



*Routledge Studies in Conservation and the Environment*

# **A POLITICAL ECOLOGY OF FOREST CONSERVATION IN INDIA**

**COMMUNITIES, WILDLIFE AND THE STATE**

Amrita Sen



**ROUTLEDGE**



The Sunderbans stands out as not just the biggest mangrove forest in the world, but as a complex, multi-layered and multi-dimensional ensemble of humans and non-human actors. We actually know and understand much less than we think we do and Sen takes one important step in this book in explicating this dynamic world of forests, tigers, prawn, livelihoods, conflict, itinerants, rivers, tides, boats, fishing nets, bees, *fakirs* and much more . . . a very welcome addition to the literature.

**Pankaj Sekhsaria**, *Indian Institute of Technology Bombay*

A meticulously researched account. This book is an excellent resource for students of conservation and researchers alike. The Indian Forest Rights Act was potentially one of the more radical and transformative conservation experiments. This careful analysis of its failures, and the reasons why it is not implemented is important. The site of the study—the Sunderbans—and the intricate understanding of mobility and the examination of indigeneity that the author provides, make it all the more important. This is an excellent contribution to our understanding of the political ecology of conservation.

**Dan Brockington**, *University of Sheffield*

Amrita Sen advances the field of political ecology by centering the mutually constitutive nature of political and ecological contexts of the socioecological landscape in the Indian Sunderbans. Her fascinating ethnographic work engages deeply with forest-based life worlds of families, social groups, and political communities that inhabit these endangered and rapidly eroding landscapes. Sen's arguments about how humans and tigers of Sunderbans are subjectified, through processes of regulation, control, and subjugation, shine new light on the complex workings of power within the narratives of interspecies rights.

**Prakash Kashwan**, *author of Democracy in the Woods: Environmental Conservation and Social Justice in India, Tanzania, and Mexico* (2017) and editor of *Climate Justice in India*

Amrita Sen breaks new ground in understanding the politics of participation in community-based conservation, by exploring how the capacity to participate is unequally distributed among different social groups as well as between humans and nonhumans. A timely and important intervention.

**Robert Fletcher**, *author of Romancing the Wild: Cultural Dimensions of Ecotourism* (2014), *Wageningen University*

Sunderbans is in the centre-stage of our climate change debate. By exploring the political ecology of India's highly contested regime of forest conservation and by looking at what is happening in the Sunderbans, this book offers compelling insights into the making of modern Indian nature. This will be a companion for those interested in Indian environmental politics.

**Arupjyoti Saikia**, *Indian Institute of Technology Guwahati*

A valuable contribution to the burgeoning political ecology literature in India. By taking a rights-based approach, this book highlights the adverse environmental justice implications of conservation policy in the Sunderbans and how well intended laws such as the Forest Rights Act end up benefiting powerful interests at the expense of more marginalised forest-fishers.

**Ajit Menon**, *Madras Institute of Development Studies*



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# A Political Ecology of Forest Conservation in India

This book critically explores the political ecology of human marginalization, wildlife conservation and the role of the state in politicizing conservation frameworks, drawing on examples from forests in India.

The book specifically demonstrates the nuances within human-environmental linkages, by showing how environmental concerns are not only ecological in content but also political. In India a large part of the forests and their surrounding areas were inhabited far before they were designated as protected areas and inviolate zones, with the local population reliant on forests for their survival and livelihoods. Thus, socioecological conflicts between the forest dependents and official state bodies have been widespread. This book uses a political ecology lens to explore the complex interplay between current norms of forest conservation and environmental subjectivities, illustrating contemporary articulation of forest rights and the complex mediations between forest dependents and different state and non-state bodies in designing and implementing regulatory standards for wildlife and forest protection. It foregrounds the issues of identity, migration and cultural politics while discussing the politics of conservation. Through a political ecology approach, the book not only is human-centric but also makes significant use of the role of non-humans in foregrounding the conservation discourse, with a particular focus on tigers.

The book will be of great interest to students and academics studying forest conservation, human-wildlife interactions and political ecology.

**Amrita Sen** is Assistant Professor of Sociology at the Indian Institute of Technology Kharagpur and Visiting Faculty with Azim Premji University, India. Her research interests include cultural and political ecology, politics of forest conservation, urban environmental conflicts and Anthropocene studies. In 2019 she received the 'Excellence in PhD Thesis award' from the Indian Institute of Technology Bombay, for her doctoral research on the conservation politics in Sundarbans.

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# **A Political Ecology of Forest Conservation in India**

Communities, Wildlife and the State

**Amrita Sen**

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As I write this book, the world seems to be reeling with COVID-19, running its course with the second wave now—spreading contagions; claiming lives; and added to this, in India, rendering people homeless with jobs lost; communications scrapped; and no food, ration and money. What is troubling, even more, is a severe political apathy towards the economically vulnerable people—those struggling the most with the pandemic. Coronavirus, the severest zoonotic virus which wreaked havoc across the world since December 2019, has taken the worst toll on marginal communities. While I remain worried on the lingering impact of pandemic, I remember the days I had spent in Sundarbans, amidst such a group of people who despite being economically fragile kindly welcomed me into their lives with all warmth, and despite their many constraints allowed me to explore their worlds. I owe a large debt of gratitude to each one of them.

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# Foreword

In 2000, when atmospheric chemist Paul Crutzen and other scholars of global environmental change introduced the idea that humanity is living in a new Epoch—the Anthropocene—they were met with substantial scepticism. A couple of decades later, it has become clear that we are indeed living in a time unlike any that humanity has witnessed. The rate of destruction of natural resources, ecology and the environment has led to the transgression of multiple planetary boundaries, with visible impacts that include climate change and biodiversity collapse.

The idea of the Anthropocene emanates from an acknowledgement that humanity has played a major role in this destruction. Yet by placing all of humanity in the same category, we implicitly assume that that all people are equally culpable, failing to acknowledge the role of capital in shaping systemic inequalities. It is an undeniable fact that those countries, societies and groups of people who have contributed the least to climate change will face the worst of the impact. Political ecology frameworks are fundamental in helping us to develop a better understanding of the structural factors that shape these inequities.

In ‘A political ecology of forest conservation in India: communities, wildlife and the state’, Dr. Amrita Sen provides a deep dive into the world of the biodiverse mangrove forests of the Sundarbans, one of the world’s most densely populated areas. These forest islands are highly vulnerable to climate change and associated sea level rise. For the forest-dependent communities who eke out a precarious living in this threatened landscape, life is further complicated by the fact that much of the Indian side of the Sundarban falls within the Sundarban Biosphere Reserve (SBR). Thus, the Sundarban landscape is marked by contestations, conflict and the claiming of territorial space by the state, ostensibly for biodiversity protection. Dr. Sen weaves a compelling narrative of coupled political-social-ecological change in the Sundarbans from the colonial period through post-independent India, up to current times. She draws deftly on multiple methods, including analysis of archival records, and deep ethnographic analysis as an embedded observer.

As Dr. Sen demonstrates, colonial ideas of conservation as a political project bear their signature in the Sundarban forests even today, impacting politics,

living conditions and culture. The nexus between politics, power and socio-economic inequalities has a visible impact in shaping imaginations, narratives and practices of forest management in the Sundarbans. By notifying large tracts of forest as protected, and drawing lines in the shifting marshland between indigenous and non-indigenous communities, political ecology plays a key role in shaping winners and losers in the short term. Tigers also become co-opted as commodified objects of control, to simultaneously serve conservation and political objectives, in a landscape which witnesses exceptionally high levels of human–wildlife conflict. In the long term, with climate change looming on the horizon, both the human and non-human actors who inhabit these islands may be doomed to lose, as global inequalities play out at a much larger scale.

Through a series of chapters examining the lived experiences of specific villages, caste groups and forest management communities, this book thoughtfully demonstrates the illogic of using a simplistic, universalized understanding of politics, culture and ecology in a complex social-ecological landscape like the Sundarbans. In doing so, the book also offers a critique of existing tropes on sustainability which posit a harmonious relationship between people and nature in ‘unspoiled’ areas like the Sunderbans, blind to the complexities of everyday navigation between a sinking landscape and a hostile state that local communities are forced to undertake.

There is a growing understanding of the importance of political ecology in shaping long-term trajectories of social-ecological systems in different parts of the world. This book provides a rich and nuanced addition to this literature and will be of value to scholars interested in diverse aspects of sustainability in the global South.

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# 1 Introduction

## A political ecology of forest conservation in the Indian Sundarbans

**Abstract:** This chapter sets the conceptual framing of the book, by introducing political ecology as an analytical category to explain impacts of conservation politics on forest-dependent communities. The proposed framework offered in this chapter also provides a grounding to ask how vulnerable ecologies shape human associations, claims to resources and material relations between humans and the state. The framework foregrounds issues of power asymmetries, inequities and social injustice as imperatives in framing explorations on forest conservation politics in India, moving beyond discourses which see conservation as strictly defined by the state or those that rely on a simplistic portrayal of local communities. It prompts readers towards recognizing ecological conflicts as chequered and non-linear, shifting discourses towards capturing complexities within place-based framings—on the impact of conservation norms on diverse stakeholders.

This book is an attempt towards the analyses of human–environment linkages in contemporary India, through an empirical and epistemological exploration of the political ecology of forest conservation. Contextualized in a geopolitical conservation landscape, the book reflects on human relationships with nature and coupled social–cultural–environmental conflicts caused by unabated human disposessions from the forests. In the book, political ecology as an analytical framework foregrounds issues of power asymmetries, inequities and social injustice as imperatives in framing practical explorations on conservation politics, moving beyond discourses which see conservation as strictly defined by the state or those that rely on a simplistic portrayal of local communities. The aim of the book is to understand how prevailing conservation norms mediate communities and affect their existing social and institutional structures, underpinning forest livelihoods into a political realm that is embedded within multiple networks of power. While livelihoods of marginal communities are challenged by a range of control mechanisms inherent within conservation norms, the book explains how many of these conservation landscapes ‘comprise socially



## 2 Introduction

differentiated actors, whose priorities and claims to resources vary over space and time' (Chomba, Treue and Sinclair 2015: 38) and so do their responses to recent conservation initiatives.

The structural and social differentiation within local communities and the key imports of this differentiation within contemporary neoliberal mechanisms of forest governance are central to the political ecology analyses of this book—the current framework of forest conservation has to a large extent led me to explore and analyse the prevailing sociality of the landscape and its intensifying complexities. The book discusses ways in which rights and entitlements to resources are differentially constituted, based on social and political factors determining everyday realities of living—local heterogeneity fundamentally accounts towards exploring and identifying role of forest communities with regard to their rights to forests. It prompts readers towards recognizing ecological conflicts as chequered and non-linear, shifting discourses towards capturing complexities within place-based framings—on the impact of conservation norms on diverse stakeholders.

The book raises some questions, crucial to the understanding and problematization of rights, identity and marginalization within forest-dependent lifeworlds and their profound bearing in the politics of conservation. How do vulnerable risk-prone ecologies shape material socio-economic relations and institutional contexts of forest communities? How are the marginal forest-dependent people represented as a part of the 'local'? How are policy choices determined within ecologies with sharply disaggregated social interests? Why increasing participatory powers and empowerment policies, mandated within recent conservation frameworks, fail to reduce socio-economic marginalization? The structural context (caste, class, religion and kinship) and political organization of the forest-dependent communities provide the primary context in addressing these questions, situating political-economic policies of forest conservation within the complex social arrangements of conservation landscapes.

### **Bringing 'politics' in political ecology**

One of the prominent frameworks that engages with the central questions of this manuscript is political ecology, which discusses ecological transformations triggered by complex political and material forces, marginalization and vulnerabilities of people dependent on ecosystem resources, movements which emanate from ecological distribution conflicts as well as political changes determining access and use of resources (Daur, Adam and Pretzsch 2016: 96). In many contemporary contexts of conservation, which are ecologically fragile and have quintessentially distinct social characters owing to unique geopolitical locations and structural compositionality, identities and political struggles around forest rights are constituted differently and cease to be explained through representative narratives (Karthik and Menon 2016; Sen and Pattanaik 2019). In an era of rapid forest policy reform, such distinctive social characters are instrumental in shaping and politicizing ecologies, since situating identities in relation to the landscape are critical imperatives while legitimizing rights to livelihood resources. In his recent book, Kashwan (2017: 13–16) points out how the interests of different social groups around resource rights are transformed into

political choices and specific policies through mechanisms of ‘political intermediation’. Such intermediation takes place through politically engaged social movements, party-led corporatism and politically structured advocacies, and are effected through successful mechanisms of representation at the national, sub-national and local levels. He argues that apart from civil and political rights, mechanisms of political intermediation are critical components in successful claim-making and instituting political and policy change (ibid.). Implementation of Forest Rights Act, one policy reform explained in this book, is identified as being largely embedded in such a political agenda, necessitating an inquiry into the multiple levels of politics to understand how its implementation is translated into practice through similar political intermediations. Others referring to competing discourses in situating politics in political ecology describe interactions around resource management as ‘cultural politics’—ways to understand symbolic values of resources as instrumental in shaping collective representations, exceeding a mere signification of resources for immediate material use (Baviskar 2003: 5052). However, political ecology, including cultural politics, does not account for the effects of mainstream political processes, including how populist politics shapes the extent to which different groups can assert their rights to natural resources. Scholars of environmental politics account for these processes linked to electoral politics—the power and authority of forestry agencies and the effects of forest laws, policies and programmes on the nature and the outcomes of the contestations over natural resources.

Conventionally, scholars of political economy have failed to account for the complex ways in which power shapes subjective worldviews of individuals in different contexts. An exhaustive and burgeoning range of studies have linked Foucault’s theorization of power and governmentality to the political economy of conservation. Foucault (1991: 102) defined governmentality as the

ensemble formed by the institutions, procedures, analysis and reflections, the calculations and tactics, that allow the exercise of this very specific albeit complex form of power, which has as its target population, as its principal form of knowledge political economy and as its essential technical means apparatuses of security.

His analysis of ‘governmentality’ presents a unique approach in examining power as central to current environmental governance frameworks (Goldman 2001; Agrawal 2005; Fletcher 2010; Bose, Arts and Dijk 2012). A fundamental way in which governmentality is understood alludes to the fact that power does not remain central to the sovereign but is exercised at all levels of the society. Power is manifested through technologies and practices, fields of knowledge, fields of visibility and forms of identity. According to Goldman (2001: 500), Foucault’s ‘art of government’, or ways in which traditional state decentred itself as the locus of centralized power, leads us to envision ‘dispersed forms of government and their immanence to the state’ (Foucault 1991: 91). This art of governance adds explanatory power to the contemporary politics of forest conservation. ‘Eco governmentality’, an effort in this direction, explores the construction of environment through production of expert knowledge and

power mechanisms (Blake 1999; Goldman 2001; Agrawal 2005; Rutherford 2007). Goldman (2001: 501) describes eco governmentality as ‘the productive relations of the government, with their emphasis on “knowing” and “clarifying” one’s relationship to the nature and environment as mediated through new institutions’. Luke (1995: 77) has used the concept of ‘green panopticon’ in understanding how environmental non-governmental organizations (NGOs) like World Watch Institute encloses nature in a kind of global supervision in order to dominate, exclude and repress people and the environment. Current environmentalism, marked by a precedence of global conservationist principles, continually operates with a scientific eco knowledge-based management of protected areas, delineating individuals into specific roles of environmental custodians. Protected areas, according to Dudley and Stolton (2008: 9), are ‘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’. In India, they include national parks, wildlife sanctuaries, conservation and community reserves. Environmentalism is linked to a kind of ‘knowledge production’, based on institutionalized and professional scientific activity, whereby environmental activism and its relationship with science appears as a nexus of knowledge and power, along with being a political project (Epstein 2005: 48). This is integral to the current neoliberal conservation policies, characterized by the diffusion of regulatory powers across global think tanks, environmental organizations and corporations (Rutherford 2007: 296).

Other scholars describe how forest governmentality, by reshaping forest legislations through new laws, regulations and procedures, has created ‘environmental subjects’, who ‘not only adapt to the environmental regulation practices as set by the state, but also change their behaviour from initial resistance to state regulation to pro-active participation in forest management’ (Bose, Arts and Dijk 2012: 665–666). By this mechanism, current participatory forestry policies like Joint Forest Management (JFM) transform communities from passive entities to the keepers of wildlife and forests, rather ‘environmental subjects’ (Agrawal 2005; Fletcher 2010). In recent times, environmental politics scholars have also sought to bridge gaps in conventional political economy analysis by mapping how global, transnational and national actors utilize multiple dimensions of power at various scales. For example, Kashwan, MacLean and García-López (2019) present a ‘Power and Institutions Matrix’ to facilitate a holistic mapping of power in the ‘shadows of neoliberalism’. By facilitating incorporation of material, discursive and agenda setting powers of various actors, the power matrix affords a holistic analysis of human–environment interactions, including the multiple facets of community forest dependence, the social ecologies of forests as well as the entrenched political forces that besiege contemporary forest governance and the everyday lives of the forest communities.<sup>1</sup>

The inquiry in this book advances this line of analysis on the centrality of power in administrative agendas of conservation, by putting forward a political ecology framework of incorporating politics as a context within forests life-worlds. This framework helps to bridge a common critique of political ecology, which is, to leave out mainstream populist political processes and political

economy, resulting in a failure to account for its mutually reinforcing effects in ecological and social contexts. Conservation politics, as has been conventionally understood by scholars, has been shaped by ideological debates on wildlife preservation between multiple social classes having contradictory views on the management of natural resources and simultaneously embedded in a politics of prioritizing voices of privileged stakeholders (Saberwal and Ranarajan eds. 2003; Lele 2019). Johari (2007: 48) points out that the principle of exclusion underlying the politics of forest conservation has centred on a production and divide between two distinct varieties of ecological knowledge—traditional and scientific. An exhaustive range of studies have indicated how forest policies have worked to the detriment of marginal classes by restricting their livelihoods—a primary strategy reinforced to sustain political imperatives of industrial development (Blaikie 1985; King 1996; Alier 1997). In the framework of this book, I introduce a perspective to define politics as a context in systematically examining ways in which a variety of existing socialities as well as forest rights come into conflict with conservation—an enterprise to discuss the role of politics in constituting marginalization and instituting structural changes in forest-based lifeworlds. Drawing on recent works which strongly emphasize the contemporary role of power within neoliberal policy reforms on resource management (Kashwan, MacLean and García-López 2019), this book aims to navigate through current institutional mechanisms of conservation in understanding how they differ from past approaches and how critical their role is in redefining material social organizations in vulnerable environments.

The book is based on an ethnographic fieldwork in Sundarban mangrove forests in India, a climate-vulnerable geopolitical ecology situated at the mouth of the Ganges River, inhabited by more than 4.5 million people. Sundarbans, the largest brackish riverine mangrove belt globally, is shared between India and Bangladesh, with a maze of small and large crisscrossing deltaic rivulets interspersing the mud-washed islands. Out of the 102 islands that are located in the Indian part, 54 are inhabited and can be broadly characterized into two kinds—one set of inhabited islands are closer to the mainland and were reclaimed between 1765 and 1900, while the other set, adjoining the forests, were reclaimed between 1900 and 1980 (Jalais 2010: 2). Contextualized in the SBR, as Indian Sundarbans is known as, the book captures the daily practices of people inhabiting the forest fringes, in association with the forests, their resources and their intermediations with the conservation policies today. It narrates how conservation politics shapes constellations of social and ecological vulnerabilities in the delta and progressively transforms socio-economic and political relationships of the contextual actors, often through disparate representations for instituting reforms (Bryant 1991; Kashwan 2017).

## **Forestlands in India**

Forest policies in post-independent India, before the trends towards reform since 1990s, were largely formulated mirroring colonial policies—the most prominent one being the Indian Forest Act (IFA) of 1878 (subsequently revised in 1927), which at large converted majority of the national forest lands into state

property. The takeover severed most of the livelihood dependencies by banning shifting cultivation, nationalizing timber and non-timber forest products, imposing fee on grazing and notifying major forest areas as ‘inviolable’ through legal categorization of forest areas (Lele 2019: 23). Post-independence, state monopolization of forests continued unabated, mostly for the supply of raw materials and state revenue. During this period, attempts of industrialization at par with the developed world relegated environmental concerns while development in practice was witnessed as a universal desire for the pursuit of economic growth—an aspiration overlooking ecological concerns as a ‘luxury imported from the West’ (Baviskar 1997: 196). However, rapid decline in forest cover owing to the increasing demands of industrialization eventually prompted states towards drafting rigorous wildlife conservation policies from 1970s, most of which advocated forest fencing in the form of protected areas. The centralized forest laws drafted during this time notified forests as national parks, wildlife sanctuaries and critical tiger habitats (CTHs),<sup>2</sup> curtailing human activities and evicting people, more or less following the colonial past (Willems-Braun 1997). The Wildlife Protection Act of 1972 secured certain hunting restrictions but at the social cost of excluding local communities (Lele 2019: 23–24). Redrafting forest policies with wildlife conservation as a priority also underscored an ideological debate between middle-class wildlife enthusiasts and forest rights activists. According to Guha and Alier (1997: 35), this debate represented a conflict between elite environmentalism or an ‘environmentalism of affluence’, hinging on an ‘enhanced quality of life’, contradicting an ‘environmentalism of survival’, where dispossession from inhabited natural landscapes challenges life prospects and leads to resistance. Several years after independence and three decades since economic liberalization, conservation of forests still remained a contested practice. The forest policy reversals, which initiated since the implementation of National Forest Policy (NFP) of 1988 to integrate local needs within forestry, failed to provide a robust mechanism for sustainable management and remained unsuccessful to a large extent. Recent works prompt a necessary transformation of conservation frameworks towards a convivial one, keeping in mind larger challenges of the Anthropocene (Büscher and Fletcher 2019, 2020).

Forest reforms, initiated with the introduction of the NFP, exemplified an organizational restructuring through decentralization. Decentralization, as defined by Ribot, Agrawal and Larsson (2006: 1865), refers to ‘any political act in which a central government formally cedes powers to actors and institutions at lower levels in a political-administrative and territorial hierarchy’. Decentralization, which gained momentum in the realm of forest governance since the mid-1980s,<sup>3</sup> has been commonly defined as a system of power delegation and management rights to marginal communities for ensuring democratic decision-making and greater stakeholder participation within management practices. Decentralization had been largely driven by demands of participation by local communities and external pressure from national and international donors. Community-based natural resource management (CBNRM) is a form of decentralized management, offering a new paradigm in forest conservation, by abandoning the exclusivist agendas entrenched in the pre- and postcolonial

management practices (Das 2007). CBNRM was adapted mainly in the latter half of the 1970s, to enable and engage the forest-dependent communities in applying indigenous techniques of forest management (Arnold and Campbell 1985). Success of CBNRM can depend on a range of factors, integrating ecological sustainability, social equity and economic efficiency (Pagdee, Kim and Daugherty 2006: 35). CBNRM can be of two broad types. The first one is where the communities have the sole management rights over a patch of forest land which they jointly manage and control through local disciplinary mechanisms. The second one, commonly known as JFM in India, is where the state involves the communities for participating with the State Forest Department, in managing certain tracts of forest land, on which the communities depend for livelihood. CBNRM differs from JFM in certain ways. While CBNRM refers to the management of communal forests by a village where management plans are developed for government approval, there is certain accountability and revenue sharing between the communities and the state in case of JFM. However, in CBNRM, the community is principally involved in forest management and conservation with indirect and informal cooperation from the state (Pailler et al. 2015: 84).

JFM, as a World Bank report states in 2006, is a model of community forestry where the state engages with the communities in forestry, as a contrary to exclusive community management of forests. JFM was an important and radical departure from the administrative imperative of the forest officials confined within the department, since its advent initiated an attitudinal change among the officials, who initially considered the communities as negligent subjects and incalcitrant (Jodha 2000). JFM is a development program predicated on active cooperation between the forest officers and the villages. While recent studies emphasize the role of plural knowledge into decision-making, democratization and community-based transformations in addressing current environmental challenges, JFM, can be an effort towards recognizing shifts towards equitable resource governance patterns (Zafra-Calvo et al. 2020).

There have been significant debates on the nature of participation in contemporary collaborative forest governance mechanisms like JFM (Agrawal and Gupta 2005; Lele and Menon eds. 2014). Community management is usually successful in those areas where communities are ethnically homogenous, small in size and have limited variations in individual interests (Agrawal and Gupta 2005). In a large number of demonstrated cases, decentralization has led to asymmetric power relations within the communities (Manor 2004; Kashwan and Lobo 2014; Kumar, Singh and Kerr 2015). JFM while having necessary merits if successfully implemented to situation-specific needs, there are internal political hierarchies at the local level that subvert the rationale of community participation. According to Das and Narayanan (2008), if argued from the new governance perspective which promises an exit from the bureaucratic, hierarchical and overloaded structures of decision-making, the efficacy of the new method in resolution of conflicts demands an inquiry. Efforts to implement JFM are in many cases plagued by political participation, power differentials between the state and the resource users, favouritism and legal restrictions on

civil society institutions (Jeffery and Sundar eds. 1999). At the local level, unaccountable governance structures have facilitated concentration benefits in the hands of the local elites and inhibited local attempts to address mismanagement of resources (Nelson and Agrawal 2008). The reasons which posit an unequal and unequivocal exchange among the communities include the gradual infiltration of the global market economy, transformations in community characteristics, values and traditions and diversification of livelihood (Ghate and Ghate 2010: 3, see also Jodha 1998; Sundar 2000). Decentralized forest governance, as the book shows, has a major role to play in transforming traditional social institutions. A discussion on recent decentralized forest policies would be particularly useful in situating power and politics, operating at multiple scales, within human–forest interactions.

### **Political ecology and environmental communities**

Understanding communities in association with their forests constitutes a central line of inquiry for this book. It is therefore imperative to re-examine ways in which local institutions and community stewardships are represented within resource management, specifically those with a generic emphasis on community customs and traditions (Mosse 1999: 303–304). A long drawn hegemonic framing represents conventionalities as attached to the idea of community at large, especially in the scholarship of German sociology. Wirth (1926: 416) drawing on one of the pioneering works of Ferdinand Tonnies of *Gemeinschaft* and *Gesellschaft* (1957) points attention to the two key attributes of community:

Community grows out of the organic relationship of man to his environment and those natural involuntary bonds that inevitably grow up between human beings and between groups.

Influenced by Henry Maine's ideas on status (community) and contract (society), Tonnies' framing of community arises out of *Wesenwillen* or those life forces associated with instincts, emotions and habits. *Wesenwillen*, he says, is highly integrated and organismic in behaviour and shares a lot of parallels from the primary groups as defined by sociologist Charles Cooley, which includes intimate and familiar relationships (Wirth 1926). Communities have been far more often projected in an ideal typical sense as sharing no individual interests but basic conditions of life as well as a strongly knit group occupying a particular geographical area (MacIver and Page 1949). According to Ridger, Le Bailey and Gordon (1981), four types of community attributes can be identified: feeling of bondedness, extent of residential roots, use of local facilities and degree of social interaction with neighbours (see MacMillan and Chavis 1986: 7). However, the ideology that besieges the framing of communities in classical sociology has been challenged by a range of contemporary thinkers in terms of the uncritical primacy bestowed on traditional group relationships. According to Chatterjee (1998), traditional community structures are not simple and inflexible: 'primordialities are multi

layered, the self is open ended, adjustments and compromise is ethical norms' (Chatterjee 1998: 278; Upadhy 2002). The growing population of the rural areas and the infiltration of the market economy within the village societies have rendered given definitions of community problematic. Much of the discourses on 'hypermarginality', as Bessire (2014: 278) points out, rests on an uncritical recognition of indigenous culture as 'a priori, homogenous, and equally distributed experience of marginality reducible to poverty, insufficient socioeconomic development, or the lingering effects of imperial histories that a more effective policing or protection of difference will alleviate'. Such discourses have key counterpoints, with respect to the role of social actors in political struggles, while advancing their particular agendas and mobilizing their interests (Purcell and Brown 2005: 281).

Communities being regarded as 'autonomous' and uniformly in opposition to the state ignore processes of elite capture, specifically those within collaborative forest management, where state devolve rights of governance to local communities (Menon et al. 2007). Advocacies on localization and nativist claims to ecological landscapes tend to increasingly exacerbate the 'local trap'—one where local-level decision-making is principally considered to yield socially just and ecologically sustainable outcomes (Purcell and Brown 2005: 280). Mosse (1999), drawing on tank irrigation in Tamil Nadu, critiques a similar pervasive representation of community resource management—representing traditional community-driven tank irrigation as a 'corollary of state power and not its inverse'—he (1999: 310) reports realities of material linkages between colonial state and community management. Resource management systems in traditional India wrested upon structurally differentiated villages—political authorities and caste-based administrative structures speak about a ludicrous harmony abstracted from power differentials (Sen and Nagendra 2020). As Fuller (1977: 96) points out, rights-based conflicts and political hierarchies at the supra-local level indicates organizational supremacy and distinct power hierarchies. A contemporary politics of forest conservation provides scope to reveal how environmental communities, through their political struggles for forest rights, ought to be defined in terms of a specific combination of agency, autonomy and sovereignty.

The conceptual framing of the book on the discourses of political ecology would help pay specific attention to a range of complex contextual dynamics while discussing community linkages to forests. The book specifically interrogates three specific counterpoints to the characteristic ideas on forest-based conflicts—it looks into (1) how claims to resources are articulated by forest communities in vulnerable ecologies; (2) how subjective material relations are shaped between the forest community<sup>4</sup> and the state under recent forest governance mechanisms; and (3) how conservation mechanism can be framed as 'political', raising critical questions about identities and power. The book acknowledges potential constraints in recognizing forest conservation as a systemic process of disenfranchisement, since there has now been a drastic change in community's role in conservation—'communities are now the locus of conservationist thinking' (Agrawal and Gibson 1999: 632).



Several forest management policies have now been restructured towards dynamic participatory models, where communities have a significant stake in the policy debates. This has minimized the established notion of conservation as facilitating marginalization and necessitated a large-scale contextual mapping of disenfranchisement and exclusion, in the face of a 'widespread political empowerment of the indigenous majority' (Bessire 2014: 276). The book provides a theoretically informed and empirically grounded critique of a tenuous representation of conflict within political ecology. It draws specific attention to explicit lines of inquiry within the intrinsic human-nature assemblages through reflections on local institutional contexts, decentralized forest conservation, role of customary community norms and political economies.

Comprehensively, the book provides a chequered understanding of the role of power within local social-ecological contexts, drawing considerably on Greenough's (2001: 141) critique of the 'standard environmental narrative of South Asia'. According to Greenough (2001:141), the standard narrative, as represented by a uniform image of the local people as organic communities imbued with an 'ecological wisdom', needs an urgent reversal, a line of thought which subsequently Scott (2001: 5) endorses as one 'overturning the reigning narratives' in environmental history. He points out that ecological wisdom, if perceived as undisturbed by the market and the state, can run the risk of being reductionist in spirit. The exploration thus calls for a coupled intellectual exercise of associated and aligned approaches and comparative frameworks, to understand political ecology through a discursive construction of postcolonial environmental paradigms. Understanding communities in a context of intensifying conservation politics would provide significant conceptual trajectories—they would outline prominent reflections on the political ecology analysis that the book engages with.

This book shows how the methods of conservation excludes and spells abuse for the forest-dependent people in the Sundarbans, but simultaneously earns for many of them subsistence in a perilous and marginal landscape. Communities today are constituted through their daily encounters with the governmentality exhibiting, as Li (1996: 502) points out, the ways in which 'relatively powerless people demonstrate well honoured analytical skills and strategies as a routine condition of day-to-day survival and long-term advancement'. The involvement of the local people in the environmental governmentality are thus efforts 'to lend visibility to the governmental departments' for negotiating chances of livelihood in a locale, where economic opportunities are limited (Mukhopadhyay 2016: 89). A range of power struggles manifested within material abilities to survive opens up a wide spectrum of discursive domains to explore politics as a substantive context. The book offers a multilevel analysis of political ecology, by bringing into the framing, local intermediations of power, networks and political economy as instrumental forces in shaping global conservation landscapes.

## Indian Sundarbans: juggling through vulnerabilities, submergence and survival

### *Setting the field: demographics and administration*

The Sundarban forests lie between 21°30' and 22°30' N latitude and 89° and 90° E longitude. It is the largest stretch of global littoral mangrove forests, declared as a UNESCO World Heritage Site in 1987, for its unique physical attributes—range of wildlife, biodiversity and aquatic resources. The name 'Sundarban' is derived from primarily three aspects: (1) the 'Sundari' tree (*Heritiera fomes*) which grows in abundance in the region, (2) the name 'sundar', meaning beautiful and (3) 'ban', meaning forest.<sup>5</sup> Situated at the southernmost part of the Gangetic delta, Sundarbans was notified as a 'reserved forest' in the year 1878 by the colonial administrators. The Sundarban mangroves encompass an area of 25,500 km<sup>2</sup> of which 15,870 km<sup>2</sup> lies in Bangladesh and 9,630 km<sup>2</sup> in India. While the western and eastern boundaries of the forests are defined by Rivers Hooghly and Baleswar respectively, Harinbhangra marks the boundary between the Indian Sundarbans and the Sundarbans in Bangladesh (Gopal and Chauhan 2006: 339). The Indian part or SBR was notified in 1989 and is partially inhabited and partially forested, being divided into core, buffer and transition zones. Out of the 9630 km<sup>2</sup> of the SBR, the forest cover of 48 islands measures 4263 km<sup>2</sup>, divided into the core and the buffer area, which is entirely uninhabited. This forest area is 'encroachment free' and 'demarcated with a natural boundary'.<sup>6</sup> The rest 5367 km<sup>2</sup> covering 54 islands is a community inhabited zone, divided into 19 Community Development (CD) Blocks (details mentioned in Table 1.1) located within the districts of North and South 24 Parganas in West Bengal. These blocks are further divided into separate islands, under the administration of Gram Panchayats (GPs).<sup>7</sup> Each GP includes

Table 1.1 Nineteen inhabited blocks of SBR

<i>Name of Block (S. 24 Parganas)</i>	<i>No. of Islands</i>	<i>Name of Blocks (N. 24 Parganas)</i>	<i>No. of islands</i>
Gosaba	9	Minakha	1
Basanti	2	Harowa	5
Caning No. 1	Falls Inside Basanti	Sandeshkhali No. 1	1
Caning No. 2	1	Sandeshkhali No. 2	6
Naamkhana	5	Hasnabad	1
Sagar	2	Hingalgunj	2
Kakdwip	1		
Patharpratima	13		
Mathurapur No. 1	1		
Mathurapur No. 2	2		
Kultali	1		
Joynagar No. 1	Falls inside Kultali		
Joynagar No. 2	Falls inside Kultali		

individual village hamlets. The islands have a number of mouzas<sup>8</sup> within which the village hamlets are located.

A part of the forests of SBR is notified as the Sundarban Tiger Reserve (STR), with a designated area of 2584.89 km<sup>2</sup>, and the rest of the forest area is known as the South 24 Parganas forest division, measuring 1678.11 km<sup>2</sup>. STR is bordered by rivers Harinbhanga, Raimangal and Kalindi to the east. To the south lies Bay of Bengal. To the North West is river Bidyadhari and Gomti and to the west is river Matla. STR, was notified in the year 1973 under Project Tiger scheme of the government of India<sup>9</sup> and has an area of about 1699.62 km<sup>2</sup> as a core area or the CTH. Sundarban National Park, declared as a World Heritage Site in 1987 by the UNESCO, falls within this CTH and covers an area of 1330.12 km<sup>2</sup>. Sundarban National Park is an inviolate zone where human activity is prohibited by the Forest Department. Within the core area of STR, 124.40 km<sup>2</sup> is designated as a gene pool. The remaining 885.27 km<sup>2</sup> outside the CTH is considered as a buffer area. Sajnekhali Wildlife Sanctuary (SWLS) lies within the buffer area of the STR, occupying an area of 362.34 km<sup>2</sup>. The buffer area excluding SWLS, that is, 522.85 km<sup>2</sup>, is open to human use for livelihood. Sundarbans have been designated as the Tiger Conservation Landscape of global priority as it is the only mangrove ecology with tigers (STR 2014). All the forest fringe villages lie along the northern and north western boundary of the forest.

The delta is subjected to an influx of tidal currents, created by the interspersed distributaries of the rivers on their way to the Bay of Bengal. In the words of Jalais (2004: 12):

This delta, the largest in the world, is animated by two opposing flows of water: fresh water coursing all the way down from the Himalayas towards the Bay of Bengal and salt water streaming up with the tide from the Indian Ocean into the Bengali hinterland. These fast-moving current-driven salty muddy waters are the locale of crocodiles, sharks, and snakes of the most dangerous variety and of thousands of mangrove-covered islands. Born of these rivers, these islands seem to cling on to their vegetation for their very existence. Sandbars washed up into existence one moment, are immediately dispersed if left bare of trees.

Sundarbans is a fragile and vulnerable ecosystem, prone to intense and incessant real-life threats. In the recent years, the threat has increased due to the devastating effects of climate change. Rise in the sea level accompanied by stronger tidal waves have inundated and eroded away chunks of landmass, along with depletion of mangroves. The saline water is increasingly gulping on the inhabited land and forcing people to resign to their future of submergence (Mukhopadhyay 2016; Ghosh 2018).

The Indian Sundarban forest area is divided zonally for administration and execution of conservation plans. There are four STR range offices in Sajnekhali, Basirhat, National Park (East) and National Park (West). 14 STR beat offices operate under the four range offices. Chamta, Bagmara and Chandkhali beat

office falls under National Park (East) range. Haldibari, Netidhopani and Kendo beat office falls under National Park (West) range. Duttar, Dobanki and Sajnekhali beat office fall under SWLS range. Buridabri, Jhingakhali, Katuajhuri, Bagna and Harikhali fall under Basirhat range. Under individual beats, there are land-based camps and floating camps. They are established for combating poaching-related activities and for forest protection. Along with the establishment of the STR, Sundarban Development Board (SDB) was established in 1973 as a separate department under the Government of West Bengal, to initiate development in the region. In January 1994, Sundarban Affairs Department (SAD) was established, which implements developmental activities through the SDB.

### ***Water, forests and humans in a perilous labyrinth of islands***

SBR has assumed a global prominence worldwide due to its wide and exotic range of biodiversity, wildlife and marine resources. The most celebrated species is the famous predator of the forest, the Royal Bengal Tiger (*Panthera tigris*). Sundarbans are the largest remaining tract of the Royal Bengal Tiger, which necessarily occupies an integral core of the terrestrial food chain and is known globally for its valour in man-eating trait. Conservation policies in the Sundarbans align with a large-scale effort of ‘economizing governance’ (Wilshusen 2019), integrating ‘environmental conservation parameters with the financial sphere’ (Sullivan 2013: 199). To acknowledge and preserve the globally valued resources of Sundarbans, international conservation agencies have aligned with the Forest Department of West Bengal to conserve the region from potential threats of decimation. Organizations like United Nations Development Programme (UNDP), World Bank and Asian Development Bank extend regular financial aids to the state to conserve the ecological system of the Sundarbans (Mukhopadhyay 2016: 47).

Sundarbans provide an ideal case to explore transnational forest governance and its impact on the socioeconomic and biophysical environment (Castree 2008: 134). Studies reflecting on economic valuation of natural resources for controlling biodiversity decimation largely neglect symbolic practices that might be affected through the financialization of nature (Bayon and Jenkins 2010). Following Peluso (1993: 201), ‘global concerns over conservation have imposed additional pressures on the state, in the hope of achieving sustainable management objectives’. Human settlements in the fringe areas of the forest and community livelihoods based on the forest resources are considered by the state as the principal threat to the forests.

Sundarbans are one of the most productive stretch of riverine mangrove commons and ecological hotspots globally, alongside accommodating a dense community settlement cover at the fringes of the forests. Best described in the words of Jalais (2004: 13):

at high tide, when vast expanses of forest go under water, these inhabited islands come alive through communication with each other as sailing

between them becomes possible once again. In contrast during low tide, the forest re-emerges and many of the inhabited islands become isolated once again as riverbeds are left with insufficient water for boats to ply.

Volatility of the landscape has also been documented in gazetteer writings. According to O'Malley (1908: 2), Sundarbans are a desolate tract, 12–30 inches above the high-tide level, still in the process of land making. The extreme northern limits of SBR, which were reclaimed from the forests during the 18th and 19th centuries have well-knit physically stable settlements found in abundance, sharing close proximity with the mainland cities. These settlements are stable since they are away from the forests and the rivers and consequently from the threats of erosion, resulting from the intermittent change in the course of the rivers.

The survival and livelihood of the population that inhabits the corridors of the forest in the southern limit of SBR forms the context of the present study. These settlements are dissected by streams and rivulets and are situated on a relatively unstable land topography than the northern ones, being exposed to the fury of the nature. Jalais (2004: 17) refers to these islands as 'on the move', since they are continually created, recreated and eroded by tidal action. Here the tidal action of the river channels is belligerent and active, since they are on their final journey to the sea. Having being reclaimed and settled much later than those in the northern limits, there is instability in the land surface. These islands are usually referred to as the 'lower islands', situated on the 'active delta', where land is constantly made, unmade and remade, thus necessitating embankments, commonly known as 'bunds', for holding back brackish water from settlements and cultivated lands (Jalais 2010: 2). The frequently changing course of the rivers erode away land surfaces abruptly and thus these unstable landscapes support not many economic activities. The forests and the rivers are the two main sources of livelihood in these villages. Since agriculture is erratic due to high salinity of the water, many people from the forest fringe villages depend on the forests and the rivers for livelihood. Some of these resources include fish, crab, prawn seeds, honey, bee wax, dry wood, shells, among others. Conservation in these constantly eroding volatile landscape is imagined in different and diverse ways, which are mostly competing, yet central forces in representing the landscape (Mehtta 2019).

The population which subsists on the resources of the forest and river constitutes the most marginalized section within entire SBR. They are landless or are marginal landholders. The livelihood options from the forests are perilous in several ways, owing to the presence of tigers. A lot of lives are claimed to the tiger every year when the people enter the forests for livelihood. Most of the families are rendered to utter despair, since they get compensation very rarely. Due to the extensive policing imposed by the Forest Department of West Bengal, local livelihoods are further threatened as well as denied. The state officials prefer to keep the people residing in the forest fringe villages outside the forest reserves and label them as the contingent sources of depleting the

forest resources. These marginal habitats are exposed more to natural hazards like cyclones, storms, yearly increase of temperature and other climate change effects. Rapid landscape erosion and devastation of agricultural fields and habitations render inhabitants homeless and force them to emigrate as ‘ecological refugees’.<sup>10</sup> Local people are leaving the islands in large numbers, as migrants to places like Bihar, Mumbai, Kerala, Uttar Pradesh and Andamans.

Inhabitants of the Sundarbans share a physically vulnerable as well as a socially dystopic context, shaped by extreme natural events and more glaringly an arbitrary governance with a reasonable insolence on the part of the formal administration in addressing the risks. A global attention on the prized biodiversity and the flagship wildlife species of the region masks prevailing threats to human lives—narratives of the people, their everyday struggles of existence on the ever-eroding volatile landscapes remain invisible and disregarded (Ghosh 2018: 5). The contextualization of the study in the Sundarbans within a disciplinarily engaged framework of political ecology is thus imperative, for its relevance as a ‘constantly shifting dialectic between society and land-based resources, and also within classes and groups in society itself’ (Blaikie and Brookfield 1987: 17). Sundarbans provides a challenging yet intriguing epistemological context where any ethnographic analysis remains incomplete without understanding the structural complexities and power relations influencing resource conflicts, since the presence of the ‘state’ as a ‘free standing entity’ ceases to exist (Sivaramakrishnan 2000: 433). With current conservation policies, largely transforming the landscape through globally pervasive environmental governmentality and globally produced and valued eco-knowledge, human relationships with nature are likewise transitional and evolving. Sundarbans are located at the last frontiers of mainland, and the people inhabiting these eco-fragile risk-prone territories are ironically bound in their relentless attempts in making their weary voices heard. Hence, lived realities in such a physical ecological geography characterized by complex and intricate cohabitation of humans and non-humans, as Ghosh (2018: 21) in his book points out, make a single all-pervasive narrative is least explanatory. Different contestations, power and claims sums up the complex processes, including those of interspecies connections (Govindrajan 2015). Politics and power relationships are key factors instrumenting actions (Zafra-Calvo et al. 2020); thus, mechanisms of political intermediations (Kashwan 2017: 16), as identified in this book, are critical components of claim-making, institutional negotiations and ways in which policy reforms perform at sub-national levels. It is the collective pursuit of marginalization that is mobilized by otherwise disparate groups, to make their causes amenable to the policy.

## **Book plan**

The book ties multiple contextually situated thematics within the analytical terrain of political ecology. The second chapter entitled ‘Reclaiming riverine forests: an environmental history of the Sundarbans’, focuses on a review

of literary sources, gazetteer writings and ancient archives to elaborate the historical-ecological specificities of the landscape. It explores how in Sundarbans, forests acted as the principal source of revenue generation by East India Company till the middle of the 19th century. The islands of Sundarbans, locally known as *bhati* (lower plains of Gangetic Bengal), were mostly reclaimed and inhabited since the British rule in the 1700s and 1800s. The colonial administrators took a massive drive to clear the forests for human settlement and turn these forests into cultivable lands in order to obtain revenue. Sundarbans was popularly depicted as a ‘drowned island’, ‘impenetrable forests’ and ‘thick brushwood’, but without any restrictions on indigenous activities like fishing (Hunter 1875: xiii). The chapter would provide an account of historical power interactions embedded within the process of shaping the landscape as a protected wilderness.

The third chapter, entitled ‘People and forests: understanding social structures in a vulnerable ecology’ focuses distinctively on ways in which ecological vulnerabilities shape associations within people. It provides an account of the geography of the landscape and settlement patterns, physical and social structure of the studied villages and associations that people share with the forest. A large section of this chapter would explore how the power-ridden institutional mechanisms of conservation have impacted the social constitution of Sundarbans in the recent years. In the fourth chapter entitled ‘Forest-based livelihoods, survival crisis and politics of belonging in conservation landscapes’, the ways in which forest dependents in Sundarbans encounter the potential constraints in obtaining livelihood from the forests would be discussed. It would reflect on the socio-economic impacts of notifying large tracts of forests as inviolate conservation zones and how by this process of notification, the state specifically labels non-indigenous people as unlawful intruders into the forests. To this end, I have elaborated on fishing, honey collection and prawn farming in the villages. As observations show, prawn seed collection from the rivers of Sundarbans largely destroys the fragile ecology of the region. Setting up prawn fisheries in the physically vulnerable landscape is equally detrimental to the ecological system. Despite the consequences on the ecology, many of such occupations triumph by greasing the palms of the local political parties. While describing the everyday struggle for survival as an integral part of the occupation, this chapter explores the realm of forest livelihoods as a dynamic political space.

In the fifth chapter ‘Decentralizing conservation processes through rights-based frameworks: Forest Rights Act and Joint Forest Management initiatives’, I discuss the interfaces of the state in the recent methods of participatory conservation. It explains the politics of implementation of Forest Rights Act 2006 and JFM and to this end, it offers insights on forest governmentalities. The decentralized policies underscore the fact that communities using the forest resources can better manage them than private intervention or state agencies. However, the choices underlying these policies adapted by the state remained partially fulfilled in some cases and incredibly wasteful in others. Through the

field observations, the chapter examines critically in the context of Sundarbans, the kind of ecological and social crisis that the policies entailed in the name of decentralized governance. The chapter also explains how these decentralized policies led to the emergence of disparate political actions due to a range of discontented strategies of implementation.

The sixth chapter entitled 'A political ecology of non-human subject making in forest conservation' aims to explore how 'non-humans', alongside humans, can constitute a part of the subject-making process by the state, to sustain the politics of forest conservation. To this end, I draw on the subject making of tigers and through empirical observations, aim to show that the pervasiveness of tiger representation in the global world as 'exotic' and 'wild' is a part of such a subject-making endeavour, utilized by the modern state for conservation. It would also shed light on the ways in which current and future environmental governmentalities account for these multiple crosscutting forms of subjectivities, since non-humans are also part of the political process of conservation.

## Notes

- 1 Forest communities is a term used to refer to the people who depend on forest resources in varying extents.
- 2 There are differences between a CTH and a Critical Wildlife Habitat (CWH). CWHs are introduced by the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 (hereafter FRA), while CTHs have been introduced by the Wildlife Protection Act 2006 (hereafter WLPA). For details, see Broome, Desor, Kothari and Bose (2014: 193, 194).
- 3 Refer to Agrawal and Gupta 2005.
- 4 Ramachandra Guha (1983: 1882) refers to 'forest community' as 'those people whose existence depends on a close and ecologically sustainable relationship with the forest they inhabit. In the pre-colonial period, this category would include the tribals of peninsular India - e.g., those living in the Chotanagpur and Dandakaranya regions — and the inhabitants of the Himalayas, both those following settled agriculture and nomadic practices'.
- 5 Reference- Jalais (2004: 12), 'Sundarbans' is the anglicised version of the Bengali *shundor* (beautiful) and *bon* (forest).
- 6 According to the official website of STR.
- 7 GPs in India are the lowest tier of the three tier local self-governance organizations (panchayati raj system) in rural India. Their members are elected by the adult members of the village, for a period of five years. In West Bengal, gram sansads are the electoral constituencies of each GP.
- 8 Mouzas are administrative units within a village which comprises of one or more settlements or villages. There might be dispersed settlements within each mouza.
- 9 The Project Tiger was implemented in the year 1973 under National Tiger Conservation Authority (NCTA), by the Ministry of Environment, Forests and Climate Change, to implement state level conservation emphasis on the preservation of tigers. Under this scheme, the Government of West Bengal on 18.12.2007, constituted Sundarban as a CTH, listing the area to be 1699.62 km<sup>2</sup> which was previously 1330.12 km<sup>2</sup>. Under this notification, a large area of the STR, which was previously buffer, was also included within the core, increasing the area of the inviolate zone.
- 10 The developmental projects like large dams open cast mining, eucalyptus plantations as well as policies of conservation have uprooted and displaced around 20 million



ecosystem people and forced them to migrate to the cities in search of livelihood. This has created a class of 'ecological refugees' who inhabit the slums and shanties of towns and cities in India (Guha 1997: 384).

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## **A political ecology of non-human subject making in forest conservation**

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## Conclusions

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