PERSPECTIVE

Namibian Journal of Environment

Available online at https://nje.org.na

Received: 29 August 2025
Accepted: 21 January 2026
Published: 6 February 2026
Edited by: Frowin Becker

Assessing the role of tacit knowledge in the management of state forest reserves in Namibia

Michael S. David[1] • Mechtilde Pinto[1] • Tertu Iileka[2] • Amon Andreas[3] • Selma Lendelvo[1]

[1] University of Namibia, Windhoek, Namibia
[2] Community Conservation Fund Namibia, Windhoek, Namibia
[3] Directorate of Forestry; Ministry of Environment, Forestry and Tourism; Windhoek, Namibia

Correspondence: M.S. David (msdavid@unam.na)

ABSTRACT Tacit knowledge is embedded in lived experience, cultural practice and social relations, and has long shaped forest use and stewardship in Namibia - yet it remains marginal in formal forest governance. This perspective paper examines the role and relevance of tacit knowledge in the management of Namibia's state forest reserves, drawing on guided stakeholder discussions conducted within and around the Kanovlei, Hamoye and Zambezi State Forests as part of the Safeguarding Namibia Protected Area Network (NAM GEF-8) project. We argue that tacit knowledge, expressed through customary land-use practices, spiritual values, gendered resource use and intergenerational knowledge transfer, continues to and should underpin sustainable forest management and community well-being. We highlight how adaptive management frameworks, supportive regulatory instruments and environmental and social safeguards provide opportunities to better integrate tacit knowledge into state-led forest governance. Particular attention is given to the gendered dimensions of tacit knowledge, recognising women's central role in transmitting ecological knowledge and sustaining cultural landscapes, alongside men's contributions to timber use, grazing and boundary enforcement. We contend that forest conservation efforts that overlook tacit knowledge risk undermining both ecological sustainability and cultural heritage. Integrating tacit knowledge into formal management systems is therefore not only an ethical imperative but a practical strategy for strengthening co-management, improving governance outcomes, and sustaining Namibia's state forest reserves as living socio-ecological systems.

KEYWORDS adaptative management; community conservation; forest management; gender; Namibia; tacit knowledge

BACKGROUND

Understanding the relevance of knowledge in our daily lives, how we acquire it and apply it is increasingly necessary in today's dynamic world, shaped by constantly evolving cultures, beliefs and technologies. Tacit knowledge is a type of knowledge that an individual gains from personal experience, abilities, values and often intuition, that is difficult to express in words or other forms of 'formal communication' (Polanyi 1958, 1966; Dampney et al. 2007). As Polanyi (1958) articulates, "knowledge is deeply personal, relational, and culturally situated, gained and transmitted through lived experiences rather than formal instruction." According to Namibia's Access to

Biological and Genetic Resources and Associated Traditional Knowledge Act (2 of 2017), traditional knowledge includes "know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity."

Tacit or traditional knowledge, although long marginalised by more mainstreamed knowledge systems (Adolph 2005), is now gaining renewed attention for its practical and sustainable value in natural resource management, including forests, as well as climate change mitigation and adaptation (Phuthego & Chanda 2004; Reniko et al. 2018; Baaweh et al. 2022). Tacit knowledge in a natural resource management context, has been developed over time through the longstanding mutualistic relationship between human communities and their environments (Cheveau et al. 2008; Eneji et al. 2012; Darboe et al. 2023). This mutualism has, in turn, led to the creation of cultural landscapes and traditions, including sacred forests and various forms of ethno-forestry. These traditions are also reflected in a variety of practices regarding livelihood traditions, the use and management of animals, plants and other resources.

Across many African countries, practices based on totemisation and spiritual significance at large have been among the most commonly used forms of tacit knowledge for conserving different aspects of the environment (e.g., Rusinga & Maposa 2010; Muyiira et al. 2025). In Kenya, for example, the Teso community enforces strict regulations permitting only the collection of materials of mature plants for medicinal use (Ayaa & Waswa 2016). Likewise, only secondary roots, rather than the main taproot, can be dug up, to minimise damage and ensure the continued survival and availability of medicinal plants. Specific patches of grassland and forest, often situated near settlements, have also been traditionally set aside as sacred lands and exclude livelihood-based activities such as farming, livestock grazing or even settlement. These areas have been regulated by Teso customary laws, and many of these practices continue to persist today.

In Namibia, similar examples can be cited. Amongst the indigenous Himba people of north-western Namibia, the mopane tree (*Colophospermum mopane*) is often the most readily available and preserved plant resource. Himba communities make extensive use of nearly every part of the tree for a wide range of purposes, from construction to pain relief, demonstrating their deep knowledge and efficient use of the plant. Beyond its practical uses, the mopane is deeply woven into the Himba cultural and spiritual identity, serving as a medium for religious communication. Against this background, it can be argued that the tacit knowledge and cultural significance of the mopane contribute to its conservation (Bainbridge 2012).

Namibia preserves its forests and woodlands through integration into its protected area network, which includes community and state forests. Today, there are over 40 registered community forests and three state forests in the country (Figure 1). Under Namibia's Forest Act (12 of 2001), community forests and state forests are managed in different ways. In a community forest, the land is still owned by the state, but local communities are entrusted with day-to-day management through a legally recognised Community Forest Management Committee (CFMC), which operates according to approved rules and management plans. In contrast, a state forest is owned and managed directly by the government through the Ministry of Environment, Forestry and Tourism (MEFT), with decisions about access, use and management made mainly by state officials under a more centralised system. Various policies and legislation, including the Forest Act, have been enacted by the government to regulate and ensure communities practice sustainable harvesting and effective natural resources management within these forests. While relevant policies and legislation are in place, harmonising these with local realities and practices to create an enabling environment for knowledge-sharing and co-management remains a shortcoming. This article offers a perspective on how tacit knowledge participates in forest management practices in Namibia and its potential in a more integrated approach. Our perspectives are enriched by information from discussions held as part of the Safeguarding Namibia Protected Area Network (NAM GEF-8) project. The project was led by the MEFT and looked to document aspects of knowledge retention, indigenous practices and forest management approaches within communities residing within and adjacent

to state forests (such as the community forests and conservancies bordering state forests).

We used guided discussions to engage a wide range of stakeholders, ensuring conversations remained grounded in local realities and aligned with the project's objectives. Engagements were inclusive and gender-sensitive, involving traditional authorities as land custodians, local authorities representing government at the grassroots level and relevant line ministries. Discussions focused on three main groups: residents living within state forest areas, neighbouring communities bordering the forests (including community forests and conservancies) and relevant local authorities. Based on these engagements, we evaluate tacit knowledge's importance to the sustainable management of Namibia's state forest reserves. Moreover, our insights make a strong case for integrating tacit knowledge into formal management systems, which can strengthen forest governance, support co-management with communities and improve ecological outcomes.

SUSTAINABLE RESOURCE MANAGEMENT AND RETENTION OF TACIT KNOWLEDGE IN STATE FOREST RESERVES

The concept of natural resource management should extend beyond the conservation of natural resources to also encompass the preservation of knowledge, particularly the transfer and retention of tacit or traditional knowledge within local communities. Consultations with communities residing in and around the three state forest reserves clearly highlighted the enduring benefits of tacit knowledge. Long before the Zambezi State Forest was gazetted in 2021, traditional authorities and community members had been leading forest preservation efforts, working closely with relevant line ministries. A particularly interesting example is found in the Ncumcara Community Forest area, which borders the Hamoye State Forest. There, the community uses the road as a boundary-making instrument in forest preservation. It acts as a borderline demarcating areas reserved for cultivation and residential use on one side; while

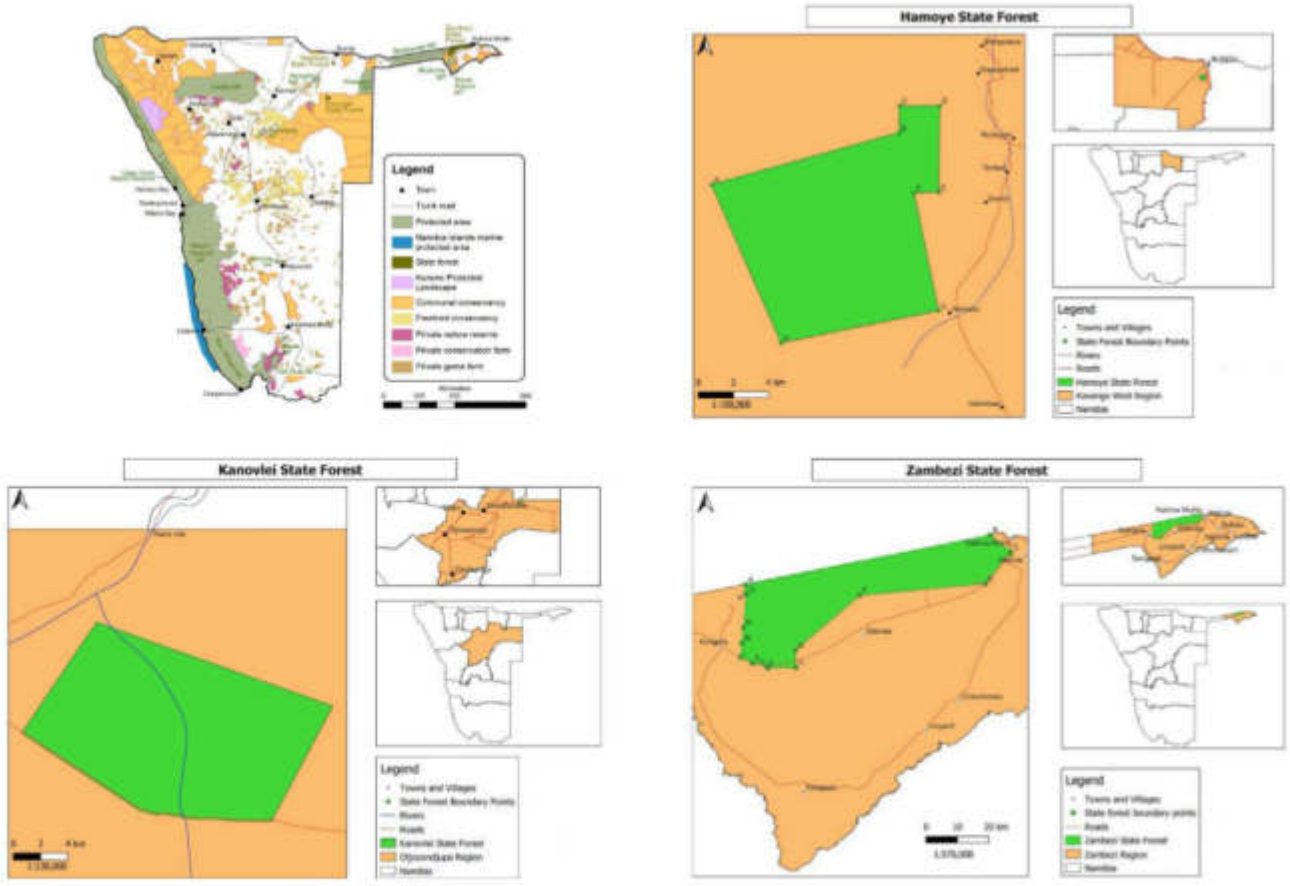

Figure 1 State Forest Reserves and complementary conservation efforts in Namibia: Protected area network of Namibia (top left), Hamoye State Forest in the Kavango West Region (top right), Kanovlei State Forest in the Otjozondjupa Region (bottom left), and Zambezi State Forest in the Zambezi Region (bottom right). Maps were sourced from Namibia's Ministry of Environment, Forestry and Tourism (MEFT).

the areas on the other side are reserved for grazing only and in some instances collection of timber and other forest products that are used in the Ncumcara craft shop and the local vocational centre. This arrangement is widely respected by community members and enforced by the traditional authority and local institutions (such as community forests and conservancies). It demonstrates how local social structures and tacit knowledge, even in the absence of formal laws or policies, can contribute to effective natural resource management. There is a communal understanding of the interrelatedness between the need to balance livelihoods and sustainability. This reinforces the need for an integrated approach to forest resource governance; one that allows tacit knowledge to play a central role in ensuring community well-being and ecological sustainability.

Inherently, tacit knowledge is largely intangible and difficult to codify; it is experiential and embedded in personal and communal practices, making it resistant to easy conversion into explicit, transferable knowledge. Attempts to document or systematise it have therefore often led to inconsistencies and the dilution of original meanings and values (Adolph 2005). However, advances in technology and adaptive policy frameworks could provide viable platforms for capturing and preserving this knowledge without compromising its authenticity. Oral histories, participatory mapping and case studies are some of the approaches that could help create systems for documenting and preserving tacit knowledge.

For many communities, forests are more than consumable resources; they constitute cultural landscapes through which traditions, knowledge, and values are transmitted across generations. One example from the three State Forests studied is the cultural initiation of young girls by their mothers or elderly women during wild fruit harvesting seasons. These rites of passage, conducted within the forest, are crucial moments for transferring knowledge about customs, gender roles and ecological stewardship. Some community members shared how certain tree species and animal behaviours have traditionally been used for weather forecasting and for determining the timing of various forest activities, such as wild fruit collection, managing veld fires and hunting. These practices reflect a deep understanding of sustainability by communities and contribute to effective forest resource management (Garibaldi & Turner 2004; Katjirua et al. 2024). This underscores the need for practical, context-sensitive approaches that honour the epistemologies of local communities. Our engagements revealed that tacit knowledge remains indispensable in the sustainable management of state forest reserves in Namibia. Integrating this knowledge into formal systems offers a pathway to improved forest governance, community co-management, ecological preservation and knowledge continuity.

ADAPTIVE MANAGEMENT AS A CATALYST FOR SUSTAINABLE KNOWLEDGE MANAGEMENT

The release of Namibia's National Research, Science and Technology Policy and the subsequent establishment of key institutions such as the National Council for Research, Science and Technology (NCRST) have laid a foundation for adaptive management in the post-Independence era. As early as 1999, Namibia began aligning its national development with a knowledge-based economy (Hooli & Jauhiainen 2018). These efforts have complemented other major frameworks such as the Decentralisation Policy Act (33 of 2000) and the National Policy on Community-Based Natural Resource Management (CBNRM), which promote area-based management, local research and community-centred natural resource governance (MET 2013).

The introduction of Vision 2030 in 2004 marked a pivotal commitment to partnership, innovation and inclusive development (Republic of Namibia 2004). While this and subsequent strategic instruments such as the National Development Plans (NDPs) and the Harambee Prosperity Plan may not explicitly reference tacit knowledge, they provide the strategic scaffolding for incorporating local knowledge systems into forest management practices. The ethos of craftsmanship, implementation and inclusive governance within these frameworks supports the recognition of local knowledge as a critical asset.

Namibia's Access to Biological and Genetic Resources and Associated Traditional Knowledge Act, in alignment with the Forest Act, provides a legal framework that protects tacit knowledge -

written, experience-based practices held by local communities while promoting sustainable resource use. The Act ensures prior informed consent, mandates benefit-sharing mechanisms and recognises communities as custodians of biodiversity. These provisions not only safeguard traditional knowledge but also create pathways to improve rural livelihoods through capacity-building and equitable access to forest-derived benefits. Together, these policies support the integration of tacit knowledge into formal forest management, particularly in state forest reserves.

However, ongoing monitoring, evaluation and policy coherence are essential for adaptive management to contribute meaningfully to sustainable state forest management and tacit knowledge preservation. Adaptive management is not a one-time event but a continuous process of learning, adjusting and responding to environmental and socio-cultural dynamics. This approach not only serves ecosystem conservation but also ensures a just approach that respects local identities and the relational knowledge communities hold with the forest. Tacit knowledge embedded within communities can enrich adaptive management practices if there is a structured, consistent and inclusive coordination mechanism among stakeholders, including government agencies, traditional authorities and civil society (David 2021). Legislation like the Forest Act must be harmonised with local realities and practices to create an enabling environment for knowledge-sharing and co-management.

Community development practices across the Global South are increasingly shifting toward bottom-up approaches (Hooli et al. 2016). This shift is evident within the three Namibian state forest reserves, where traditional leaders play vital roles. These leaders, as custodians of communal land under the Communal Land Reform Act (5 of 2002), are responsible for land allocation and conflict resolution, often through Land Boards. Their influence is particularly strong in the Zambezi and Hamoye State Forests, where cultural orthodoxy and traditional protocols are widely observed. In contrast, the Kanovlei State Forest presents a unique challenge. Home to fewer than 50 residents and lacking formal leadership structures, this small and arguably more marginalised community amongst the three case studies, as a result, has limited influence over forest management decisions. Further compounding their vulnerability is the absence of basic services such as water, healthcare and transportation, which deepens their isolation. Subsequently, the community is often compelled to conform to externally imposed decisions with minimal consultation or input. Many community members feel that their capacity to sustain traditional knowledge and practices is being increasingly undermined and that they are being excluded from decision-making processes.

Despite these challenges, the government's approach to gazetting these three state forests with restricted but sustainable use presents a forward-thinking model. Compared to some community forests, which face issues like illegal fencing and internal disputes, the state forest model, if well-coordinated and adaptive, could offer long-term ecological and cultural benefits. It can enable community participation while preserving the forest's integrity and the tacit knowledge tied to it. Such co-management strategies, rooted in adaptive governance, are essential for ensuring that forest ecosystems and the knowledge they harbour are protected for generations to come. Collaborative planning for a more inclusive and effective conservation approach, aimed at achieving the Global Biodiversity Framework Target 3 (30×30), has reinforced national commitments not only to biodiversity protection but also to the safeguarding of community rights and cultural heritage. Within this framework, Environmental and Social Safeguards (ESS) have emerged as essential instruments to ensure that conservation efforts do not marginalise local communities (NACSO 2024).

These safeguards signify a shift away from exclusionary, top-down conservation models toward more inclusive, participatory approaches. They emphasise that effective conservation must also protect social systems and cultural norms, especially in areas where communities depend heavily on natural ecosystems for their livelihoods and identity. While conventional conservation models often prioritise ecological outcomes, the integration of ESS demonstrates a broader commitment to just, culturally respectful and community-empowered conservation in Namibia and beyond.

GENDERED DIMENSIONS OF TACIT KNOWLEDGE IN FOREST RESOURCE MANAGEMENT

Tacit knowledge in forestry is not uniformly held within communities; it is deeply gendered, shaped by the distinct roles, responsibilities, and lived experiences of men, women and youth. Women, in particular, hold a central role in transmitting intergenerational knowledge through their daily interactions with forest resources. Their responsibilities—such as collecting wild fruits, firewood, medicinal plants and other non-timber forest products—make them key custodians of knowledge on species diversity, seasonal availability and sustainable harvesting practices (Howard 2003; Mogotsi et al. 2018).

Despite this, women's contributions to forest resource management are often undervalued or overlooked in formal governance systems. Decision-making structures such as traditional authorities, forest management committees and land boards are predominantly male-dominated, which can limit women's influence on forest policies and benefit-sharing arrangements. Studies within Namibia's CBNRM programme show that while women actively participate in a wide range of conservancy activities, their voices are still less recognised in governance structures, even though they derive significant benefits, such as access to game meat and household food security from these initiatives (Lendelvo et al. 2012). This exclusion risks the erosion of gender-specific tacit knowledge that is vital for sustainable practices, including seed selection, small-scale agroforestry and wild fruit preservation.

Men, on the other hand, often retain tacit knowledge related to timber use, wildlife management and grazing practices. Their ecological knowledge tends to be linked to mobility, resource enforcement and the negotiation of land-use boundaries - functions that complement but differ from women's contributions. Together, these gendered spheres of knowledge provide a holistic foundation for forest management, yet their unequal recognition poses challenges to inclusive governance.

A gender-sensitive approach to tacit knowledge retention, therefore, requires intentional mechanisms to elevate women's voices, ensure equitable participation in decision-making and safeguard the knowledge they steward. Policies such as Namibia's Access and Benefit Sharing Act provide an entry point for ensuring that benefits derived from forest resources are equitably distributed across genders. Furthermore, creating participatory spaces where women and men contribute equally, such as joint community forest committees, inclusive mapping exercises and oral history documentation, would foster more comprehensive and resilient management systems (Angula et al. 2021).

Without a gendered lens, there is a risk of knowledge fragmentation: women's ecological practices may disappear when younger generations migrate to urban centres, as elders pass on, while men's traditional practices may diminish under formalised forestry regulations. Once this knowledge fades, it cannot simply be "reintroduced" through policy or training. As Angula et al. (2021) argue in the context of climate adaptation, integrating gender responsiveness into resource governance strengthens both equity and resilience. Gender equity is therefore not only a matter of social justice but also a prerequisite for sustaining the tacit knowledge base that underpins Namibia's forest reserves. Recognising and integrating these gendered dimensions can enhance community ownership, improve forest governance and safeguard the cultural landscapes tied to Namibia's forests.

CONCLUSION AND RECOMMENDATIONS

This paper has highlighted the vital role of tacit knowledge in the sustainable management of Namibia's state forest reserves – drawing from engagements from within and around the Kanovlei, Hamoye and Zambezi reserves. Tacit knowledge is rooted in lived experience, oral tradition and cultural practice and it continues to shape the day-to-day decision-making processes of forest-dependent communities. It is a central element in activities such as wild fruit collection, medicinal plant use, initiation rituals and broader ecological stewardship. Despite its significance, tacit knowledge remains poorly documented and often overlooked in formal forest governance structures.

Our work underscores that effective forest management and sustainability cannot be achieved through technical or ecological approaches alone. Integrating local knowledge systems is not only an ethical necessity but also practically beneficial for fostering resilience, promoting inclusive development and ensuring long-term conservation success.

Namibia has made commendable progress toward adaptive management through policies such as Vision 2030, the Decentralization Policy, the Forest Act and the establishment of institutions like the NCRST. However, more explicit recognition and integration of tacit knowledge into these frameworks are needed. Moreover, the importance of ESS in protecting community rights and fostering inclusive conservation warrants emphasis on the pursuit of global conservation targets. This inclusive lens must continue to guide conservation interventions, especially in state forest reserves where cultural identity and ecosystem health are deeply intertwined.

Equally important is the need to address and recognise the gendered dimensions of tacit knowledge. Women and men bring distinct, complementary expertise to forest management, yet women's contributions often remain undervalued within governance structures. Women are critical custodians of intergenerational knowledge through practices such as fruit harvesting, medicinal plant use and initiation rituals, while men contribute knowledge linked to grazing, timber use and land boundary negotiations. Sustainable forest governance, therefore, requires deliberate strategies to strengthen women's participation, safeguard gender-specific knowledge and ensure equitable benefit-sharing. Gender-responsive policies and co-management structures are not just matters of equity but also essential for maintaining the resilience of local knowledge systems. Integrating these gendered perspectives into forest management frameworks will enhance governance outcomes, sustain ecological health and preserve Namibia's diverse cultural landscapes for generations to come. Namibia's forests are living libraries. Protecting them without protecting the knowledge they contain is a loss we cannot afford.

ACKNOWLEDGEMENTS

The authors acknowledge the financial and institutional support that enabled the pre-award processes of the Safeguarding of the Protected Areas Network (NAM GEF-8) project, both at the national and local levels. Contributions are specifically recognised from the Ministry of Environment, Forestry and Tourism, World Wildlife Fund Namibia, local authorities, traditional authorities, and community members within and around the three state forests: Kanovlei, Hamoye, and Zambezi, who participated in the sharing of data. We acknowledge the targeted use of OpenAI (ChatGPT -5.2) as a language-editing tool, to help refine the article's language.

REFERENCES

Adolph B (2005) *Learning how to do things differently: challenges in sharing tacit knowledge for agricultural and rural development (with examples from India and Namibia).* In: Proceedings of the Symposium on Learning Alliances for Scaling Up Innovative Approaches in the Water and Sanitation Sector, Delft, the Netherlands, 7-9 June 2005. IRC International Water and Sanitation Centre, The Hague, The Netherlands.

Angula MN, Mogotsi I, Lendelvo S, Aribeb KM, Itetat A-M, Thorn JPR (2021) Strengthening gender responsiveness of the Green Climate Fund ecosystem-based adaptation programme in Namibia. *Sustainability* 13(18), 10162. https://doi.org/10.3390/su131810162

Ayaa DD, Waswa F (2016) Role of indigenous knowledge systems in the conservation of the bio-physical environment among the Teso community in Busia County-Kenya. *African Journal of Environmental Science and Technology* 10(12): 467–475. https://doi.org/10.5897/AJEST2016.2182

Baaweh L, Baddianaah I, Baatuuwie BN (2022) Traditional knowledge and practices in natural resource conservation: A study of the Zukpiri Community Resource Management Area, Ghana. *International Journal of Rural Management* 19(2): 253–273. https://doi.org/10.1177/09730052221087020

Bainbridge H (2012) Indigenous use of mopane (*Colophospermum mopane*) in northwestern Namibia. *Desert Plants* 28: 23–26.

Cheveau M, Imbeau L, Drapeau P, Bélanger L (2008) Current status and future directions of traditional ecological knowledge in forest management: a review. *Forestry Chronicle* 84(2): 231–243. https://doi.org/10.5558/TFC84231-2

Dampney K, Busch P, Richards D (2007) The meaning of tacit knowledge. *Australasian Journal of Information Systems* 10(1). DOI:10.3127/ajis.v10i1.438

Darboe S, Manneh L, Stryamets N, Prūse B, Pieroni A, Sõukand R, et al. (2023) "Forest is integral to life": people-forest relations in the lower river region, the Gambia. *Frontiers in Forests and Global Change* 6: 1181013. https://doi.org/10.3389/ffgc.2023.1181013

David MS (2021) *Strengthening decentralized water governance in a semi-arid environment: The case of Mariental, Namibia*. Master's thesis, University of Twente, Twente, The Netherlands. http://essay.utwente.nl/89010/

Eneji CVO, Ntamu GU, Unwanade CC, Godwin AB, Bassey JE, Williams JJ, Ignatius J (2012) African traditional religion in natural resources conservation and management in Cross River State, Nigeria. Environment and Natural Resources Research 2(4): 34–43. https://www.cabdirect.org/cabdirect/abstract/20123224556

Garibaldi A, Turner N (2004) Cultural keystone species: implications for ecological conservation and restoration. Ecology and Society 9(3): 1.

Grant KA (2007) Tacit knowledge revisited – We can still learn from Polanyi. *Electronic Journal of Knowledge Management* 5(2): 173–180.

Hooli LJ (2018) Knowledge economy and adaptive resource governance in Namibia: Post-independence progress and policy alignment. *African Journal of Public Affairs, 10*(3), 112–129.

Hooli L, Jauhiainen JS, Lähde K (2016) Living labs and knowledge creation in developing countries: Living labs as a tool for socio-economic resilience in Tanzania. *African Journal of Science, Technology, Innovation and Development, 8*(1), 61–70. https://doi.org/10.1080/20421338.2015.1132534

Hooli LJ, Jauhiainen JS (2018) Building an innovation system and indigenous knowledge in Namibia. *African Journal of Science, Technology, Innovation and Development* 10(2): 183–196. https://doi.org/10.1080/20421338.2018.1436737

Katjirua ZL, David SM, Muntifering J (2024) Eliciting empathy and connectedness toward different species in north-west Namibia. In: Sullivan S, Diekmann U, Lendelvo S (eds), *Etosha Pan to the Skeleton Coast: Conservation histories, policies and practices in north-west Namibia*. Open Book Publishers, Cambridge, UK. https://doi.org/10.11647/OBP.0402

Lendelvo S, Munyebvu F, Suich H (2012) Linking women's participation and benefits within the Namibian community-based natural resource management program. *Journal of Sustainable Development* 5(12): 27–39. https://doi.org/10.5539/jsd.v5n12p27

Mogotsi I, Lendelvo S, Angula MN, Nakanyala J (2018) Forest resource management and utilisation through a gendered lens in Namibia. *Environment and Natural Resources Research* 8(4): 43–56. https://doi.org/10.5539/enrr.v8n4p43

Muyiira J, Ssekamwa JC, Barakagira A (2025) Totems practices and wildlife conservation in Uganda: A case of selected clans in the Buganda Kingdom. *Journal of Global Ecology and Environment* 21(3): 159–175.

MET [Ministry of Environment and Tourism] (2013) *National policy on community-based natural resource management*. Government of the Republic of Namibia, Windhoek, Namibia.

NACSO [Namibian Association of CBNRM Support Organisations] (2024) *Environmental and Social Safeguard Framework (ESSF)-Grievance Mechanism and Disclosure Plan*. NACSO, Windhoek, Namibia.

Phutego TC, Chanda R (2004) Traditional ecological knowledge and community-based natural resource management: lessons from a Botswana wildlife management area. *Applied Geography* 24(1): 57–76. https://doi.org/10.1016/j.apgeog.2003.10.001

Polanyi M (1958) *Personal knowledge: Towards a post-critical philosophy*. University of Chicago Press, Chicago, Illinois, USA.

Polanyi M (1966) *The tacit dimension*. University of Chicago Press, Chicago, Illinois, USA.

Reniko G, Mogomotsi PK, Mogomotsi GEJ (2018) Integration of indigenous knowledge systems in natural resources management in Hurungwe District, Zimbabwe. *International Journal of African Renaissance Studies* 13(1): 96–112. https://doi.org/10.1080/18186874.2018.1475869

Republic of Namibia (2004) *Vision 2030: Policy framework for long-term national development*. Office of the President and the National Planning Commission, Government of the Republic of Namibia, Windhoek, Namibia.

Rusinga O, Maposa R (2010) 'Traditional religion and natural resources': A reflection on the significance of indigenous knowledge systems on the utilisation of natural resources among the Ndau People in South-eastern Zimbabwe. *Journal of Ecology and the Natural Environment* 2(9): 201–206.