African Journal of Information Science, Fine Arts and Speech Studies (AJISFASS)
E-ISSN 2753-3166 (Online); ISSN 2753-3158 (Print)

Indexed by SABINET and EBSCO

Volume 3, Number 1, April 2026

Pp 67-78

A Sui Generis Framework for Traditional Knowledge Protection in Africa: A Comparative Legal Analysis of Nigeria, South Africa and Zimbabwe

DOI: https://doi.org/10.31920/2753-3166/2026/v3n1a4

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Abstract

Traditional knowledge (TK), encompassing indigenous practices, medicinal knowledge, agricultural techniques, and cultural expressions, is collectively owned and transmitted across generations within indigenous communities. Unlike conventional intellectual property (IP), which privileges individual authorship and temporal limitation, TK is communal, orally transmitted, and culturally embedded, rendering its protection under existing IP regimes structurally inadequate. Despite its economic, ecological, and informational significance, TK in Africa remains highly vulnerable to misappropriation due to weak legislative frameworks, poor documentation infrastructure, and inadequate information governance. This study employs a doctrinal research methodology and comparative legal analysis through document analysis of primary and secondary

legal sources to examine TK protection frameworks in Nigeria, South Africa, and Zimbabwe. It finds that Nigeria lacks a dedicated TK protection law and relies on fragmented IP and regulatory instruments; South Africa offers the most comprehensive regime through its Protection, Promotion, Development and Management of Indigenous Knowledge Act 6 of 2019; and Zimbabwe maintains a constitutionally grounded but operationally limited approach. The study proposes a concrete sui generis framework anchored in community ownership, tiered knowledge classification, prior informed consent, ethical documentation, and indigenous data sovereignty, contributing to interdisciplinary scholarship at the intersection of intellectual property law, information governance, and indigenous knowledge management in Africa. A principal limitation of the study is its reliance on legal texts and secondary sources, rather than empirical community-level data.

Keywords: *Traditional Knowledge, Intellectual Property, Sui Generis, Indigenous Knowledge, Bio-piracy, Information Governance, Indigenous Data Sovereignty, Knowledge Documentation*

1. Introduction

Africa's vast repository of traditional knowledge (TK), spanning medicinal plants, agricultural techniques, cultural expressions, and ecological practices, represents a rich intellectual heritage accumulated over centuries of indigenous innovation. Yet this heritage remains acutely vulnerable to misappropriation by external commercial interests, primarily due to the absence of dedicated legal protection and inadequate knowledge documentation and governance systems.

Conventional IP frameworks, including patents, copyright, trademarks, and trade secrets, were not designed to accommodate TK. These regimes privilege individual inventors, fixed expressions, and temporally bounded rights, all of which conflict with TK's communal ownership, oral transmission, and intergenerational continuity. The result is a structural mismatch that leaves indigenous communities without adequate legal recourse when their knowledge is appropriated and commercialised without consent or compensation.

This study investigates TK protection frameworks in Nigeria, South Africa, and Zimbabwe. These jurisdictions were selected because they represent different stages of legislative development: Nigeria illustrates the deficiencies common to most African states; South Africa demonstrates a progressive, dedicated legislative model; and Zimbabwe occupies an

intermediate constitutional position. The analysis is guided by three research questions: (1) What legal frameworks currently govern TK protection in each jurisdiction? (2) What are the critical gaps and limitations of existing frameworks? (3) What elements should a sui generis TK protection system for Africa incorporate?

Critically, this study also engages with information science dimensions of TK protection, recognising that legal frameworks alone are insufficient without robust knowledge documentation systems, ethical data governance, and community-controlled information infrastructure. The journal's interdisciplinary focus on information science and law makes this intersection particularly relevant.

2. Methodology

This study adopts a doctrinal research methodology. Primary sources include national statutes, constitutional provisions, binding and non-binding international legal instruments. Secondary sources comprise peer-reviewed academic articles, institutional policy documents, and reports from bodies such as the World Intellectual Property Organisation (WIPO) and the United Nations Conference on Trade and Development (UNCTAD). Document analysis serves as the principal method of data collection.

The study further employs comparative legal analysis, examining TK-related legislative frameworks across three African jurisdictions to identify commonalities, divergences, and policy lessons. Insights from information science scholarship on indigenous knowledge documentation, metadata, and data governance are integrated to provide interdisciplinary grounding. The study's principal limitation is its reliance on documentary sources; empirical community-level data on TK holders' experiences is beyond its scope and should be pursued in future research.

3. Conceptual Clarification

3.1 Geographical Indications and Traditional Knowledge Distinguished

Geographical indications (GIs) and traditional knowledge are sometimes conflated but serve structurally distinct legal and epistemic functions. A GI identifies goods originating from a specific region whose quality or reputation is attributable to geographical origin, as provided under Article

22 of the TRIPS Agreement and the Lisbon Agreement. GI protection is fundamentally market-oriented, linking product identity to territorial provenance for commercial purposes.

TK, by contrast, is a comprehensive knowledge system encompassing practices, innovations, and cultural expressions developed and sustained over generations within indigenous communities. While both GIs and TK may draw on ancestral community knowledge, their divergence is material: GIs protect product-specific market attributes, while TK encompasses non-commercial, sacred, restricted, and intergenerational knowledge that frequently resists commodification. This distinction matters significantly for designing an appropriate protection mechanism. GI tools would be wholly inadequate to protect medicinal knowledge or spiritual practices that are not product-linked and may be deliberately withheld from public disclosure. The risk of conflating the two is the application of market-oriented protection tools to knowledge systems whose value is fundamentally non-market leading to inappropriate commodification.

3.2 Traditional Knowledge: Definition, Typology, and Information Dimensions

WIPO defines TK as knowledge, skills, practices, and know-how that are developed, sustained, and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity. TK is characterised by ancient origins, oral transmission, community embeddedness, and adaptive dynamism; knowledge does not become traditional solely by reason of antiquity, but by virtue of the community transmission system through which it is perpetuated.

Analytical precision requires distinguishing between three categories of TK: (a) documented TK, which has been recorded through state or institutional efforts and may exist in databases or publications; (b) undocumented TK, which remains exclusively oral and community-held; and (c) misappropriated TK, which has been unlawfully registered or commercialised by third parties without community consent. Each category raises distinct legal and informational challenges. The turmeric patent case, in which the United States Patent and Trademark Office granted and subsequently revoked a patent on turmeric's wound-healing properties after India demonstrated prior art, illustrates the risk of misappropriation of undocumented TK and the role of documentation in defensive protection.

TK also requires differentiation along functional lines. Codifiable TK, such as agricultural techniques and plant-based remedies, may admit documentation and registration. Tacit TK, such as ritually embedded practices or spiritually restricted knowledge, resists formalisation and requires community access protocols that preserve confidentiality.

Commercial TK differs from sacred TK in the legal instruments used to protect it. A credible sui generis framework must reflect these distinctions rather than applying uniform treatment.

The information governance dimensions of TK are equally significant. Documentation raises complex questions: who controls TK databases; how consent and access are governed; and whether digitisation creates new vectors for commercial exploitation. Indigenous data sovereignty, understood as the right of indigenous communities to govern the collection, ownership, and application of data derived from their knowledge systems, is an emerging principle that must animate any documentation regime.

4. Examples of Traditional Knowledge and The Rationale for Protection

TK encompasses diverse categories requiring differentiated protective approaches. Agricultural TK includes indigenous seed varieties, local irrigation systems, and soil management practices. Biomedical TK includes plant-based remedies such as Azadirachta indica (dogoyaro/neem) and Vernonia amygdalina (bitter leaf) for malaria treatment, and the hoodia cactus of the San people as an appetite suppressant. Technical and craft TK includes the Aso-oke textile traditions of Ogun State, the Akwette weaving of Anambra State, and indigenous tie-dye techniques. Cultural and expressive TK includes the Atiliogu dance of the Anambra people and the masquerade traditions of various communities.

These categories are not legally equivalent and do not raise identical informational challenges. Biomedical TK is most frequently targeted by pharmaceutical companies for patent exploitation; craft-based TK may be protected through GIs or trademarks; cultural expressions may attract copyright protection under folklore provisions. A one-size-fits-all legal approach produces both under-protection and inappropriate commodification. The economic case for protection is compelling: plant-based medicines, cosmetics, and agricultural products derived from TK generate substantial commercial value, but the pursuit of economic benefit must not override community control, displace sacred meanings,

or reduce culturally complex knowledge systems to tradeable commodities.

5. Traditional Knowledge Protection in Nigeria

5.1 Legal Framework: Fragmented and Structurally Inadequate

Nigeria's intellectual property framework, comprising the Copyright Act, Trade Marks Act, and Patents and Designs Act, does not provide dedicated protection for TK. The structural mismatch is fundamental: Nigerian IP laws, consistent with international antecedents, centres on individual authorship, inventive novelty, and temporal limitation, each of which conflicts with TK's collective, intergenerational, and cumulative character.

The most proximate provision is Section 74 of the Copyright Act, which protects expressions of folklore, defined as group-oriented, tradition-based creations reflecting community cultural identity including folk songs, dances, carvings, and indigenous textiles, against reproduction, public communication, and unauthorized adaptation when done for commercial purposes or outside customary context. While offering limited protection for certain categories of cultural expression, Section 74 does not extend to biomedical knowledge, agricultural practices, or ecological TK. Significantly, the right to authorise use under Section 74 vests in the Nigerian Copyright Commission, rather than in indigenous communities directly, which displaces community agency and undermines the communal character of TK rights.

5.2 Administrative and Regulatory Landscape

Beyond IP law, Nigeria has established several regulatory bodies with TK-adjacent mandates. The Nigeria Natural Medicine Development Agency (NNMDA), established in 1997, is charged with researching, documenting, and promoting traditional medicine. The Digital Virtual Library maintains a national inventory of medicinal, aromatic, and pesticidal plants. The Herbal Medicine and Related Products Labelling Regulations 2019 and the Traditional Medicine Act provide a supplementary regulatory layer.

Critically, these instruments regulate the use of TK rather than protect rights over TK. From an information science perspective, fundamental governance questions remain unaddressed: who controls TK databases compiled by NNMDA; what consent mechanisms govern community

contributions to the Digital Virtual Library; and whether digitisation of medicinal plant knowledge creates new vulnerabilities to commercial data extraction. Without community-controlled access protocols, tiered disclosure standards, and benefit-sharing obligations embedded in documentation frameworks, institutional documentation efforts may inadvertently facilitate rather than prevent misappropriation.

5.3 The Structural Gap

Nigeria has neither enacted a sui generis TK protection framework nor domesticated the Nagoya Protocol's access and benefit-sharing obligations. The absence of strong legal backing, combined with low community awareness of TK rights and predominately oral knowledge transmission, leaves Nigeria's considerable biodiversity, including over 12 volumes of documented medicinal plant research published by NNMDA, exposed to bio-piracy. Comprehensive legislative reform, informed by the information governance principles outlined in this study, is urgently required.

6. Traditional Knowledge Protection in South Africa

6.1 Legislative Architecture

South Africa has developed the most comprehensive TK protection framework among the three jurisdictions studied. The Intellectual Property Laws Amendment Act 28 of 2013 amended the Copyright Act of 1978, the Trade Marks Act of 1963, and the Performers Protection Act of 1967 to recognise indigenous knowledge. More significantly, the Protection, Promotion, Development and Management of Indigenous Knowledge Act 6 of 2019 established a dedicated legislative regime.

The 2019 Act creates the National Indigenous Knowledge System Office (NIKSO), mandated under Article 25 to facilitate and coordinate the commercial use of indigenous knowledge. NIKSO is required to promote partnerships for innovation, coordinate funding, develop market strategies, and promote community benefit. Article 28 imposes criminal liability on third parties who infringe indigenous community rights. South Africa's approach is deliberately hybrid rather than patent-centric: it does not simply extend existing patent rights to TK, but constructs a parallel governance architecture grounded in community consent, state facilitation, and mandatory benefit-sharing.

6.2 Critical Assessment

The San community's benefit-sharing arrangement with Phytopharm and subsequently Pfizer regarding the hoodia cactus is frequently cited as a success case. However, this example warrants critical scrutiny. The arrangement materialised only after extended negotiation supported by the South African San Council and external advocacy organisations, raising questions about replicability for communities with less organisational capacity. The commercialisation of a plant with deep cultural and functional significance to the San people also raises questions about whether royalty arrangements adequately respect indigenous epistemologies or whether they reduce sacred knowledge to a market transaction. South Africa's framework represents the regional benchmark, but the adequacy of NIKSO's community consultation mechanisms and the transparency of benefit-sharing arrangements deserve continued scholarly and policy attention.

7. Traditional Knowledge Protection in Zimbabwe

Zimbabwe's constitutional framework explicitly recognises TK. Section 33 of the Constitution references medicinal and ecological knowledge possessed by local communities, providing a constitutional foundation for legislative development. The Copyright and Neighbouring Rights Act, the Patent Act, and the Traditional Medical Practitioners Council Act of 1981 together form a legislative mosaic affording limited TK protection.

The Traditional Medical Practitioners Council Act is particularly significant, legitimising indigenous medical knowledge and regulating traditional practitioners. The Constitution's recognition of the medicinal properties of animal and plant life possessed by communities has been noted by scholars as a positive step toward integrating TK into the national legal framework. However, Zimbabwe lacks a dedicated sui generis instrument, and the distinction between codifiable biomedical TK and sacred or restricted knowledge is not systematically addressed in its legislation. As Hinz observes, the logic of sui generis protection has been acknowledged in Zimbabwe's policy discourse, yet comprehensive legislative action has not followed.

8. Discussion

Comparative analysis across the three jurisdictions reveals a clear developmental gradient in TK protection. Nigeria represents the greatest legislative gap, relying on indirect IP instruments and regulatory bodies that regulate use rather than protect community rights. Zimbabwe occupies a constitutionally progressive but operationally limited position. South Africa stands as the regional benchmark, having moved from recognition to regulation through a dedicated legislative framework with institutional architecture for implementation.

Notwithstanding this gradient, common deficiencies cut across all three jurisdictions. First, knowledge documentation infrastructure remains inadequate. Oral TK is the most vulnerable category and, while state-led documentation exists, it is not governed by community-controlled access protocols consistent with indigenous data sovereignty. Second, benefit-sharing mechanisms are either absent (Nigeria and Zimbabwe) or nascent and contingent on community organisational capacity (South Africa). Third, the differentiation between categories of TK, namely sacred versus commercial, documented versus undocumented, and codifiable versus tacit, is insufficiently reflected in legislative design across all three states.

From an information science perspective, TK protection cannot be reduced to a legal question alone. Effective protection requires the development of indigenous knowledge documentation systems governed by ethical knowledge organisation principles; community-controlled databases with tiered access mechanisms distinguishing publicly shareable from restricted knowledge; and metadata frameworks that attribute knowledge to originating communities in ways that establish legally cognisable prior art. Critically, digitisation of TK carries risks alongside benefits: open-access digital repositories may facilitate rather than prevent misappropriation unless access controls are community-governed. The principle of indigenous data sovereignty demands that communities retain authority over data derived from their knowledge systems, including data compiled by state agencies.

9. African Human Rights Framework on Traditional Knowledge

The African Charter on Human and Peoples' Rights provides a normative foundation for TK protection. Article 14, guaranteeing the right to property, encompasses both individual and communal property, thereby extending to collective TK holdings. Unlike Western IP frameworks

premised on private property, the African Charter's property guarantee is not restricted to individual ownership, meaning that communally held TK is constitutionally cognisable as property deserving protection.
Article 24 guarantees the right to a satisfactory environment. The African Commission has interpreted this as requiring states to promote conservation and sustainable use of natural resources, an obligation that encompasses the bio-resources underpinning TK. Member states therefore bear not merely a negative obligation to refrain from violating TK holders' rights, but a positive obligation to actively protect and fulfil those rights through legislative, administrative, and institutional measures. South Africa's enactment of the 2019 Act may be understood as a partial discharge of this obligation; Nigeria and Zimbabwe's legislative inaction correspondingly reflects a failure to fulfil it.

10. The Sui Generis Option: Elements of a Framework

The foregoing analysis establishes that existing IP regimes are structurally inadequate to protect TK, and that existing partial measures across most African states leave TK exposed to exploitation. A sui generis regime, one designed specifically and exclusively for TK and independent of conventional IP law, is the most appropriate and sustainable solution.

Drawing on comparative analysis, the Nagoya Protocol on Access and Benefit-Sharing, the ARIPO Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore, the AfCFTA IP Protocol, and South Africa's 2019 Act, this study proposes the following elements for a sui generis TK framework for Africa:

- Community-centred ownership: Rights should vest in identified indigenous communities, not in individuals or the state. Customary governance structures and community protocols should determine who speaks for a community and how access is granted.
- Tiered knowledge classification: The framework must distinguish between public TK, restricted TK, and sacred TK. Different access conditions, consent requirements, documentation standards, and enforcement mechanisms should apply to each category. This prevents the imposition of uniform commercial logic on epistemologically diverse knowledge systems.
- Prior informed consent and mandatory benefit-sharing: Any commercial use of TK by third parties must require prior informed

consent from the relevant community and must be subject to equitable benefit-sharing agreements registered with a national TK authority. Non-compliance should attract civil and criminal liability.

- Ethical documentation and indigenous data sovereignty: Community-controlled databases should be established, with communities retaining governance authority over data derived from their knowledge systems. Documentation frameworks should be governed by ethical knowledge organisation principles that protect restricted knowledge from unauthorised access. State agencies may assist in documentation but must not control the resulting data.
- Defensive protection through prior art databases: Databases establishing TK as prior art should be developed to prevent unlawful patenting by third parties. These databases need not be publicly accessible; restricted databases can furnish legal prior art evidence without exposing TK to open-access exploitation.
- Continental harmonisation: African states should adopt a harmonised framework through the African Union, building on existing instruments, to prevent regulatory arbitrage and ensure consistent protection across borders. A single African sui generis instrument would enhance Africa's collective bargaining position in international IP negotiations.

11. Conclusion

This study has demonstrated that TK protection in Africa is characterised by legislative fragmentation, conceptual misalignment between existing IP regimes and TK's communal nature, and inadequate information governance infrastructure. Nigeria's reliance on indirect IP instruments and regulatory bodies is insufficient; Zimbabwe's constitutional recognition has not been comprehensively operationalised; South Africa's 2019 Act represents the regional benchmark but is not without implementation limitations.

The paper has argued for a sui generis framework that is community-centred, knowledge-type-sensitive, ethically documented, and continentally harmonised. Such a framework must go beyond asserting legal rights to establishing the information governance infrastructure, comprising community databases, consent protocols, tiered access

systems, benefit-sharing mechanisms, and indigenous data sovereignty principles, that renders those rights practically enforceable.

African governments are urged to enact dedicated national TK legislation; critically evaluate existing frameworks against the proposed elements; invest in community-controlled documentation infrastructure; and pursue continental harmonisation through the African Union. Indigenous communities must simultaneously be empowered with awareness of their rights and the organisational capacity to assert them. Without these twin interventions, that is, legal reform anchored in information governance, Africa's extraordinary knowledge heritage will continue to be extracted for the benefit of others, to the detriment of the communities who created and sustained it.

Legislations

Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) 1994.

ARIPO Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore 2010.

Copyright Act (Nigeria) Cap C28 LFN 2004.

Herbal Medicine and Related Products Labelling Regulations (Nigeria) 2019.

Intellectual Property Laws Amendment Act 28 of 2013 (South Africa).

Lisbon Agreement for the Protection of Appellations of Origin and their International Registration 1958.

Protection, Promotion, Development and Management of Indigenous Knowledge Act 6 of 2019 (South Africa).

Traditional Medical Practitioners Council Act (Zimbabwe) 1981.

Zimbabwe Constitution 2013, Section 33.