sustainability

MDPI

Article

Community Development for Bote in Chitwan National Park, Nepal: A Political Ecology of Development Logic of Erasure

Indra Mani Rai [1], Gavin Melles [2,*] and Suresh Gautam [3]

[1] Central Department of Education, Tribhuvan University, Kirtipur 44618, Nepal
[2] School of Design & Architecture, Swinburne University, Hawthorn, VIC 3122, Australia
[3] Department of Development Education, Kathmandu University School of Education, Lalitpur 44700, Nepal
* Correspondence: gmelles@swin.edu.au

Abstract: The conflict between development and conservation concerns is a perennial topic in sustainable development, and especially significant for marginalized social groups. In Nepal, fortress conservation in protected areas (PA) gave way to a community-based development and natural resource management (CBNRM) narrative of inclusion and participation in so-called buffer zone (BZ) initiatives around national parks. Studies to date show mixed outcomes of the community-based model for marginalized communities, especially for traditional indigenous river and forest dwellers. Academic and government reports of successes and failures of community-based projects in Nepal assume progress is based on traditional indigenous livelihood practices being abandoned and participation in state modernization initiatives in parks and reserves. Thus, despite promises of participation, evidence to date shows a de facto continuation of fortress conservation thinking and erasure of customary knowledge and livelihoods. Based on an ethnographic inquiry informed by political ecology conducted in two villages of Bote IPs (in the buffer zone area) of the Nawalparasi District of Chitwan National Park (CNP), we describe how state interventions and regulations under the guise of community-based participation actively ignore the moral ecology of traditional riverine livelihoods while pursuing a modernization project. Echoing calls by other scholars and stakeholders, we argue that a new approach to conservation and development that respects the environmental ethics of traditional livelihoods is long overdue in Nepal.

Keywords: national park; indigenous ecological knowledge; gold panning; fishing; sustainability

Citation: Rai, I.M.; Melles, G.; Gautam, S. Community Development for Bote in Chitwan National Park, Nepal: A Political Ecology of Development Logic of Erasure. *Sustainability* **2023**, *15*, 2834. https://doi.org/10.3390/su15032834

Academic Editor: Tim Gray

Received: 17 November 2022
Revised: 30 December 2022
Accepted: 1 February 2023
Published: 3 February 2023

1. Introduction

The International Working Group for Indigenous Affairs (IGWIA) notes that indigenous groups (Adivasi Janajati) of Nepal comprise 36% of the total population of 30.2 million, with the 2011 census including 63 Indigenous Peoples among this diverse population. Recent studies, NGO reports and public media document the gradual erasure of customary indigenous livelihoods through displacement, repression and violence under state-led modernization centred in and around national parks. A picture of violence and exclusion reported by different NGOs (e.g., [1]) contrasts markedly with the state-sponsored discourse of community-based conservation and development successes in these same areas. These contrasting narratives must first be seen in the context of approaches to conservation and development as implemented globally and in Nepal.

1.1. Fortress Conservation, Community-Based Models and beyond

Aided by state-led modernization projects, conservation science, and the practicality of a discrete geographic focus in parks and reserves, typically in sparsely (indigenous) populated areas [2], the idea has been promoted of designating protected areas (PA) and restricting human activities within the areas [3]. The fortress conservation approach typically involved the coerced displacement or exclusion of the existing inhabitants [3–6]. The

'fortress model' or 'area-oriented approach' has isolated local communities, as it believes that locals are the cause of environmental hazards and biodiversity loss [7,8]. Adams [3] observes that neo-Malthusian logic about the misguided human destruction of environments is present in many of the dryland desertification, famine and other conservation stories readily adopted by the state to further its modernization projects.

In response to the exclusionary intent of the fortress model, the political contexts in which conservation operates [5], and poor human development outcomes [9], a community-based narrative for development emerged in the late 1980s [10–12]. A growing focus on biodiversity conservation, led to the subsequent community-based natural resource management (CBNRM) model, which focuses on self-management or co-management of protected areas [2], and a new discourse of collaboration [13,14]. Community-based participation for indigenous groups as a foundation for biodiversity conservation from indigenous 'forgotten partners' was recognized by the World Bank as foundational [15].

As Adams and Hutton [16] note, community-based discourses reflected the growing influence of social science on approaches to sustainable development in biodiversity conservation protected areas (PA). Many scholars were quick to point out that an enabling institutional environment committed to inclusive and participatory development needs to be first established if community-based programs are to be effective and not reinforce conventional development strategies [12,16]; thus, the fortress model continues to exist, including under the banner of community-based participation (see [6]).

Given global failures to date, and the search for more just and effective inclusion of indigenous knowledge and practices beyond state-led modernization stories, new frameworks and formalized approaches have emerged [17–20]. Global institutions, such as the IUCN and CBD, have promoted Indigenous Peoples' and Community Conserved Territories (ICCA) as a way forward in acknowledging indigenous rights to self-governed livelihoods. ICCA are natural and modified natural ecosystems voluntarily conserved and managed by traditional communities [21].

For Nepal, Stevens [22] concludes that indigenous contributions to conservation in national parks are undermined and threatened by inadequate recognition and respect for their ICCAs in national legislation, Department of National Park and Wildlife Conservation (DNPWC) policies and practices, and national park management planning [22]. Fully implemented, they involve a reversal of the political and socio-economic marginalization of such groups and a shift from the idea of indigenous groups as only just stewards of nature [23].

A first step in implementation would be a more transparent political ecology of Nepal's treatment of *Advisai Janajati* as a basis for the need for a new approach, and acknowledgment of the distinctive environmental ethics of such groups in contrast to the state. A political ecology perspective on the 'institutional linkages and multiple levels of organization that impact and shape institutions at the local level' [24] that enable and may destabilize the relevant conservation and development commons is consistent with such a challenge (see [3,25]). Moreover, in an era of postcolonial challenges to the dominance of Western scientific understandings of conservation and livelihood modernization projects [26,27], especially in South Asia [28], more explicit acknowledgement of moral ecologies, or the 'environmental ethics of the poor as defined in opposition to the exercise of elite power' [29] in forest, river and dryland communities, is an essential step in indigenizing community-based participation [17]. Following precedents from Nepal [30], we first articulate the political ecology of fortress and community-based narratives of conservation in national parks, and then articulate the knowledge and practices which underpin the moral ecology of the Bote community, which stands in contrast to state-led modernization.

1.2. Nepal: Community Development in Buffer Zones and Protected Areas

The National Park and Wildlife Conservation Act 1973 provided the initial impetus for the creation of national parks as protected areas (PA) and the displacement of indigenous groups from park areas on the assumption their indiscreet use of forest and river resources

was a danger to conservation goals. The fourth amendment (1992) included reference to BZs and local livelihoods [31]; Buffer Zone Regulations 1996, and Buffer Zone Guidelines 1999 formalised these provisions.

Since the 1990s, the Government of Nepal demarcated buffer zones (BZs) in 13 protected areas (PAs) out of 20 PAs [1]. The PAs are extended to the ancestral lands of diverse communities, from the lowland Terai region to the high Himalaya Mountain areas. BZ programs in the protected areas aimed principally to preserve the habitats of endangered wildlife and ecosystems and secondarily to ensure participation in biodiversity conservation [32]. Buffer zones (BZ) and protected areas (PA) formalize a combined logic of community-based and fortress conservation models, respectively.

With a global shift towards community-based and participatory conservation policies, the BZ policy responded to the need for more collaborative and integrated approaches to managing resources [33]. Thus, the BZ programs form part of National Biodiversity Conservation Policies, including those linked to Nepali commitments to the Convention on Biological Diversity (CBD). As Paudel et al. [34] observe, the emergence of joint conservation and livelihood concerns in PAs in Nepal was a gradual development that became established for national park jurisdictions in the decade between 1996 and 2007.

The National Parks and BZ programme brought significant positive and negative changes in livelihood activities to jurisdictions already subjected to increased human incursions through tourism and business, and wildlife damage to local livelihoods [32,35]. Reports of success typically highlight the transitions of local groups away from traditional livelihoods through participatory conservation to integration into modern Nepal [36]. Notwithstanding, even advocates of community-based BZ programs report mixed benefits from modernization initiatives and 'conflicting priorities between conservation and development goals' [37] (p. 64). Thus, eco-tourism activities [31], community forestry, hydropower [38], aquaculture ventures [39–41], inter alia, have had modest to negative effects. Tourism and conservation have increased livestock losses due to wildlife incursions [32,42–46].

Thus, the much-touted benefit of local participation enhancing social capital in community-based programs appears not to be the case in Nepal, while elite capture of resources must be better controlled [47]. Subedi [48] adds that existing policies and legislation are inconsistent with pro-poor objectives, and elite capture and rent-seeking are the major challenges. According to reports, government shows little interest in implementing the International Labour Organisation (ILO) Convention 169 on indigenous and tribal peoples; violence is frequent in national parks, while protests—which are violently subdued—and land grabbing are also common [49]. Thus, despite ratification of the International Labour Organization (ILO) Convention 169 on Indigenous Rights [50], regular contraventions are referenced in accounts of indigenous communities in Nepal (e.g., [51]).

Hence, most studies suggest that greater monitoring and evaluation of benefits is needed, especially since outcomes on closer inspection have not been positive [52]. Problematic in these reports is the unquestioned adoption of the modernist thesis of abandonment of traditional livelihoods and fear that locals will overexploit resources and hence there are numerous restrictions on community activities in PAs but also in BZ areas. As Adams [3] notes, the neo-Malthusian conservation logic of controlling poor populations, where 'a direct link is made between environmental degradation that is due to unwise overuse of land' [3], i.e., a tragedy of the commons [53], underpins this restrictive approach. Notably, it provides a convenient justification for PA and fortress conservation, as well as justifying the modernisation thesis.

Regmi and Walter [54] suggest that the ethnocentric assumption that traditional ways need abandoning in favour of modern ways and that development must proceed through modernisation on the model of the West underpins current approaches. Thus, it has been argued that local communities in Nepal have been coercively pushed into unsustainable livelihoods under the guise of community-based empowerment and modernisation [2]. BZ policies in CNP have led to the devaluation of customary systems, and authorities

restrict the ability of local groups to gather resources to reduce 'illegal' encroachments on wildlife [55].

As Thing et al. [56] argue in their study of the Sonaha participatory reform, despite its strengths, it has reinforced the old fortress conservation paradigm and hegemonic conservation discourses that normalised conservation violence and marginalisation. These and other results suggest that current modernisation approaches in PAs and BZs may not improve with more state-led participation of marginalised groups. In an era of significant uncertainty, new forms of governance are needed that exceed the modernising state's approach to conservation and development [57]. Political ecology and an articulation of the distinctive ecology of traditional communities [58] can help move towards a paradigm of self-governed development and form the basis for deeper implementation of ICCA [15,22,59].

1.3. Narratives of Political Ecology and Bote Marginalization

We take a political ecology focus to understand the multi-layered political effects on livelihoods and adopt the notion of moral ecology to explain how a local environmental ethic of human–nature relations is a more fruitful starting point for a new conservation and development ethic than persisting with community-based models. Political ecology 'emphasizes the importance of asymmetries of power, unequal relations between different actors, in explaining the interaction of society and environment' [3]. The emergence of political ecology owes much to the work of Blaikie and colleagues on soil erosion [60] and land degradation [61] as complex, multi-layered symptoms of farming practices, regulation, state interventions and global market pressures.

Blaikie [61] suggested that site-specific symptomatic issues, such as soil erosion, wildlife–domestic animal conflicts, and fish stock reductions, result from a chain of causes. Thus, site-specific ecological imbalances, e.g., soil erosion, depletion of fishing stocks and other resources at the relevant site, are an immediate product of a symptomatic factor, e.g., overfishing, which itself is a product of broader practices and decision-making processes. Political ecology is increasingly deployed in theorizing conservation and development crises [62].

Over time, political ecology has also employed discourse analysis, since forms of knowledge are circulated in the form of discourse as a form of power that is legitimated by the state structures [63]. Robbins [64] highlights five dominant narratives in political ecology about conservation and development practices, which can be found combined in studies adopting a political ecology (and sometimes postcolonial) focus on conservation and nature relative to indigenous groups in Nepal [22,44,65–69]. In the table below (Table 1) we name the narratives, their meaning and application to the current case study.

All five narratives invest in current discussions of community development and conservation in Nepal and tell stories about how recurring current conflicts reveal the 'hegemonic power of the nature conservation discourse as it influences the management of the Park and its buffer zone' [68] as a way of controlling indigenous groups alongside direct state power. Such narratives, however, do not directly address the postcolonial critique of privileged forms of knowledge that contribute to conflict (but see [69]). For this, the articulation and 'just appreciation' of moral ecologies must be employed (e.g., [30]). In addition to political ecology, therefore, articulating the environmental ethics of local groups begins to move the discussion beyond just a recognition of the value of ethno-ecological knowledge as a contribution to modernized conservation and development.

Table 1. Political ecology narratives, meaning and application to case study.

Narrative	Meaning	Application
Degradation and marginalization	Natural resources are overexploited due to state intervention and modernization.	The modernization of Nepal, including tourism, abandonment of rural livelihoods, hydroelectricity, aquaculture ventures and state interventions supported by legislation on forests and parks (through PAs and BZs) has led to increased human presence and natural resource use. Responsibility, however, is shifted to unsustainable practices of traditional groups.
Conservation and control	Resources must be conserved and controlled at any cost.	The PAs and BZs underpinned by the National Forest and Wildlife Act (1973), as well as the later community-based approaches, adopt a neo-Malthusian logic of population control and conservation for tourism ends, which must be controlled by displacing people and encouraging bans on traditional livelihoods, and destructive interactions with nature.
Environmental subjects and identity	The emergence of a new group of people representing local people who engage in political actions.	NGO groups of various kinds have begun representing the grievances of local people. The repression of political action by minority groups is replaced by this representation. Other actors in this category include international organisations such as IGWIA. The degree and effectiveness of political action varies and may conflict with emerging indigenous leadership.
Environmental conflict and exclusion	The continuous conflict that exists between communities when a particular elite group controls resources through policy.	State-led interventions and policies have created conflicts between indigenous groups and other social groups, whereby the dominant population accuses indigenous communities of destroying the environment. Violence visited on indigenous groups by park authorities and the army is justified by indigenous belligerence.
Political objects and actors	Political and economic systems that are shown to be underpinned and affected by non-human actors with which they are intertwined.	The environment and its key actors, e.g., wildlife, nature, rivers, and forests, are the basis for local livelihoods and for the state in its efforts at modernization, e.g., eco-tourism. The actions of the state against groups is a response to the perceived threats to this environment.

1.4. From Indigenous Knowledge to Moral Ecologies of Resistance

Toledo [70] argues that for indigenous groups, natural resources (lands, forests, animals and birds, river/water) are valued, respected, worshipped, and negotiated through rituals, and they are themselves elements of the complex ecosystem having symbiotic relationships with other elements; the spiritual beliefs and worldviews and lived experiential knowledge complement and enrich each other for the sustained use of natural resources. In modernist conservation and development, such knowledge is recognized as knowledge on how to preserve and manage natural resources for future use. Moreover, such knowledge has been shown to be valuable for sustainable management of agro-ecological systems [71].

The value of this 'alternative' indigenous knowledge as a complement to conservation science, however, continues a tradition of the nature industry and the coloniality of nature 'primarily seen in wildlife conservation projects, tourism, forest privatization schemes (land grabbing), and climate change mitigation in the forest' [72]. Biodiversity conservation becomes another state intervention that grudgingly involves traditional owners. Degradation of environments as a product of a complex network of state modernization interventions, some of them violent, in and around forest and river geographies are attributed to local misuse, e.g., overfishing, wildlife destruction, excessive pesticides, and poor farming practices, and more honest political ecologies that spell out the state's direct involvement in creating such conditions are ignored [44,65,67].

Thus, more recently, ethnographically informed studies place emphasis on understanding the shared practices of the moral ecologies of traditional communities and their resistance to perceptions of the human–nature divide as a way forward to sustainable liveli-

hoods. Citing the example of controlled burning in rural England, Griffin and Robertson note 'Commons, then, were both a biotic resource and the materialization of a set of beliefs as to the resource's sustainable management—a way of doing that 'kept the common a common', which, from this morally driven perspective, meant ensuring grassland regeneration' [29]. This conflicted with state-led perspectives, where 'modernizing science-derived conservation came into unequal dialogue with vernacular beliefs and practices and nature was enrolled to perform acts of exclusion by class' [29].

In historical contexts of violent exclusions, Martinez-Reyes [72] articulates such moral ecologies for Mayan communities as the way to decolonize conservation and development practices. Meanwhile, Campbell [67] focuses on the integrated human–nature cosmovision and practices in the Himalayas that can be at the origin of new approaches to self-managed sustainable livelihoods. Thing [30] has most recently employed moral ecologies to examine the resistance of the indigenous Sonaha people on the Karnali River, Nepal, to imported conservation politics, violence, and exclusion. He notes that 'that the Sonahas' moral ecology encompasses complex meanings and fosters the subsistence use of resources from the natural environment in ways that have been marginalised by the conservation discourse' [30]. We argue that a political ecology and articulation of indigenous moral ecology fit the agenda of a new indigenous postcolonial sociology for conservation [28,73].

2. Materials and Methods

In the following section we provide a history and political ecology analysis of Chitwan National Park (see Figure 1 below) relative to indigenous communities employing the chain of explanation framework and the five narratives of political ecology above.

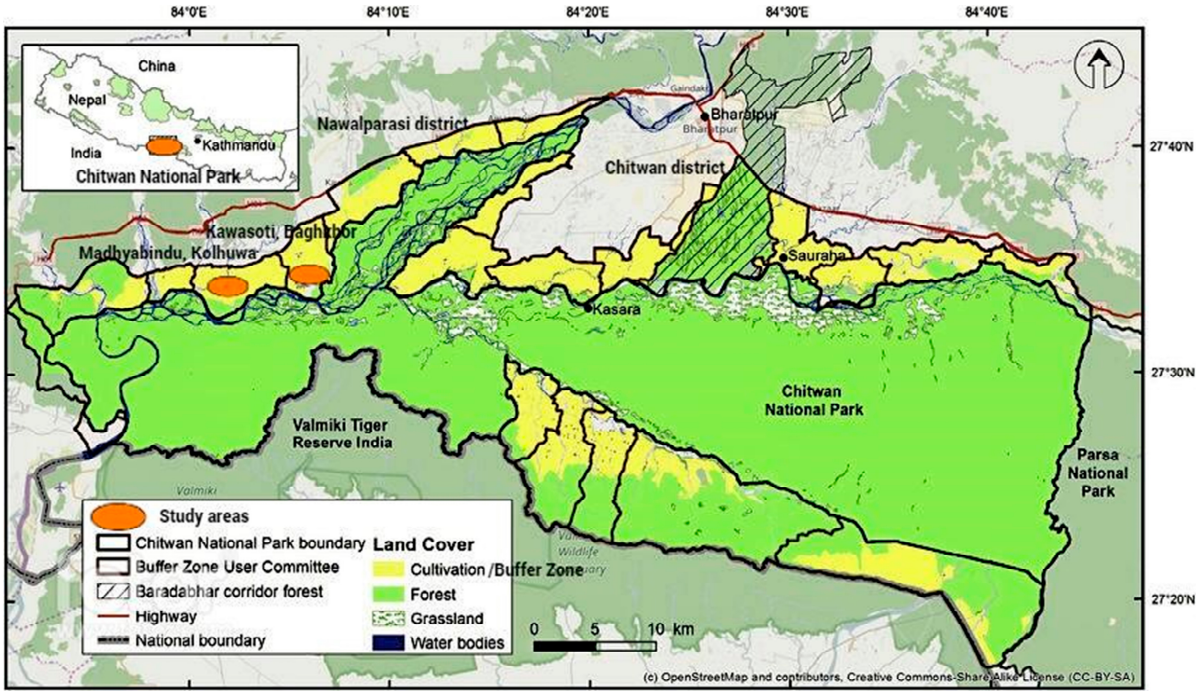

Figure 1. Location map of study areas (oval red dots)-Kolhuwa of Madhyabindu Municipality and Baghkhor of Kawasoti Municipality in the North-South of Chitwan National Park (CNP). The map is adapted from (Lamichhane et al., 2017 [32], p. 179).

2.1. History and Political Ecology of the Chitwan National Park (CNP)

The Chitwan National Park (CNP) was established in 1973 as one of the PAs in Nepal and is in south-central Nepal covering 952.63 km^2 in the subtropical lowlands of the inner Terai [55,74,75]. The 1973 National Parks and Wildlife Conservation Act was the impetus for the creation of parks and reserves, and 'rapid development of conservation programs in

Nepal was at least partly due to the litany of environmental problems in the country' [76], due, inter alia, to human encroachment. Even though Nepal has subsequently developed a very productive conservation and tourism agenda leading to enviable afforestation rates, some areas continue to experience environmental degradation [77].

The CNP extends over four administrative districts—Chitwan, Nawalpur, Parsa and Makwanpur—three provinces of Bagmati, Province No 2, and Gandaki, providing natural connectivity to the lesser Himalayas to its north, Parsa National Park of Nepal to its east, and Valmiki Tiger Reserve of India to its south [78]. As elsewhere in the world, the park came under the protection of the Royal Nepal Army from 1975 onwards. Tourism is a major source of income in the parks and has increased human presence and had other socio-economic costs and purported benefits. UNESCO declared CNP a World Heritage Site in 1984 due to its exceptional natural beauty, outstanding ecological and biological processes, and significant natural habitats for endangered species. In addition to the conservation of the Gharial crocodile, the local rhinoceros' population has also been a focus of the CNP [37].

Since the establishment of the park, indigenous groups such as Tharu, Chepang, Bote, Kumal, and Darai living in and around the park have been forcefully relocated [74]. The livelihood and lifestyles of indigenous and marginalized communities around CNP have also been changing due to the influx/migration of people from other parts of the country and modernization [79]. Recent studies which praise the BZ strategy for its positive effects on conservation and biodiversity in parks typically contain a foot note on indigenous and marginalized groups as negatively affected [56]. Recent media reports document their resistance to current state-led strategies (e.g., [80,81]).

2.2. Bote People

The Bote is one of the marginalized indigenous groups among the 59 official groups identified in Nepal who mostly live along the East Rapti and Narayani rivers bordering CNP. However, there are Bote settlements in Gorkha, Tanahu, Nawalparasi, and Lamjung as well. According to the 2011 census, there were 8766 people who speak Bote as their mother tongue (65%). As a group, the Bote also have lower social status relative to other groups in the area, such as the Tharu [82]. The latest statistics for Nepal reports figures from 2011 for indigenous groups and the Bote are a comparatively small group (pop 13,397); the Musahar, (pop. 235,000), Majhi (pop. 83,727), and Tharu (pop. 1,737,470) being much larger [83].

The Bote are divided into Paani Bote, who are those who solely depend on fishing, boating, and collecting motes of gold from riverbanks, and Pakhe Bote, who depend more on agriculture, animal husbandry, and porter work for their survival [84]. Living in close proximity to the Majhi they are often considered a combined ethnic group but are ethnolinguistically distinct. Jana [85] provides a history of the Bote in the CNP alongside the Majihi and Musahar (related forest-dwelling and fishing communities) and their attempts at environmental justice and the gradual exclusion of such groups from traditional livelihood activities. Paudel [34] also reports that after the eradication of malaria in the 1950s, the hill people from central Nepal migrated to Terai and captured private farmland and communal forest land in CNP that had been used by the indigenous groups. Thus, currently Bote people live among a diverse population of recent immigrants from the hill regions and others; hence, reports on BZ and PA programs and their effects in CNP apply generally to this diverse population [32].

Bote groups have been displaced to make way for hydroelectric projects and by immigrants from the hill region [34], and the impacts of their displacement relativized as negligible in comparison to overall livelihood benefits (however, see [38,82]). Recent NGO studies have identified a long-standing lack of compensation or redress for evictions and land loss as some among the many impacts on indigenous groups [1].

The Bote have increased access to urban employment and the expansion of the market for their agriculture and handmade products. Livelihood diversification into tourism, construction work, and conservation work combined with fishing and migration for foreign employment have recently emerged as livelihood strategies [86]. These changes are driven

by general modernization pressures, including a government-driven focus on tourism and conservation, which has little space for traditional livelihood practices and collective commons rights [80].

2.3. Research Method: Critical Ethnography

For this paper, we used a critical ethnography approach that was crucial to understanding the exclusion of Bote. In so doing, we spent a year in 2021 on multiple field visits. The research was conducted in the buffer zone (BZ) area of Chitwan National Park (CNP), particularly in Baghkhor village (Agyauli Village Development Committee-5 as an earlier administrative division) of Kawasoti Municipality-15, and Kolhuwa village of Madhyabindu Municipality-2 in the Nawalparasi district. The villages are towards the north and south of CNP. Baghkhor was one of the oldest settlements with 75 households, and Kolhuwa was the newer settlement of Bote people in which 45 households were displaced by the CNP. They were dislocated at this place when the Narayani River, a boundary of the CNP, changed its course enclosing their traditional settlement. Each household has been provided a small piece of land just large enough to make a hut for a single family.

2.3.1. Situated Ethnographic Interviews

We purposefully selected ten community members from two villages for unstructured interviews. A flexible guideline with open-ended questions was used to facilitate the interviews. Four youths (2 women and 2 men) were selected from each village of Baghkhor and Kolhuwa (see Figure 2 below). Further, we selected 2 elderly people (1 male and 1 female) from each site to collect information about indigenous ecological knowledge and practices associated with the means of living, religious, and cultural practices. The unstructured interviews in situ were conducted to explore the individual perspectives on the cultural, economic, and spiritual detachment from the lands and natural resources. In the third field visit, we conducted interviews with the key park authority (chief warden), 2 conservation officers, and 2 officers of The National Trust for Nature Conservation (NTNC) for understanding their perspectives on conservation in relation to Bote peoples. We tried to understand the participation and exclusion of Bote in BZ programmes and the use of their knowledge in conservation practices.

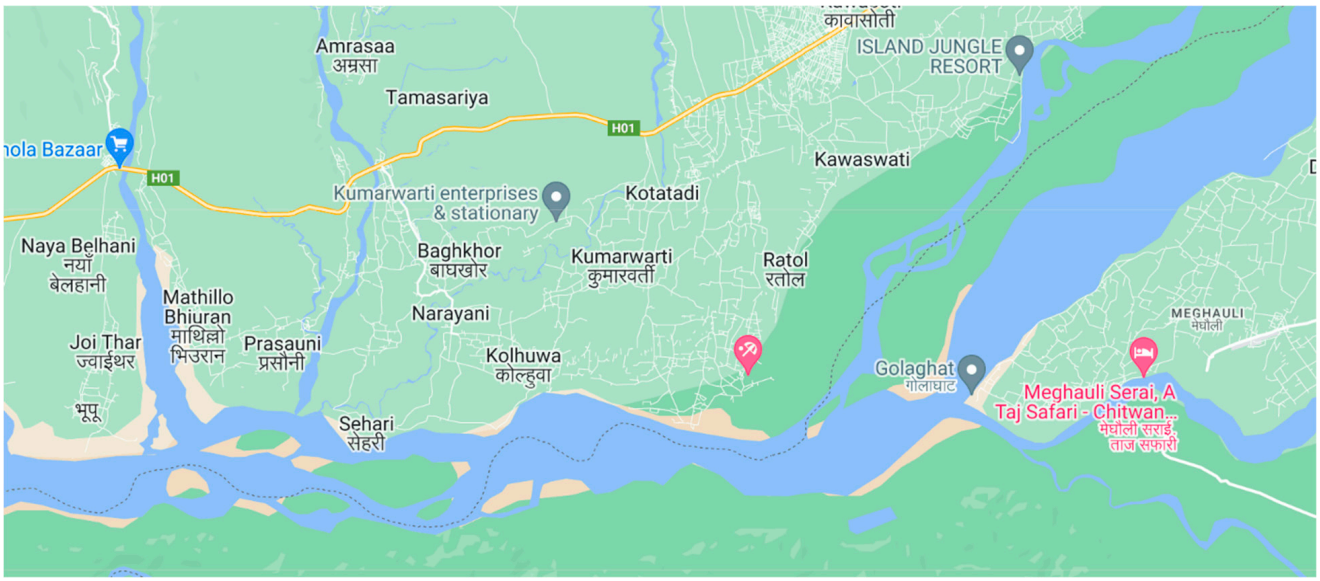

Figure 2. Study Fields (Baghkhor and Kolhuwa), Source: https://dnpwc.gov.np/en/conservation-area-detail/78/, accessed on 1 December 2022).

2.3.2. Focus Group Discussions

In addition, one focus group discussion (FGD) in each site was conducted including 4 and 6 community members. We listened to and understood the changes created by CNP on their traditional ways of living from many other community members. The FGDs were used to collect the collective views (Cohen et al., 2018) of the community members on how they have been interacting with CNP activities. These methods were useful for collecting detailed information through probing questions.

2.3.3. Observation

We engaged in the informal observation of the impact of CNP on the lives of Bote communities. The fishing, ferrying, artifacts from collecting gold motes, fishing nets, the Narayani riverbank, the traditional settlement areas, cultural and spiritual plants, fish, and the surrounding natural resources of Bote peoples were observed in the natural setting. The field notes and recordings of unstructured interviews, FGDs, and observation were maintained after obtaining the informed consent of the participants. Further, an account of the observation of the field was prepared based on the field notes and the photographs taken in the fields.

In each of our three field visits (5 February–2 March 2021, 15 April–24 May 2021, and 13 August–3 September 2021), we informally observed the contexts of the lifeways of non/Bote people. In the first fieldwork, we observed the alternative economic activities of Bote in Baghkhor, such as housing patterns, homestays, small businesses, agriculture activities, and the natural surroundings of Bote, such as the buffer zone community forest (BZCF). In so doing, we walked around the community and met many household members. Further, we observed the new settlement of displaced Bote families in Kolhuwa with small patches of land and huts that gave a sense of miserable livelihoods. One of the Bote youths pointed out their traditional settlement inside the park enclosed by the Narayani River, but it was difficult to locate the area due to the uniformly dense forest.

In the second fieldwork, with the support of Bote youths, we observed the Narayani riverbanks where the Bote traditionally engaged in gold panning practices, ghats (ferry points), wooden boats, fishing nets (hatte jal and tiyari jaal), gold panning instruments (Dundh, Paata stored at the home of elderly Bote in Baghkhor) and licensed fishing. In addition, we observed the cultural and spiritual places (rivers and forest areas) and the flora and fauna that had cultural and spiritual values. We maintained the field notes and photographs of observation and prepared observational accounts of each fieldwork. The third field visit was concentrated on observing the non-Bote contexts such as the CNP headquarter (Kasara), National Trust for Nature Conservation (NTNC), and different parts of CNP such as wetlands, lakes, museums, and animal breeding sites.

2.3.4. Thematic Analysis

The recordings were transcribed, coded, and categorized, and the key themes were generated from the information [87]. We aimed to generate a rich description [88] of the customary livelihoods and lifestyles of Bote peoples, and an 'assemblage' of practices which define their human–nature relationships [69]. In the following sections, we identify core Bote indigenous practices and social structures, which previously contributed to sustainable livelihood outcomes.

2.3.5. Ethics

We engaged in the field maintaining three key ethical standards: (a) obtaining informed consent of the participants; (b) keeping the confidentiality and privacy of the participants through the use of pseudonyms; and (c) respecting their human rights. We used the free, prior, and informed consent (FPIC) protocol of the FAO under the right to self-determination (as of ILO C 169 and UNDRIP) to obtain consent from participants in the research processes. We sought the voluntary participation of the participants.

3. Results: Traditional Livelihoods and the Environmental Ethics of Sustainability

An account of the assemblage or network of practices around the river 'waterscape' [69] that defined the environmental ethics of sustainability (moral ecology) for Bote and their interaction with the state is a pre-requisite to move towards an environmentally just conservation and development model [85]. In what follows, we describe the way traditional practices were embedded in human–nature relations and how state modernization disrupted and disentangled these relations. In so doing, we articulate the moral ecology of the Bote as revealed in their encounters with and resistance to power and the discourse of conservation (and see [30]).

3.1. Indigenous Practice of Gold Panning: Local Gold Mote Economy Banned

Artisanal alluvial gold mining is a global practice among marginalized and local riverine communities and significant for livelihoods [89]. As with other indigenous groups, gold panning is not an isolated activity but integrated with land tenure, social structure and community economics, and fishing and gold panning have traditionally sustained livelihoods [30]. The shift from customary practices like gold panning to urban modern strategies tends to be reported as an inevitable and positive modernisation change in some research! (e.g., [86,90]).

The Bote had a tradition of gold panning at Narayani riverbanks, which was associated with a specific land tenure system—parallel allocation practices among other groups such as the Sonaha exist [30]. In the presence of Guruwa (spiritual leader) and Mukhiya (village chieftain/community leader), the slices of land (Narayani riverbanks where the gold was found) were divided among the families of the community. This was done on the day of Gandaki Pooja/Badko Barne, a great ritual of worshipping the river. They had knowledge of which areas the gold was found based on the type and quality of the sand. They collectively decided that the richest piece of land would be allocated to Mukhiya and the second richest area was offered to Guruwa. This was done in respect and honour of the eldest and most knowledgeable persons in the community. The rest of the areas were divided equally for each household.

Mukhiya and Guruwa played key roles in the allocation of lands. Each representative member of a family would take a piece of khadai (stem of a kind of grass used to fence a house) secretly marked something on it and put it in a basket made of bamboo split canes or any other basket. Mukhiya held the basket on his head so that he could not see the pieces of khadai. He held the basket with a hand and a piece of khadai was dropped to each slice of the land divided between the families. Each member identified his/her lands/riverbanks for a year based on the marked khadai. The lottery system was to maintain the impartiality of the division of the lands.

Bote family members engaged in decantation of gold motes from the sand locally called 'gold washing'. At first, a certain amount of sand was put in a small conical wooden vessel called a dundh. The sand was washed pouring and outpouring water time and again and the motes of gold were gradually suspended down at the bottom of the conical vessel. Again, a small portion of the mixture that was found at the bottom was shifted to another small wooden plank called a paataa. Slowly, the visible motes were separated with the help of water. Then, a few drops of the juice of the bark of the jingar tree were poured on the scattered particles of gold. The juice is held together with the particles in a place. Next, the gold was put on a jaluka leaf (a kind of wild vegetable and herbal medicine, Centella asiatica) and wrapped. The wrapping was put on the coal and fired blowing air through a bamboo pipe to melt and make a single piece.

An individual could collect 3 to 30 Laal (1 Laal = 0.1166 g) of gold in a day depending on the availability. They used gold to make jewellery. They also exchanged the gold for food grains, and some was traded. Many of them made ornaments for themselves. Most of the time they spent on the riverbanks but came back to the village when the water level rose in the river during the rainy season (Ashadh/May/June, Shrawan/June/July, and

Bhadra/August/September). They celebrated the festivals, ceremonies, and rituals at the bank of the Narayani River as they lived for about nine months a year.

According to media reports, like other groups, including the Sonaha, Bote have been banned from alluvial gold panning, because of, inter alia, the negative effects on riverbank conservation of the gharial crocodile habitat [91]. Other reports note that gold is disappearing from the sands, due to earthworks on the river, and that this disappearing aspect of Bote livelihoods has further weakened their financial capital [92] in an activity that was critical, inter alia, for paying back costs incurred during the main Hindu festival of Dashain [93]. Hence, the banning of gold panning literally disrupts a critical element of a network of land tenure, social structure, local economics, and culture in the name of conservation and modernization.

3.2. Precarious Livelihoods for Smallholders and Wildlife Incursions

As elsewhere in most parts of the globe, the eviction of Bote from riverine indigenous livelihoods on access to ancestral lands has not only threatened their survival but also their indigenous ecological knowledge, kinship systems, culture, and religion, transforming them from independent to dependent and poor communities. While outlawing local practices, government and park officials have provided unsatisfactory substitutes, including livelihood options, and failed to ensure land rights in what were previously jointly managed commons [1,85,94].

Thus, Bote displaced to Baghkhor because of the CNP being established have been converted into small landholders, on properties which have not yet been officially registered in their names. The crops and vegetables in small patches of cultivable lands are frequently destroyed by wild animals. As informed by the participants, many of them do not receive any compensation as they do not try to claim it due to clumsy bureaucratic processes.

A few of the households in Baghkhor engage in homestay businesses and a few are nature guides (trained by the park) and earn subsistence wages in the tourist season. Bote in Kolhuwa are more vulnerable as they are the displaced group since the Narayani River changed course, enclosing their traditional lands in the park. Each of the households has been provided a small patch of land just large enough the make a small hut with no registration certificate. They have no option for livelihood. Thus, many Bote youths go abroad (in Gulf countries) for wage labouring, and some engage in labour works in the vicinity. Displacement and inadequate compensation are repeated stories of indigenous exclusion, and the uncertainty of property rights and of work in general is helping to drive the erasure of the next generation [44,68,82,95].

3.3. Fishing and Fishponds

Conservation and development rights conflict particularly in fishing practices, which have not only been restricted but have created unsustainable outcomes such as overfishing, use of nylon nets, financial penalties, and other negative livelihood outcomes [30,80,84,85].

Along with gold panning practices, Bote have a tradition of engaging in fishing from a common pool resource, the river, although there was no tradition of legitimated division of fishing areas as that of the division of riverbanks for gold panning. Generally, they engaged in fishing at night with a boat locally made from a Sal tree. Two persons in a boat travelled long distances and caught fish with a handmade fishing net. Many others used other techniques of catching fish such as using hooks and sometimes they used the Duwali method. The traditional net (hatte jal) made by them has big holes so that the small fish have the chance not to be trapped. They caught specific species only during certain times of the year, allowing fish stocks to replenish themselves.

The use of traditional hook-and-line methods was sustainable as it catches only the fish that they eat. Hooks constructed by Bote were designed to catch specific species. This fishing method is considered sustainable because it targets one fish at a time. The traditional methods of fishing using hooks result in less bycatch because non-targeted species can be

released immediately. Bote engaged in bartering, exchanging fish for food grains in the village as they had no cultivable lands.

Recent media reports note that to avoid overfishing and for other conservation ends, the government has refused to issue fishing licenses to the Bote in Makwanpur [81]. Chitwan National Park (CNP) has restricted fishing at night time for the preservation of gharial crocodiles. This is because gharial crocodiles live on fish. However, there are still 85 Bote who have been engaging in fishing occupations under specific conditions set by the park. They have been bound to fish in specific areas with the use of traditional methods using hatte jal (cast nets) and dhariya (bamboo traps) within a specific time frame of the day. The complicated plight of Bote livelihoods and the conflict with official organizations and institutions about fishing licenses is widely reported [1,30,68,80,96].

This fishing provision came almost a decade after the establishment of the CNP, an amendment to the National Park and Wildlife Conservation Act 1973 that allowed the provision of forest products or other services against payment of prescribed fees (Section16a). Some traditional fisher folk were permitted to fish in the river after 26 years, upon annual payment of a fee (Jana, 2007). However, the conditions that they need to hold and renew their license annually paying a certain amount of money pressure them to use unsustainable alternatives such as the tiyari net (plastic net).

According to Bote community members (fishers) in FGD, providing licenses has been stopped for a few years. The youths nowadays do not get licenses. Many of their licenses have been seized and not renewed for several years. Many of their fishing nets and boats have been snatched and destroyed, purportedly because they have violated the criteria/rules provided by the park. They paid penalties of NPR 1150 to NPR 2500. Fisher folk have been arrested and detained for several days. Combining itinerant construction work with fishing three times a day, Bote sell catch surplus to personal needs, and increasingly employ gill nets of plastic and nylon rather than traditional hatte jal (cast nets) and dhariya (bamboo traps).

Alternative business ventures such as fishponds have been trialled but proved too expensive to run and banks will not lend locals funds to set up small business ventures. Due to lack of financial and other support, aquaculture in fishponds for other IP groups also had had poor outcomes [39]. Only NPR 25 thousand of the grant is provided yearly, and no other livelihood activities are allowed nearby. Bote are not interested in promoting fishponds. No fish has been produced for two years, and they are not the subject of further investments.

In addition, government-funded training in new vocations has low attendance and the transition to 'modern' livelihoods in the area is not supported sufficiently. In addition, river pollution levels due to excess fertilizer and pesticide run-off have become an issue in recent times. Thus, overall, the interlinked tourism and biodiversity conservation aims of the government have taken precedence over livelihood security for locals. There have been a range of other consequences along and around the river Narayani as a result of overfishing, pesticides, deforestation, and commercialization pressures linked to tourism and modernization in general.

3.4. Gharial Crocodiles and Livelihoods

The gharial crocodile is a central attraction to tourism in the CNP and an endangered species. From the fieldwork, we understood that Bote elders in Kolhuwa have knowledge of identifying river sand appropriate for crocodiles to lay eggs. Protected breeding centres have been established by state authorities to increase the gharial population with some success, and indigenous locals have been employed in these projects. Bote elders tell park authorities where to collect eggs and hatchlings on the riverbanks. They know when, where, and how the gharial crocodiles lay eggs and hatch hatchlings. The last week of March (Chaitra 12/13) to the mid of April (Last of Chaitra) is the duration of laying eggs. Densely foggy weather that irritates the eyes is the time of egg hatching of crocodiles. Silky

sand mixed with little mud is the most appropriate for hatching eggs. Crocodiles lay eggs at least two feet down in the sand as it absorbs the heat of the sun for a longer period.

Bote elders related that they have specific knowledge of finding the eggs laid by the crocodiles. They see in which direction the sand is scratched from the hole. They measure the approximate distance, around six or seven feet, from where the sand is thrown and at that place they dig out the sand the collect the eggs. They are also allowed to collect hatchlings of crocodiles, which come out of the sand after a month, from the last week of April to the middle of May. They know how the mother crocodile behaves with the hatchlings. During this period, mother crocodiles come and listen to the sound of hatchlings time and again. When the sound of hatchlings emerges from underground, she digs out the babies. Bote can identify the sound of hatchlings produced under the sand. They catch the hatchlings either when they are coming out of the sand or by digging.

> "Sir, I want to add something to this. Park authorities call us formally. They send us a letter to collect the eggs of the crocodile. A team of Bote collects the eggs and sends them to Kasara (a place where the crocodile eggs are collected for hatching). Eight to nine couples engage in collecting the eggs of crocodiles. It is difficult for the staff of the park to find the egg-laying area. We do have a major team there". (Informant quote)

Chitwan National Park (CPN) has used this indigenous ecological knowledge of Bote in collecting eggs and hatchlings. Narayan Bote and a few others have been invited yearly for this work. They go every year with their wives, as wives must cook food as they live for one and half months at the banks of the river. They collect and take eggs and hatchlings to Kasara, an artificial hatching centre. At Kasara also, they need to make an artificial hatching spot under the sand and take care of it till the hatchlings are produced. For their efforts, Bote workers each received NPR 15,000 (USD 114) for a month last year, and this year (in 2021) they earned NPR 20,000 (USD 152). Despite their contribution and modest wages, Bote people have been labelled as thieves and contributors to the extinction of gharial crocodiles and fish in the Narayani River. This corpus of knowledge is likely to disappear as the Bote youths have been diverted towards alternative livelihood strategies such as tourism and wage labouring.

3.5. Bote Cosmovision

Bote had a specific religious tradition of Badko Barne/Gandaki Pooja, intrinsically associated for centuries with riverine livelihoods. Bahiram Bote, 72 years, informed that they had a tradition of worshiping the Gandaki river that they carried out at the bank of the Narayani River. They did that as they had a belief their ancestors came from Kali Gandaki River and moved down, roaming the riverbanks collecting gold motes and fishing. They needed fourteen pairs of pigeons, five cocks, two hens, one pig, and a nanny goat to sacrifice. Guruwa, as the spiritual leader (only one Guruwa is there nowadays at Chhipani, a neighbouring village of Baghkhor), performed the ritual of being blessed by all Bote individuals and households. Each Bote family participated in the ritual with a sum of money and a maana of rice determined by Mukhiya. Mukhiya was a headman who managed all the logistics and other required goods for the ritual. After the worship, the flesh and cooked items were equally divided for each representative of the household member who participated. Thus, Bote had/has a spiritual relationship with nature.

As informed by Bahiram Bote, nowadays, the Badko Barne/Gandaki Pooja is limited to the small rivulets near the settlement (Baghkhor) as they have been restricted to the Narayani River by CNP. They believe that the lands provide them with everything they need in their lives. Bote did not only admire and worship rivers through the Badko Barne/Gandaki Pooja, rather, they had other several religious and cultural practices associated with their ancestral lands and natural resources. Thus, they had a belief that the people should not pollute river water. They define the spaces within the forest as sacred and worship the forest god, Bhairu, and they believe that wild animals such as rhinoceros, tigers, deer, and wild boars are sacred.

In addition, other species such as fish, crabs, ants, and so on, have an intrinsic connection with the rituals of Bote. In an in-depth interview, an elderly woman Bote said that fish is important for them while purifying those who sit for the mourning of dead parents for seven days with a meal a day. They are supposed to be purified when the teeth are touched by a dead fishtail. Fish is also equally important for them at the time of marriage. A bridegroom must take a gift of fish (packed in a small rectangular basket made up of bamboo split canes) for bringing his newlywed. The fish is cooked and given to the relatives of the bride. Hanging fish and crab in the marriage ceremony is very much essential culturally. However, the buffer zone office restricts the collection of all religiously and culturally valuable plant and animal species from the core areas of the park and buffer zone community forest.

3.6. Policies, Practice, and Resistance of Bote Peoples

New ideas of the buffer zone community forest (BZCF), community development, and the formation of user committees came into practice in addressing the problems of indigenous peoples and local communities. With the support from UNDP, WWF/Nepal, CARE/Nepal, the National Trust for Nature Conservation (NTNC), line agencies, local government organizations, and NGOs, the Department of National Parks and Wildlife Conservation (DNPWC) is implementing various infrastructures, and socio-economic and natural resource management activities in designated buffer zones. One of the representatives of NTNC proudly shared:

> "We put the community at the centre to conserve and protect wild animals. In so doing, we have supported for livelihoods of local people. We support them through Community Forest User's Group (CFUG). There are 72 households engaging in cattle farming, 401 in wool weaving, 76 in carpet weaving, some in mushroom farming, and some in banana farming. People have been trained and employed as nature guides or conservation guides for tourists. We have promoted micro-financing (saving and credit cooperative groups). There are four health posts and four veterinary clinics established. People have access to roads and water nowadays. In addition, we provide education to the children of local people and conduct awareness programmes on the conservation of wildlife". (NNTC participant quote)

The purpose of the community-based approach to conservation is again to detach IPs from their customary lifeways. The form of economic modernization has been coupled with the purpose of conservation. The present practices of conservation have forced traditional owners to change their socio-economic and cultural practices [8]. Another member of NTNC shared that they mobilized local people (indigenous peoples) for the preservation and protection of wildlife. He further said, 'Chor Ko Hat Ma Chaabi' ('Key at the hand of the thief'). The conservationists think of and label the indigenous groups and local communities as poachers. NTNC has formed 20 anti-poacher groups including the members of local communities. He further noted:

> "We use local people for finding, capturing, and rescuing animals such as tiger, rhinos, elephants, and others, as they knew where these animals live, and what they do. Local people are used as guides".

We did not find Bote IPs participated in such anti-poacher groups. However, in focus group discussions (FGDs), they said that they were often called for rescuing wild animals flooded by the Narayani River. Bote youths are frequently used for accompanying the officials on patrol duty, ferrying them for unimpeded access to the river when they engage to conserve endangered animals such as the one-horned rhinoceros.

As identified by Lamichhane et al. [32], local communities and indigenous peoples including Bote are not satisfied with the current practices of CNP and have come out demonstrating when one or more members of their community is accused and arrested in so-called illegal activities inside the park. As informed by a participant, at one time,

two years ago, when a group of Bote youths entered their past home areas inside the park, they were arrested and detained for a week. With the support of political cadres, Bote collectively went to Kasera and released them by paying a fine.

Bote and other fisher groups (Majhi and Musahar) started advocacy movements in the 1980s and later expanded networks in different villages of Nawalparasi, engaging in mass demonstrations, protesting, entering into dialogue with park authorities, and exerting pressure on the authorities by any means. The issues they continuously raise are the basic human rights of providing fishing, collecting wild vegetables, fodder, and firewood, and a complete stop to militarization.

4. Discussion

Although there is justified resistance to abolishing PA as an institution [97], in an era of climate change and other global uncertainties, the search for a new conservation and development paradigm is critical [59]. With the emergence of the discourse of sustainable development as an alternative development model, there is a shift towards the co-management of protected areas with a general understanding of including the participation of local communities in governance and management practices.

We agree that fortress conservation and community-based programs need to be replaced with new approaches to equitable and just conservation and development [6,18,19]. Given that the model of conservation adopted in Nepal does not recognize the significant role of local indigenous communities in the maintenance and conservation of biodiversity, following recent work on this question we suggest that approaches and policies which recognize the moral ecology of local communities might be a first step [30,72,98]. Important also to note is that reports of PA and BZ programmes and their outcomes relate to the 'mix of indigenous people and immigrants from the hills, including high caste Hindus (Brahmin, Chhetries), Tibeto-Burmese hill ethnic groups (Tamang, Gurung, Magar) and underprivileged lower caste Hindus (Kami, Damai, Sarki etc.)' [32].

The park authorities decide the usefulness of practices for making progress in conservation and this has perpetuated conflict between the park authorities and local groups. Such knowledge is contextual, alive in the culture, holistic, agrapha (shared and transmitted through oral traditions), relational, collective, and diachronic in nature, and is widely recognized as instrumental for sustainable resource management. Recognition of ethno-ecological knowledge and practice promotes equity and respect for each other, thereby helping to conserve biodiversity, culturally important species, and ecosystems and improving livelihoods [2]. Achieving the transformative change required to ensure future biodiversity depends on new approaches to just conservation and development policy and practice [99].

Author Contributions: Conceptualization, I.M.R., G.M., and S.G.; methodology, I.M.R. and S.G.; formal analysis, I.M.R., G.M., and S.G.; investigation, I.M.R. and S.G.; resources, I.M.R. and S.G.; data curation, I.M.R. and S.G.; writing—original draft preparation, I.M.R., G.M., and S.G.; writing—review and editing, G.M.; visualization, I.M.R. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: We used the Free, prior, and informed consent (FPIC) protocol of the FAO under the right to self-determination (as of ILO C 169 and UNDRIP) to obtain consent from indigenous and other participants in the research processes. We sought the voluntary participation of the participants. See Free, Prior and Informed Consent | Indigenous Peoples | Food and Agriculture Organization of the United Nations (fao.org). https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/ (accessed on 1 December 2022).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data is unavailable due to privacy and ethical restrictions.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

References

1. Amnesty International. *Violations in the Name of Conservation: "What Crime Had I Committed by Putting My Feet on the Land That I Own"*; Amnesty.org: London, UK, 2021. Available online: https://www.amnesty.org/en/documents/asa31/4536/2021/en/ (accessed on 1 December 2022).
2. Domínguez, L.; Luoma, C. Decolonising Conservation Policy: How Colonial Land and Conservation Ideologies Persist and Perpetuate Indigenous Injustices at the Expense of the Environment. *Land* **2020**, *9*, 65. [CrossRef]
3. Adams, W.M. *Green Development: Environment and Sustainability in a Developing World*, 3rd ed.; Adams, W.M., Ed.; Routledge Taylor & Francis Group: Abingdon, UK, 2009; ISBN 2013206534.
4. Castree, N.; Kitchin, R.; Rogers, A. *A Dictionary of Human Geography*; Oxford University Press: New York, NY, USA, 2013; ISBN 9780199599868.
5. Bocking, S. Science and Conservation: A History of Natural and Political Landscapes. *Environ. Sci. Policy* **2020**, *113*, 1–6. [CrossRef]
6. Tauli-Corpuz, V.; Alcorn, J.; Molnar, A. *Cornered by Protected Areas: Replacing 'Fortress' Conservation with Rights-based Approaches Helps Bring Justice for Indigenous Peoples and Local Communities, Reduces Conflict, and Enables Cost-Effective Conservation and Climate Action*; Rights & Resources Initiative: Washington, DC, USA, 2018; pp. 1–14.
7. Siurua, H. Nature Above People: Rolston and "Fortres" Conservation in the South. *Ethics Environ.* **2006**, *11*, 71–96. [CrossRef]
8. Pemunta, N.V. Fortress Conservation, Wildlife Legislation and the Baka Pygmies of Southeast Cameroon. *GeoJournal* **2019**, *84*, 1035–1055. [CrossRef]
9. Kent, G. Community-Based Development Planning. *Third World Plann. Rev.* **1981**, *3*, 313–326. [CrossRef]
10. The World Bank. *World Development Report 2000/2001: Attacking Development*; Oxford University Press: New York, NY, USA, 2000; ISBN 0195211294.
11. Chambers, R. Beyond "Whose Reality Counts?" New Methods We Now Need? *Stud. Cult. Organ. Soc.* **1998**, *4*, 279–301.
12. Mansuri, G.; Rao, V. Community-Based and -Driven Development: A Critical Review. *World Bank Res. Obs.* **2004**, *19*, 1–39. [CrossRef]
13. Brosius, J.P.; Tsing, A.L.; Zerner, C. Representing Communities: Histories and Politics of Community-based Natural Resource Management. *Soc. Nat. Resour.* **1998**, *11*, 157–168. [CrossRef]
14. Pailler, S.; Naidoo, R.; Burgess, N.D.; Freeman, O.E.; Fisher, B. Impacts of Community-Based Natural Resource Management on Wealth, Food Security and Child Health in Tanzania. *PLoS ONE* **2015**, *10*, e0133252. [CrossRef] [PubMed]
15. Sobrevila, C. *The Role of Indigenous Peoples in Biodiversity Conservation: The Natural but Often Forgotten Partners*; World Bank Group: Washington, DC, USA, 2008.
16. Adams, W.M.; Hutton, J. Review: People, Parks and Poverty Political Ecology and Biodiversity Conservation. *Conserv. Soc.* **2007**, *5*, 147–183.
17. Boadu, E.S.; Ile, I.; Oduro, M.Y. Indigenizing Participation for Sustainable Community-Based Development Programmes in Ghana. *J. Asian Afr. Stud.* **2021**, *56*, 1658–1677. [CrossRef]
18. Rutherford, M.; Haider, W.; Stronghill, J. Conservancies in Coastal British Columbia: A New Approach to Protected Areas in the Traditional Territories of First Nations. *Conserv. Soc.* **2015**, *13*, 39. [CrossRef]
19. Moorcroft, H. Paradigms, Paradoxes and a Propitious Niche: Conservation and Indigenous Social Justice Policy in Australia. *Local Environ.* **2015**, *21*, 591–614. [CrossRef]
20. Matias, D.M.S. Indigenous Livelihood Portfolio as a Framework for an Ecological Post-COVID-19 Society. *Geoforum* **2021**, *123*, 12–13. [CrossRef] [PubMed]
21. Corrigan, C.; Granziera, A. *A Handbook for the Indigenous and Community Conserved Areas Registry*; UNEP-WCMC: Cambridge, UK, 2010; ISBN 978-92-807-3075-3.
22. Stevens, S. National Parks and ICCAs in the High Himalayan Region of Nepal: Challenges and Opportunities. *Conserv. Soc.* **2013**, *11*, 29–45. [CrossRef]
23. Perez, P.L. Living with the Problem of National Parks. *Thesis Elev.* **2018**, *145*, 58–76. [CrossRef]
24. Berkes, F. Community-Based Conservation in a Globalized World. *Proc. Natl. Acad. Sci. USA* **2007**, *104*, 15188–15193. [CrossRef] [PubMed]
25. Vaccaro, I.; Beltran, O.; Paquet, P.A. Political Ecology and Conservation Policies: Some Theoretical Genealogies. *J. Polit. Ecol.* **2013**, *20*, 255–272. [CrossRef]
26. Grosfoguel, R. Decolonizing Post-Colonial Studies and Paradigms of Political-Economy: Transmodernity, Decolonial Thinking, and Global Coloniality. *TRANSMODERNITY J. Peripher. Cult. Prod. Luso-Hisp. World* **2011**, *1*, 1–36. [CrossRef]
27. Quijano, A. Coloniality of Power and Eurocentrism in Latin America. *Int. Sociol.* **2000**, *15*, 215–232. [CrossRef]
28. Radhakrishnan, S.; Vijayakumar, G. (Eds.) *Sociology of South Asia: Postcolonial Legacies, Global Imagineries*; Palgrave Macmillan: Cham, Switzerland, 2022; ISBN 978-3-030-97029-1.
29. Griffin, C.J.; Robertson, I. Moral Ecologies: Conservation in Conflict in Rural England. *Hist. Work. J.* **2016**, *82*, 24–49. [CrossRef]

30. Thing, S.J. Politics of Conservation, Moral Ecology and Resistance by the Sonaha Indigenous Minorities of Nepal. In *Moral Ecologies: Histories of Conservation, Dispossessio and Resistance. Palgrave Studies in World Environment History*; Griffin, C.J., Jones, R., Robertson, I.J., Eds.; Palgrave Macmillan: Cham, Switzerland, 2019; pp. 37–58. ISBN 9783030061128.
31. Kandel, S.; Harada, K.; Adhikari, S.; Dahal, N.K. Ecotourism's Impact on Ethnic Groups and Households near Chitwan National Park, Nepal. *J. Sustain. Dev.* **2020**, *13*, 113. [CrossRef]
32. Lamichhane, B.R.; Persoon, G.A.; Leirs, H.; Poudel, S.; Subedi, N.; Pokheral, C.P.; Bhattarai, S.; Gotame, P.; Mishra, R.; de Iongh, H.H. Contribution of Buffer Zone Programs to Reduce Human-Wildlife Impacts: The Case of the Chitwan National Park, Nepal. *Hum. Ecol.* **2019**, *47*, 95–110. [CrossRef]
33. Nepal, S.K.; Weber, K.E. A Buffer Zone for Biodiversity Conservation: Viability of the Concept in Nepal's Royal Chitwan National Park. *Environ. Conserv.* **1994**, *21*, 333–341. [CrossRef]
34. Paudel, N.S.; Budhathoki, P.; Sharma, U.R. Buffer Zones: New Frontiers for Participatory Conservation? *J. For. Livelihood* **2007**, *6*, 44–53.
35. Bhusal, N.P. Chitwan National Park: A Prime Destination of Eco-Tourism in Central Tarai Region, Nepal Socio-Cultural Diversity Protected Areas and Eco-Tourism. *Third Pole* **2007**, *5–7*, 70–75.
36. Bhattarai, B.R.; Wright, W.; Poudel, B.S.; Aryal, A.; Yadav, B.P.; Wagle, R. Shifting Paradigms for Nepal's Protected Areas: History, Challenges and Relationships. *J. Mt. Sci.* **2017**, *14*, 964–979. [CrossRef]
37. Dhakal, B.; Thapa, B. Buffer Zone Management Issues in Chitwan National Park, Nepal: A Case Study of Kolhuwa Village Development Committee. *Parks* **2015**, *21*, 63–72. [CrossRef]
38. Sikor, T.; Satyal, P.; Dhungana, H.; Maskey, G. Brokering Justice: Global Indigenous Rights and Struggles over Hydropower in Nepal. *Can. J. Dev. Stud.* **2019**, *40*, 311–329. [CrossRef]
39. Kumar, R.; Raj, S. Improved Aquaculture for Sustainable Livelihood in Majhi Community: A Case from Bhimtar, Sindupalchowk. In Proceedings of the 8th IOE Graduate Conference, Kathmandu, Nepal, 5–7 June 2020; Volume 8, pp. 252–262.
40. Pant, J.; Barman, B.K.; Murshed-E-Jahan, K.; Belton, B.; Beveridge, M. Can Aquaculture Benefit the Extreme Poor? A Case Study of Landless and Socially Marginalized Adivasi (Ethnic) Communities in Bangladesh. *Aquaculture* **2014**, *418–419*, 1–10. [CrossRef]
41. Gurung, T.B. Fisheries and Aquaculture Activities in Nepal. *Aquac. Asia* **2003**, *viii*, 14–19.
42. Mehta, J.N.; Kellert, S.R. Local Attitudes toward Community-Based Conservation Policy and Programmes in Nepal: A Case Study in the Makalu-Barun Conservation Area. *Environ. Conserv.* **1998**, *25*, 320–333. [CrossRef]
43. Gurung, A.; Bista, R.; Karki, R.; Shrestha, S.; Uprety, D.; Oh, S.E. Community-Based Forest Management and Its Role in Improving Forest Conditions in Nepal. *Small-Scale For.* **2013**, *12*, 377–388. [CrossRef]
44. Paudel, R.P. Protected Areas, People and Tourism: Political Ecology of Conservation in Nepal. *J. For. Livelihood* **2016**, *14*, 13–27. [CrossRef]
45. Bajracharya, S.B.; Furley, P.A.; Newton, A.C. Impacts of Community-Based Conservation on Local Communities in the Annapurna Conservation Area, Nepal. *Biodivers. Conserv.* **2006**, *15*, 2765–2786. [CrossRef]
46. Stapp, J.R.; Lilieholm, R.J.; Leahy, J.; Upadhaya, S. Linking Attitudes, Policy, and Forest Cover Change in Buffer Zone Communities of Chitwan National Park, Nepal. *Environ. Manag.* **2016**, *57*, 1292–1303. [CrossRef]
47. Adhikari, K.P.; Goldey, P. Social Capital and Its "Downside": The Impact on Sustainability of Induced Community-Based Organizations in Nepal. *World Dev.* **2010**, *38*, 184–194. [CrossRef]
48. Subedi, V. Forest Management Opportunities and Challenges in Nepal. *Resour. Environ.* **2011**, *14*, 95–110. [CrossRef]
49. Berger, D.N.; Bulanin, N.; García-Alix, L.; Jensen, M.W.; Leth, S.; Madsen, E.A.; Mamo, D.; Parellada, A.; Rose, G.; Thorsell, S.; et al. *The Indigenous World 2021*, 35th ed.; IGWIA: Copenhagen, Denmark, 2021; ISBN 978-87-93961-23-4.
50. Yupsanis, A. ILO Convention No. 169 Concerning Indigenous and Tribal Peoples in Independent Countries 1989–2009: An Overview. *Nord. J. Int. Law* **2010**, *79*, 433–456. [CrossRef]
51. Deuja, J. *Conservation and Discrimination: Case Studies from Nepal's National Parks*; IIED: Amsterdam, The Netherlands, 2022; pp. 1–14.
52. Pokharel, R.K.; Neupane, P.R.; Tiwari, K.R.; Köhl, M. Assessing the Sustainability in Community Based Forestry: A Case from Nepal. *For. Policy Econ.* **2015**, *58*, 75–84. [CrossRef]
53. Hardin, G. The Tragedy of the Commons. *Science* **1968**, *162*, 1243–1248. [CrossRef]
54. Regmi, K.D.; Walter, P. Modernisation Theory, Ecotourism Policy, and Sustainable Development for Poor Countries of the Global South: Perspectives from Nepal. *Int. J. Sustain. Dev. World Ecol.* **2017**, *24*, 1–14. [CrossRef]
55. Poudel, H.K. Park People Conflict Management and Its Control Measures in Chitwan National Park, Nepal. *Int. J. Food Sci. Agric.* **2019**, *3*, 179–182. [CrossRef]
56. Thing, S.J.; Poudel, B.S. Buffer Zone Community Forestry in Nepal: Examining Tenure and Management Outcomes. *J. For. Livelihood* **2017**, *15*, 57–70. [CrossRef]
57. Gupta, D.; Fischer, H.; Shrestha, S.; Shoaib Ali, S.; Chhatre, A.; Devkota, K.; Fleischman, F.; Khatri, D.B.; Rana, P. Dark and Bright Spots in the Shadow of the Pandemic: Rural Livelihoods, Social Vulnerability, and Local Governance in India and Nepal. *World Dev.* **2021**, *141*, 105370. [CrossRef]
58. Salmon, E. Kincentric Ecology: Indigenous Perceptions of the Human-Nature Relationship. *Ecol. Appl.* **2000**, *10*, 1327. [CrossRef]
59. Stevens, S. Indigenous Peoples, Biocultural Diversity, and Protected Areas. In *Indigenous Peoples, National Parks, and Protected Areas*; Stevens, S., Ed.; A New Paradigm Linking Conservation, Culture, and Rights; University of Arizona Press: Tucson, AZ, USA, 2014; pp. 15–46. ISBN 9780816530915.
60. Blaikie, P. *The Political Economy of Soil Erosion in Developing Countries*; Routledge: London, UK, 1985; ISBN 9781317268383.

61. Blaikie, P.; Brookfield, H. (Eds.) *Land Degradation and Society*, 1st ed.; Routledge: London, UK, 1987; ISBN 9781315685366.
62. Perreault, T. *The Routledge Handbook of Political Ecology*; Routledge: London, UK, 2015; ISBN 9781315759289.
63. Jessen, M.H.; von Eggers, N. Governmentality and Statification: Towards a Foucauldian Theory of the State. *Theory Cult. Soc.* **2020**, *37*, 53–72. [CrossRef]
64. Robbins, P. *Political Ecology: A Critical Introduction*, 2nd ed.; Wiley-Blackwell: Oxford, UK, 2012.
65. Bishwokarma, D.; Thing, S.J.; Paudel, N.S. Political Ecology of the Chure Region in Nepal. *J. For. Livelihood* **2019**, *14*, 84–96. [CrossRef]
66. Brown, K. The Political Ecology of Biodiversity, Conservation and Development in Nepal's Terai: Confused Meanings, Means and Ends. *Ecol. Econ.* **1998**, *24*, 73–87. [CrossRef]
67. Campbell, B. *Living between Juniper and Palm*; Oxford University Press: Oxford, UK, 2013; ISBN 9780198078524.
68. Thing, S.J.; Jones, R.; Jones, C.B. The Politics of Conservation: Sonaha, Riverscape in the Bardia National Park and Buffer Zone, Nepal. *Conserv. Soc.* **2017**, *15*, 292–303. [CrossRef]
69. Mustafa, D.; Nyaupane, G.; Shrestha, K.; Buzinde, C.; Thanet, D.R.; Vandever, V. Scalar Politics of Indigenous Waterscapes in Navajo Nation and Nepal: Conflict, Conservation and Development. *Environ. Plan. E Nat. Space* **2021**, 25148486211007853. [CrossRef]
70. Toledo, V.M. Indigenous Peoples and Biodiversity. In *Encyclopedia of Biodiversity*; Elsevier: Amsterdam, The Netherlands, 2013; pp. 269–278.
71. Saylor, C.R.; Alsharif, K.A.; Torres, H. The Importance of Traditional Ecological Knowledge in Agroecological Systems in Peru. *Int. J. Biodivers. Sci. Ecosyst. Serv. Manag.* **2017**, *13*, 150–161. [CrossRef]
72. Martinez-Reyes, J.E. *Moral Ecology of a Forest: The Nature Industry and Maya Post-Conservation*; The University of Arizona Press: Tucson, AZ, USA, 2016; Volume 4, ISBN 9780816531370.
73. Mackay, R.E. An Indigenous Critique: Expanding Sociology and Recognizing Unique Indigenous Knowledge. *Front. Sociol.* **2022**, *7*, 1047812. [CrossRef]
74. McLean, J. Conservation and the Impact of Relocation on the Tharus of Chitwan, Nepal. *Himalaya* **1999**, *19*, 8.
75. Sharma, U.R. An Overview of Park-People Interactions in Royal Chitwan National Park, Nepal. *Landsc. Urban Plan.* **1990**, *19*, 133–144. [CrossRef]
76. Heinen, J.T.; Kattel, B. Parks, People, and Conservation: A Review of Management Issues in Nepal's Protected Areas. *Popul. Environ.* **1992**, *14*, 49–84. [CrossRef]
77. Uddin, K.; Chaudhary, S.; Chettri, N.; Kotru, R.; Murthy, M.; Chaudhary, R.P.; Ning, W.; Shrestha, S.M.; Gautam, S.K. The Changing Land Cover and Fragmenting Forest on the Roof of the World: A Case Study in Nepal's Kailash Sacred Landscape. *Landsc. Urban Plan.* **2015**, *141*, 1–10. [CrossRef]
78. Government of Nepal. *State of Conservation Report: Chitwan National Park (Nepal) (N284)*; Government of Nepal: Kathmandu, Nepal, 2022.
79. Shrestha, U. Community Participation in Wetland Conservation in Nepal. *J. Agric. Environ.* **2013**, *12*, 140–147. [CrossRef]
80. Manandhar, S. Crocodiles, Fishing Communities Battle for Survival in Nepal. *Global Press Journal*, 23 February 2020.
81. Paudel, R.K. Bote Community Demands Unhindered Access to Fish in Chitwan Park Rivers Park. *Kathmandu Post*, 8 October 2021; pp. 6–11.
82. Thanju, R.P. Advantages of Hydro Generation: Resettlement of Indigenous Bote (Fisherman) Families: A Case Study of Kali Gandaki "A" Hydroelectric Project of Nepal. In Proceedings of the International Conference on Small Hydropower-Hydro, Colombo, Sri Lanka, 22–24 October 2007; Volume 22, p. 24.
83. Central Bureau of Statistics. *Nepal Statistical Yearbook 2021*, 18th ed.; Government of Nepal National Planning Commission: Kathmandu, Nepal, 2022; ISBN 978-9937-1-2767-7.
84. Rosyara, K.P. Health and Sanitation Status of Bote Community. *J. Inst. Med. Nepal* **2009**, *31*, 41–45. [CrossRef]
85. Jana, S. *Working towards Environmental Justice: An Indigenous Fishing Minority's Movement in Chitwan National Park, Nepal*; International Centre for Integrated Mountain Development (ICIMOD): Kathmandu, Nepal, 2007; ISBN 978-92-9115-052-6.
86. Acharya, U.P. Livelihood Strategy of Bote Community: A Case Study of Bote Community of Patihani VDC of Chitwan. *Dhaulagiri J. Sociol. Anthropol.* **2010**, *4*, 247–260. [CrossRef]
87. Braun, V.; Clarke, V.; Hayfield, N.; Terry, G. Thematic Analysis. In *Handbook of Research Methods in Health Social Sciences*; Liamputtong, P., Ed.; Springer Singapore: Singapore, 2019; Volume 5, pp. 843–860. ISBN 9789811052514.
88. Geertz, C. Ritual and Social Change: A Javanese Example. *Am. Anthropol.* **1957**, *59*, 32–54. [CrossRef]
89. Deb, M.; Tiwari, G.; Lahiri-Dutt, K. Artisanal and Small Scale Mining in India: Selected Studies and an Overview of the Issues. *Int. J. Min. Reclam. Environ.* **2008**, *22*, 194–209. [CrossRef]
90. Acharya, U.P. Changing Dynamics of the Bote Communities in Sarlahi and Tanahun: A Comparative Study. *Rupantaran Multidiscip. J.* **2022**, *6*, 85–95. [CrossRef]
91. Ghale, S. A Vanishing Way of Life. *Kathmandu Post*, 27 March 2018.
92. Naharki, A.R. Collecting Gold from River Sand: A Profession That's Disappearing. *The Rising Nepal*, 13 May 2021.
93. Himalayan News. Service Botes Prepare to Search for Gold. *Himalayan News*, 15 October 2019.

94. Limbu, S.; Rai, Y.; Majhi, C.; Gahle, D.; Thebe, A.; Magar, S.L. *Violation of Indigenous Peoples' Human Rights in Chitwan National Park of Nepal*; Lawyers' Association for Human Rights of Nepalese IPs (LAHURNIP) and National Indigenous Women Federation (NIWF): Kathmandu, Nepal, 2020.
95. Dhakal, B.; Chand, N.; Shrestha, A.; Dhakal, N.; Karki, K.B.; Shrestha, H.L.; Bhandari, P.L.; Adhikari, B.; Shrestha, S.K.; Regmi, S.P.; et al. How Policy and Development Agencies Led to the Degradation of Indigenous Resources, Institutions, and Social-Ecological Systems in Nepal: Some Insights and Opinions. *Conservation* **2022**, *2*, 134–173. [CrossRef]
96. Dastidar, S.G. Chitwan's Bote People in a Changing World. *Nepali Times*, 31 October 2020; pp. 1–17.
97. Locke, H.; Dearden, P. Rethinking Protected Area Categories and the New Paradigm. *Environ. Conserv.* **2005**, *32*, 1–10. [CrossRef]
98. Norget, K. Surviving Conservation: La Madre Tierra and Indigenous Moral Ecologies in Oaxaca, Mexico. In *New Natures: Critical Intersections for Environmental Management and Conservation in Latin America*; School of American Research: Santa Fe, NM, USA, 2011.
99. Reyes-García, V.; Fernández-Llamazares, Á.; Aumeeruddy-Thomas, Y.; Benyei, P.; Bussmann, R.W.; Diamond, S.K.; García-del-Amo, D.; Guadilla-Sáez, S.; Hanazaki, N.; Kosoy, N.; et al. Recognizing Indigenous Peoples' and Local Communities' Rights and Agency in the Post-2020 Biodiversity Agenda. *Ambio* **2022**, *51*, 84–92. [CrossRef]