

RESEARCH ARTICLE

Examining Human–Nature Relationships Through the Lens of Reciprocity: Insights from Indigenous and Local Knowledge

Indigenous knowledge-bridging to support ecological stewardship in Canada and Tanzania

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Funding information

Social Sciences and Humanities Research Council

Handling Editor: Natalie Ban

Abstract

1. Indigenous peoples worldwide assert their cultural and political governance through ecological stewardship and traditional land use. With the rapid degradation of ecosystems globally, there is a growing need to strengthen the role of Indigenous knowledge systems and values in environmental stewardship. One promising yet understudied way to meet this need is through knowledge-bridging.
2. We explore how international knowledge-bridging fosters solidarity in the ongoing struggle for Indigenous self-determination and resource rights. Drawing from exchanges between Maasai communities in Tanzania and First Nations in British Columbia and the Yukon, we examine how Indigenous groups assert their roles as environmental stewards through distinct governance systems. Despite Indigenous communities being embedded in vastly different histories and political contexts, our research highlights shared concerns about climate change and other stressors, underscoring the urgency of knowledge-bridging and strengthened connections.
3. Bridging Indigenous knowledge systems in environmental stewardship diversified ecological governance perspectives by fostering mutual support and learning. Our work highlights the ecological relevance of upholding cultural teachings that promote sustainability through arts-based methods and participatory videography for contextually relevant storytelling. Participatory video proved to be an accessible and powerful tool for cross-cultural knowledge exchange. Follow-up interviews affirmed the impact of this method, revealing how Indigenous participants felt empowered and motivated to support co-learning in the context of growing pressure on nature and its resources.

KEYWORDS

cross-cultural exchange, environmental governance, indigenous environmental stewardship, indigenous solidarity, knowledge-bridging, land and water governance, reciprocal relations

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1 | INTRODUCTION

Indigenous peoples globally are evoking their resource governance practices to assert cultural integrity and self-determination on traditional lands, despite increasing challenges presented by climate change, geo-political threats and ongoing colonial violence. Place-based governance and cultural prosperity are threatened wherever Indigenous land and resource access is interrupted (McDonnell & Regenvanu, 2022). Assertion of environmental stewardship has been shown to be an influential tool for establishing and protecting land tenure and rights in diverse contexts (Milgin et al., 2020; Turner et al., 2022). Insights provided through knowledge-bridging—shared learning experiences that occur at the interface of knowledge systems, while recognizing and upholding the respective integrity of those systems—can help enhance and reshape capacities for environmental management (Rathwell et al., 2015; UNESCO, 2020). Cross-cultural partnerships between Indigenous communities present a distinct avenue for experience sharing, particularly around documenting mechanisms of natural resource management, pathways of knowledge mobilization and upholding cultural integrity (Von der Porten et al., 2019).

This article examines how cross-cultural knowledge-bridging exchanges between Indigenous communities in Canada and Tanzania foster solidarity and strengthen approaches to land stewardship. We describe the experiences from two cultural tours in 2019 and 2022 between representatives of T'Souke and Tla-o-qui-aht (Nuu-chah-nulth, ʔaʔuukʷiʔath) First Nations (FN) in British Columbia, Canada and the Selkirk, Kwanlen Dun and Carcross/Tagish FN in the Yukon, Canada and Loita and Parakuiyo Maasai from Enguserosambu village, Ngorongoro District and Elerai village, Kilindi District in Tanzania.¹ Our approach also emphasizes the capacity of community-based participatory research (CBPR) to support and convey the outcomes of intercultural knowledge-bridging related to land and water stewardship. Through this collaborative approach, we identified three core objectives for our exchanges: (1) build capacity for maintaining cultural integrity, (2) develop land-use strategies that bridge Indigenous and administrative systems and (3) establish lasting relationships between communities. We employed participatory video (PV), an arts-based methodology that is considered more accessible to non-academic community research partners, to better understand and document the knowledge exchange between FN and Maasai communities about protecting traditional territories and lifeways.

Previous research demonstrates the value of Indigenous knowledge exchange in environmental governance. Examples such as the partnership between Nuu-chah-nulth Elders and academics demonstrate how cross-framework knowledge sharing strengthens rights assertion and resource management in the Pacific Northwest

(Atleo, 2004, 2011; Coté, 2019). While Indigenous-led research helps bridge gaps between Indigenous and non-Indigenous environmental management approaches (Milne, 2022), there is a gap in knowledge of the value of exchanges between Indigenous communities, especially for those who are geographically very distant. While Indigenous cross-cultural exchanges occur globally, their impacts on participating communities remain under-documented. Our research addresses this gap by examining how exchanges between FN in Canada and Maasai communities in Tanzania advance sovereignty and sustainable resource management goals.

1.1 | Indigenous ways of knowing and reciprocal relationality

Indigenous ways of knowing embody holistic worldviews where cultural identities are inseparable from lands and waters. These knowledge systems emphasize reciprocity—framing human–non-human being relationships through mutual guardianship, balance, respect and responsibility, which underpin values and practices (Fletcher et al., 2021)—often expressed through Indigenous languages. For instance, concepts such as 'Kaitiakitanga' (Māori, New Zealand), 'miyupimaatislin' (Cree, Canada), 'Hishuk'ish T'sawalk' (Nuu-chah-nulth, Canada), 'X'aan áwéi wé x'wáan' (Tagish, Canada), 'enaboisho' and 'oleng'urrua' (Maa, Tanzania), while nuanced, all embody overarching principles of environmental guardianship and interconnectedness (Aboukakrine et al. 2025).

For the communities in this research partnership, these principles manifest in distinct but parallel ways. The Nuu-chah-nulth worldview of Hishuk'ish T'sawalk means 'everything is one' (Coté et al., 2019), while Carcross/Tagish FN Elders speak of the connection between 'how we walk [and] how we talk' to express linguistic-cultural-nature relationships. Similarly, the Maasai concept of 'oleng'urrua' describes the idea of living a good, fulfilling life in unity with oneself, one's community and the natural world. Such concepts of human–environment reciprocity form the theoretical foundation of our knowledge-bridging work.

Through *reciprocal relationships*—encompassing people, communities and ecosystems—traditional lands sustain ceremonies, place names, migration, healing, livelihoods and knowledge systems. These dynamic relationships create positive feedback loops benefiting both human and natural systems (Díaz et al. 2018; Ojeda et al., 2022). Reciprocity guides Indigenous land-use practices embedded within ecosystem dynamics, vital for maintaining resilient, biodiverse landscapes (Bliege-Bird & Nimmo, 2018; Schuster et al., 2019). Our work examines how stewardship enhances ecosystems and societal well-being, while considering strategies to strengthen Indigenous land and water governance. We recognize the importance of context—including worldviews, colonial legacies, political backdrops and environmental factors—in understanding diverse Indigenous ways of knowing. Drawing examples from specific communities, we illustrate how biocultural connections persist through place-based practices.

¹Tanzanian partners include two organizations collectively representing several Maasai groups and working in solidarity as part of the larger program in different capacities. Ereto Maasai Youth (EMAYO) is a youth and social development organization in Tanzania, and The Enguserosambu Forest Trust (EFT), a community forest management authority established to manage resources within community forest lands in four villages: Ng'arwa, Orkiu, Naan and Enguserosambu.

Despite colonization's disruptive impacts, First Nations (FN) have persistently upheld their cultural traditions, knowledge systems and place-based practices for environmental stewardship across North America. Through their ancestral knowledge, Carcross/Tagish FN (C/TFN) navigate contemporary challenges while honouring their cultural heritage and fulfilling their responsibilities as stewards of their traditional territories. Traditional principles of the Carcross/Tagish, as well as other FN in Canada, emphasize the need to give back after taking. Adherence to traditional laws fosters congruence among the community, non-human beings, land and water through reciprocity. Giving back involves offering prayers, ceremonies, guardianship and sharing knowledge. For example, in 2017 C/TFN, Kwanlin Dün FN, and Ta'an Kwäch'än Council formulated an Indigenous Land and Water Relationship Plan with the objective of forming a unified vision for the land 'rooted in Indigenous story, law, knowledge and affirmed by western science'. Their Elders named the initiative Aat á x yaa has na.át. aáni ka heen (Tlingit) or Nän ye chu ye ts'äd-näl (Southern Tutchone), meaning How We Walk with the Land and Water (<https://www.howwewalk.org/>). This initiative reflects broader efforts by First Nations in Canada to protect their land rights and maintain relational worldviews in the face of ongoing external pressures and environmental threats.

The Maasai, nomadic pastoralists of Eastern Africa, possess a worldview shaped by distinctive cultural heritage, history and environment, which in turn informs their approach to land and water management. Central to their identity is a livestock-centric lifestyle, where cattle and goats hold practical and spiritual significance as gifts from Enkai. Their semi-nomadic lifestyle involves continually accessing pasture and water to nurture their herds, which provide essential food security. Societally, the Maasai are governed by the *Olpopor* age-set system, which dictates social organization, leadership and community responsibilities, fostering collective decision-making. Young men undergo rites of passage as morans, cultivating traits of strength and courage, before becoming senior elders and tribal decision-makers. Young women, taught in caretaking and community responsibilities, evolve into cornerstone family figures and respected educators and mentors. Elders, revered as reservoirs of wisdom and resource guardians, regulate access to water and grazing lands, ensuring equitable use and long-term rangeland sustainability. Maasai cosmology thereby embeds a multigenerational, place-based framework that reinforces reverence for the interconnectedness of land, water, wildlife and livestock, solidifying their role as stewards of rangeland ecosystems.

The Maasai maintain a congruent relationship with their environment, contributing to their enduring cultural identity in East Africa and pivotal role in conserving their homelands. For instance, like First Nations in Canada (White et al., 2011), Maasai cultural burning is integral for maintaining ecosystem structure and function in the Greater Serengeti and Tarangire-Manyara regions, preventing woody shrub encroachment into meadows and enhancing diverse, high-quality forage for cattle and wild ungulates. Combined

with elephant presence and pastoralist land management (e.g. successional/seasonal grazing), this fosters savanna and woodland-shrubland growth, highlighting fire and grazing as key conservation tools in East African ecosystems (Melubo, 2020; Nelson, 2012). However, the imposition of park systems (Baker et al., 2021) and conservation policies has often marginalized the Maasai, displacing them from ancestral lands and restricting pastoralist practices (Goldman, 2011), leading to adverse impacts on both landscapes and livelihoods.

1.2 | Interconnectedness of Indigenous governance and land rights assertion

The similar histories of colonial legacies and ongoing dispossession justify the value of intercultural knowledge-bridging. Indigenous groups, including the Maasai in Tanzania and FN in Canada, are working to protect their natural environment while seeking to assert their full agency in political, social and economic decision-making. They do so under increasing pressures from environmental degradation and land privatization that undermine or disrupt continuity in their knowledge systems, ethical principles and custodial relationships with the environment (Adger, 2000). Interrupted land association systems in Canada and Tanzania endanger food security (Coté, 2022; Poirier & Neufeld, 2023) and threaten to erode community climate change resilience, wherein altered landscapes and biodiversity losses can compound threats to Indigenous systems of food and medicine (Kiffner et al., 2022; Turner et al., 2013). For instance, state-operated parks and protected areas often displace local communities, disrupting traditional stewardship practices and well-being (Baker et al., 2021). This is particularly acute for Maasai communities across Tanzania (McCrummen, 2024), who face ongoing land displacement and sub-Saharan Africa's disproportionate climate impacts, including faster temperature rise, extreme drought and water scarcity. The capacity to enact environmental stewardship is reliant on socio-ecological contexts encompassing social, cultural, financial, infrastructural, educational and institutional capital, which interact to produce social and environmental outcomes (Bennett et al., 2018).

Indigenous agency over traditional lands and natural resources has been linked to deeper engagement in environmental stewardship activities that, in many cases, advance biodiversity conservation objectives while maintaining cultural landscapes and livelihoods (Baird & Dearden, 2003; Bray & Velazquez, 2009; COP15, 2022). Consequently, while Indigenous peoples collectively make up around 5% of the global population, they are protecting 80% of the world's remaining biodiversity (Fleck, 2022). Ecological stewardship, such as through the Tla-o-qui-aht Tribal Park case study, offers an avenue through which Indigenous peoples assert land and water resource governance (Murray & King, 2012). Both the Intergovernmental Panel on Change (IPCC) and the Convention on Biological Diversity (CBD, 2018) now recognize Indigenous knowledge systems as central to biodiversity

conservation and climate justice (Reed et al., 2022). However, many state actors still do not fully recognize Indigenous knowledge systems and rights, particularly in Tanzania, where Indigenous rights lack formal recognition and in Canada where treaties are not always honoured (Downie, 2016; Selemani, 2020). Our work therefore emphasizes the importance of strengthening Indigenous capacity for environmental governance through knowledge-bridging and solidarity.

2 | METHODS AND STUDY CONTEXT

The project emerged from long-term relationships between partner organizations Kesho Trust, the University of Victoria (UVic), the Enguserosambu Forest Trust (EFT) in Tanzania and several Indigenous communities in Canada and Tanzania (Supporting Information S1). The cultural tours described here were part of a multi-year study program to strengthen Indigenous relations and cultural connections globally. Our insights draw from a 2019 cultural tour with Loita Maasai members visiting British Columbia (BC) and the Yukon, Canada, and a 2022 tour in Tanzania with

C/TFN members and the research team from UVic (Figure 1; Supporting Information S2). The 2019 tour included 2 weeks of activities that enabled dialogue, presentations and the reciprocal exchange of culture and ceremonies between Maasai and First Nation members. Maasai representatives engaged in on-the-land learning, field excursions and traditional activities including canoe carving, cedar bark harvesting (Figure 2a), stories, songs, drumming, dancing and feasting traditional foods, while sharing elements of their own culture. The 2022 Tanzania study tour included members from Carcross/Tagish First Nation, the University of Victoria and several Maasai communities and pastoral-based organizations (Figure 2b). A similar process was facilitated during the two-week tour, incorporating video storytelling of cultural activities, discussions with communities and government officials and project team reflections on cross-cultural knowledge-bridging.

We positioned these exchanges within an 'ethical space' framework—a structure for respectful engagement that maintains the integrity of distinct knowledge systems (Ermine, 2007). In implementation, this involves relationship-building through discussion and reflection, underpinned by trust and respect, to enable mutual



FIGURE 1 (a) C/TFN welcomed members of the EFT in Carcross, Yukon, Canada in 2019; (b) Enguserosambu and Elerai village leaders with members of C/TFN in Tanzania in 2022.



FIGURE 2 (a) Maasai representatives (left) and Nuu-chah-nulth artist from the Tla-o-qui-aht Nation (far right), during a visit to learn about cedar bark harvesting practices in 2019; (b) Maasai elders (centre) in Elerai, Tanzania sharing traditional knowledge with C/TFN representative (far right) through a young community interpreter (far left).

learning and reshaped approaches to community empowerment (Nikolakis & Hotte, 2022).

2.1 | Research team and community partners

Our team brings together researchers and community leaders of both Indigenous and settler backgrounds. Two authors are Indigenous leaders: Sean McDougall (C/TFN) and Emmanuel Ole Kileli (Loita Maasai), both with extensive experience in cultural heritage, community development and environmental conservation. Other team members are non-Indigenous community-engaged scholars specializing in participatory research, cultural land-use mapping and environmental stewardship with Indigenous communities. This collaboration integrated diverse perspectives while ensuring Indigenous leadership remained central throughout the research process.

2.2 | Research design, data collection and analysis

In 2019, three representatives from the EFT were elected to represent their organization for the cultural exchange in Canada. Over 2 weeks—EFT representatives (Samwel Nangiria, Mark Talash, and Nalaimuta Makeseni) joined by Phil Dearden (UVic), Crystal Tremblay (UVic) and Bruce Downie (Kesho Trust) on the tour—the group visited T'Sou-ke and Tla-o-qui-aht FN on Vancouver Island before travelling north to the Yukon to meet with Selkirk, Kwanlin Dün and Carcross/Tagish FN. Maasai delegates also presented on their culture and traditional territory management at public forums at UVic and in Whitehorse. EFT delegates and C/TFN members formed strong connections during the visit, leading to further cultural exchanges to address community-identified research needs in Tanzania. Those research activities occurred between 2021 and 2022 on several thematic areas including climate adaptation, migration, economic development and cultural land-use mapping. C/TFN

selected five members for the 2022 cultural tour in Tanzania, including youth and senior leaders from heritage and land stewardship departments.

We used multiple methods to document and analyse these exchanges. We found the use of participatory research methodologies, including participatory video, a particularly effective tool for knowledge transfer, leadership development and community mobilization (Tremblay & Harris, 2018; 2022). Video storytelling in particular enables communities to consolidate and convey their experiences through a non-hierarchical platform valuing self-representation and lived experience connected to place (Kindon et al., 2007; Tremblay, 2013).

Participatory video served as an inclusive methodological tool during both tours, capturing key learnings, stewardship practices and cultural connections. In 2019, we recorded over 50 h of video footage documenting cultural activities, discussions and interviews with the research team (Supporting Information S3). Our research team actively participated in all aspects of video production: conducting interviews, documenting significant sites and stories, and editing footage. Team members facilitated a digital storytelling workshop to guide the process both in 2019 and again in 2022 so that members felt confident using the equipment and story development process. In fall 2021, we released the short film 'Indigenous Connection',² which explores these shared interests and concerns from the 2019 tour. Building on this approach, we documented the cultural exchange in 2022 and produced a second film in 2023 titled 'Indigenous knowledge bridging of land and water stewardship'.³ Our team curated the stories and interviews for both final videos, which subsequently shaped the thematic analysis, narrative and key findings of this article. The films were produced using both English and Maa subtitles to ensure accessibility to communities in Tanzania and Canada.

²<https://vimeo.com/574178801>; <http://www.thekeshotruster.org/pr/ikg/>.

³<https://vimeo.com/806858317>.

Our work examines how Indigenous intercultural exchanges can serve goals of reinforcing existing reciprocal human–environment relational structures, strengthening resource governance systems, and supporting Indigenous cultural identities through fostering pathways toward improved cultural and land rights assertions. Drawing insights from both tours, we reflect on participant narratives from the PV process to capture community perspectives and follow-up interviews—conducted with Maasai and Carcross/Tagish First Nation community leaders following the 2022 tour to explore short- and long-term impacts—to allow for retrospective reflections. Quotations represent data collected from both interviews and videos. This research project received approval from the University of Victoria Human Research Ethics Board (application number #21-0345).

3 | RESULTS

Our thematic analysis from the two participatory videos and interviews revealed several key findings as an outcome of the cultural exchanges related to Indigenous solidarity and empowerment; human–environment relationality and environmental stewardship; and cultural integrity and land rights assertions.

3.1 | Indigenous solidarity and empowerment

The exchanges revealed strong connections through recognition of shared challenges and approaches to land stewardship. As one Maasai leader observed during the 2019 tour, ‘Indigenous communities all over the world are in the same struggle to secure our lands and retain our culture’. These connections deepened through shared ceremonies, healing practices, commonality in land and water relationships, similar Elder roles in knowledge transmission, recognition of parallel colonial impacts and shared experiences in defending traditional territories. A Maasai woman leader, in a post-2019 tour follow-up interview, demonstrated the lasting impact of these connections by explaining how the experience strengthened her role in the EFT:

At the community level, the trip fostered my Enguserosambu Forest Trust role over traditional forest management. The trip has made our community understand that there are other Indigenous communities [with] whom we share commonalities and [that we] have the capacity to manage our own affairs...For me, solidarity is key and will enable us to create a big space for influencing narratives, policies, legal frameworks, and recognition of Indigenous stewardship. I myself, and my community are looking forward to furthering collaboration and partnership with other Indigenous [peoples] and FN in Canada.

This reflection illustrates how intercultural exchanges—through shared experiences and mutual support—can exemplify important first-hand channels of Indigenous-led land stewardship elsewhere, which can further strengthen solidarity around resource governance:

The success we have achieved as Indigenous people in Canada on land rights and social and cultural issues did not come overnight. It was a long-time process that involved lobbying and advocacy by a united community of Indigenous peoples, with a cost of life and resources. As the Maasai of Tanzania, you should not give up but rather stand up for your rights and way of life because the future remains bright.

—C/TFN leader

Self-reflection relates how individuals perceive their place in the world. It is dynamic, evolving through new experiences, ideas and circumstances, which can shift perspectives and accordingly alter beliefs, values, opinions and interactions (Tremblay & Harris, 2018). We found evidence that, through solidarity elements, the exchanges helped catalyse important shifts in how participants viewed their respective community roles. Two years following the 2019 cultural tour in Canada, one Maasai leader shared her perspective as a woman, saying ‘[t]he trip has enhanced my family cohesion ... [and] ignited the importance of our mother tongue at my personal level and I will ensure that my kids are fluent. ... [It] increased my confidence and courage as a woman to mobilize for women[s] participation in decision making, and governance processes’. These sentiments reveal that feelings of agency can translate into acts of leadership and community advocacy or mobilization on issues of importance. It further underscores the role of secure land tenure and community support in empowering women and enhancing their participation in decision-making at the community-level (Baird et al., 2024).

Female representatives of C/TFN likewise shared struggles around destruction and lost access to vital land and water resources. For both Maasai and Indigenous Canadian women, giving expression to familiarity in these shared challenges brought about recognition of their unique roles and perspectives in climate advocacy and resource governance. Observing another culture’s societal structure prompted reflections one’s own place within society that appeared to shift perspectives towards renewed cultural connectivity, thereby reinforcing cultural identity and sparking interest in language revitalization, which could also serve environmental knowledge regeneration.

Within communities, reflections by C/TFN youth highlight intergenerational solidarity as a key outcome. Developing youth leadership requires strong family and community networks (Hausknecht et al., 2021). Indigenous elders strengthen cohesion by transmitting knowledge, values and traditions, fostering reciprocity (Viscogliosi et al., 2020). Video and storytelling engaged multiple generations, deepening youth self-reflection and community belonging. One C/TFN youth described how witnessing

Maasai intergenerational bonds brought 'extreme meaning, belonging, and purpose', influencing their work at home. These findings align with research linking youth-elder engagement to increased self-worth and cultural competencies (Nystad et al., 2014; Reo et al. 2017; Wexler, 2014). Youth co-researchers developed facilitation, communication and research skills, using video and photovoice to express enthusiasm for multigenerational well-being and strengthen leadership capacity.

3.2 | Human–environment relationality and environmental stewardship

Voicing the link between ecosystem preservation and Maasai and FN' social, cultural and economic well-being reinforced their identities as land caretakers. A Selkirk First Nation representative spoke on foundations of ecological stewardship, saying, 'FN are part of the land, and the land is part of the FN people...we live in harmony in a way that supports one another'. Similarly, a Tla-o-qui-aht First Nation member spoke to guiding principles of traditional territory governance, noting an 'ancient responsibility to ensure the wellbeing of not only our people, but the environment'. Relationality was recognized as integral to Indigenous identities and governance, reinforcing their role as land stewards across generations.

The tours further explored mechanisms for establishing and exerting territorial land rights through such foundational ecological stewardship. Documenting and applying traditional knowledge is crucial for asserting environmental stewardship. The Loita Maasai shared their experience in establishing the EFT to strengthen traditional environmental management and build regional and international partnerships. In exchange, First Nation members offered their expertise in cultural mapping for land claims and oral history preservation.

The knowledge-bridging exchanges generated tangible outcomes. EMAYO, a youth-led organization, works to strengthen pastoral livelihoods through local knowledge initiatives in education, water access, human rights, economic development and resource management, with special attention to youth and women. Through this collaboration, EMAYO's Executive Director reported how the PV project enhanced their research capabilities and created new employment opportunities for community members. The 2019 exchange particularly influenced Maasai land management practices: after learning about First Nations' approaches to cultural and land-use mapping, communities in Enguserosambu Ward launched their own traditional knowledge mapping initiative. They interviewed more than 50 elders and created a comprehensive atlas⁴ that now serves as a vital tool for documenting historical and contemporary land-use practices for local authorities, emphasizing the significance of customary land rights in sustaining cultural practices and enabling ecological stewardship.

⁴https://www.thekeshotrust.org/wp-content/images/EFT_LUO_mapping.pdf.

3.3 | Cultural integrity and land rights assertions

First Nations in Canada and the Maasai share some concerns about Western cultural dominance, as both groups navigate challenges within historical and contemporary colonial contexts. For FN and Maasai, approaches to traditional practices may differ—with varying emphases on maintaining or regaining cultural elements—while both communities often identify self-governance as important to upholding cultural integrity. During our research, a Maasai representative reflected on their observations of Canadian First Nations' experiences:

[Among] what I have learned [is that] FN in Canada, are Indigenous groups who are still struggling to maintain or to recover their culture. I learned that they have negotiated their rights [with] the government of the Yukon and the Government of Canada... and they have final agreements and treaties that govern their arrangements with the government... We have also learned from [Carcross-Tagish Nation] that they have come a long way in struggling to having their land back and recovering their culture.

This statement suggests an appreciation for steps taken by some FN in Canada regarding traditional lands and cultural revitalization within existing systemic colonial structures. While facing ongoing challenges, many First Nations continue to assert their rights to language, culture, titles and self-determination, including through various forms of agreements with the Canadian government. During her Yukon visit, another Maasai representative reflected on community capacity, suggesting that knowledge and potential solutions may often be found within communities themselves, noting '[i]t is possible for communities to organize themselves, to manage their resources and exert their rights without depending on others'. These perspectives point to a theme observed in contemporary Indigenous advocacy: the significant relationship between land and aspects of Indigenous identity and culture.

These shared perspectives on cultural integrity and land rights between First Nations and Maasai participants provide some evidence for how cross-cultural knowledge-bridging exchanges might reveal common challenges and aspirations in Indigenous land stewardship. Through these interactions, participants not only recognized parallel experiences with colonial systems but also identified pathways for strengthening their respective approaches to protecting traditional territories and lifeways. The Maasai representatives' observations of First Nations' experiences and their reflections on community-based resource management demonstrate how these exchanges may contribute to building capacity for maintaining cultural integrity—one of the core objectives of this knowledge-bridging initiative. Their insights particularly highlight how Indigenous communities can learn from each other's strategies for bridging traditional and administrative systems in land governance, while maintaining their distinct cultural approaches to stewardship.

4 | DISCUSSION

Our research highlights the centrality of land and resource relationships to Indigenous identity, particularly through Indigenous-led land and water stewardship initiatives. Knowledge-bridging fosters opportunities for solidarity, mutual learning and knowledge sharing, contributing to ongoing efforts in environmental stewardship and cultural preservation. Despite distinct local challenges, shared experiences in cultural preservation and land rights assertion strengthen support networks (Von der Porten et al., 2019). Indigenous research paradigms prioritize culturally relevant, respectful practices that advance self-determination and resurgence (Hart, 2010). Building on this foundation, these exchanges contribute to renewed engagement in ecological stewardship while validating multiple ways of knowing.

This FN–Maasai partnership gives insight to effective Indigenous-led conservation and governance approaches. The exchanges fostered meaningful connections that transcend geographical and cultural differences. While prior research documents the value of Indigenous knowledge exchange (Aikau & Aikau, 2015; Truong et al., 2018), our study identifies specific mechanisms: shared challenges build solidarity, direct exposure to different governance systems inspires new approaches and practical skill-sharing can drive immediate action. Notably, impacts extended beyond the exchange, with follow-up interviews revealing outcomes such as improved forest management and strengthened women's leadership. We situate our work within broader narratives on Indigenous rights assertion, climate change impacts, gendered experiences and knowledge mobilization—timely and complex issues.

The project's CBPR approach provided a space to discuss respective challenges, barriers and successes in environmental stewardship and cultural integrity, emphasizing community-led research for actionable outcomes that promote agency (Hall et al., 2015). As a platform for critical reflection, participatory methods and visual storytelling illuminated peripheral perspectives, amplifying Indigenous voices and capacity for transformational change that can lead to supporting territorial rights and governance.

4.1 | Indigenous solidarity and empowerment

Solidarity served as both a mechanism and an outcome of the knowledge-bridging experience, fostering long-term relationships and linking Indigenous communities through shared cultural practices and stewardship. The Loita Maasai and Selkirk FN recognized similarities in traditional games, while Maasai rope weaving mirrored that of the Nuu-Chah-Nulth, reinforcing a sense of interconnectedness. Such exchanges validate individual experiences and contribute to broader notions around resurgence, self-determination and sovereignty (Barker, 2015; Von der Porten et al., 2019). Consistent with other Indigenous intercultural exchanges (Aikau & Aikau, 2015; Truong et al., 2018), our study

revealed strengthened identity, cultural focus and mutual learning. Solidarity, both the impetus and the outcome of these exchanges, emphasized the role of place-based practices in maintaining ecological balance and cultural integrity, particularly in the face of land displacements. Uncovering shared struggles deepened respect and strengthened resolve to assert land and water governance rights. Before the exchanges, some Maasai collaborators perceived Canada as free from Indigenous discrimination, but interactions with C/TFN revealed persistent systemic racism, unfulfilled agreements and policy inaction despite settled land claims. Conversely, a C/TFN member was inspired by the Maasai's resilience in defending their culture and land. These exchanges fostered mutual understanding and collective resolve in addressing governance challenges.

4.2 | Human–environment relationality and environmental stewardship

Generations of Indigenous Peoples' interdependence with land, water and wildlife shaped advanced management systems, but colonization disrupted these socio-ecological relationships, causing environmental decline. Despite disruptions, Indigenous ecological knowledge is resurging, reinforcing environmental and cultural resilience and relational systems in contemporary conservation (Atlas et al., 2021). Land-based ethics extend beyond intrinsic moral responsibilities, aiming to protect the natural world for future generations (Clarkson et al., 1992; Robinson et al., 2012). Both tours prompted reflections on identity, intergenerational responsibilities, language revitalization and cultural connectedness to reinforce reciprocal relations, healing, agency and meaningful community action.

For instance, as custodians of ecological knowledge (e.g. ethnobotanical knowledge), Indigenous women also coordinate and engage in environmental policy and action, playing multifaceted roles in both Maasai and FN communities (Dennis & Bell, 2020; Turner & Turner, 2008; Whyte, 2014). The tours helped to assert leadership in these roles, with evidence that newfound empowerment translated into action in child education and advocacy for Indigenous-led land stewardship. Maasai representatives cited increased confidence in mobilizing their participation in community-level governance decision-making and intergenerational knowledge transmission, particularly through language revitalization, which links to ecological wisdom and conservation.

Cross-cultural dialogues also highlighted women's challenges in resource governance and climate advocacy and emphasized their unique role navigating threats in ecological systems amid the global environmental crisis. As primary stewards of food and medicinal plants (IWBN, 2004), Indigenous women are uniquely aware of climate change impacts on ecological processes, from drought-induced food insecurity in Africa to shifting plant habitats in Canada. Under climate change, Indigenous women face unique challenges in sustaining fragile ecosystems while fulfilling responsibilities to family, community, and land (OSAGI & UNPFII, 2009). Their narratives

highlight how climate disruptions threaten societal systems and emphasize the need to integrate their experiences into holistic land-community resilience strategies.

Indigenous and non-Indigenous youth are often seen as climate change ambassadors (MacKay et al., 2020). C/TFN and Maasai youth emphasized cultural practices as key to conservation, climate justice, and territorial governance, offering unique perspectives into Western-Indigenous dichotomies, particularly in defining wealth, progress and community wellness. During the 2022 tour, a C/TFN youth expressed gratitude to the Maasai for their land stewardship, highlighting mutual support as vital in bridging colonial and Indigenous worldviews in environmental protections globally.

4.3 | Cultural integrity and land rights assertions

Throughout the project, Indigenous participants emphasized the intrinsic link between land tenure and cultural persistence. A C/TFN leader expressed that Mother Earth calls on Indigenous Peoples to protect their land and waters, with strength drawn from their ancestors and communities. Indigenous guardianship between people and ecosystems, rooted in language, ceremony and subsistence practices (Diver et al., 2019; Turner, 2005) is inextricably connected to territorial rights. Scholarship highlights the role of Indigenous knowledge in rights assertion and environmental sovereignty (Atleo, 2011; Coté, 2019, 2022). Atleo (2011) a Chief of the Nuu-Chah-Nulth, describes *tsawalk* ('one') to illustrate human-nature interconnectedness, a key philosophy in addressing environmental and political crises. Contributions from scholars such as Todd (2014), Tynan (2021), Reid et al. (2021) and Whyte (2013, 2018) deepen understanding of Indigenous relationality. Our findings build on this literature, reinforcing research frameworks centered on reciprocity, human-environment caretaking and cross-cultural knowledge exchange for relational accountability (Comberti et al., 2015; Costanza et al., 2017; Ojeda et al., 2022).

The cultural exchanges have provided some contribution to community advocacy and policy engagement capacity through shared experiences of community connections and environmental stewardship. Indigenous communities in various contexts often engage in rights advocacy, seek to participate in decision-making processes and work towards environmental and cultural goals (Brondizio et al., 2021). Through documenting and sharing cultural practices, governance approaches and resource use, participants explored examples of relationality in daily life, helping to foster new perspectives on environmental interactions. Maasai representatives, for example, expressed interest in First Nations' experiences with cultural mapping, land claims and policy negotiation, while the EFT shared insights into Maasai-led approaches to land rights and territorial management. These mutual exchanges provided both groups with opportunities to consider different advocacy approaches and policy engagement strategies, and although difficult to show direct causation in our project timeline, provide some indication of respective efforts toward self-determination.

5 | CONCLUSIONS

We observed that the exchanges supported Indigenous partners in advancing their environmental stewardship goals through cultural knowledge documentation, adapting tools and approaches from each other such as cultural mapping processes, experience sharing about treaty negotiations, development of new conservation frameworks and strengthened local decision-making processes. These outcomes align with recent research showing how Indigenous leadership in conservation produces improved environmental and social outcomes (Brondizio et al., 2021). However, our findings emphasize the particular value of Indigenous-to-Indigenous learning in building this capacity.

While the exchanges focussed on environmental governance, they simultaneously strengthened cultural preservation efforts. Some of the key mechanisms that were emphasised in this regard include youth engagement in traditional practices, Elder participation in knowledge documentation and the creation of lasting educational resources. Our research also emphasised women's leadership development by recognizing their unique roles in resource management, enhanced confidence in governance participation and through the creation of support networks.

Our observations suggest that Indigenous knowledge-bridging may contribute to environmental governance efforts while supporting cultural knowledge sharing. The interactions between First Nations and Maasai communities indicate that, even across different local contexts, sharing experiences about cultural practices and land rights can create opportunities for mutual learning and support. While these findings emerge from specific community exchanges, they may offer insights for other Indigenous communities exploring ways to strengthen environmental governance approaches while maintaining cultural practices.

AUTHOR CONTRIBUTIONS

In accordance with the central CBPR foundation of this work, all co-authors jointly conceived the ideas and formulation of the research goals and aims. Reflecting on author positionality, we acknowledge the importance of recognizing how distinct personal histories, privileges, and lived experiences inevitably influence the research process and outcomes. Therefore, we have indicated some of these distinctions through a brief self-identification following each author. Sean McDougall (male, Indigenous in Canada): Methodology, investigation, formal analysis, writing—review/editing and project administration. Emmanuel Ole Kileli (male, Indigenous in Tanzania): Methodology, investigation, formal analysis, writing—review/editing and project administration. Bruce Downie (male, white from Canada, lived for many years in rural Tanzania and the Yukon with the communities involved in this research): Methodology, investigation, formal analysis, writing—review/editing, project administration and funding acquisition. Crystal Tremblay (female, white from Canada, lived, worked, and partnered with many communities in the Global South, including the communities involved in this research): Methodology, investigation, formal analysis, writing—review/editing,

project administration, funding acquisition and supervision. Sophia Carodenuto (female, white, lived, worked and partnered with many communities in the Global South): Writing—review/editing, funding acquisition and supervision. Philip Dearden (male, white, worked for many years with rural communities in Tanzania and British Columbia): Methodology, investigation, writing—review/editing, project administration and funding acquisition. Elicia Bell (female, white, research partner and living alongside Maasai communities in Tanzania at time of writing): Formal analysis, writing—original draft and review/editing and visualizations. All authors contributed critically to the drafts and gave final approval for publication.

ACKNOWLEDGEMENTS

We acknowledge and extend gratitude to: the Loita Maasai (Enguserosambu Ward, Ngorongoro District), Parakuiyo Maasai (Elerai village, Kilindi District) of Tanzania, and C/TFN, Canada. Partner organizations were invaluable in this research endeavour and include EFT, Ereto Maasai Youth, the Kesho Trust, and the UVic. We also recognize appreciable contributions made by the following individuals: Kate Herchak, Erik Val, Samwel Nangiria, Mark Talash, Nalaimuta Makeseni, Tracy Camilleri, Sheena Johns, Jewel Davies, NaVaro Davies, Terere Tutayo, Orkiu-Juu, and Robert Kamakia, all of whom provided valuable context for this work. Research support was given from UVic student interns Kenda Chang-Swanson and Matthew Evans. We acknowledge the support of the Government of Canada's New Frontiers in Research Fund (NFRF), [NFRFT-2020-000073], and the Social Sciences and Humanities Research Council of Canada, Partnership Development Grant number 89-202-00125.

CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to declare.

DATA AVAILABILITY STATEMENT

The data used in this manuscript includes participatory video footage and two related films (2019; 2023), as well as participatory interviews conducted in 2019, 2022 and 2023. According to the UVic Human Ethics agreement, all data is under confidentiality agreement and thus cannot be publicly archived. We comply with the First Nations principles of ownership, control, access, and possession (OCAP), which asserts that 'First Nations have control over data collection processes, and that they own and control how this information can be used'.

STATEMENT OF INFORMED CONSENT

Community-level consent for participation in the research was established through verbal discussions with village representatives and formalized in a culturally appropriate manner. Community leaders were informed of their right to free, informed, and ongoing consent throughout the research process. In line with TCPS 2 (2022) Chapter 3, these exchanges ensured voluntary participation with an understanding of the research objectives, risks, and benefits. Attendees at research-related gatherings were asked for individual

consent regarding photographs, conveyed through community leaders and Indigenous co-authors. Consent for specific photos in this publication was later reiterated and confirmed.

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DATA SOURCES

The Kesho Trust. (n.d.-a). *Background*. <https://www.thekeshotrust.org/projects/ikg/bg/>

The Kesho Trust. (n.d.-b). *Indigenous knowledge bridging of land and water governance in Tanzania and Canada (IKG)*. <https://www.thekeshotrust.org/projects/ikg/>

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

Data S1: Overview and history of collaboration statement.

Data S2: Supplementary methods.

Data S3: Survey instruments.

How to cite this article: Bell, E., Tremblay, C., Carodenuto, S., Downie, B., Dearden, P., Ole Kileli, E., & McDougall, S. (2025). Indigenous knowledge-bridging to support ecological stewardship in Canada and Tanzania. *People and Nature*, 00, 1–12. <https://doi.org/10.1002/pan3.70034>