48% of package tours had per person cost of < INR 3000 ($55.50), 39% of package tours had costs of INR 3000–6000 ($55.50–111.00), and 13% had a per person cost in excess of INR 6000 (> $111.00). Although package tours are more expensive compared to self-arranged trips, 69% of the surveyed tourists opted for package tours at Pakhiralaya (Fig. 2a, b), which probably indicates difficulties in being able to negotiate successfully with multiple agencies and authorities while planning and traveling through the region. The average length of visits was 2–3 days (Fig. 3). Most of the surveyed tourists at Pakhiralaya came from Kolkata and other districts of West Bengal (Ghosh 2014), in the snowball sampling conducted in 2015 as well as interviews with managers in private as well as government tourism facilities revealed that there were few international tourists. Managers claimed that this seriously affected the revenues and prospects of ecotourism; smaller number of international tourists who did travel to the region was restricted to the season between November and February.

At present, there are 19 hotels[7] at Pakhiralaya including a Guest House owned by the state

[6] See "Guidelines for Ecotourism in and around Protected Areas" at http://www.moef.nic.in/downloads/public-information/Draft%20Ecotourism%20Guidelines%202%20June.pdf (last accessed on 17 January 2016).

Also see "Tourism facilities near wildlife habitats to pay 10% of revenue soon" at http://timesofindia.indiatimes.com/home/environment/flora-fauna/Tourism-facilities-near-wildlife-habitats-to-pay-10-of-revenue-soon/articleshow/14858774.cms?

[7] These nineteen hotels are: Chital, Zilla Parishad Guest House, Aram, Apanjan, Avinandan, Banani, Krishnakunja, Mainak, Madhuban, Barman Villa, Hanshoraj Resort, Mangrove, Sundari, Hemanta Lodge, Swastik, Shri Ma, Pramila, Mouchak, and Tiger Land. Among these 19 hotels, only the Zilla Parishad Guet House is owned by the state government.

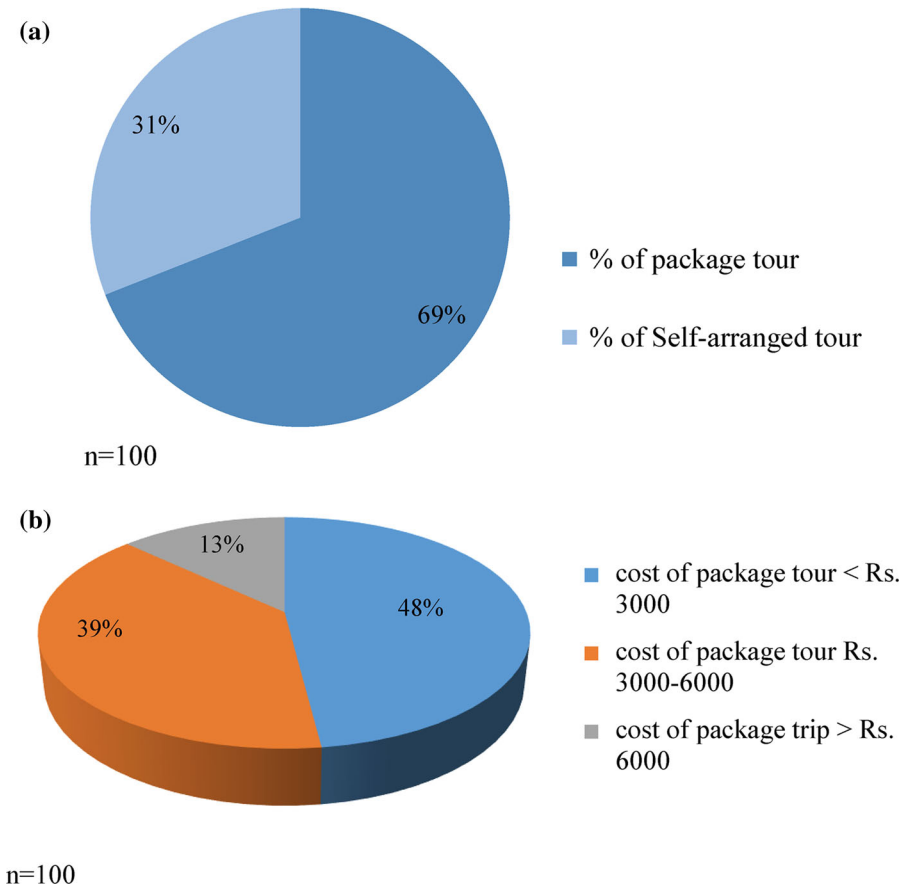

Fig. 2 **a** Types of tours opted by the visiting tourists at Pakhiralaya, Gosaba. **b** Percentage distribution of per head cost of package tours opted by the tourists at Pakhiralaya, Gosaba

government. The remaining 18 hotels are private enterprises (Ghosh 2013: 18). The cost of renting a hotel room increases during the peak season of tourism. Of the 19 hotels, four are high-priced with an average room rent of US$ 25.43 per night, 13 are medium priced with an average rent of US$ 12.95 per night, and two are extremely low priced with an average rent of US$ 6.47 per night. Most of these hotels are located along the Gomor River (Fig. 4), which facilitates transportation of tourists from the city of Kolkata and other adjoining areas. Among 18 private hotels, nine are locally owned.[8] Remaining seven hotels are entirely owned by the remotely-located entrepreneurs and only two have joint ownerships with a local resident of Pakhiarlaya. During the peak tourist season, especially New Year's Eve when all these hotels cannot accommodate an excess number of tourists, local hotel managers refer tourists for home-stays with people known by those hotel managers, which was charged INR 200–300 (US$ 3.70–5.55) per night.

A six-cylinder boat—often called a launch—is allowed to carry a maximum of 64 people (Ghosh 2014) whereas smaller boats carry 25–35 tourists at a time. A one-day river cruising from Pakhiralaya includes visiting at least four ecotourism sites including Sajnekhali, Sudhanyakhali, Dobanki, and Netidhopani. Tour operators need to pay an entrance fee for their boats as well as for visitors at the office of the STR Ecotourism Range located at Sajnekhali (Ghosh 2014). Also, tourists are not allowed to stay at night

[8] The idea of local ownership could be relative. An owner who lives in the Gosaba Block can be considered a local, and in contrast, an owner who lives outside the Gosaba Block can be regarded as an outsider. Here, I consider lodge owners as "local" who live in the Sundarban region, in the nineteen community development blocks of South and North 24 Parganas.

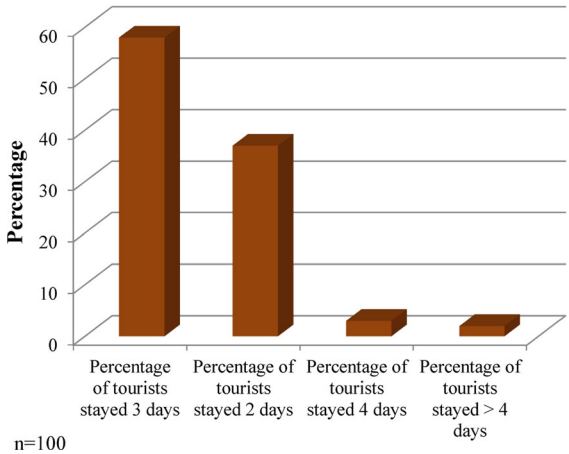

Fig. 3 Bar Graph showing the duration of stay of the visiting tourists at Pakhiralaya, Gosaba

except at Sajnekhali where the state government runs a tourist lodge. However, this is not a preferred site for tiger visitation as compared to other ecotourism sites, especially Sudhanyakhali.

In the recent years, conflicts between tourism interests of the State and the conservation agencies has intensified further. These two sets of institutions are currently locked in a power struggle over the rights of the tiger territory and have approached legal recourse to ascertain their respective authorities (Gupta 2015). The National Green Tribunal (NGT) recently has delivered a verdict that requires the state government of West Bengal to demolish all unauthorized constructions in the Coastal Regulation Zone-1 or CRZ-1 across the Sundarbans. CRZ-1 is the ecologically sensitive coastal areas in which no development activities are allowed by the Ministry of Environment and Forests, Government of India (ibid). An *Amicus Curiae* was appointed by the Tribunal to oversee that the demolitions are carried out. The Tribunal's verdict was challenged by the state government but was eventually turned down. The State then moved to modify the legislation and drop the word "biosphere" which was found to be the problem. The state government also is exploring options of regularising and legalising the ecotourism facilities and constructions, revealed interviews with the government officials. In 2016 November, yet another verdict was delivered by the NGT to stop all kinds of solid waste and noise pollution in the ecosystem facilities, tourist boats, and vehicles that the Tribunal thought to be detrimental to the wildlife and ecosystem of the Sundarbans.[9]

Unique nature: no safaris, only passive gazing

Since traversing the region is only possible through the rivers and waterways, the experience is largely 'passive'—tourists are mere observers of the wilderness and foliage from a safe distance. Citing any wildlife from the open deck of boats and launches is difficult to the extent of being impossible if the animals do not come on the banks of the waterways, tourists are not allowed to disembark on land except at the watchtowers and ecotourism hubs in the buffer area of the STR. Cruising through the tidal channels are only allowed during the day, from sunrise to sunset and boats are not permitted to venture deep into the mangrove forest and cruise through narrow tidal channels as a protection measure from tigers.

While low citing of any wildlife appeared to be one distinct disadvantage of the Sundarbans, the other serious drawback was the expectation of majority of travellers to cite a tiger in the wild. Tiger was indeed found to be the star attraction of ecotourism because of two major reasons, the promotional activities from the government was found mostly focused on the top predator while the pride of seeing the national animal in one's own backyard was the other universal sentiment across tourists. Almost all the local tourists interviewed lamented not seeing a tiger in the wild. The foresters and local guides, however, claimed that tiger citing was very rare and depended entirely on chance. Like other animals, the only opportunity of citing a tiger was when the animal swam through the channel, rested on the banks of the islands or came out of the forest to the banks. The guides pleaded helplessness saying that they were often abused for not 'showing' a tiger to the tourists who lost patience and poured their frustration onto the guards. The disappointment also led them to engage in other activities such as playing card games and consuming alcoholic beverages despite a ban on the latter. Not

[9] See "NGT orders ban on noise, solid waste pollution in Sundarbans" http://timesofindia.indiatimes.com/home/environment/pollution/NGT-orders-ban-on-noise-solid-waste-pollution-in-Sundarbans/articleshow/55616060.cms (last accessed on July 6 2017).

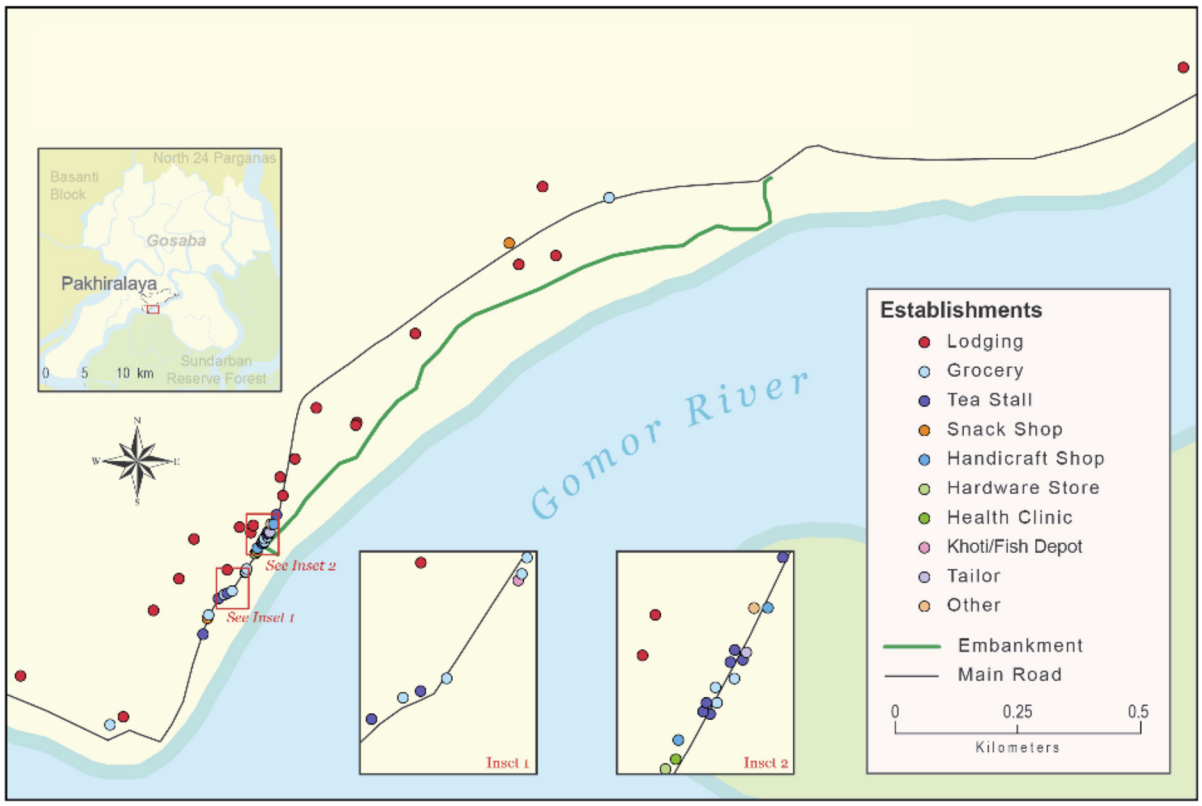

Fig. 4 Distribution of hotels and shops along the bank of Gomor River, Pakhiralaya, Gosaba

many were interested in getting absorbed in the nature that was quaint itself, claimed the guides.

The guides however, pointed out to a perceptible difference between local Indian tourists and international ones. The latter were keener to enjoy an overall experience of the mystic landscape whereas the former was keen on tiger citing and indulged in unruly behaviour if they failed to see a tiger. Since the number of international tourists was considerably lower, the guides said that the purpose, prospect, and potential of ecotourism were not being fulfilled. The guides, who were almost always from the local community, claimed that their kinship with the forest were far deeper than the city dwellers and revellers. The difference in values of the forest, conservation protocols, ideal behaviours and exchanges differed greatly between these guides and majority of the tourists.

Clashing values, cultures, and causes over *'ownership'* and *'utilisation'*

Conflicts of interest, politics of access and rights of using the local resources underscore two sets of contestations—between conservation and ecotourism; and between ecotourism and local development. These contestations are manifested through 'insider'-'outsider' debate and entanglements in the governance. Local residents of Pakhiralaya blame the tourists for their lack of sensibilities of being eco-tourists as their main motive is to have fun and excitement rather than enjoy nature. According to local tour guides and boatmen, firstly, most tourists only want to see a tiger and not much interested in anything else. Secondly, even if they are lucky enough to see a tiger from the boat, they shout either in excitement or fear. The tourists were described by the guides as *'noisy'*, *'unruly'*, *'insensitive'* who violate elementary codes of ecotourism. One guide said that the tourists often dressed in such bright colours and made so much noise

which itself diminished chances of citing wildlife as it would be scary for animals. Finally, the tourists were squarely blamed by the local residents, tourist guides and forest guards alike for increase in the pollution levels in the region. Majority of the tourists had little concern or decorum about waste disposal, said the guides. On the contrary, many tourists threw plastic plates, cups used for serving breakfast and lunch into the river, the locals said, despite a ban on plastic in the entire SRF including the STR (STR Annual Report 2009–2010). Under the ban, tour operators were responsible for keeping the river clean or pay fines of INR 5000 (US$ 92.50) for any plastic disposal.

While the local residents and guides blamed the tourists, some of the tourists who participated in the survey complained about monotony in the boat ride for a day overlooking the forests without seeing any animals. The density of animals was anyway thinner in the buffer zone where tourism is allowed. On top, the geography of the region made it difficult for sharing wireless networks where one citing can be quickly announced in the wireless network for all the touring vehicles to converge at the same spot, unlike safaris in the African Savannahs. The tigers, even if spotted, move fast and disappear in the thick, camouflaging foliage quickly. The boats are not fast enough to reach the spot from other intricate web of rivers and the speed of the boats also depended on the tide conditions, said the boatmen. This was perceived as a major disappointment for tourists; often same groups of tourists distributed in different boats had different citing experiences.

During the interviews, local women at Pakhiralaya clearly demonstrated a negative perception about ecotourism because of the increased habit of alcohol consumption among men, its resultant domestic violence, and disruption in family lives. As tourists mostly indulged in alcoholic beverages during their visit at Pakhiralaya, local shopkeepers had started selling alcohol on the sly, without procuring necessary licenses. Women who protested against the illegal sale of alcoholic beverages were intimidated by the shopkeepers involved in such business. Residents not involved in tourism and the women largely shared the same perception about ecotourism—that it merely benefitted the lodge owners, majority of whom were not even local residents. The locals described their relation with the nature as one of kinship whereby they co-constructed each other. Some of the tourist guides, who were local residents from either the farming or fishing communities, claimed that the tourists from the cities were not only outsiders who could not appreciate such a relationship but were also quite detached from the nature and its laws. The difference between values and meanings that the region conveyed to the locals or *'insiders'* and tourists or *'outsiders'* resulted in a conflict over *ownership* that the former perceived to have over the region. One of the reasons behind the seeming disenchantment of the locals to ecotourism also appeared to be the flight of the capital or the *utilisation* of the region that deepened the existing social inequalities.

Flight of capital and unequally shared benefits

Tourism in the SBR is predominantly seasonal but even during the season, only 1.5% of the total population of Pakhiralaya benefitted directly from tourism by working full time at different private hotels.[10] Only 60 people worked full time at these private hotels (see Table 2).[11] Direct engagement in ecotourism required locals to buy a boat or construct a hotel, which required significant investments, impossible for the local population considering their socioeconomic profiles. A new six-cylinder boat cost at least INR 1,500,000–1,600,000 (US$ 27,752.08–29,602.22). Only one local respondent (n = 25) who was directly involved with tourism business at Pakhiralaya had a two-cylinder mechanized boat. As the locals did not possess necessary collaterals, banks refused loans to them that could have helped buying a boat or building a tourist lodge.

Interviews with the local hotel revealed that the bulk of the economic benefits from the business was flowing to non-local elites residing outside the Sundarbans. Some of the local shopkeepers (including grocery and tea stall owners), van-pullers and daily wage laborers (e.g. cook, sweepers) enjoyed indirect benefits of ecotourism. However, as most of the

[10] According to 2011 census of India, Pakhiralaya's total population is 3946.

[11] We consider direct economic benefits include earnings from full time and part time jobs at the hotels, earnings as a boat driver, tour guide, and as a local tour operator. Earnings from selling grocery, occassional home stays, vegetables, tea, and snacks, pulling vans, performing a popular folk tale *Banabibi Pala*, and daily wage labor as a cook or construction work are considered indirect economic benefits.

Table 2 The table shows the number of local employees at different private hotels of Pakhiralaya during the tourist season of 2011–2012

Name of the hotels at Pakhiralaya	Type of hotel	No. of local employees during the tourist season
Mangrove	Medium-priced	3
Chital	High-priced	2
Mainak	Medium-priced	3
Barman Villa	Low-priced	1
Avinandan	High-priced	4
Hemanta Lodge	Medium-priced	1
Pramila	Medium-priced	3
Swastik	Medium-priced	4
Shri Ma	Medium-priced	0
Mouchak	Medium-priced	2
Apanjan	Medium-priced	9
Banani Resort	High-priced	5
Sundari	Medium-priced	2
Madhuban	Medium-priced	5
Tiger Land	High-priced	6
Aaram	Medium-priced	4
Hanshoraj	Low-priced	2
Krishnakunja	Medium-priced	4
Total		60

tourists accessed package tours provided by remotely-located tourism companies which assumed complete responsibility for food and accommodation, tourists bought limited or no food during their stay from local shops. Local produce such as honey, artifacts, and crabs had a better market on which 66% tourists spent their money. However, curtails and nexus between tour operators and certain local vendors seemed to manipulate the market and supplies. Local power struggles often determined which curtail would profit more than the others.

About 300 van-pullers gained indirect benefits of tourism at Pakhiralaya, and during the peak season of tourism, they could earn at least INR 100 (US$1.85) per day (Fig. 5). During the peak season of tourism, each van-puller made five to six trips per day between Gosaba Bazaar[12] and Pakhiralaya which reduced to three-four trips during the off-season. Indirect economic benefits from the construction of new hotels at Pakhiralaya sometimes provided wage labour to the local people for limited periods.

Interviews with different stakeholders revealed that positive economic benefits of ecotourism had uneven spatial distribution even through the region. Within the village of Pakhiralaya, people who lived close to the hotels along the bank of Gomor River, could reap better benefits of ecotourism. At Pakhiralaya, only 36% of the total interviewees (n = 25) gained direct and indirect benefits from ecotourism in the form of full-time and part-time jobs at the hotels and boats during the tourist season, selling grocery, vegetables, tea and snacks, and pulling vans. Here, it must be clarified that this 36% is based on the individual ideas about what economic benefits meant to them. Also, this fact did not match with the idea of the visiting tourists who thought tourism had a positive impact on Pakhiralaya. About 86% of tourists in 2011–2012 believed that tourism provided alternative income opportunities to local people of Pakhiralaya.

One perceptible change elicited by ecotourism was land prices, which appears to have escalated between 2002 and 2012 (Fig. 6). Pakhiralaya *Dakshin Para* is the most favourable site for local and non-local entrepreneurs who wanted to invest in tourism, for its proximity to the Gomor River, the main transportation corridor from various entry points to the Sundarbans. In 2002, the price of per *bigha*[13] of land at Pakhiralaya *Dakshin Para*,[14] a locality located along the bank of Gomor River, was INR 60,000–80,000 which increased to INR 600,000–700,000 in 2012. Out of total 332 households at Pakhiralaya Dakshin Para, 40 households (12%) sold their land for tourism. At Pakhiralaya *Paschim Para*, another locality in the village, out of 325 households, 10 households sold their land for tourism development. Altogether 50 households sold their land for tourism at Pakhiralaya. Increasing land prices at Pakhiralaya acted as a catalyst, motivating people to move towards the Gosaba Bazaar or further towards the city of Kolkata

[12] Gosaba Bazaar is the primary market in the Gosaba mouza. It is one of the busiest area in the village. In order to reach Pakhiralaya, one may need to visit Gosaba Bazaar first and then hire a van from there.

[13] *Bigha* is a unit generally used to measure land area in South Asia. In West Bengal, 1bigha is equivalent to one-third of an acre or 0.3306 acre.

[14] Para is a Bengali word which could be interpreted as a neighbourhood or a locality. The word Dakshin means south. So, Dakshin Para means a neighbourhood located in the south.

Fig. 5 A van driver plying a van-rickshaw along the paved road between Gosaba Bazaar and Pakhiralaya

for a better standard of living. Instead of integrating conservation and economic development, ecotourism at Pakhiralaya inadvertently encouraged people to leave their villages and homesteads by selling their properties.

This study finds that expansion of tourism did not prevent outmigration from Pakhiralaya and nearby villages and the change of land-use pattern due to tourism was also limited to Pakhiralaya Dakshin Para, a specific locality, underscoring the spatial differences in the pattern of benefit flows from ecotourism. Direct positive impacts of tourism were primarily realized along the two sides of the paved road where most of the lodges and shops[15] are located. Villagers living at Pakhiralaya Dakshinpara or in the vicinity were positive about tourism development but those living farther from the main road and river did not enjoy the benefits of ecotourism. These villagers mainly depended on paddy cultivation in their individual plots of land and earned wage labour in different parts of the state and country.

[15] Until September 2012, there were 30 shops (including grocery, tea stalls, handicrafts, and a saloon) along the paved road of Pakhiralaya.

The most marginal community in the Sundarbans who depended on fishing, honey collection from the forest (Ghosh 2017) comprised about 30% of the total population of the Pakhiralaya village. This population gained almost nothing from ecotourism, it was found. Among 35 fishers interviewed, only one reported involvement in tourism in Gosaba as a cook, during the tourist season. A possible false positive could have been a misinterpretation of the fact that some members of the community had actually withdrawn themselves from forest-based livelihoods. But through detailed interviews, the reason was located to increased restriction on fishing by the state. Expansion of tourism at Pakhiralaya or other eco-development activities had little role to play behind shifts in the livelihood patterns, felt 52% of the Pakhiralaya residents. The fear of tiger attacks within the forest was another major reason that prevented people from venturing deep into the forest, locals reported an increased number of attacks in the recent times. With stronger social networks offering opportunities of outmigration to other parts of the country and higher wages, many of the tribal and marginal population preferred migrating out in search of work, it was found. Mobile telephony in particular facilitated

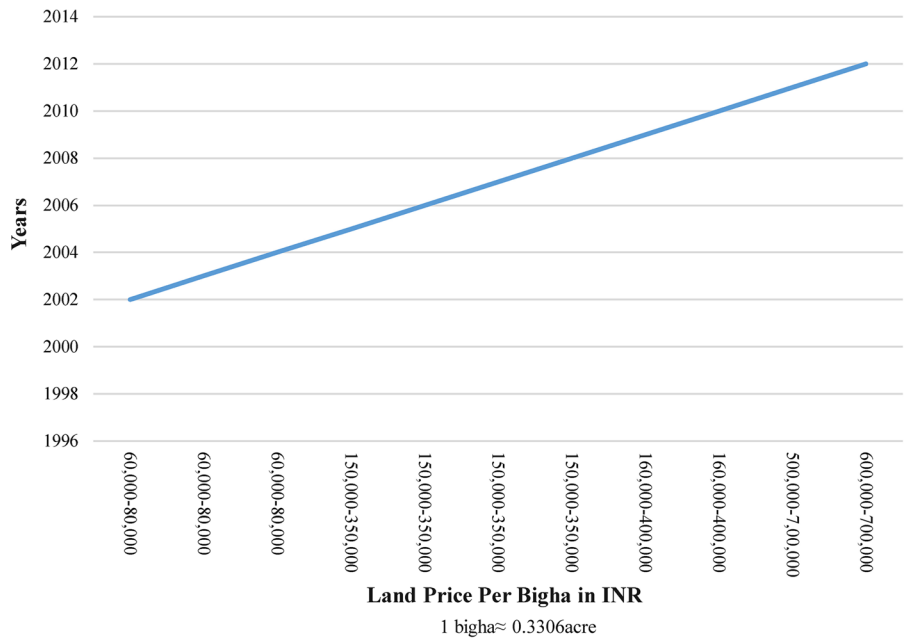

Fig. 6 Line Graph showing the increase in land price at Pakhiralaya, Gosaba

accessing wage labour based jobs in other parts of the country such as Kerala, Gujarat, Delhi, Mumbai and Tamil Nadu (Ghosh 2012). With a coercive state pushing local fishers farther to catch fish or crab that needed higher resources (more fuel, for example) and involved greater risks along with attraction of better, safer, and high-paying jobs that were now available elsewhere made this population shift consciously out of forest-based livelihoods, not because of ecotourism, said these respondents.

Seasonality of tourism also served as a deterrent for the fishing community to engage in it full time as it could not provide sufficient income for an entire year. The monthly income varied between INR 2000 and 3000 ($37–56), inadequate for maintaining families. Many fishermen said that fishing was a generational skill passed on to them, in which they had acquired considerable expertise. The opportunity of earning ready cash from fishing was more lucrative to fishing communities as well.

> I don't think there is any impact of tourism on our lives. Those who have invested money in it, have got the benefits…Only a handful of others has received any benefits out of it. It doesn't solve our problem.

Also, the fishers are not encouraged to be a part of tourism economy otherwise. For example, their catch was not purchased by the local hotels which preferred their own bulk suppliers with whom they shared regular, quasi-institutional but informal business ties.

> We fishers do not get any benefit from these hotels. A lot of tourists visit here, and we could sell our fish to them and get a better price for our catch. But local hotels do not allow us to do that. They do not buy fish/crabs from us. They buy fish either from Gosaba or Canning.

Discussion

The findings lead us to several barriers towards ecotourism in the Sundarbans—unique biophysical characteristics, socio-cultural conflicts, and multi-layered governance structures. It appears that eco-tourism is no panacea and highlights limitations of neoliberal, market-based instruments for biodiversity conservation in particular and environmental management in general. In the following section, we deconstruct these barriers and demonstrate the complexity entrenched in ecotourism. This should help in locating

the existing knowledge gaps in theory and provide policy suggestions.

Physical characteristics of Sundarbans

It seems that the unique ecology of Sundarbans mangrove ecosystem in particular as well as the seasonality of tourism in general limits the prospect of ecotourism as a viable economic development alternative for the region. Unlike any other tiger reserve in India, a safari in the Sundarbans has to be on and through the rivers and not on land (Fig. 7). In land-based safaris, chances of viewing a tiger in the wild are much higher since the park authorities use trained elephants and trackers to locate tigers early in the morning. If tigers are located, tourists are taken to see and photograph the tigers (Sinha et al. 2012). In the case of the Sundarbans, tracking tigers in a mangrove swamp ahead of time is quite difficult as large parts of the forest get inundated twice a day because of high tides (Naha et al. 2016). Currently, the population of tigers in the Indian Sundarbans is 76 (Ibid.), far fewer than found in other land-based reserve forests in Indian states such as Karnataka, Maharashtra, and Madhya Pradesh (Jhala et al. 2015). Compared to other protected areas such as Bandhavgarh, Kanha or Ranthambore which provide higher wildlife sightings (Karanth and Krishnadas 2011), tiger sighting in the Sundarbans is time-consuming. Even the watchtowers provide little help as the foliage is dense and impenetrable. The citing ratio against the tourist volume is very low because of the intricate waterways, fast movements of the tiger through the waters or river banks and between forested islands as well as the inability of wireless networks to congregate tourist traffic to a citing point fast enough. Many tourists interviewed described the experience as 'tiring,' 'monotonous,' and 'disappointing.' Apart from the tigers, other wildlife such as crocodiles or fishing cats is also equally hard to spot which added to the disappointment of the tourists. The limited opportunity of interacting with animals, therefore, limits the "bodily fix" (Fletcher 2014; Duffy 2015) that ecotourists look for and find in other forms of wildlife tourism such as whale or dolphin watching (Fletcher and Neves 2012). Successful whale watching involves "high degree of bodily engagement" in which ecotourists learn how to observe whales (Ibid. 66). Ecotourism in the Sundarbans, in its present state, does not provide such opportunities and therefore, prevents coproduction and consumption of the very experience tourists look for. This indicates that ecotourism is highly context and geography specific unlike what its advocates tend to believe—that it can integrate conservation and development around the protected areas due its low-consumptive resource use (Jacobson and Robles 1992; Gossling 1999).

Other physical conflicts with ecotourism and conservation appears to be increasing pollution (Gupta 2015; Ghosh 2012, 2017) that has led to the Indian National Green Tribunal (NGT) to ban all constructions and even demolishing existing illegal structures. The existing tourism facilities in many cases have been found guilty of disposing of waste—particularly plastic—indiscriminately in the Sundarbans. Local residents and environmentalists interviewed blamed it to fast growing tourism facilities in the region in the lure of quick returns that preceded the development of safety protocols, regulations, and systems such as waste disposal and emission norms. These systems are for the State to install where the community has little role to play. While developing countries including India have linked ecotourism to community-based conservation projects (Yuan et al. 2008; Misra et al. 2009) in the expectation that the local community will conserve natural resources when they have an economic incentive to do so (Wells and Brandon 1992; Hackel 1999; Stem et al. 2003), this study locates the unsustainability in the tourism activity itself in absence of adequate infrastructure and safety norms. This has already proven to be detrimental to the cause of ecosystem conservation, feels the NGT. Thus, the officials of the forest department themselves were found unfavourably inclined to the ecotourism.

Entangled governance: between conservation and tourism

The state is responsible for both conservation and tourism, however, the two scions wield different authority, orders and powers. Conservation—being a global agenda and directly controlled by the federal government—has much greater authority compared to tourism, which is a local governance subject. The NGT verdict indicts the tourism authorities for their activities and absence of regulations in controlling privately owned tourism facilities in the region. The power hierarchies appear a critical impediment in

Fig. 7 A typical ecotourism trip in the Sundarbans involves cruising through the tidal channels and observing wildlife

seamless integration of ecotourism with conservation and local socio-economic development. Conservation authorities generally refuse to accept the role of ecotourism in local development. One of the interviewed forest officials went to the extent of saying:

> There is nothing 'eco' in tourism here; it is just as pure a commercial activity as any other forms of tourism – both from the point of view of the capital investments and tourists who visit the area.

This also brings out the intrinsic clash of values of different actors in governance and their respective senses of ownership of the region. The forest department, by virtue of having greater powers, can not only regulate touristic activities in the region but also has its own tourism facilities, owns the watchtowers and is the custodian of the forest. The local state government, which wishes to promote ecotourism, has to negotiate with the federal conservation agencies. Lack of knowledge about the geography of the region and conservation regulations appear to affect their approach as well. The highest administrative head of the state of West Bengal, the chief minister, had claimed to replicate "African Savannah Safari" in the Sundarbans[16]—the comparison between two widely different ecosystems have drawn severe criticism from the conservation agencies (Ghosh 2017). The forest officials, by virtue of their knowledge about the ecology and animals, cited this anomaly, claiming impossibility of such a proposition. Not only the Sundarbans' river-based safaris offer fewer chances of citing an animal in their natural habitat; the camouflaging foliage made it even more difficult to identify animals.

Most of the locals felt that the marketing of the region predominantly as a place for tiger tourism has harmed its prospects. As a forest guide put it:

> Despite working as forest guard for years and being local residents since birth, we ourselves have seen tiger maybe three-four times in our entire lifetimes. Tiger is not only an elusive animal; the region is such that it helps the animal

[16] See, "For tourism, African Safari to be replicated in Sundarbans: Mamata" http://archive.indianexpress.com/news/for-tourism-african-safari-to-be-replicated-in-sunderbans-mamata/906476/ (last accessed on July 3 2017).

> to hide. Here, one has to love the nature, the rivers, the forest - the entire composition of the region. Then only a tourist will enjoy being here. We love the archipelago the way it is, its mangroves, its waters, the quaintness and the unique characteristics of the Sundarbans. Very few of the tourists can appreciate it.

The number of international tourists is much lower compared to local, weekend tourists in Indian forests (Balmford et al. 2009; Karanth and DeFries 2010), which was found true for the Sundarbans also. The international travelers contribute greater revenues as they pay a higher fee officially compared to the local tourists. Managers and owners of most of the local ecotourism facilities claimed that the region is not marketed well to the international travellers in national and international events across the globe. They alleged that the federal government promoted tiger tourism in Ranthambhore, Kanha, Bandhavgarh, and Corbett National Park more aggressively than the Sundarbans which is seldom mentioned. The state government, on the other hand, has thus far failed to evolve a strategy about how to promote the region as an attractive ecotourism destination. One clear feeling among the owners of the facilities was until the region saw an increase in the number of international tourists, the revenues will neither compensate the investments and lead to profits nor will it help the local economy.

It was revealed during the study that ecotourism reproduced existing inequalities and deepened exiting marginalities as senior, managerial positions were always held by those already in positions of privilege and power. There was little training or support to members of socioeconomically weaker households to engage gainfully in ecotourism activities. Managers or stewards working in the tourism season were mostly found to come from large landowning families (in the context of Sundarbans) themselves, educated beyond high school levels. Ecotourism facilities followed similar patterns of replicating existing power structures, biases, and discriminations entrenched in the formal governance structure in the region much like the local community level participatory forest government instruments such as JFMs or EDCs (Sivaramakrishnan 2000; Banerjee 2013). Ecotourism helped those accumulate wealth with already higher levels of social, human, finance, and built capitals. For the marginal fishers, daily wage labours or subsistence farmers, ecotourism provided little support either in offering alternative livelihoods or even to supplement their household-level income during the tourism seasons. This highlights the importance of human and social capitals in particular as even in the case of labour markets those with higher levels of human and social capitals found to perform better (Sen 1999).

Challenges of institutionalising benefit sharing

Since ecotourism in its existing structure fails to distribute benefits with the most marginal and economically weaker communities, its objective largely gets defeated. There is no formal, institutional mechanism of benefit sharing from ecotourism yet and operates on the principles of neoliberalism and capitalist market through the commodification of nature and culture (Jacobson and Robles 1992; Brandon 1996; King and Stewart 1996). Economic incentives offered by ecotourism seem to have led to greater outmigration where land including homesteads are being sold off to remotely located capitals for one-time gains. A sharp increase in land price around the protected areas in India is a reality that lures local people to sell their land to outsiders (Karanth and DeFries 2010). Instead of generating sustainable economic opportunities, ecotourism has managed to evict local communities from the protected area, significantly transforming local people's livelihoods, consistent with the experience elsewhere in the world (Ojeda 2012). As the neoliberal conservation model, ecotourism has led to land-grabbing, privatization, and dispossession (Ibid). Promoting tourism's contribution to the green economy opens a way of neoliberalising nature and capital accumulation that can reconfigure landscape and animals in such a way that they can be sold and resold again in the market (Fletcher and Neves 2012), that has been of little use to the local, marginal populations.

Values of the Sundarbans to the local residents and external tourists seemingly differ, leading to a conflict between ideas and ideals of ecotourism as perceived by different actors. Locals narrated sharing a certain kinship with the forest and nature, which for the tourists were only "objects" (Latour 1993 emphasis added). The kinship that the locals share with nature leads them to appreciate its multitude of values—embodiment, recreation, emotional, socio-cultural as well as economic benefits. On the contrary, tourists

usually look for exciting moments and satisfaction, which might create desires for the same experiences again and again through 'bodily fix' (Duffy 2015; Fletcher 2014; Fletcher and Neves 2012). Locals perceive the tourists as intruders, particularly when they engage in unruly behaviours or exploitative business.

Ecotourism's alliance with the locally powerful actors/elites leads them to accumulate much greater wealth from it by virtue of their existing privileges and capitals. This is why, tourism benefits have rarely reached local communities in the most protected areas in India, that complies with the international experience of protected area management (Karanth and DeFries 2010). It is expected that nature-based tourism surrounding the protected areas in India will continue to grow due to a growing economy (Balmford et al. 2009; Karanth and DeFries 2010). But until the existing barriers are addressed, institutional entanglements resolved and ecotourism approaches made socio-culturally nuanced, ecotourism in the Sundarbans may not emerge as a viable solution for either conservation or for local socio-economic development. The most critical obstacle appears to be ensuring local people's participation and channelizing the benefits of ecotourism to them, both of which have been explicitly mentioned as primary preconditions of success of ecotourism in the 2011–2012 Annual Report of the Ministry of Tourism (Ministry of Tourism, Government of India) and the Indian National Wildlife Action Plan (2002–2016). These benefits could be in various forms such as employment opportunities and supporting village council's (*panchayat*) programs such as planting trees, watershed restoration, and health-related programs (Ibid). However, no institutional arrangement or governance systems have been envisaged in these documents about how such goals can be operationalized. More research needs to be carried out to better develop mechanisms of regulation (taxes and revenues), co-production of ecotourism as a shared and mutually symbiotic process, institutional arrangements of benefit sharing, how to compensate the local communities for foregone benefits of resource use and incentivise protection of the biodiversity (Salum 2009; Fletcher 2014).

Conclusion

This study finds ecotourism as a concept cannot have one-size-fits-all approach or cannot be considered a magic bullet for biodiversity conservation and simultaneous local socio-economic development. Every protected area is unique in its geography, landscape, animal population, and local socio-cultural settings that constantly co-produce nature and the local environments. It underscores that one-size of and approach to ecotourism will never fit all, an observation which finds corroboration from other scholars who urge for site-specific ecotourism plans (Sekhar 2003; Karanth and DeFries 2010). Instead, carefully analysing the ecology, geography and socioeconomic parameters in a case-specific manner may help resolving specific barriers and identifying specific synergies in a given protected area. A political ecology approach can offer two key theoretical lenses—better understand the social construction of nature and the production of nature—that take the broader political, economic, social, and ecological context into consideration (Douglas 2014). Such an approach assumes even greater importance as global climates change catastrophically, biodiversity loss and species extinction approach their respective peaks leading not only to dwindling local resources and ecosystem services but also seriously threatening global sustainability. Thus, disentangling the web of relations (Rocheleau 2008) and situating ecotourism within this web strategically remains critical.

Ecotourism has the potential to be a conciliatory and effective mechanism to help ecosystem conservation while addressing socio-economic development in the protected areas (King and Stewart 1996; Stronza and Gordillo 2008). But this seems unattainable before resolving its definitional ambiguities, determining its role in the overall development paradigm along with understanding its specific structures, institutionalising benefit sharing and issues of justice. People's material and discursive productions of nature provides a situated method for unpacking the problems and potentials of sustainable tourism in the context of people, nature, and power (Douglas 2014). For example, currently, only one shop sells local handicrafts at Pakhiralaya. Local people, particularly women, could be encouraged and supported to sell handicrafts, signage, and memorabilia by opening a slew of new stores. Also, local residents can provide

home stay to prevent revenue leakage during the peak season of tourism when many tourists fail to find suitable accommodations.

Apart from regulations and institutional arrangements, greater investments in human development will be critical to avoid continued elite capture of ecotourism (Herrold-Menzies 2006). Local participation in the decision-making process of the protected areas should be encouraged as it helps the local community to feel a sense of control over the environment and ecotourism project (King and Stewart 1996; Butcher 2007: Masud et al. 2017). Ownerships and co-production have long been hailed for its role in conservation (Ostrom 1999). Greater engagement and sense of ownership will help address pollution-related problems (both air, water, and land) that have become a major concern for touristic activities. Only by conducting further research and addressing our knowledge gaps, ecotourism can evolve as a just, viable, and effective mechanism of conserving biodiversity and socio-economic welfare.

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Compliance with ethical standards

Conflict of interest We, the authors hereby declare that we have followed the accepted principles of ethical and professional conduct required by your journal. We also confirm that there is no way our manuscript is in possible conflict with the ethical standards required by the journal.

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