

Conflict in Conservation: Correlation Between Indigenous Knowledge and State Intervention

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Abstract. This Study explores conflicts that come up due to the disparity between the indigenous knowledge and the Western knowledge that build up state-led policies, focusing on 2 case studies from India and Canada. While indigenous ecological knowledge is sometimes deeply rooted in experiential and spiritual understandings of the local environment, the state-led conservation policies are typically relying on scientific and technocratic data models, leading to fundamental epistemological conflicts. The study discusses the challenges raised by epistemological differences in conservation. The result shows that if top-down policies overlook indigenous ontologies and fail to acknowledge indigenous knowledge systems and sovereignty, they will face fundamental resistance. The study suggests a use of decolonized and collaborative strategies combining multiple knowledge systems in conservation, with the purpose of more fair, efficient, and sustainable results. This study underscores the importance of using multidisciplinary methods to find a balance between protecting the environment and promoting social justice.

Keywords: Conflict, Conservation, Development, Indigenous Knowledge

1. Introduction

Natural conservation has long been one of the most essential responsibilities of governments, involving multiple Sustainable Development Goals (SDGs), such as Climate Action, Life on Land, and Reduced Inequalities. Conservation efforts sometimes cause conflicts between state-led conservation policies and indigenous ecological knowledge. Government conservation policies often rely on scientific data and legal regulations to protect animals and natural resources. However, these approaches sometimes will overlook or marginalize indigenous peoples' deep, place-based and empirical understandings of their environments. Indigenous knowledge systems are not merely information of natural facts; they are also made up of complex ontologies and epistemologies, relationships, and moral responsibilities toward nonhuman beings. This epistemological difference creates significant 'friction' when universal conservation models are forced on local communities with a top-down approach.

This study looks at how conflicts arise when state-led conservation initiatives collide with indigenous worldviews, focusing on case studies from India and the Canadian Arctic [1,2]. It contends that state conservation frameworks tend to reduce animals and landscapes as objects like resources or risks, whereas indigenous perspectives view these animals and landscapes as moral and

political subjects with whom humans interact reciprocally. In order to understand these conflicts, it requires conservationists moving beyond identifying animal attacks or environmental crises as isolated ecological events, but also recognizing them as sites of epistemological and political contestation.

This study conducts library research, case analysis, comparative analysis and draws on Secondary data Nayanika Mathur's ethnography in Uttarkashi, India and Zoe Todd's fieldwork among Inuvialuit communities in northern Canada to examine how indigenous ontologies conflict with state-driven conservation and classification systems [1,2]. This study aims to discover the limitations of dominant conservation paradigms and the possibility for a more pluralistic, relational approach that respects indigenous sovereignty and knowledge.

2. Literature review

Indigenous knowledge is the way that people in a certain place understand and take care of their environment. State intervention, in contrast, denotes the formal actions taken by national governments—such as conservation laws, resource regulation, or infrastructure projects—to manage or control ecological landscapes.

Anna Tsing's *Friction* is the foundational framework for understanding the entanglement of global conservation projects with local ecological realities [3]. Through her ethnographic work in Kalimantan, Indonesia, Tsing reveals transnational conservation agendas do not unilaterally dominate local geographies but instead must be negotiated with local subjects, from loggers to scientists, activists, and nonhuman interlocutors such as forests and animals [3]. In the context of conservation, indigenous societies are active interlocutors with particular ecological ontologies but not simply passive recipients of conservation.

Zoe Todd criticizes Western theory's tendency to idealize the nonhuman in ways that overlook indigenous peoples' long-established epistemologies of collaboration with animals, with the river, and with fish as kin relations [2]. Rather, she advocates foregrounding indigenous knowledge as knowledge—grounded in the land, driven by responsibility and kinship—rather than symbolic matter for Western theory. This is of especial pertinence in legal and moral responses to the animal as a threat or legal subject in acts of assault in indigenous lands: rather than positioning the animal as a threat or legal subject, the community instead grounds reciprocity, kin-relation, and ethical responsibility to nonhuman life. Todd then expands upon this in her essay "Fish, Kin, and Hope," where she takes up the place of fish in Métis moral and legal orders [4]. Todd writes of the way Métis elders speak of "hearing from the fish" and the praxis regarding fishing resting upon responsibilities of care and respect [4]. These methods complicate Western rationalities of conservation and reduction of animals to quantity or legal subjects. indigenous ontologies place animals as co-vitalities of collective survival and the degradation of the environment as relational breakdown and so forth, rather than ecocatastrophe.

These normative implications are more comprehensively elaborated in international legal instruments such as the United Nations Declaration on the Rights of indigenous Peoples (UNDRIP) and ILO Convention No. 169 [5,6]. Both of these texts acknowledge indigenous peoples' rights to maintain and develop their cultural traditions, which include spiritual relationships with the land and nonhuman species. Article 25 of the UNDRIP [5] explicitly recognizes "Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard." These legislative instruments demonstrate that conservation policy is inextricably linked to indigenous sovereignty, cosmology,

and kinship relations, rather than just the environment. State actors imposing wildlife policy unilaterally not only risk local livelihoods but also violate these internationally enshrined frameworks of indigenous self-determination.

Admittedly, international instruments such as the UNDRIP lay down the foundation for indigenous sovereignty, such as spiritual and territorial rights [5]. However, the implementation of these rights often depends on terms such as Free, Prior, and Informed Consent (FPIC). FPIC is designed to empower the indigenous people with the ability to accept or reject conservation or development projects affecting their land. However, as Schilling-Vacaflor and Flemmer argue, FPIC is frequently simplified to a procedural checkbox rather than a substantive tool of self-determination [7]. These procedural failures have shown how FPIC fails to capture indigenous epistemologies of land. Thus, FPIC becomes a site where liberal legalism faces ontological disparity, further pointing out the tensions between universal governance models and local moral worlds.

Collectively, these texts create a theoretical space where animal attacks are more than ecological accidents but are sites of conflict between ontologies: one recognizing animal as moral kin and the other reducing them to legal subjects or ecological threats. Paying attention to this conflict of ontologies is key to building ethics and expansive responses for multispecies living.

3. Case analysis

3.1. Leopard attacks and indigenous ontologies

In Nayanika Mathur's *Crooked cats: Beastly Encounters in the Anthropocene*, Mathur was interested in the ontological and political struggles within the scenario of big cat attacks in India and signaled the state-led conservation policies that have a tendency to collide with indigenous and local human-animal relations ideas. Mathur argues that the animals are not biologically abnormal but are pushed into close proximity with humans due to ecological upsets such as deforestation and capitalism-facilitated urban expansion [1].

These tensions are not merely administrative directive but ontological. Leopards are not just killers but ritual beings with inbuilt roles in the people's cosmological order for many aboriginal communities. Locals also think that leopards are guardians in certain situations yet elsewhere see them as omens of the moral transgressions of humans. Such beliefs give a sharp contrast to the technocratic reason of state action that characterizes leopards as risk management and population management. Mathur's ethnography demonstrates how such differing frameworks lead to discontinuities in conservation policy. The state resettles a 'troublesome' leopard, and the leopard returns or there is violence in new locations and blame and fear ensue [1]. Mathur's application of multispecies ethnography similarly refers to the limits of human-dominated rule. Though she mostly addresses human interlocutors—officials, villagers, scientists—she also identifies the difficulty of attempting to represent animal agency.

Above all, Mathur argues that the integration of indigenous ecological knowledge into conservation programs is not a mere token gesture but a necessity [1].

In total, the Indian 'crooked cats' case recognizes deep fissures between indigenous worldviews and state paradigms of conservation. Rather than remediating ecological crises, state practice reproduces them by violating relational ontologies that organize human-animal relations on the ground. Mathur's work calls into question conservation to be remade—no longer as a top-down universal strategy, but as an Open Spaces-style conversation in which multiple forms of knowledge, including indigenous spiritual knowledge, must be taken with seriousness [1].

Mathur's ethnography reveals how conservation paradigms that are top-down have a tendency to break down when applied in contexts shaped by alternative ontological and moral sensibilities [1]. This is revealed through Anna Tsing's concept of "friction" that describes the lopsided and often antagonistic relations between global systems—conservation bureaucracy, environmental science, and legal regimes—on the one hand, and local lifeworlds on the other [3]. For Mathur, the state's approach to leopards depends on risk categorization and population management theory. This theory argues that nonhuman animals can be managed by bureaucratic control and legal distinctions [1]. This approach fails in society where the leopard is not just considered a threat to humanity, but a being that is intricately involved in spiritual, moral, and familial forms of relationship. The conflict between these two ontologies is responsible for much of the pragmatic failure of wildlife regulation.

Zoe Todd follows through on this critique by indicating that indigenous ontologies are not scientific symbolic opposites but rather situated, grounded systems of knowing and being accountable. In her research, she demonstrates how indigenous peoples have long been living in ethical relations with nonhuman beings, such as animals and rivers, through kinship, reciprocity, and land responsibilities. Todd suggests that these worldviews are customarily framed by Western theorists in the rhetoric of the "ontological turn," but ignores their political basis in indigenous sovereignty and self-determination [2]. In Mathur's findings, this critique stands out. State actors dismiss local knowledge systems not necessarily because they are inecological, but because they are expressed in spiritual or relational language. This epistemic hierarchy is a cause of policy failure and deepens the marginalization of indigenous voices [1].

In both Tsing and Todd's frameworks, we see that the issue at hand is not simply miscommunication but a case of deeper disagreement about what constitutes knowledge, responsibility, and life [2,3]. The "crooked cat" also means that animals are not only ecological actors, but moral and political subjects in indigenous cosmologies. When the state enacts a single monolithic regime of classification and control, it represses these other ontologies and discards the potential for more just and efficient conservation.

3.2. Inuit Qaujimaqatugangit and fisheries governance in Northern Canada

In the North of Canada, Inuit traditionally have depended on seasonal patterns and deep ecological knowledge to inform subsistence, for example, seal and fish harvesting. This knowledge system—Inuit Qaujimaqatugangit (IQ)—is a general philosophy including ethics, values, and practices based on hundreds of years of observation and experience [8, 9]. Yet, environmental governance regimes instituted by the Canadian state, primarily through institutions such as the Department of Fisheries and Oceans (DFO), have caused epistemological dispute by instituting quotas and seasonal closures founded upon scientific models that do not consider local realities.

Inuit subsistence hunters typically lament that government-regulated fishing seasons fail to coincide with real migration patterns, and these are now changing because of climate change. Nunavut community elders, for instance, have noted the alterations in fish migrations and ice safety conditions earlier than before, but quotas continue to be based on out-of-date biological surveys [9]. As such, hunters who act on indigenous knowledge are sometimes fined or criminalized, despite their actions being more aligned with current environmental conditions than state regulations are. This conflict reveals the friction between indigenous ontologies and state governance [3].

Confronted with such conflict, Inuit societies have come up with adaptive strategies. Zoe Todd critiques this kind of knowledge hierarchy, arguing that privileging Western science over indigenous knowledge is an act of colonialism and overlooks the ethical and relational foundations of indigenous environmental stewardship [2].

Theoretically, the contentious encounters among IQ, climate science, and bureaucratic governance constitute an uneven assemblage, in which knowledge, power, and environmental signals meet unevenly. Rather than coordinated smoothness, the assemblage generates friction, wherein indigenous actors have to navigate nested responsibilities—ethical, ecological, and political—without institutional acknowledgment of their epistemic sovereignty [3].

4. Comparative analysis

Table 1. Comparison of 2 cases on indigenous knowledge and state intervention in conservation

Dimensions	Case 1	Case 2
Knowledge System	Integrated ecological and spiritual/religious knowledge	Experience-based environmental knowledge combined with ethics and responsibilities
Animal Role Perception	Leopard seen as a spiritual being with moral and symbolic significance	Animals (fish, marine mammals) regarded as kin with relational life status
State Conservation Logic	Focus on legal regulation and risk management, ignoring animal's spiritual/social status	Reliance on scientific data and biological metrics, implementing quota and standardized regulations
State-Local Relations	Strong state intervention with little recognition of local knowledge and practices	Co-management exists but scientific knowledge dominance and institutional barriers remain
Local Community Response	Maintains human-animal relations through traditional rituals and governance, circumventing state policies	Seeks institutional recognition by translating local knowledge into scientific terms but faces simplification and marginalization
Conservation Outcomes	State policies cause leopard migration and increased conflicts, limited conservation success	Institutional contradictions lead to inflexible resource management, impacting ecological sustainability
Source of Conflict	Ontological difference: state views animal as risk, locals see it as spiritual partner	Power asymmetry and legitimacy issues between scientific and local knowledge

According to Table 1, through a comparison of regional variation in ecological knowledge forms, state intervention patterns, and local response, it becomes clear that indigenous ecological knowledge in India connects deeply to their religion with leopards and forests, in which these non-human actors fulfill an ethical function in human–nature relations. It cannot be confined to scientific or legal categories alone. In contrast, Inuit environmental knowledge in the Canadian North combines close empirical observation with an ethical system of kinship with landscape and animals [1,10].

State interventions in both instances have a similar logic that favors scientific knowledge and centralized management, and this tends to displace local knowledge systems [11,12]. Indian legal frameworks for wildlife conservation prioritize formal legal categorization that has a tendency to ignore indigenous spiritual values and epistemic authority [1].

In Canada, in spite of the existence of co-management institutions, scientific data like quotas and seasonal closures still dictate conservation policy, at times in conflict with Inuit knowledge and detracting from legitimacy of governance [10].

Local communities react differently but all show tensions regarding knowledge and authority. Indian villagers adhere to traditional spiritual practices and use informal means when government policies do not account for their knowledge and interests [1]. Inuit communities routinely translate ecological knowledge into scientific language to interact with policy processes, which eases

communication but risks simplifying elaborate ethical worldviews into reductionist language [10]. The examples above show the difficulty for the reconciliation between scientific universalism and knowledge pluralism.

Forest and leopard ethical standpoints in India, and land and animal standpoints in Inuit epistemology, represent different ways of knowing human–environment relations than state discourses of wildlife as resources or threats [1,10]. This epistemological diversity is valuable to note in order to make conservation policies that are both effective and just [13].

5. Suggestion

The state's homogenous conservation agenda is an epistemic violence in which scientific knowledge is posed as superior and objective and indigenous knowledge as primitive or symbolic [11]. Such a hierarchy of knowledge maintains colonial legacies and subverts indigenous sovereignty. Indigenous knowledge, nevertheless, is not merely a form of resistance but actively reshapes institutional forms, policy priorities, and environmental discourse [8].

Conservation policy must therefore avoid ethnocentrism and colonial tropes and instead seek decolonized governance approaches that negotiate and value plural knowledge systems [8]. For example, in Canada's West Coast marine protected areas, Smith et al. document how legally binding co-management agreements grant indigenous communities equal decision-making power in resource management [14]. This involves shared monitoring programs wherein indigenous traditional ecological knowledge (TEK) informs the identification of important habitats, and scientific processes follow the trends of biodiversity of the species. This form of practical inclusion has led to a measurable biodiversity increase of fish and improved economic benefit and cultural revitalization of the indigenous society.

Recent scholarship emphasizes co-produced conservation frameworks, where indigenous governance and ecological science are treated as equally authoritative systems of environmental management [11,15,16]. Slough et al. demonstrate in the Amazon how integrating indigenous knowledge with satellite remote sensing technology enabled real-time monitoring of deforestation activities, resulting in rapid community responses to illegal logging and enhanced biodiversity protection [17].

Decolonial governance implies specific institutional conversions. Smallwood, for example, assess the most recent Convention on Biological Diversity (CBD) and United Nations Environment Programme meetings, demonstrating how official validation of the transfer systems of the indigenous law of governance transfers powers to the grassroots level, achieving ecological justice [18]. Smith et al. examine the integration efforts within Australian land management policies. They underscore the critical importance of transparent and equitable negotiation processes to ensure fair and effective negotiation and consent mechanisms for Indigenous people [19].

Smith et al. suggest the integration of Indigenous cultural burning management practices and state-led policy in Australia, emphasizing that their revival and incorporation require interpersonal effort and intercultural collaboration, and noting that this contributes to enhancing conservation efficiency. These Indigenous practices strategically use small-scale and low-intensity fires to create finely mosaiced landscapes, which effectively reduces fuel buildup with less ecological impact, thereby reducing the danger of wildfires. Environmental destruction was avoided, and Indigenous culture was honored, which provide an possible way for different systems of knowledge work synergistically [19].

McFarlane et al. demonstrate in New Zealand the affirmative effectiveness of the implementation of Māori cultural rights under conservation law both in ecosystem recovery and in social justice

[20]. Their research highlights the crucial role of 'restoration collectives' as a mechanism for scaling ecosystem restoration. These collectives are second-order organizations that bring together diverse actors, notably including local environmental groups, regional councils, national government agencies, and significantly, Indigenous entities such as tribes. These collectives achieve this by increasing connections, communication, and collaborative governance activities. This improves the efficiency and sustainability of community-based initiatives. Consequently, the spatial and social-ecological scope of restoration efforts expands. Their narrative reveals the significance of the rule of law. This law officially embeds indigenous sovereignty and cultural requirements and also encourages regimes of co-management that treat territorial values.

Institutional transformation must hence acknowledge indigenous moral responsibility and authority over the land and non-human relations. Decolonization of the government permits knowledge' fluidities so that the science knowledges and the indigenous knowledges may coexist and commonly share without hierarchies of differentiation [8,11]. Increased inclusion, beyond that, respects indigenous authority and permits cultural continuities and permits more sustainable, successful, and equitable conservation outcomes [12].

6. Conclusion

Using case studies from the Indian and Canadian Arctic, this study has compared state-led conservation policies with indigenous environmental principles. The study foregrounds the ontological difference at the center of the disputes, where state regimes seek to control nature as a good or threat to contain and manage, while indigenous people accord moral and political agency to non-humans and prioritize relations of reciprocity with the natural world. The study suggests that the effort to try to understand and accept these multiple environmental ethics is the basis upon which for department of conservation to achieve more equitable and successful approaches to environmental governance.

However, this study may have several limitations. rather than using original data, it relies on the ethnographic and legal literature that already exists, which may restrict the validity of the understanding to specific community contexts. Furthermore, concentrating on only two regions limits how broadly the results may be applied. In addition, there isn't much research on how internal factors—such as budget constraints, departmental rivalries, political ideologies, or shifting administrative leadership—affect state conservation policies, thus there is still potential for further detailed study.

Future research should focus more on diverse indigenous communities and do rigorous fieldwork in order to better describe and analyze conservation conflict. In addition, we need to inquire into the power and decision making of state conservation bureaucracies that reveal their entanglements with indigenous knowledge systems in multifaceted ways. Ultimately, interdisciplinarity among anthropology, law, and ecology will enable us to create more equitable conservation models that balance environmental protection and justice better.

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