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Locating *Kadu* in Adivasi portrayals of protected forest areas in Southern India

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ABSTRACT

Globally, Indigenous Peoples are the stewards of a large portion of the global land base, and their interactions and associations with the land have shaped and sustained it for centuries. Yet conservation studies and land management practices still struggle to understand or use Indigenous interpretations of the natural world. In many cases, this perpetuates a colonial sensibility across land use policies, which also dangerously misrepresents Indigenous relationships with that land. This paper focuses on Kattunayakans, a hunter-forager Adivasi (Indigenous) community living within the Wayanad Wildlife Sanctuary in Kerala, India. Our focus is how they characterize *kadu* ('forest' in Kattunayakan language), both what it is constituted of and what it means from an Adivasi point of view. Using open-ended interviews, transect walks, and spatial mapping we find that for Kattunayakans, the forest is seen as an entity with agency; and a body of discrete biocultural landscape units classified as: a convergence of good places and God people; and a realm of spaces populated by kinfolk with fluid human-and-nonhuman identities that do not follow any physical boundaries of protected areas. This understanding of what a protected area forest is and is comprised of is neither adequately represented and discussed in the history of India's protected areas nor addressed in forest and wildlife management policies and approaches. This is highly consequential for Adivasi communities such as Kattunayakans, who do not have written or material evidence of their productive and historical relationship to forest land. We argue, as well, that when engaged appropriately, Adivasi portrayals of the *kadu* can bolster equity in land management and strengthen collaborative governance that more broadly advances human rights alongside the goals of biodiversity conservation.

1. Introduction

Globally, the creation of protected areas has been central to conservation approaches. They are built on the notion that wild animals and forested landscapes are resources that need regulation, management, and control through policies and science. The philosophy of protected areas continues to see lands as either extractable or conserved resources (Martinez et al., 2023), thus most existing studies on protected areas continue to focus on identifying ways of strengthening wildlife conservation (Kshettry et al., 2020; Lele et al., 2010; Sekhsaria, 2007), revenue generation (Steven et al., 2013) and fiscal compensations (Johnson et al., 2018). While protected areas may have played some role in reducing the overexploitation of wildlife, they have also led to some of the largest and most unethical dispossession of Indigenous People from their ancestral lands. Built on the notions of pristine wilderness, human presence in protected areas is perceived as a threat that requires regulation and management (Fernández-Llamazares et al., 2020). Historically land and wildlife management approaches have dismissed Indigenous understanding and governance as sustainable and effective stewardship (Norgaard & Fenelon, 2021). Indigenous presence in, knowledge, and understanding of the natural world is thus perceived as a problem needing correction and intervention by the state. This is so despite their well-documented land management practices known to enhance biodiversity (Artelle et al., 2019).

Indigenous knowledge and ways of engaging with land are often linked to principles of respect, responsibility, trust, and relationships, where landscapes offer space for human and non-human interactions. They describe their relationship with the land as responsible, reciprocal, interdependent, and familial (Galway et al., 2022; Bhagwat & Rutte, 2006). These relationship framings to land also often perceive wildlife,

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plants, and other non-humans as kin, teachers, Gods, and elders (Bhattacharyya & Slocombe, 2017; Jolly, Satterfield, Kandlikar, & Tr, 2022) . Several scholars have suggested that when protected areas continue to be understood primarily as landscapes without humans, they actively and intentionally contribute to measures, outlooks, and approaches that support the erasure and invisibility of Indigenous histories, knowledge, worldviews, relationships, and cultural stewardship of the land, and often perpetuate flawed notions of colonial conservation (Artelle et al., 2019; Cilburn & Hoffmann, 2021) . These perspectives discount generations of reciprocity and mutual interdependence practiced between people and land (Comberti et al., 2015; Gillespie et al., 2020), often leading to a poor understanding of land management practices like traditional fire management (Mistry & Bizerril, 2011; Shaffer, 2010), human-wildlife coexistence (Aiyadurai, 2016; Jolly et al., 2022) , or sustainable harvesting mechanisms (Anderson, 2005; Kimmerer, 2013).

These assumptions are crucial for Adivasis (India's Indigenous people), where Indigeneity is not officially recognized, and systemic imperfections crippled implementation of policies (e.g., the Forest Rights Act of 2006) that are meant to redress historical injustice imposed on Adivasi communities by granting them their access and use rights (Domínguez & Luoma, 2020; Sahu, 2021; Nikolakis & Hotte, 2020; Münster & Vishnudas, 2012). Forest areas were thus categorized as protected areas, with Adivasi peoples' rights converted to mere limited-use concessions granted by the state (Bhattacharyya & Slocombe, 2017; Dlugoleski, 2020; Gadgil, 2018) . Fundamentally, forests in protected areas of India remain imagined as human-evacuated, which in turn renders any effort for Adivasi to claim 'cultural' use or to argue against forced displacement difficult, and has likely also contributed to plodding progress in the context of seemingly 'progressive' policies such as the Forest Rights Act of 2006 . This has produced vast, protected, and conserved landscapes evacuated of human history wherein conventional forest and wildlife management policies in India position Adivasi ecological knowledge outside accepted knowledge, particularly by upholding long-observed colonial definitions of wilderness as an area absent of humans and valued only for its materials and resources (Alex & Vidyasagaran, 2016; Daily & Ellison, 2012).

To the best of our knowledge, studies have yet to focus on Indigenous perceptions of forests within protected areas in India. Most studies of Adivasis-and forest (now protected area) relationships gravitate towards impacts of displacement, wildlife conflicts and loss of livelihoods by positioning communities outside the forest. The dismissal of these multifaceted and very human-present landscapes is problematic, especially for postcolonial countries like India, where protected landscapes continue to be represented as pristine spaces without human history, thereby absenting key foci including coexistences, co-productions, and reciprocities. Fundamentally, this overlooks the role of people in making these 'in-situ' sites active and functional systems. More still, existing understandings of protected areas and conservation discourses have a restricted appreciation for scholarship on more than human geographies (Lorimer, 2015), post-human lawscapes (Loivaranta, 2020), multispecies ethnographies (Locke & Munster, 2015), human-animal interactions like coexistence (Jolly et al., 2022) , animal personhood (Wallach et al., 2020), other-than-human species (Parathian, McLennan, Hill, Frazão-Moreira, & Hockings, 2018), or semiotics more broadly (Lamb, 2020). As noted by Lorimer (2015), Vannini and Vannini (2020), these often limit the integration of Indigenous-led and decolonizing conservation practices and approaches rooted in convivial, ethical, and inclusive land management philosophies.

This paper aims to re-write existing representation and understanding of forested conservation landscapes in India, beginning with Adivasi histories, narratives and even their very fundamental classifications of what a forest *is*. Using the example here of Kattunayakans, a forest-dwelling Adivasi community in India, we document how they perceive protected areas and why understanding that is crucial for forest and wildlife management practices. Through spatial relations and encounters with *kadu* ('forest' in the Kattunayakan language), we seek to articulate state managed protected areas as a very particular humans and other-than-humans living landscape. *Kadu.* Our premise is that a better understanding of how Kattunayakans perceive and live within their forests will help situate this group as a culturally significant, a rightful presence in India's forests, and demonstrative of their deep and long connection with forests. To answer this, we ask (1) What does *kadu* mean for Kattunayakans (2) what their relationship to the *kadu* is, and how ideally, they might live in *kadu* if they were permitted to do so? (3) How would Kattunayakans describe and portray protected areas through their worldview on *kadu*? Asking such questions might fundamentally change what the protected area forests itself is, what it is constituted of, and so potentially elaborate their right to live in and know the forest, a right that the Forest Rights Act of 2006 appears to acknowledge but has done little to articulate or advance. By shifting our focus away from segregating humans and nature in protected areas and instead understanding the relationships between humans and other-than-human entities allows us to break free from limiting frameworks (Anderson, 2005) and offers a complete outlook on forests, facilitating a deeper comprehension of their intricate dynamics.

2. Materials and methods

2.1. Study context

The study reported here is based upon observations gathered from extensive field work in the Wayanad district of Kerala, a Southwestern state in India (e.g., Fig. 1 here). Wayanad is a mountainous forested terrain within the biologically rich Western Ghats region which is home to eight Adivasi communities who have varied degrees of interactions/ dependencies with the forest landscapes. In addition to Adivasi communities, Wayanad is also home to several non-Adivasi settlers who immigrated from the plains of Kerala and other adjacent states (mostly Christians, Muslims, and Hindu members). Many of these settlers' plantations, farms, and businesses are socio-economically better than the Adivasi people living in the area.

Under Wildlife Protection Act of 1972 when Government of India's established Wayanad Wildlife Sanctuary (WWS) as with many other parks and protected areas worldwide, the local Indigenous people and their long associations with these lands systemically overlooked (Bijoy, 2017). The forced displacements which occurred as the by-product these policies, justified by wildlife protection, particularly affected Kattunayakans, a forest dwelling Adivasi community. Recognized for their animistic beliefs and older Dravidian dialects, Kattunayakans form a unique group of hunter-foragers who live in the forests of Kerala, Karnataka, and Tamil Nadu (Bird-David, 2017). These forest-dwelling Adivasi people have a non-sedentary lifestyle and depend on forests for their livelihood and subsistence (Kakkoth, 2005; Ramachandran, 2006). Until the late 1970s, most of the Kattunayakans lived inside the forests (now protected areas), practicing hunting and foraging, often moving from one part of the forest to another based on community elder guidelines. With the development of Wayanad Wildlife Sanctuary, Kattunayakans were removed from their ancestral forests and relocated to the fringe forest areas outside the sanctuary, conferring them with limited access and rights to the forest. Kattunayakans rely on the forest for their food and livelihood (through the sale of Non-Timber Forest Products). Several of them work as wage labourers in nearby plantations and farms (Kakkoth, 2005).

Several Adivasis in Wayanad displayed their discontent with the forest and wildlife policies of India on multiple occasions including the famous Muthanga protest of 2003 where many Adivasi families built makeshift tents inside the Wayanad Wildlife Sanctuary to protest to state's delay in allocation of land to Adivasis through the joint forest management programme. During field visits in 2018 and 2019, the then department official (personal communication, 20 April 2019) regarded the resettlement process as incomplete, given there are plans to move remaining Kattunayakan people from their current settlements along the

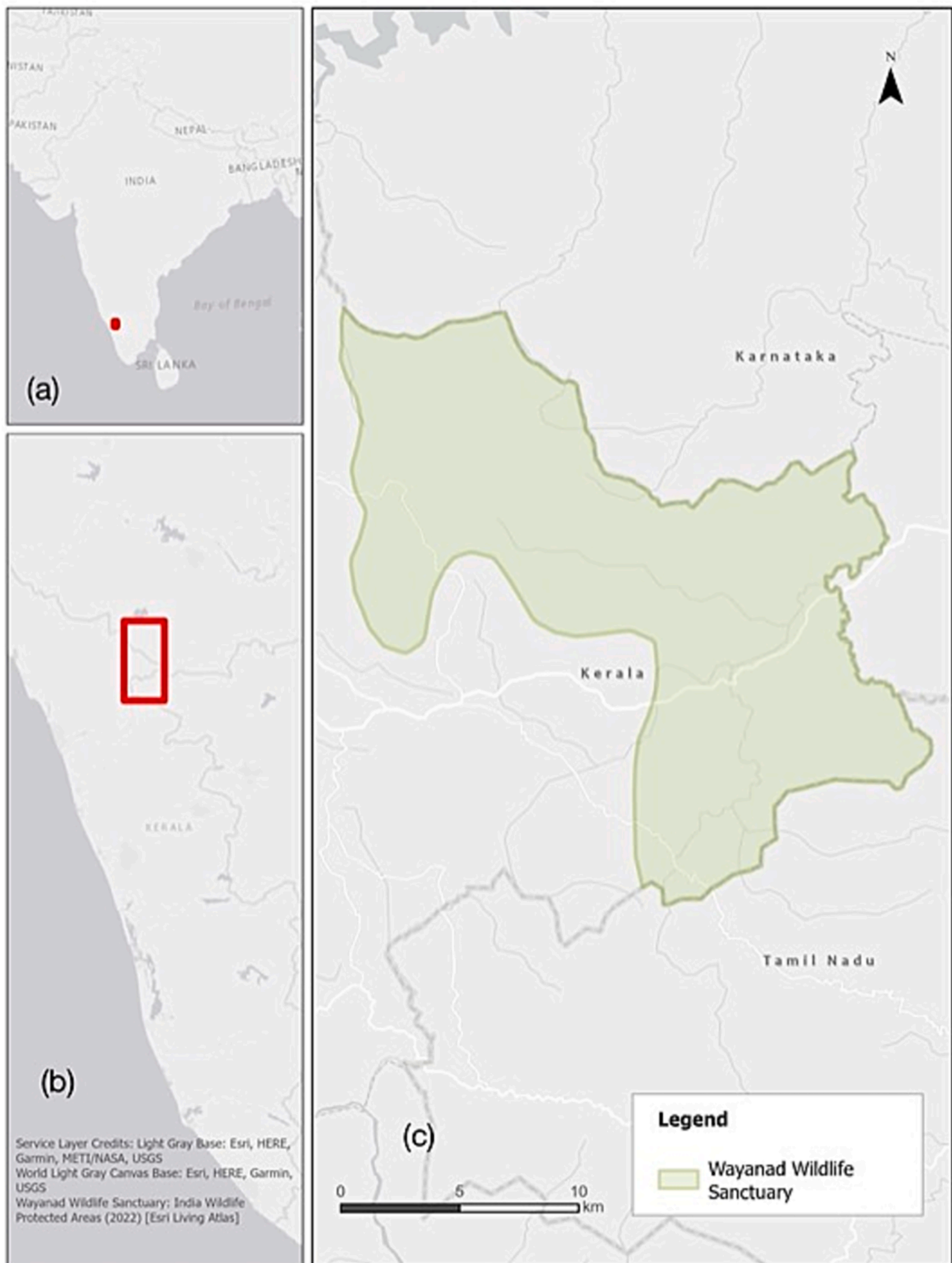

Fig. 1. Location of (a) Wayanad Wildlife Sanctuary (WWS) in India and (b) in Kerala and (c) the location and extent of WWS.

fringes of forested areas. Relocated Kattunayakans remain economically poor and continue to depend on the government for Rural Employment Guarantee programs, availability of wage-labour, or construction work in neighbouring farms and towns (Chemmencheri, 2015; Ramachandran, 2006). Restricted access to the forest and a ban on subsistence hunting has also led to the erosion of traditional and cultural engagements with the forest (Kakkoth, 2005).

2.2. Methods

In 2018 we conducted a preliminary ethnographic study at the field site for three months (March, April, and May). The first and second author visited Adivasi colonies and met with members of several Adivasi groups including Kattunayakans. This groundwork helped identify seven Kattunayakan settlements as study sites, namely Ponkhuzhi, Anacyamp, Kuzhimoola, Alathoor, Kalamkandi, Kumuzhi and Chukkalikunni (e.g., Fig. 2 here) located in and around the Wayanad Wildlife Sanctuary. Thereafter, in 2019, the lead author returned to the field site and spent four months conducting qualitative research (March through June 2019). This included participatory observations, open-ended interviews (N = 70, Appendix S1), transect walks (N = 5) inside the wildlife sanctuary with community members, and GIS mapping of 80 (Appendix S2) culturally significant sites in the Sanctuary. All participants were paid an honorarium to recognize and value their expertise and time.

Participants were chosen through random sampling of households in each Kattunayakan settlements, including anyone 18 years old or older who had lived in the area for 15 years or more. Each open-ended interview (protocol, Appendix S3) lasted approximately 2–3 h. Questions in the interviews discussed Kattunayakan understanding of forest landscapes. Interviews included equal representation of men and women. Answers provided by male and female participants did not reveal perceivable differences in outlook, thus results in this study do not include gender-specific qualifications. Interviews were carried out in Malayalam (also lead author's native language) and recorded in agreement with the participants.

Following the recommendation of the study participants who suggested that walking in the forest as the best way to understand it, the lead author also conducted around 5 walks each 3–4 h long inside the wildlife sanctuary with 2–3 community members who volunteered. During these walks, participants and lead author visited around 80 sites which community members referred to as central to or indicative of *kadu* characterisations and what it means to them (Appendix S2). These walks also provided an opportunity for the lead author to observe Kattunayakan descriptions of landscapes (For e.g., Figs. 3, 4, 5, and 6 here).

The coordinates of each of the sites are marked using GPS and the associated landscape units identified and documented (Appendix S2).

Fig. 3. Ancestral prayer site inside the protected area.

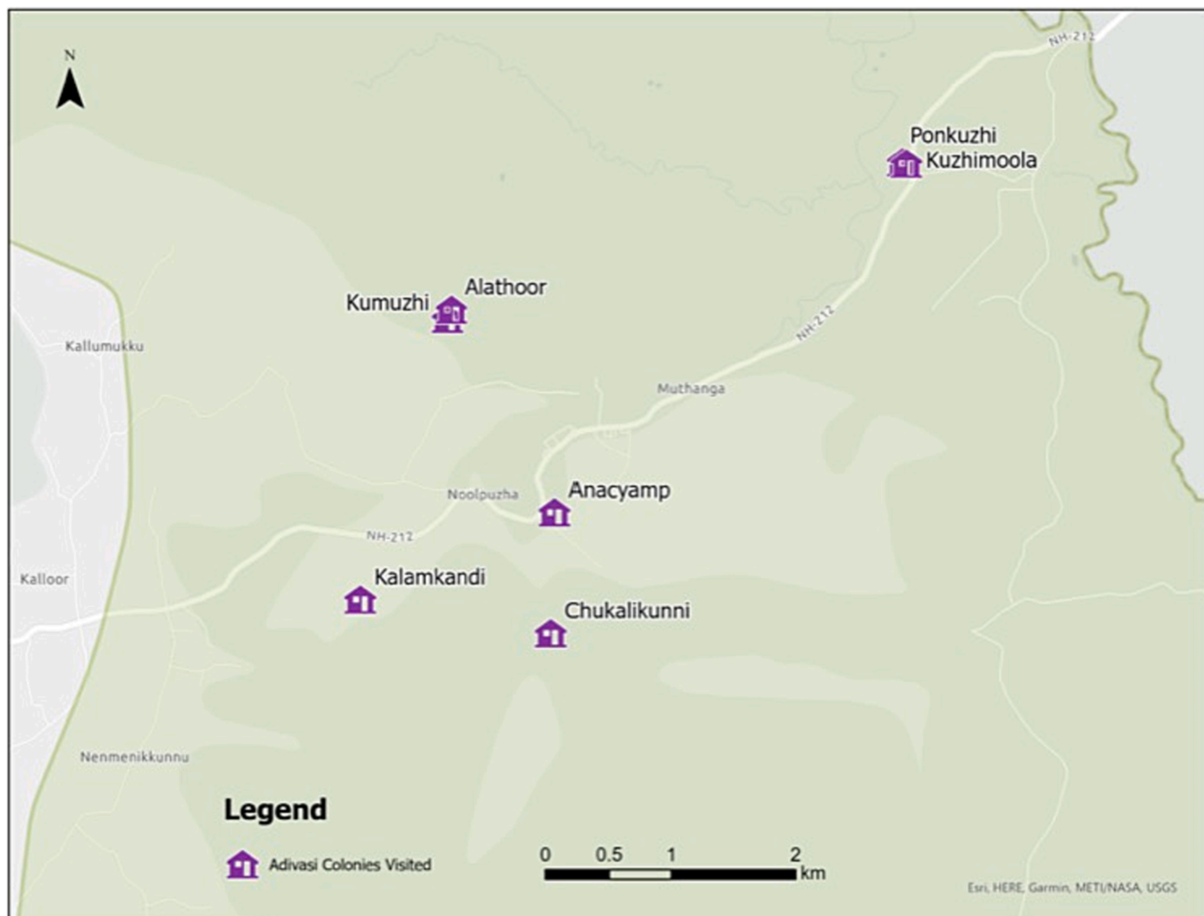

Fig. 2. Location of Adivasi settlements in Wayanad Wildlife Sanctuary visited during the study period.

Fig. 4. A culturally important pond that provides access to freshwater throughout summer.

Fig. 5. Site inside the forest where there is presence of ancestors.

Fig. 6. A wayal where study participants experience happiness.

The study design was approved by the University's Behavioral Research Ethics Board (certificate H18-03104), Kerala Forest Department, and Scheduled Tribes Development Department, Kerala.

2.3. Coding and analysis

The lead author conducted the primary coding (Appendix S4), reviewed these with co-authors (one of whom is a local field partner) and discussed findings with the community members. The primary and secondary coding of interviews produced codes such as connection to place, ancestral settlements, familiarity, security. These codes lead to nodes such as sense of belonginess, source of incomprehensible energy, multifaceted landscape, possess intelligence and agency which finally lead to the three key results or themes explained below.

The aforementioned 80 locations within the protected area were mapped were then digitally mapped using Esri GIS ArcMap software (versions 9.3/10). These coordinates were categorized into one of seven landscape units identified by the study participants (details in the result section below). The audio recordings of all the interviews and conversations from transect walks were transcribed and translated into English by the lead author. Malayalam words are used where possible (with definitions) to avoid diminishing the value of Kattunayakan insights. The transcribed data was stored, managed, and coded through NVivo software; analysis involved inductively identifying codes, categories, and themes (Saldaña, 2021). The codes were in English and where appropriate we used Malayalam words to give add nuances to Kattunyakan insights and understandings. References to Kattunayakan people addressed across our results refer to those involved in this study and from this set of villages only; we do not mean to speak for all as this is a large population throughout southern India.

3. Results: *Kadu* versus forest

The word *kadu* roughly translates as forest, but this we soon learned was much more than forest in the conventional and legal sense. *Kattunayakans* explicitly used the English term "forest" to describe areas prescribed as protected, usually with an added sense of foreboding. This generally included references to forest departments, forest regulations, forest strictness, and forest prohibitions. One community member would thus say: *"We are scared of the forest (meaning the forest department), we cannot enter the forest (as protected area) whenever we want"* [Interview 35] whereas another individual said: *"In the forest we have to listen to their rules and regulations"* [Interview 05*]* "Forest," in this sense, is a contemporary term that largely indicated new governing rules of natural resource use. In contrast to these, the word '*kadu*' represented freedom, trust, reverence, strength, and belief. We observed that Kattunayakan people interpreted and understood *kadu* as their ancestral land and not as a protected area per se and they characterized *kadu* and engagements within it as a convergence of good places and God people, kinfolk manifest as fluid personalities and physical identities with porous boundaries, and – more broadly – as a complete and all-encompassing entity with its own agency. This fundamental classification of what *kadu* is, is summarised below (e.g., Fig. 7 here).

3.1. Convergence of good places and God people

"At least once a day, every Kattunayakan has to walk and enter the kadu" was the most common answer from community members when asked why they prefer to live close to the *kadu*. Walking inside the *kadu* is observed as a fundamental form of security and well-being. This sense of well-being stems from activities inside the *kadu* like visiting deceased ancestors, praying to mountain gods, gathering honey, collecting mushrooms, fruits, tubers, or occasionally trapping small animals. What was patently evident in our conversations with the Kattunayakan people of Wayanad was their deep appreciation for the *kadu* and in everyday their livelihood-based relationships with the *kadu* were coupled with their cultural and spiritual engagements. For the study participants, *kadu* itself was comprised not only the term *maram kadu* (tree forest) but also *kunnu* (hill), *wayal* (marshy wetlands), *thodu* (stream), *puzha* (river), *kulam* (pond), and *kolli* (low valley creek), which we explain below as

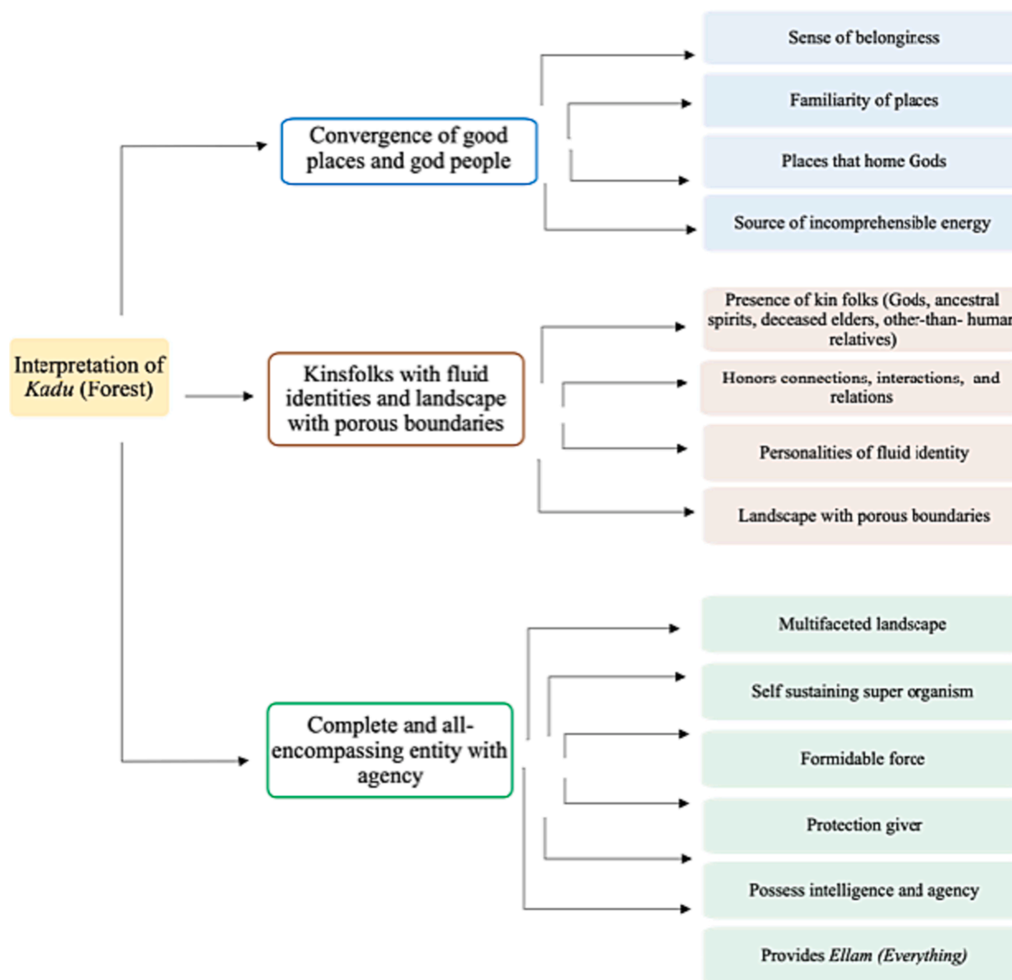

Fig. 7. Explanations indicating values/meanings of *kadu* landscapes for Kattunayakans.

kadu landscape units which embody biocultural meanings and values. These are largely landscape units that offer Kattunayakans spiritual solace, protection, food, livelihood, and water. People acquire knowledge of these landscape units from their elders, personal experience or as linked to different ceremonial practices. They referred to these biocultural units collectively as *nalla sthalamghal* (good places) and in this study we identified and marked 80 such *nalla sthalamghal* (e.g., Fig. 8 here).

These *nalla sthalamghal* offered study participants safety and sanctuary, making them common areas for community members to camp during the foraging season. Additionally, they perceived many of these sites as places where *daivangal* (gods) reside, therefore a visit to *nalla sthalamghal* necessitates the practice of being *shudham* (physical and spiritual cleansing). It also includes prescribed behaviours such as an: absence of conniving thoughts about the forest, animals and fellow Kattunayakans; following instructions from gods and ancestors during foraging and hunting, and practising coexistence with other forest elements, among others. During a transect walk a village elder summarised this as:

> *"Nalloor, Maragdha, Daivahalla…these are all our nalla sthalamghal (good places). These are places where our gods reside. These places are our swantham (own) and since our ancestors' time. We treat them as ambalam (temples). We cannot go there whenever we want. We need to be shudham (cleansed) to go there."* [Interview 19]

While many study participants described that visiting these places evoked memories and emotions that contributed to their sense of place and well-being, some stated that they experienced an 'incomprehensible energy' at these sites. When asked to explain the 'energy,' some respondents outlined partially tangible environmental elements like crispness of the air, the freshness of the water, and the presence of their ancestors and wild animals, which together made their fatigue go away. They observed reduced access to *nalla sthalamghal* as a direct consequence of relocation from the *kadu* and it was also cited as a reason why community members are less inclined to move away from their ancestral landscapes. A Kattunyakan respondent from Ponkuzhi explained this as:

> *"Inside the kadu, in some places, I get a special feeling. I get an incomprehensible energy that I don't get outside. If we are not allowed to go inside the kadu, we will be sad. We will still find a way to it, either by hiding and avoiding them (forest department). They won't always be looking out; we will jump through a different route. [Hush tone] Many times, forestukar (forest department) have told us that we will give you money to move. But we told them, it is not possible for us. We were born here, and we want to die here only".* [Interview 12]

During the transect walk, study participants explained that their repeated visits, encounters, and exchanges inside *kadu* made it a familiar space with a familial status often attributed.

The characterization and nomenclature of *nalla sthalamghal (good places)* is almost always linked to a Kattunayakan story learned from ancestors. A study participant from Chukalikunni described how *Mavinhalla Thodu*, one of the *nalla sthalam in kadu,* thus got its name.

> *"Our people call this place Mavinhalla thodu. You can see a narrow thodu (stream) here. Earlier, this place had several mavu (mango trees). That is*

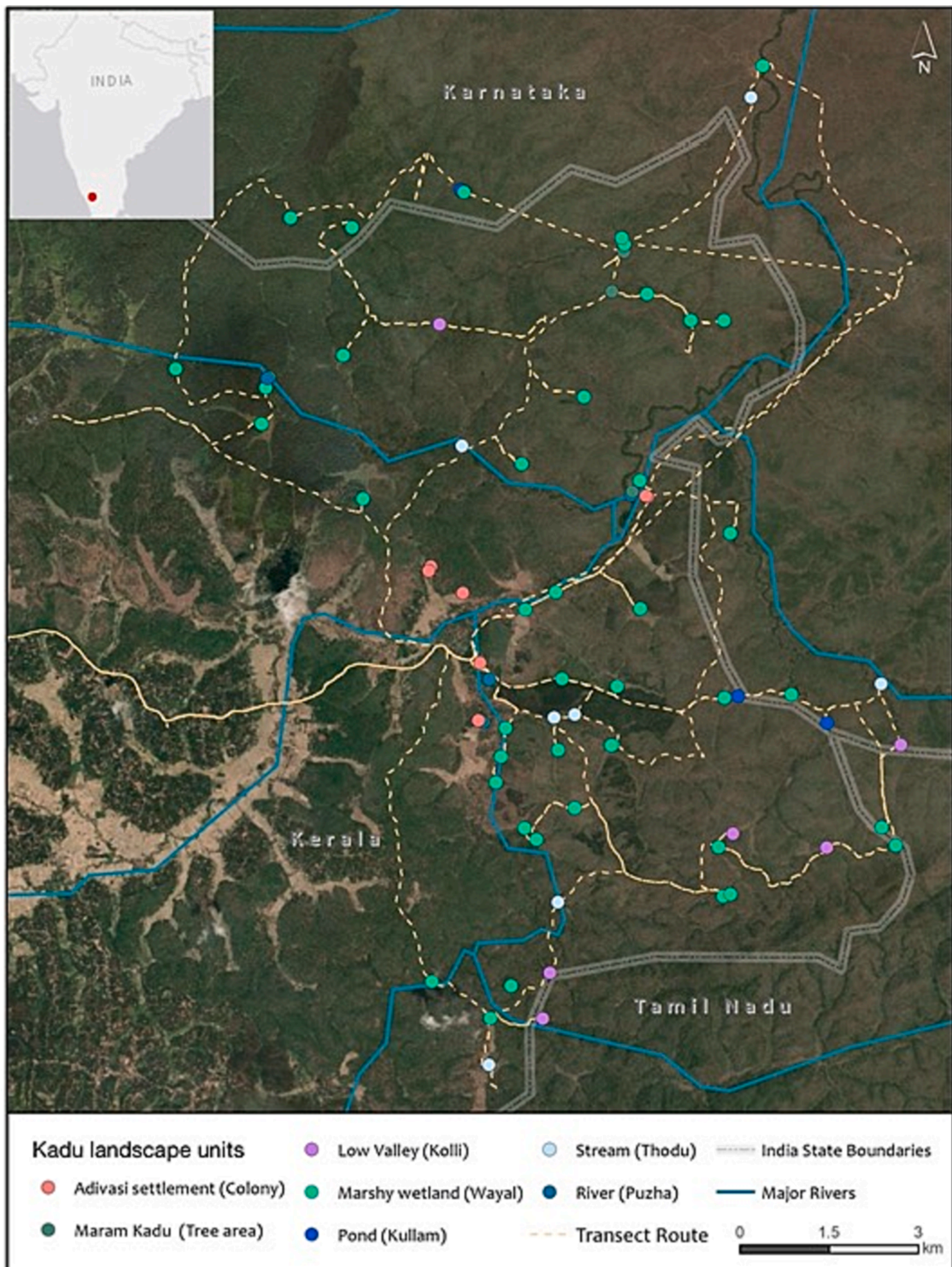

Fig. 8. Location of *nalla sthalamghal* (good places) and related *kadu* landscape units mapped in the Wayanad Wildlife Sanctuary.

how the site got its name. Our grandfathers named these places. They told us about it. Even now, forestukar (forest department people) continue to use the names our people gave.” [Interview 23]

This sense of belonging is reflected in other statements, such as *“we know our kadu well” [Interview,35]* and *“we understand it better than outsiders”. [Interview, 05]* In some conversations, they often spoke boisterously of on how they navigate landscapes without the support of any cartographic tools. When asked how *kadu* is navigated without a map, a study participant from Anacyamp said:

> *"We have it all in our 'manasu' (mind). Like people in nadu (outside forest) have roads and names of places. We also have distinct places. We don't read or write. So, it is not written anywhere, but we know it. We grew up in this kadu. Our ancestors lived here. We know every nook and corner of the kadu."* [Interview 35]

3.2. Kinfolk with fluid identities without physical boundaries

Kattunayakans interviewed also described how *nalla* (good) places embody connections, relations, and interactions between different elements. These included their relationships with gods, deceased ancestors, and other-than-human relatives. While some of these interactions are place-bound and long term, such as sites always saturated with the presence of deceased elders and gods/*daivangal*, whereas other sites of interaction were referenced as occurring in multiple places and were relatively transient (e.g., non-verbal communications with wild animals or the passage of ancestors' spirits). That is, spirits of their deceased ancestors are explained as roaming the *kadu* and are usually not restricted to a specific area, but this is not the case for *mala daivangal* (forest gods). These gods inside the *kadu*have clear and well-defined areas with distinct markers such as *thara* (platform), *kallu* (stone) or *maram* (tree). A Kattunayakan woman in an interview put it thus:

> *"We have groves in kadu that are sacred. There is passage of gods through kadu. Some trees in kadu are gods. We will be able to identify that. When we spot one, we will feel it from inside. There is some strength inside this. So, we will pray to them and give some offering. If someone provides an offering, then next person who comes will also do that. Slowly it becomes an important place for us."* [Interview 40]

While study participants were aware of biodiversity value in the forest landscapes, they also actively distinguished themselves from 'outsiders,' (that meant non Kattunayakans living in Wayanad like other Adivasi communities, and settlers from the plains of Kerala and other adjacent states who are mostly Christians, Muslims, and Hindus) for whom the significance of *kadu* is regarded as primarily pertaining to its flora, fauna and resources. On the contrary for Kattunayakans, *kadu* also contains gods, deceased elders, and spirits. Upon death, the *kadu* is where every Kattunayakan eventually resides. Consistently, elaborate descriptions were provided for forest trails that facilitate the passage of these beings. A 70-year-old woman in Kalamkandi elaborated this as:

> *"Our sathavaru (deceased ancestors) are sacred for us. We communicate with them frequently. After death, our ancestors return to the forest. That is our faith, so we pray to them when we enter the forest. They were forest people, so after death, they would be around; where else would they go? So, we believe that after death, we return to the forest just like them."* [Interview 41]

Although community members living along the borders of the Wayanad Wildlife Sanctuary recognize the protected areas' physical boundaries, in everyday conversations among themselves, these political and physical frontiers seem nonexistent. For example, people provided vivid details as to how their *daivangal*, ancestral spirits and other-than-human relatives travelled across the forest and on special occasions even accepted their invitation and visited them in their forest-peripheral villages. This porosity of boundaries is suggestive of how fully people perceive *kadu* as not separate from them. During these visits, gods communicate with people through mediums such as a village shaman to answer questions and provide guidance and feedback on any misconduct. Kattunayakan gods take the shape of animals, humans, rocks, or trees, supporting the observation that elements of *kadu* possess fluidity of being and shape, including the ability to take on distinct forms inside and outside forest boundaries. During a ceremony, a 50-year-old Kattunayakanfrom Chukkalikunni described it thus:

> *"From the time of our grandfathers, they have talked about these places in the forest. These are the places from which our mala daivangal (forest gods) came. Devi, Kuliyan, Mari……. [names of the gods]. We are not supposed to say the names of our gods out loud. During the puja (ritual) in the Adivasi settlements, we beat the drum, sing songs, and invite them from the forest to our settlements. During their visit, we speak to them about our troubles. They give us the solutions. After the ceremony, they return to the forest".* [Interview 34]

For Kattunayakans, humans, animals, and gods originated from the *kadu* and hence they are kinfolk. This encourages them to practice generosity and consideration towards beings of *kadu* during their encounters and engagements. Sharing of honey with the bees and bears, tubers with boars, and meat with tigers are some examples of these considerations. Similarly, they rationalized the actions of forest beings, even the negative ones such as incidents of wild animal attacks: for example, the general notion among Kattunayakans is that most animal encounters are ordinary, welcome, and convivial, with the added caveat that animals attack only when they feel threatened or troubled. Also, the possibility of wild animals as a medium for gods in some ways has elevated their socio-cultural status within Kattunayakan society. Hence, human-animal coexistence is central to navigating their relations in the forest landscape and the forest itself is 'like a relative to us'. Drawing references to these observations, a Kattunayakan who accompanied me to the forest said:

> *"…… From early…very early days. Our grandfathers have told us how our gods originated in these places. Our animals and our people also originated from these places. So kadu is like a bandhu (relative) to us."* [Interview 43]

3.3. A complete and all-encompassing security and an entity with agency

For Kattunyakans who participated in this study, *kadu* is also a complete and all-encompassing entity that provides them with *ellam* (everything). The term *ellam* signifies the capabilities of *kadu* to deliver everything that necessitates a good life. Their claim that *kadu* provides *ellam* extends to their trust that it will never deceive or harm them. They spoke about places in the *kadu* that held this *sathyam* (truth). For example, many *wayals* (marshy wetlands) in the forest possess *sathyam* and Kattunyakans believe that in these places, water will not dry out, even in the driest season. They describe *sathyam* in context of *ellam* as a reflection of their cumulative self-reliance on *kadu* in general. There also exists a collective understanding that if they reciprocate appropriately with *kadu*, then it will respond accordingly. A Kattunayakan woman described her experience of *ellam* as:

> *"In the early days, we spent every moment of life in the kadu. We remained in the kadu all the time and never came out of it, even searching for work. So, kadu will never break our trust or forsake us. Nights and days, we remained in the kadu and gathered whatever food is available. That is our life even now. Nothing has changed. We continue to depend on the kadu, then and now. If we go to the forest, we will never come empty handed. Kadu provides us with ellam."* [Interview 38]

The reciprocity that *kadu* and Kattunayakans are expected to observe includes binding rules for being considerate to the needs of fellow Kattunayakans and non-human relatives. Unsurprisingly, several Kattunayakans, who received conventional educations, do not always agree with the notion of *ellam* as their modern needs are often not entirely met within the forest. However, they agree that the *kadu* is a strong entity with whom they share an intimate connection. A Kattunayakan from Ponkuzhi explained his disagreements as:

> *"We cannot say that forest provides 'ellam', but we do agree that the forest is powerful. It has countless temples. If we start counting, it will never end. To name a few, Naradhi, Muthappankolli, Bedumavvu, Begur Odichi, Maragadha, Bajagadha, Anakallu, Daivallaha. They are mostly wayal (marshy wetland), kolli (creek), puzha (river) spread across the hills inside the forest. When we reach such a place and clear the grass*

there, we will wash our legs and go there, bow down, and pray. All these temples have existed for a long time since our grandfathers and ancestors. They are the place of our gods. Our fathers and grandfathers have told us this. Those waters do not dry up even in the hottest summer. When we are at these places, we feel their [ancestors and gods] presence. We trust in such waters." [Interview18]

During the interviews, respondents described how *kadu* endows them with gifts in unexpected ways, especially during challenging times. Receiving gifts from *kadu* necessitates returning the favour by being respectful, offering prayers, sharing produce and being considerate with forest relatives. A Kattunayakan son in the presence of his father shared their experience of accepting a gift from *kadu*:

"Once, my father and I went to search for honey. We were carrying a kallam (earthen pot) with us. The whole day we searched but couldn't find a single beehive. We could hear the bees and see them, but there was no beehive or honey anywhere. Then we went to this place where there are spirits of our deceased elder. My father offered a piece of dried pukayila (tobacco leaves) and spoke a few kind words to the spirit. Then, as soon as we started walking, we heard bees buzzing and we followed it to find a large beehive. The sound of the bees was so loud that we couldn't walk towards it. We saw this large kombu thenu (big wild honey). We slowly smoked it and gathered the honey. The amount of honey almost filled up our whole container. This is our faith. Kadu will never betray us…nadu (outside forest) may betray but not kadu."[Interview 13]

Study participants acknowledge that activities in *kadu* are never planned and therefore the outcomes of *kadu* visits may never be predicted. But this sense of an agentive entity without the will to betray is key. During the honey harvesting season, community members do not competitively pursue the gathering of honey. Inside the forest, we often saw trees with *kombu thenu* marked with a bunch of leaves, or a bamboo ladder placed next to the tree as an indication that someone has already marked it. On seeing that, Kattunayakans who accompanied us respectfully avoided that tree and continued searching for another. They explained that respecting these indicators was also their way of respecting and trusting *kadu*. When asked why they didn't just gather the honey, a study participant answered by describing an incident:

"Kadu gives us ellam, but it gives us things only when it decides. So, if we connivingly try to take someone else's honey, we will be punished. They have also walked inside the forest and worked hard to find that beehive. There was a boy in my colony [Adivasi settlement colony] who once removed the markers from a tree and climbed it. It was a tall tree and during the climb, he slipped from the tree, fell on the ground, and broke his bones. We knew immediately what must have caused this and so we performed some puja and prayers at the site, returned the markers and apologized to the daivangal and ancestors. The boy survived. This is our belief." [Interview 30]

Kadu, according to the Kattunayakans, is a formidable force and a self-sustaining super organism that possesses intelligence, memory, and decision-making authority. For instance, *kadu* is said to detect the presence of outsiders and to be well able to make intelligent decisions after assessing the actions and intentions of beings in the forest. Consistently, community members accept the decisions of *kadu* (e.g., *kadu's* decision as to when to gift or when to punish). This might imply physical damage to people, an empty-handed return, or a negative encounter with a non-human relative during a visit to the forest. In all our conversations, *kadu* was described as a powerful being that is neither vulnerable nor broken. *Kadu* evoked trust, safety, and comfort. As explained by a community member *"No, no, we are not scared [of kadu]. The day before yesterday, while we were in the forest, it rained heavy with thunder and lightning. We put some fire and slept that night in the forests."* [Interview 10].

The knowledge that if they are inside *kadu* then even during the dark nights, rain, thunder and lightning they will be safe is a rather pervasive understanding among the community members. This was so much so that participants often mocked conventional protected area narratives of 'forest requiring human protection' as promoted by forest and wildlife staff. They instead positioned *kadu* as quite literally a parent, as protection giver as might a father or mother.

"Even back from the early days, we knew that kadu will never abandon us. Our forefathers have told us about this. For Kattunayakan kadu is in the same position as father and mother. We were born and brought up in kadu. It is the same kadu that has protected us till now. So even if we are alone, we do not fear spending night inkadu. However, that is not the same for outsiders. They will probably stay alone in kadu if they get access to arms or weapons. We do not need any such things. We trust kadu and enter with that faith, maybe even spend a week or more inside kadu. Nothing will happen to us." [Interview 40]

Several of the interviewees explained how networks of connections and relations between forest beings moderated the activities in the landscape based on the instructions from kadu. For Kattunayakans, the *kadu* does not induce evil, rather it assesses human intentions and delivers rewards or punishment as needed – a premise fully accepted by community members. This is due in part because people perceive *kadu* as having superior intelligence (more so than humans). Hence, Kattunayakans are expected to demonstrate a deferent honesty and earnestness. A woman from Anacyamp described this as *kadu*'s ability to recognize good behaviour

"Kadu can sense the presence of outsiders. There is coordination between every element of the kadu. Each step we take is observed by the animals in the forest. The monkeys, birds, snakes, elephants, and tigers…everyone communicates. From the forest, we do not have any dosham (evil). Kadu is a special entity. It will show nalla (good) humans nalla sights. Kadu is more intelligent than humans. Suppose an elephant comes running towards us. Then it will suddenly stop, change its mind and go back." [Interview 15]

Community members acknowledged the multifaceted nature of *kadu* by describing in myriad ways how its value (let alone its very constitution) as not solely a site for human consumption and benefits. This value includes the forest having agency in its own right and as imbued with narratives of uses and opportunities, only some of which are exclusive to humans. Going beyond the conventional understandings of the forest as a provider of human uses, one Kattunayakan elder said:

"Not all things that grow in kadu need to be useful for humans. There are other things
also, that grow in kadu. We need everything in the kadu not only things useful for
humans. We don't eat this flower or its fruits, but some bees take nectar from them, and some animals eat these fruits, you see." [Interview 07]

4. Discussion

Across this study results suggest that Kattunayakans perceive *kadu* as a multifaceted, all-encompassing being that possesses agency saturated with the presence of gods and ancestors, be those in general or in reference to named physical features (e.g., a wetland, valley, tree forest) or kindred animal beings. While a simple etymological translation of the word *'kadu'* in English is forest, Kattunayakans' use of words *'kadu'*, and 'forest' evoked consistently distinct meanings. The word *kadu* expressed a more complex idea of an entity that suggested inclusiveness, familial and familiar qualities, as compared with the term 'forest,' which suggested separation, fear, and prohibition. Forest (often used in reference to the protected areas) meant external spaces reserved for wild animals whereas that same "forest" – in conversations with *Kattunayakans* invoked a constantly reciprocal and interactive system of co-present living and ancestral beings that contribute to their material and immaterial well-being, identity, and security. distinct from more conventional

translations of 'forest' (Sluyter, 1999), *kadu* elicits neither foreignness nor the need for conquest nor subjugation (Conrad, 2022; Blackbourn, 2011). Like many other Indigenous Peoples, Kattunayakans share a deep and familial perception of nature, including wild animals (Vannini & Vannini, 2020), water (Wilson & Inkster, 2018), fish (Todd, 2017).

Their common assertions like *"we know our kadu well"* and *"we understand it better than outsiders"* is often an attempt to clearly distinguish how they perceive forests and, by inference, how the state comparatively views them. It may be easy to dismiss these assertions as pedantic or naïve since Adivasi knowledge has been historically overlooked by conventional science. However, for societies like the Kattunayakans, who have had limited opportunities to explain their understanding of the natural world, these statements could be interpreted as an implicit assertion of their ownership and relationships (Chemmencheri, 2015; Kjosavik & Shanmugaratnam, 2015).

In contrast to the popular understanding -often supported by state- of protected area "forests" as spaces reserved for wildlife conservation (Kshettry et al., 2020; Lele et al., 2010; Sekhsaria, 2007), revenue generation (Steven et al., 2013) and fiscal compensations (Johnson et al., 2018), "kadu" elicited memories, knowledge, familiarity, and belongingness. While Kattunayakan descriptions of *kadu* resonate with many Indigenous conceptualizations of land where land embodies well-being (Burkhart, 2019), identity (Neeganagwedgin, 2013), and resilience (Hatala et al., 2020) it is essential to note that the forests referenced in many of these studies are often those where communities have access, ownership, and tenure rights unlike the state managed protected areas of India. In these, Kattunayakan rights to land are mere concessions. By capturing some of the visceral and deep connections with the forests, which also directly contradict how protected areas are generally studied and understood, our study brings forward a novel way of understanding conservation landscapes.

By mapping nalla sthalangal, we demonstrate that *'kadu'* are understood as ecosystems that uphold multiple ways of living and diverse relationalities (Bhattacharyya & Slocombe, 2017; Lewis & Sheppard, 2005; Loivaranta, 2020) with tangible and intangible features. The forest is also understood as a constantly animated and interactive space where human lives and histories are always present whether people are 'in' it or not. These observations contradict the notions of "pristine wilderness" (Fletcher et al., 2021) that assumes protected areas as forested landscapes without the human footprint. It strengthens and supports the arguments of Witter and Satterfield (2019) on the need to acknowledge that forest landscapes [here, protected areas] mean much more to Adivasi and their displacement, therefore, require a just and equitable reconciliation for the losses or, ideally, a just repatriation with those lands lost.

In contrast to the conventional protected area maps that document topographic features, administrative borders and wildlife habitats that are the basis for institutionalized land management, this study suggests a fundamental re-writing of these areas. In this case, Kattunayakans described similar landscape features (as in conventional maps), like wetlands, valleys, and hills. However, they were invariably physical and metaphysical or alive with properties and meanings that are neither captured nor understood in conventional forest management outlooks or plans. Our findings are consistent with observations of counter-mapping works of Rai and Madegowda (2017), Hunt and Stevenson (2017), and Syme (2020) by demonstrating that *nalla sthalangal* is an alternate model or counter map for these contemporary protected areas. This would return place and people to the forest landscapes. By engaging with scholarly works on decolonization, other-than-human geographies, and multispecies ethnographies, we argue that Kattunayakan understanding of *'kadu'* remains invisible mainly in discourses of contemporary Indian forest management practices and protected area approaches. These aspects will be vital in developing convivial conservation measures centred on Indigenous ways of knowing land (Domínguez & Luoma, 2020; Todd, 2014; Vannini & Vannini, 2020).

For Kattunayakans in this study, their encounters, and interactions with *kadu*, such as hunting, gathering honey, fishing, foraging tubers, or simply conversing with other forest beings, require mutual generosity and consideration during their encounters and interactions, be that while hunting, gathering honey, fishing, foraging tubers or simply while conversing with other forest beings. Aligning with Jolly et al. (2022), Kohn (2013), Nadasdy (2007), Bird-David and Naveh (2008), Comberti et al. (2015) and Blackman et al. (2017), our study highlights that those reciprocities between humans and the natural world not only maintain but are the essence of what we might call a 'local' ecosystem. Further, by building on the works on the post-humanist landscape (Loivaranta, 2020), legal personhood of nature (Cano Pecharroman,2018), animal personhood (Wallach et al., 2020), and multi-species ethnography (Locke & Munster, 2015) our study argues that there is a need to integrate Adivasi's understanding of forests into conservation approaches and practices that center forest and wildlife management as relational, and that governs forests using the combined principles of respect and responsibility to place. This is particularly important for postcolonial nations like India wherein efforts to disengage from the colonial view of forested landscapes as extractable or conserved resources is central (Martinez et al., 2023).

Kattunayakan observations regarding the presence of other-than-human beings and their interactions with humans also pose fundamental challenges to the state's perspective on Wayanad forests. These question the notion of an untouched, human-free environment upon which the concept of protected areas is based, highlighting the interconnectedness of humans and myriad other beings within the ecosystem. It is because of these very non-human presences that Kattunayakans are keen to uphold their custodial rights and reciprocities with the forest. They understand that upholding as not a system of anthropogenic management but as a deferent acceptance to *kadu* as an entity with agency. They described how forest communities (including humans) foster interconnectedness between the biological, physical, and metaphysical elements of *kadu*. And they discussed how *kadu* is more than wildlife; it is also *nalla sthalangal* where their gods and ancestors reside. These observations of biocultural (Gavin et al., 2015) connection draw theoretical insights from the works on sacred groves in Asia and support the narrate of forests as spaces that connect humans and the spiritual world, which brings predominantly positive emotions of safety, reverence, respect, and a sense of ownership (Bhagwat et al., 2005; Ormsby & Bhagwat, 2010). While, theoretically, the observations may be comparable to some of the insights from this study, a closer look at the sacred groves shows that they are mostly community-owned landscapes, unlike the state-managed and controlled protected areas (in this study). Therefore, while *kadu* not only elicits positive emotions for community members, it also holds the trauma of displacement, nostalgia of losing home, and underlying memories of it, making human-nature relations discussed here distinct, complex and more specific to protected areas.

Centering an understanding that nature and culture function as a single unit with connections, and interactions (Rapport and Maffi, 2010; Gavin et al., 2015), *nalla sthalangal* reflects the biocultural essence of the landscape. By providing geographic representation to Kattunayakan safety, spirituality, and livelihood our study displays tangible and intangible features of the forest as a constantly animated and interactive space, where human lives and histories are always present whether people are 'in' the forest or not. It supports post humanists and socio-cultural theorists claim that oppose the notion of that humans are fundamentally separate from the rest of the world (Kohn, 2013; Haraway, 2008). *Nalla sthalangal* is, by this definition, an alternate model for protected areas that returns place and people to the forest landscapes and rethinks our assumptions about forest and its relationalities. As places that connect natural and cultural systems (Gavin et al., 2015) *nalla sthalangal* supports the rationale for Adivasi people like Kattunayakans reluctance to relocate from the protected areas and remain in *kadu*.

For Kattunayakans who participated in our study, *kadu* fosters

interactions and associations between the beings that occupy its spaces and places. Humans, animals, deceased elders, and Gods in *kadu* frequently cross its physical frontiers. Interactions do not follow the legally constructed boundaries of protected areas but instead involve deceased elders and *daivangal* visiting Adivasi settlements [in the fringe forests around protected area] and then taking the form of animals to communicate with humans. This contradicts conservation efforts that focus on species protection by preserving sites from human activity as they erroneously assume that processes and activities in the natural world supposedly respect the socially constructed boundaries of authority. Drawing inspiration from research on the ontology of dwelling (Ingold,2021), the agency of forests and wild animals (Kohn, 2013, Bhattacharyya & Slocombe, 2017), 'connectivity conservation paradigm' (Crooks & Sanjayan, 2006), our study also recognizes the scale of the networks and interactions that function in these conservation spaces, including semiotics in human-animal socializations (Jolly et al., 2022; Lamb, 2020). These findings warrant further discussions, such as what it means for countries like India to have collaborative, pluralistic and all-inclusive forest, and wildlife management approaches (Wyborn, 2012). By challenging such things as centrality of human agency, Kattunayakans' narratives also confront controlling and dominative attitudes of humans who seek to address ecological challenges without comprehending the complexities involved or the knowledge already in place with regard to protected areas. This perspective underscores the importance of moving away from imposing standardized problem-solving approaches and instead emphasizes the significance of developing a deeper understanding of both the people and the land, fostering long-term, ethical, and sustainable conservation measures.

Unlike the forests of protected areas, which are seen primarily through a lens of extraction or conservation, *kadu* for Kattunayakans is a source of their *'ellam'* (everything). Their understanding of *ellam* corresponds closely to Indigenous *"everything"* that constitutes *"their identity, connection to ancestors, home to the non-human kin fold, pharmacy, library, source of all that sustained us"* (Kimmerer, 2013). *Ellam*, in many ways, demonstrates the agency of the forest and includes opportunities from *kadu* that are not purchased but rather endowed to them as gifts (Kimmerer, 2013; Nadasdy, 2007). For Kattunayakans, opportunities and services from the *kadu* are never taken for granted but are best understood as "relational gifts" with underlying obligations such as sharing with relatives (Jolly et al., 2022; Manson, 2018; Nadasdy, 2007). Therefore, receiving *ellam* from *kadu* necessitates reciprocating with gratitude and expected behaviours. A closer study of this *ellam* concept also highlights that *kadu* is a self-sustaining entity with the capacity to direct, gift, punish, receive, and distribute its bounty across human and nonhuman beings.

By expanding on *ellam,* this study argues that Kattunayakan understanding of *ellam* is not equivalent to the concepts such as ecosystem services since receiving opportunities and gifts from the forest necessitates a specific set of behaviours rooted in respect, reciprocity, and responsibility. Our study corresponds to the observations of Comberti et al. (2015), and Blackman et al. (2017) that propose that ecosystems are actively and intentionally tended by humans. The knowledge that receiving of *ellam* from *kadu* necessitates a bi-directional and reciprocal engagement between *kadu* and recipients (humans and non-humans). Further, by highlighting that the access to *kadu* provided abundance, gifts, and opportunities are not limited to humans, our study offers an alternative way of thinking that removes human exceptionalism in the way human-nature relationship are conventionally understood i.e., nature as service provider to humans or a store house of resources.

Lastly, our study challenges the notion that protected areas and their forests solely serve human interests or can only be understood as nature's benefits to people (even nonmaterial benefits) (Díaz et al., 2015), and advocate instead for a broader significance beyond human-centric goals (Smith, 2021; Johnson et al., 2018) including the idea that it is relationships themselves that might be protected. We argue that incorporating Adivasi perspectives, particularly their understanding of *"kadu,"* can provide a more comprehensive and nuanced approach to conservation that is currently lacking (Adams, 2004; Kumar, 2014). By embracing the other-than-human dimensions of *kadu,* our study aligns with Haraway's perspective (Haraway, 2016) and suggests that reimagining forested landscapes within protected areas can unlock new possibilities for ethical conservation, amplifying voices and interactions currently overlooked by conventional state-managed practices in India (Jones et al., 2020; Brown, 2003).

5. Conclusion

By reflecting on Kattunayakans understanding of protected areas as plural, living, all-encompassing spaces with relatives and Gods, our study demonstrates a novel way of thinking about conservation landscapes, including humans and other-than-human beings. It explains that state-managed protected areas are forested landscapes beyond wildlife habitats, corridors, political boundaries, and topographic features. It is also a living entity with agency and culture that follow prescribed semiotics, rules, relations, co-productions, and coexistences (Kohn, 2013; Bhattacharyya & Slocombe, 2017; Loivaranta, 2020; Ingold, 2021; Nadasdy, 2007). This, in many ways, recommend decolonizing how we think and portray forests.

While the current understanding of forested landscapes within protected areas of India do not reference these multifaceted qualities of land and fail to portray how relations and interactions are often coproduced by human and forest (Aiyadurai, 2016; Lorimer, 2015), our study brings forward a strong rationale to document, understand and utilize the knowledge of these relationalities in existing forest governance and wildlife management initiatives. By citing protests of Dongria-Kondhs of Orissa, Ho and Mundis of Jharkhand, Kattunayakans of Wayanad (Bisht, 2020; Bijoy, 2017), our study brings forward the notion that recognition of peoples historical and traditional association with landscape is not enough and recommends that for progressive forest policies such as Forest Rights Act of 2006 to coexist with traditional ecological knowledge, there is a need to recalibrate the position of Indigenous Peoples in the natural world (Büscher & Fletcher, 2019).

The government of India offers Adivasi communities the right to choose voluntary relocations from protected areas, alongside some supporting compensations. However, as seen globally, assessment of loss incurred by Indigenous communities displaced from ancestral lands is often poorly compensated due to insufficient understanding of their relationship with the land (Gregory et al., 2020; Turner et al., 2008). We argue that when the growing body of work on protected areas in India includes only material relationships (Alex & Vidyasagaran, 2016; Karanth, Gupta, & Vanamamalai, 2018), it fails to portray the complexity, and deepness of these landscapes. This only serves to misconstrue the forest as a storehouse of material goods, which Adivasi people like Kattunayakans (who live forest-near) extract from time to time.

Our study argues that Adivasi displacements from forest (voluntary or involuntary) that do not understand that removal from land accounts for losses beyond material ones will lead to fragmentation and obliteration of a once robust socio-ecological network of connections, interactions, and relations. This can have long term consequences to people, land and coexistences that occur within it. We mean not an argument against Indigenous person's aspiration to move to urban areas, but to recommend positioning Adivasi as actors and agents of the landscape rather than spectators from the outside witnessing forest policies that promote unethical marginalization and socio-cultural misrepresentations. Kattunyakan portrayals of the *kadu,* therefore strengthens collaborative forest governance and management practices that advances human rights alongside the goals of biodiversity conservation.

CRediT authorship contribution statement

Helina Jolly: Investigation, Formal analysis, Writing – original

draft. **Terre Satterfield:** Supervision, Conceptualization. **Milind Kandlikar:** Writing – review & editing. **Suma TR:** Project administration.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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Appendix A. Supplementary data

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References

Adams, W. M. (2004). *Future Nature: A vision for conservation.* Routledge.

Artelle, K. A., Zurba, M., Bhattacharyya, J., Chan, D. E., Brown, K., Housty, J., et al. (2019). Supporting resurgent Indigenous-led governance: A nascent mechanism for just and effective conservation. *Biological Conservation, 240*, Article 108284.

Aiyadurai, A. (2016). ‘Tigers are Our Brothers’ understanding human-nature relations in the Mishmi Hills. *Northeast India. Conservation and Society, 14*(4), 305–316.

Anderson, K. (2005). *Tending the wild: Native American knowledge and the management of California's natural resources*. Univ of California Press.

Alex, A., & Vidyasagaran, K. (2016). The marketing of non-timber forest products in the Western Ghats region of Attappady, Kerala. *Economic Affairs, 61*(3), 355–363.

Bhattacharyya, J., & Slocombe, S. (2017). Animal agency: Wildlife management from a kincentric perspective. *Ecosphere, 8*(10), e01978.

Bhagwat, S. A., & Rutte, C. (2006). Sacred groves: Potential for biodiversity management. *Frontiers in Ecology and the Environment, 4*(10), 519–524.

Bhagwat, S. A., Kushalappa, C. G., Williams, P. H., & Brown, N. D. (2005). A landscape approach to biodiversity conservation of sacred groves in the Western Ghats of India. *Conservation Biology, 19*(6), 1853–1862.

Bijoy, C. R. (2017). Forest rights struggle: The making of the law and the decade after. *Law Env't & Dev. J., 13*, 73.

Bird-David, N. (2017). *Us, relatives: scaling and plural life in a forager world, 12*. Univ of California Press.

Bird-David, N., & Naveh, D. (2008). Relational epistemology, immediacy, and conservation: or, what do the Nayaka try to conserve?. *Journal for the Study of Religion. Nature & Culture, 2*(1).

Bisht, A. (2020). Between extractivism and sacredness: The struggle for environmental inheritances by the adivasi communities of India. *Ethics and Politics of Space for the Anthropocene*. Edward Elgar Publishing.

Blackman, A., Corral, L., Lima, E. S., & Asner, G. P. (2017). Titling indigenous communities protects forests in the Peruvian Amazon. *Proceedings of the National Academy of Sciences, 114*(16), 4123–4128.

Blackbourn, D. (2011). *The conquest of nature: Water, landscape, and the making of modern Germany*. Random House.

Brown, K. (2003). Integrating conservation and development: A case of institutional misfit. *Frontiers in Ecology and the Environment, 1*(9), 479–487.

Büscher, B., & Fletcher, R. (2019). Towards convivial conservation. *Conservation & Society, 17*(3), 283–296.

Burkhart, B. Y. (2019). Be as strong as the land that made you: An Indigenous philosophy of well-being through the land. *Science, Religion and Culture, 6*(1), 26–33.

Cano Pecharroman, L. (2018). Rights of nature: Rivers that can stand in court. *Resources, 7*(1), 13.

Chemmencheri, S. R. (2015). State, social policy and subaltern citizens in adivasi India. *Citizenship Studies, 19*(3–4), 436–449.

Conrad, J. (2022). Creation and conquest. *Astrotopia: The Dangerous Religion of the Corporate Space Race*, 31.

Cilburn, A. D., & Hoffmann, H. M. (2021). Coming home again: Tribal sovereignty, the tribal wildlife grant program, and their potential for endemic, wildlife reintroduction. *Arizona Journal of Environmental Law and Policy, 12*, 1.

Comberti, C., Thornton, T. F., de Echeverria, V. W., & Patterson, T. (2015). Ecosystem services or services to ecosystems? Valuing cultivation and reciprocal relationships between humans and ecosystems. *Global Environmental Change, 34*, 247–262.

Crooks, K. R., & Sanjayan, M. (Eds.). (2006). *Connectivity conservation*. Cambridge University Press.

Daily, G. C., & Ellison, K. (2012). *The new economy of nature: The quest to make conservation profitable*. Island Press.

Díaz, S., et al. (2015). A Rosetta Stone for nature's benefits to people. *PLoS Biology, 13*(1), Article e1002040.

Dlugoleski, D. N. (2020). Undoing historical injustice: the role of the Forest Rights Act and the Supreme Court in departing from colonial forest laws. *Indian Law Review, 4*(2), 221–243.

Domínguez, L., & Luoma, C. (2020). Decolonising conservation policy: How colonial land and conservation ideologies persist and perpetuate indigenous injustices at the expense of the environment. *Land, 9*(3), 65.

Fernández-Llamazares, Á., Terraube, J., Gavin, M. C., Pyhälä, A., Siani, S. M., Cabeza, M., et al. (2020). Reframing the wilderness concept can bolster collaborative conservation. *Trends in Ecology & Evolution, 35*(9), 750–753.

Fletcher, M. S., Hamilton, R., Dressler, W., & Palmer, L. (2021). Indigenous knowledge and the shackles of wilderness. *Proceedings of the National Academy of Sciences, 118*(40), Article e2022218118.

Gadgil, M. (2018). *Sacred groves: An ancient tradition of nature conservation* (p. 1). Scientific American.

Galway, L. P., Esquega, E., & Jones-Casey, K. (2022). “Land is everything, land is us”: Exploring the connections between climate change, land, and health in Fort William First Nation. *Social Science & Medicine, 294*, Article 114700.

Gavin, M. C., McCarter, J., Mead, A., Berkes, F., Stepp, J. R., Peterson, D., et al. (2015). Defining biocultural approaches to conservation. *Trends in ecology & evolution, 30*(3), 140–145.

Gillespie, J., Albert, J., Grant, S., & MacKeigan, T. (2020). Missing in action: Indigenous knowledge systems in evaluation of comprehensive community initiatives. *Canadian Journal of Program Evaluation, 35*(2), 170–187.

Gregory, R., Halteman, P., Kaechele, N., Kotaska, J., & Satterfield, T. (2020). Compensating Indigenous social and cultural losses: A community-based multiple-attribute approach. *Ecology and Society, 25*(4).

Hatala, A. R., Njeze, C., Morton, D., Pearl, T., & Bird-Naytowhow, K. (2020). Land and nature as sources of health and resilience among Indigenous youth in an urban Canadian context: A photovoice exploration. *BMC Public Health, 20*, 1–14.

Haraway, D. (2008). Companion species, mis-recognition, and queer worlding. *Queering the Non/Human*, xxiii–xxxvi.

Haraway, D. J. (2016). *Staying with the trouble: Making kin in the Chthulucene*. Duke University Press.

Hunt, D., & Stevenson, S. A. (2017). Decolonizing geographies of power: Indigenous digital counter-mapping practices on Turtle Island. *Settler Colonial Studies, 7*(3), 372–392.

Ingold, T. (2021). Hunting and gathering as ways of perceiving the environment. In *Redefining nature* (pp. 117–155). Routledge.

Johnson, M. F., Karanth, K. K., & Weinthal, E. (2018). Compensation as a policy for mitigating human-wildlife conflict around four protected areas in Rajasthan, India. *Conservation and Society, 16*(3), 305–319.

Jolly, H., Satterfield, T., Kandlikar, M., & Tr, S. (2022). Indigenous insights on human–wildlife coexistence in southern India. *Conservation Biology, 36*(6), Article e13981.

Jones, N., Malesios, C., Kantartzis, A., & Dimitrakopoulos, P. G. (2020). The role of location and social impacts of protected areas on subjective wellbeing. *Environmental Research Letters, 15*(11), Article 114030.

Kakkoth, S. (2005). The primitive tribal groups of Kerala: A situational appraisal. *Studies of Tribes and. Tribals, 3*(1), 47–55.

Karanth, K. K., Gupta, S., & Vanamamalai, A. (2018). Compensation payments, procedures and policies towards human-wildlife conflict management: Insights from India. *Biological Conservation, 227*, 383–389.

Kimmerer, R. W. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants*. Milkweed Editions.

Kjosavik, D. J., & Shanmugaratnam, N. (2015). *Political Economy of Development in India: Indigeneity in Transition in the state of Kerala*. Routledge.

Kohn, E. (2013). *How forests think: Toward an anthropology beyond the human*. Univ of California Press.

Kshettry, A., Vaidyanathan, S., Sukumar, R., & Athreya, V. (2020). Looking beyond protected areas: Identifying conservation compatible landscapes in agro-forest mosaics in north-eastern India. *Global Ecology and Conservation, 22*, e00905.

Kumar, K. (2014). The sacred mountain: Confronting global capital at Niyamgiri. *Geoforum, 54*, 196–206.

Lamb, G. (2020). Towards a green applied linguistics: Human–sea turtle semiotic assemblages in Hawai ‘i. *Applied Linguistics, 41*(6), 922–946.

Loivaranta, T. (2020). Post-human lawscapes of Indigenous community forests in Central India. *The Geographical Journal, 186*(3), 288–299.

Lele, S., Wilshusen, P., Brockington, D., Seidler, R., & Bawa, K. (2010). Beyond exclusion: Alternative approaches to biodiversity conservation in the developing tropics. *Current Opinion in Environmental Sustainability, 2*(1–2), 94–100.

Lewis, J. L., & Sheppard, S. R. (2005). Ancient values, new challenges: Indigenous spiritual perceptions of landscapes and forest management. *Society and Natural Resources, 18*(10), 907–920.

Lorimer, J. (2015). *Wildlife in the Anthropocene: Conservation after nature*. U of Minnesota Press.
Locke, P., & Munster, U. (2015). *Multispecies ethnography*. Oxford: Oxford University Press.
Manson, J. (2018). Workmanship and relationships: Indigenous food trading and sharing practices on Vancouver Island. *BC Studies: The British Columbian Quarterly, 200*, 215–239.
Martinez, D. J., Cannon, C. E., McInturff, A., Alagona, P. S., & Pellow, D. N. (2023). Back to the future: Indigenous relationality, kincentricity and the North American Model of wildlife management. *Environmental Science & Policy, 140*, 202–207.
Mistry, J., & Bizerril, M. (2011). Why it is important to understand the relationship between people, fire and protected areas. *Biodiversidade Brasileira, 1*(2), 40–49.
Münster, U., & Vishnudas, S. (2012). In the jungle of law: Adivasi rights and implementation of forest rights act in Kerala. *Economic and Political Weekly*, 38–45.
Nadasdy, P. (2007). The gift in the animal: The ontology of hunting and human–animal sociality. *American ethnologist, 34*(1), 25–43.
Neeganagwedgin, E. (2013). Ancestral knowledges, spirituality and Indigenous narratives as self-determination. *AlterNative: An International Journal of Indigenous Peoples, 9*(4), 322–334.
Nikolakis, W., & Hotte, N. (2020). How law shapes collaborative forest governance: A focus on Indigenous peoples in Canada and India. *Society & Natural Resources, 33*(1), 46–64.
Norgaard, K. M., & Fenelon, J. V. (2021). Towards An indigenous environmental sociology. *Handbook of Environmental Sociology*, 477–494.
Ormsby, A. A., & Bhagwat, S. A. (2010). Sacred forests of India: A strong tradition of community-based natural resource management. *Environmental Conservation, 37*(3), 320–326.
Parathian, H. E., McLennan, M. R., Hill, C. M., Frazão-Moreira, A., & Hockings, K. J. (2018). Breaking through disciplinary barriers: human–wildlife interactions and multispecies ethnography. *International Journal of Primatology, 39*, 749–775.
Rai, N. D., & Madegowda, C. (2017). Rethinking landscapes: History, culture and local knowledge in the Biligiri Rangaswamy Temple Tiger Reserve, India. In *Conservation and development in India: Reimagining wilderness* (pp. 132–141). London: Routledge.
Ramachandran, B. (2006). Development of Indian Tribes anthropological analysis. *Development of Indian Tribes, 206*.
Rapport, D., & Maffi, L. (2010). The dual erosion of biological and cultural diversity: Implications for the health of ecocultural systems. *Nature and Culture: Rebuilding Lost Connections, 103*, 22.
Sahu, G. (2021). Implementation of the scheduled tribes and other traditional forest dwellers (recognition of rights) Act 2006 in Jharkhand: Problems and challenges. *Journal of Land and Rural Studies, 9*(1), 158–177.
Saldaña, J. (2021). *The coding manual for qualitative researchers*. SAGE Publications Limited.
Sekhsaria, P. (2007). Conservation in India and the Need to Think beyond 'Tiger vs Tribal'. *Biotropica, 39*(5), 575–577.
Shaffer, L. J. (2010). Indigenous fire use to manage savanna landscapes in southern Mozambique. *Fire Ecology, 6*, 43–59.
Sluyter, A. (1999). The making of the myth in postcolonial development: Material-conceptual landscape transformation in sixteenth-century Veracruz. *Annals of the Association of American Geographers, 89*(3), 377–401.
Smith, L. T. (2021). *Decolonizing methodologies: Research and indigenous peoples*. Bloomsbury Publishing.
Steven, R., Castley, J. G., & Buckley, R. (2013). Tourism revenue as a conservation tool for threatened birds in protected areas. *PLoS One1, 8*(5), e62598.
Syme, T. (2020). Localizing landscapes: A call for respectful design in Indigenous counter mapping. *Information, Communication & Society, 23*(8), 1106–1122.
Todd, Z. (2017). Fish, kin and hope: Tending to water violations in Amiskwaciwâskahikan and Treaty Six Territory. *Afterall: A Journal of Art, Context and Enquiry, 43*(1), 102–107.
Turner, N. J., Gregory, R., Brooks, C., Failing, L., & Satterfield, T. (2008). From invisibility to transparency: Identifying the implications. *Ecology and society, 13*(2).
Vannini, P., & Vannini, A. (2020). What could wild life be? Etho-ethnographic fables on human-animal kinship. *GeoHumanities, 6*(1), 122–138.
Wallach, A. D., Batavia, C., Bekoff, M., Alexander, S., Baker, L., Ben-Ami, D., et al. (2020). Recognizing animal personhood in compassionate conservation. *Conservation Biology, 34*(5), 1097–1106.
Wilson, N. J., & Inkster, J. (2018). Respecting water: Indigenous water governance, ontologies, and the politics of kinship on the ground. *Environment and Planning E: Nature and Space, 1*(4), 516–538.
Witter, R., & Satterfield, T. (2019). Rhino poaching and the "slow violence" of conservation-related resettlement in Mozambique's Limpopo National Park. *Geoforum, 101*, 275–284.
Wyborn, C. (2012). A collaborative future for conservation: lessons from connectivity conservation. *Innovation for 21st Century Conservation*, 44.