POLICY BRIEF

Integrating Indigenous Knowledge Systems into Global Policy Frameworks

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05

Accelerating Climate Action and the Just Energy Transition

Abstract

Indigenous and local knowledge (ILK) plays a critical role in climate resilience, biodiversity conservation, and sustainable development. Rooted in culturally specific practices and ecological relationships, ILK offers contextually relevant solutions that are being recognised in global policy frameworks. Despite this, integration of ILK remains inconsistent due to historical marginalisation, weak legal protections, and systemic biases in policy and science. Drawing on frameworks like the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and the Convention on Biological Diversity, this policy brief recommends legal recognition, participatory governance, direct funding to Indigenous peoples and local communities, and the development of culturally sensitive monitoring, evaluation, and learning systems. South Africa, under its G20 presidency, has the opportunity to lead a systemic shift toward the integration of ILK, building on participatory platforms such as IPBES, which offer a strong foundation for operationalising this transformation.

Keywords: Indigenous and Local Knowledge (ILK), Indigenous Peoples and Local Communities (IP and LC), Biodiversity Conservation, Climate Change

Diagnosis

Climate change is increasingly affecting Indigenous peoples and local communities (IPs and LCs, respectively)[1] through the loss of traditional land, resources, and cultural practices. IPs and LCs worldwide have a grounded understanding of nature and have developed rich and sophisticated strategies for conserving biodiversity, climate resilience, and sustainable development.

Indigenous and local knowledge (ILK) encompasses a diversity of knowledge systems that are rooted in distinct cultures, ecological contexts, and geographical regions, and are developed by IPs and LCs to sustain and transmit their relationships with culture and environment over time. ILK plays a critical role in addressing the crises of climate change and biodiversity loss – challenges that are central to the G20's priorities. However, within the global context of climate change, land degradation, and population pressure, the application and feasibility of ILK have altered. While ILK is adaptive in nature (for example, communities adopting sacred forest preservation or rotational agriculture), disruptions like these call for innovative approaches that can be sustained in contemporary settings.

Although ILK has historically been overlooked in the field of development and conservation, it is currently in a state of revival[2] and has also gained global recognition in recent years in international climate and biodiversity policy frameworks. However, the integration of ILK has been disintegrated, symbolic, and fragmented in international and domestic policies and practices, hindering

[1] Indigenous peoples and local communities (IPs and LCs) is a term used internationally by representatives, organisations, and conventions to refer to individuals and communities who self-identify as Indigenous and maintain inter-generational connections to place and nature through livelihood, cultural identity, worldviews, institutions, and ecological knowledge.
[2] Mistry, J. "Indigenous Knowledges." In International Encyclopedia of Human Geography, 371-376. Oxford: Elsevier, 2009.

its full potential to contribute effectively to climate resilience and biodiversity conservation issues.

International frameworks and policy landscape

At a global level, several international frameworks and bodies are working to advance and integrate the protection of ILK. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) includes Indigenous perspectives and acknowledges their role in biodiversity assessments.[3] IPBES is recognised for its pioneering integration of ILK and has developed procedures and participatory mechanisms to ensure IPs and LCs are equal partners in biodiversity assessment, thereby respecting their rights and knowledge systems. Its Global Assessment and the Assessment on the Diverse Values of Nature offer guidance on respecting rights, ensuring cultural integrity, and promoting co-produced knowledge. They do this by supporting and organising inclusive dialogues, capacity-building workshops for IP/LC representatives and researchers and fostering the co-production of knowledge through participatory assessments and consultations, making IPBES a global benchmark for ethical and effective engagement with ILK.

To strengthen the role of IPs and LCs in biodiversity action, at COP16 parties to the Convention on Biological Diversity (CBD) agreed on a new Programme of Work under Article 8(j). This transformative programme outlines tasks to ensure their meaningful participation in achieving the CBD's three objectives – the conservation of biological diversity, sustainable use of biological diversity, and fair and equitable sharing of benefits. Through this programme, traditional knowledge of IPs and LCs was further embedded in the global agenda.[4]

[3] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). "*Annual Meeting of the Task Force on Indigenous and Local Knowledge.*" 2025.
[4] United Nations. "Biodiversity COP 16: Important Agreement Reached Towards Goal of 'Making Peace with Nature." November 4, 2024. United Nations Sustainable Development.

Additionally, to address disaster risk reduction, the Sendai Framework reinforces the need for synergies between ILK and modern science and to integrate it with scientific knowledge and develop policies tailored to localities and contexts.[5]

At a national level, in 2023 India's G20 presidency emphasised the importance of incorporating Indigenous knowledge for biodiversity conservation, sustainable development, and climate resilience[6] (UNESCO, 2023). Similarly, Canada's Indigenous Climate Leadership Agenda prioritises the ethical integration of ILK into national policies, aligning with SDG 13's (Climate Action) call for inclusive climate resilience.[7]

Challenges and barriers

However, the incorporation of ILK in the policy environment is still uneven, owing to several interrelated issues. Some of the challenges noted towards this are outlined below.

- **Policy barriers:** Historically, the colonial legacy has devalued ILK, often labelling it "backward" or "primitive".[8] Culturally, with the dominance of scientific epistemologies, practical and traditional values in fields like agriculture and environment management are overlooked and reduced to anecdotal evidence. Combined with the above factors, economically, ILK receives insufficient policy and funding support, hampering communities' capacity to implement their cultural practices and beliefs.
- **Land rights and governance:** Due to colonial displacement, integration of modern legal systems and current economic interests such as extraction of resources are preventing IPs and LCs from regaining control over their land.[9]

[5] United Nations. "*Sendai Framework for Disaster Risk Reduction 2015–2030*". Sendai, Japan: United Nations, 2015.
[6] United Nations Educational, Scientific and Cultural Organization (UNESCO), "*Culture in the G20.*" 2023.
[7] Government of Canada, "*Sustainable Development Goal 13: Climate Action.*" 2023.
[8] Bruchac, M. M. "Indigenous Knowledge and Traditional Knowledge." Encyclopedia of Global Archaeology, edited by Claire Smith, New York: Springer, 2014.
[9] Sustainability Directory, "*What Challenges Exist in Integrating Indigenous Knowledge into Policy Making?.*" 2025

Furthermore, exclusion from decision-making and a lack of formal institutional recognition are leading to policies that fail to notice their needs.

- **Fragmented knowledge systems:** ILK is highly embedded in native language, customs, and practices. Such communities' concept of environment and sustainability is tied up spiritually, making it difficult to incorporate into policy systems without loss of meaning or oversimplification.

Recommendations

Through its G20 presidency, South Africa has an opportunity to address the above-mentioned challenges and steer a systemic shift towards the integration of ILK among G20 member countries.

International policy recommendations

- Legal protection for ILK and the rights of IPs and LCs should be formalised through national and international legislation that is aligned with global agreements, such as Article 8(j) of the CBD, as land tenure security is foundational for enabling ILK conservation.
- Successful conservation and preservation initiatives – such as Australia's Central Western Desert IPA, managed by the Anangu Luritjiku and Walungurru ranger groups, and India's sacred groves, protected by local communities – offer valuable lessons for addressing similar ecological challenges. However, due to the deeply localised nature of ILK, such practices cannot simply be scaled up in a conventional sense. Instead, they must be adapted, replicated, or scaled in context-sensitive ways. These include scaling out to similar socio-ecological

settings, scaling down to ensure local relevance, or scaling deep to transform underlying worldviews and relationships. This more holistic understanding of scaling, as highlighted by the IPBES Nexus Assessment, ensures that interventions are grounded in community values while contributing to broader resilience and policy frameworks.

- Collaboration and knowledge sharing between scientific institutes and IPs and LCs should happen through mutual respect. ILK and science can complement each other by promoting integrated modelling and scenario planning.
- To ensure resources reach IPs, LCs and grassroots organisations directly, there should be a direct funding mechanism that bypasses centralised government agencies, which often lack contextual understanding or are limited by rigid administrative procedures. This process ensures resources are used in ways aligned with local priorities and needs.
- ILK can inform emerging concerns of the G20 such as supply chain resilience, debt sustainability and payment for ecosystem services (PES). ILK enhances supply chain resilience through local and diverse production systems and community-led resource governance; low-consumption and circular economic practices are embedded in ILK, which offers an alternative development model that reduces reliance on high-carbon, debt-driven growth. Lastly, ILK provides culturally rooted and ethical approaches for valuing nature that ensure benefit-sharing remains equitable and locally centred, making a case for PES incorporation.
- It is important to co-develop a participatory and culturally grounded monitoring, evaluation and learning (MEL) framework with scientific communities that respects ILK systems, tracks their integration and outcomes in climate and biodiversity actions, and supports mutual learning while upholding community rights and knowledge sovereignty.

Conclusion and way forward

ILK provides transformative solutions to global environment issues, ranging from climate resilience to biodiversity conservation. To unlock this potential, the focus should shift from recognition to implementation of ILK. A crucial next step is the co-development of a culturally sensitive MEL framework that is jointly designed by Indigenous knowledge holders and scientific communities, ensuring environmental governance is inclusive, adaptive, and rooted in traditional wisdom. South Africa through its G20 presidency is presented with the opportunity to drive a system shift – to embed ILK in policy frameworks and platforms and provide effective, sustainable environmental solutions that honour both traditional and scientific knowledge.

Appendix

Examples of the successful ILK conservation across the globe and ways in which it can be replicated and scaled for adaptation.

Initiative	Description	Outcomes	Pathways for replication and adaptation
Australia: Central Western Desert Indigenous Protected Area (IPA)[10]	Established over the Hasts Bluff Aboriginal Land Trust, managed by the Ananu Luritjiku and Walungurru ranger groups. Aims to protect critically endangered species and address environmental threats like invasive species and wildfires. **What is unique?** Indigenous guardianship simultaneously addresses biodiversity conservation and socio-economic development.	Conservation of endangered species, creation of local employment, and enhanced land management practices.	This approach can be expanded to other arid and semi-arid areas by strengthening Indigenous ranger programmes that combine ecological objectives with customary land management. Land rights protection, community-led monitoring, and practice adaptation to local ecological and cultural settings are all critical to success.
South Africa: Vhavenda people's ethnobotanical practices[11]	The Vhavenda people utilise traditional knowledge, practices, and beliefs to manage and conserve Indigenous plant resources. **What is unique?** Emphasises the cultural aspects of sustainable biodiversity preservation along with knowledge of plant species.	Sustainable use and preservation of plant biodiversity, maintenance of cultural traditions, and support for ecological balance.	By encouraging community-led ethnobotanical knowledge preservation and incorporating it into regional conservation and education initiatives, this project can be duplicated in other culturally diverse areas.

[10] Martinez, Dennis. *"Protected areas, indigenous peoples, and the western idea of nature."* *Ecological Restoration* 21, no. 4 (2003): 247-250

[11] Constant, Natasha Louise, and Milingoni Peter Tshisikhawe. *"Hierarchies of knowledge: ethnobotanical knowledge, practices and beliefs of the Vhavenda in South Africa for biodiversity conservation."* *Journal of ethnobiology and ethnomedicine* 14 (2018): 1-28.

India: Sacred groves protected by Bishnoi Community[15]	Community-managed forest fragments dedicated to deities serve as reservoirs of biodiversity. These groves have been preserved for centuries due to their religious significance. The Bishnoi community in Rajasthan is one such Indigenous community that preserves biodiversity. **What is unique?** Creation of an environmental model backed by traditional and community responsibility.	Conservation of unique flora and fauna, maintenance of ecological balance, support for water conservation, and contribution to climate change mitigation.	By identifying and enhancing faith-based conservation strategies based on regional belief systems and community responsibility, this approach can be reproduced in ecologically fragile places.

[15] Reichert, Alexis. "*Sacred trees, sacred deer, sacred duty to protect: Exploring relationships between humans and nonhumans in the Bishnoi Community*." PhD diss., Université d'Ottawa/University of Ottawa, 2015.

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