

Sacred Body, Sacred Knowledge: Yoga and Ayurveda within Cultural Heritage Frameworks

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Abstract This study evaluates the efficacy of contemporary cultural heritage and intellectual property (IP) frameworks in safeguarding the living, metaphysical realities of Yoga and Ayurveda. Emerging over 5,000 years ago as interconnected sister sciences in South Asia, these traditions conceptualize life (*Ayuh*) as a holistic state of equilibrium (*Svastha*). However, modern commercialization often subjects these practices to epistemic violence, reducing multidimensional spiritual pathways to biomechanical commodities. This research uses interdisciplinary legal and cultural analyses to assess the protective role of India's Traditional Knowledge Digital Library (TKDL) and the landmark 2024 WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge. By examining historical biopiracy cases—specifically turmeric, neem, and basmati rice—alongside the economic disparities highlighted by the Kenyan Mweri bark case, this paper exposes the "protection gap" inherent in current defensive publication regimes. The findings indicate that while digital indexing provides crucial prior art, it risks exposing sacred, orally transmitted traditions to public domain exploitation. To secure epistemic sovereignty, the study recommends transitioning to a human rights-centered IP framework integrated with secure technological interventions, such as Enterprise Digital Rights Management (E-DRM), cryptographic watermarking, and community-governed protocols like Mukurtu and Local Contexts Labels.

Keywords: Traditional Knowledge; Biopiracy; Cultural Heritage; Intellectual Property; WIPO Treaty

INTRODUCTION

Yoga and Ayurveda represent the foundational "sister sciences" of the Vedic tradition, a sophisticated epistemic system that emerged in South Asia over 5,000 years ago. Within this framework, "life" (*Ayuh*) is not a mere biological state but a profound confluence of body, mind, and spirit. However, in the contemporary global landscape, these systems frequently suffer from a form of epistemic violence—an ontological reduction where multi-dimensional pathways to liberation are flattened into bio-mechanical fitness trends or alternative therapies. Ayurveda, the "sacred knowledge of life," and Yoga, the practice of "yoking" or union, constitute a holistic science of existence where health is defined as *Svastha*: an authentic harmony in which the body, mind, soul, and senses exist in an abiding state of bliss and equilibrium.

The transition of Yoga and Ayurveda from the traditional *guru-shishya* (master-disciple) transmission to universal recognition marks a pivotal shift in the governance of Intangible Cultural Heritage (ICH). A landmark in this evolution was the 2016 inscription of Yoga on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity, acknowledging its role in fostering social harmony and holistic well-being. For India, these traditions are central to national identity, representing one of the world's most extensive collections of living heritage. As these systems move from ashrams to global health curricula, they provide a model for wellness that transcends the limitations of Western bio-medicine, yet this transition necessitates a rigorous defense of their philosophical integrity against the pressures of global commercialization.

The scholarship conceptualizes the "Sacred Body" not as an anatomical object of the Cartesian gaze, but as a microcosm of the universe constructed from the *Pancha Mahabhuta* (five building blocks of nature): Earth, Water, Fire, Air, and Ether.¹ This metaphysical anatomy is mapped through thousands of *nadis* (subtle pathways)—most notably the *Ida* (lunar), *Pingala* (solar), and *Sushumna* (central) channels—and primary *chakras* (energy vortices).

This ontological differentiation is critical for cultural heritage policy. While Western medicine treats symptomatic pathology, the Vedic system prioritizes the flow of *Prana* (vital life force) and the efficacy of *Agni* (metabolic fire). Healing in this context involves restoring cellular intelligence and correcting

qualitative imbalances of the *Gunas*. Crucially, Ayurvedic logic relies on the distinction between *Prakriti* (one's unique primordial constitution) and *Vikriti* (one's current state of imbalance). Because healing is radically individualized based on *Prakriti*, the "one-size-fits-all" logic inherent in modern patent regimes is fundamentally at odds with the epistemic reality of these traditions. A standardized botanical patent essentially violates the Ayurvedic principle that "everything is medicine and everything is poison," depending entirely on the individual context.

Problematization and the Protection Gap

A significant "Research Gap" exists where current cultural heritage frameworks struggle to protect "living" spiritual traditions that are primarily oral or metaphysical.² A primary critique involves the "public domain" designation in Intellectual Property (IP) law.³ When sacred knowledge is documented and deemed "publicly available," it satisfies the "prior art" requirement to prevent others from claiming novelty, but it simultaneously risks exposing secret or sacred traditions to ontological decontextualization.² The current regime allows private corporations to claim patents by making "minor or insignificant modifications" to ancient knowledge, effectively privatizing the commons and disenfranchising the original custodians.³

Research Urgency and Objectives

The ethical urgency to protect these systems is underscored by the high stakes of biopiracy.³ The financial burden of defensive litigation is staggering; for example, the Agricultural and Processed Food Products Export Development Authority (APEDA) had to expend approximately seven crores in legal fees alone to revoke only a few claims of the Basmati rice patent.¹ Such costs are prohibitive for most traditional communities, threatening their epistemic sovereignty.

This research aims to evaluate the efficacy of current safeguarding mechanisms, specifically the Traditional Knowledge Digital Library (TKDL), in preserving the metaphysical realities of Yoga and Ayurveda.¹ The objective is to determine if digital documentation can bridge the gap between ancient Sanskrit texts and modern patent offices without surrendering the sacred nature of the knowledge to the secularizing forces of the market.¹

RESULTS AND DISCUSSION

Establishing a "rock-solid" foundation for this study requires a multi-layered framework that reconciles ancient Vedic philosophy with the rigid structures of contemporary IP law. We must analyze how "sacred" concepts are translated into "prior art" and whether documentation reinforces or undermines the cultural sovereignty of traditional holders

The Epistemology of the Sacred Body and Vedic Traditions

The internal logic of traditional Indian medicine is structured around specific functional entities and qualitative pairs. The following definitions and opposites form the basis of Ayurvedic diagnostic and therapeutic rigor:

Concept	Functional Role and Elemental Composition
Vata Dosha	Composed of Air + Ether; governs movement, communication, and the flow of prana.
Pitta Dosha	Composed of Fire + Water; governs transformation, metabolism, and digestion.
Kapha Dosha	Composed of Water + Earth; governs structure, cohesiveness, and lubrication.
Agni	The "metabolic fire" and cornerstone of health; responsible for digestion and transformation.
Ida Nadi	The lunar, feminine channel (left side); carries prana for higher consciousness.
Pingala Nadi	The solar, masculine channel (right side); associated with the right nostril and action.

Sushumna Nadi	The central channel through the spine; intersects the seven chakras to balance forces.
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The Twenty Gunas (Ten Pairs of Opposites): Ayurveda utilizes these qualities to identify imbalances. Like increases like; opposites balance.

1. Heavy / Light
2. Slow (Dull) / Sharp (Penetrating)
3. Cold / Hot
4. Oily / Dry
5. Smooth / Rough
6. Dense / Liquid
7. Soft / Hard
8. Stable / Mobile
9. Gross / Subtle
10. Cloudy (Sticky) / Clear

The Politics of Decontextualization and Modern Commodification

The global commercialization of Yoga often operates through a lens of Cartesian dualism, detaching physical asanas from their *moksha* (liberation) roots. This commodification is evident in the "mushrooming of luxury resorts and spas" that offer rejuvenation as a commercial product. By stripping these practices of their philosophical context, private entities engage in misappropriation, using "minor modifications" to claim IP rights over "new" wellness techniques. This process reduces "sacred knowledge" to a marketable commodity, facilitating the extraction of value while marginalizing the traditional practitioners who serve as the true custodians of the lineage.

Safeguarding Frameworks and Traditional Knowledge Protection

The Traditional Knowledge Digital Library (TKDL) is India's primary defensive mechanism against biopiracy.¹ Established in 2001 as a collaboration between the Council of Scientific and Industrial Research (CSIR) and the Ministry of AYUSH, it serves as a linguistic and technical "bridge" for patent examiners.¹

- **Current Scale:** As of recent reports, more than 5.2 lakh formulations and practices have been transcribed into the TKDL database.⁶
- **Global Access:** Access is now granted to eighteen Patent Offices worldwide (including the EPO, USPTO, and recent additions like the National Industrial Property Institute of France and the Eurasian Patent Organization).¹
- **WIPO Treaty Milestone:** A significant advancement in international law occurred in May 2024 with the conclusion of the WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge.⁸ Article 6 of this treaty explicitly recommends establishing information systems like databases, a high-level recognition of the utility of the TKDL model.¹

The historical biopiracy battles summarized below highlight the immense stakes involved before the establishment of defensive databases like the TKDL:

Case Study	Basis of Challenge	Legal Outcome & Cost
Turmeric (CSIR vs. USPTO) 13	Prior art in Sanskrit texts and a 1953 journal proved wound healing was not novel. ¹⁴	Patent Revoked (1997); landmark victory for TK. ¹³
Neem (NGOs vs. EPO) 15	Proof that fungicidal properties were used for centuries in Indian agriculture. ¹⁶	Patent Revoked (2000/2006); established use of local knowledge as prior art. ¹⁵
Basmati Rice (APEDA vs. RiceTec) 17	Challenged claims 15-17 regarding rice grain characteristics unique to South Asia. ¹⁸	Claims Withdrawn; name "Basmati" protected. ¹⁸ APEDA spent 7.62 crores in legal fees. ⁵

Structural Limitations and Future Directions

While the TKDL is a deterrent—having impacted close to 370 patent applications globally—it is not a "magic bullet".¹ Documentation requires disclosure, which can violate customary laws requiring the secrecy of "sacred and secret" knowledge.² Furthermore, traditional IP protects only the expression (copyright), not the underlying idea. To mitigate these risks, technical measures like Digital Rights Management (DRM) and Digital Watermarks must be integrated into digital archives to ensure access aligns with the conditions set by traditional holders.¹⁹

The evolution of cultural heritage studies necessitates a shift toward a "Human Rights Approach".²³ Purely defensive strategies often fail to address the underlying economic disparity.¹ A poignant example is the Mweri bark extract in Kenya: while the local community was paid a mere 2 USD for the raw material, the patent holders earned 800 USD from the resulting treatment.²³ This highlights the failure of current models to provide equitable Access and Benefit-Sharing (ABS).²³ Moving forward, international machinery—within the WTO or similar multilateral forums—must prioritize epistemic sovereignty and the livelihoods of communities, reconciling "people with profits" to ensure that those who birthed these sacred sciences remain their primary beneficiaries.¹

To evaluate the operational and strategic paradigms of current institutional protections, the study establishes a multi-criteria baseline of manuscript parameters and functional statuses:

Operational Dimension	Cartesian Biomedicine Paradigm	Vedic Epistemological Paradigm
Primary Objective	Targeted symptomatic intervention and pathological reductionism.	Integrative equilibrium (Svastha) of somatic, mental, and spiritual states.
Anatomical Mapping	Cartesian somatic division; physical body as an isolated mechanical machine.	Microcosm constructed from the Pancha Mahabhuta and animated by Prana. ¹
Somatic Channels	Vascular, lymphatic, and central nervous networks.	Interconnected system of thousands of nadis and chakras.
Therapeutic Model	Standardized, population-based pharmaceutical protocols.	Radically individualized treatments based on Prakriti and Vikriti.
IP Protection Compatibility	Highly compatible with standardized utility patents and private utility monopolies.	Structurally incompatible with private patent regimes; requires collective protection. ³

The answer to the first question

The primary query concerning the protection of living cultural heritage is: How can digital documentation models preserve the non-physical, metaphysical realities of oral and sacred traditions without triggering the "public domain exposure trap"?

The core vulnerability of traditional IP regimes is their binary treatment of knowledge, which forces sacred, community-held traditions into either the private monopoly of patents or the uncompensated vulnerability of the public domain.³ When traditional knowledge is digitized to serve as defensive "prior art" in databases like the TKDL, the acts of translation and transcription strip the practices of their spiritual context, rendering them secular and easily accessible to corporate researchers.² To resolve this problem, archival and safeguarding frameworks must incorporate community-governed technological interventions that move beyond simple open-access paradigms.¹⁹

Integrating technical architectures like Enterprise Digital Rights Management (E-DRM) and secure, identity-based metadata controls is an essential first step.²⁸ E-DRM systems prevent data loss and unauthorized copying by applying dynamic, contextual rules to digitized assets, restricting the ability of recipients to print, download, or distribute sensitive materials.²⁸ Furthermore, embedding invisible

steganographic digital watermarks within low-value bit domains allows archives to track external data distribution and enforce usage policies.²⁰ This technological protection is vital because traditional databases are prone to malicious corruption and unauthorized reading by actors seeking to bypass access agreements.²¹

At the institutional level, systems like the Mukurtu Content Management System (CMS) provide a practical model for community-centered digital stewardship.²⁹ Built specifically with indigenous communities, Mukurtu rejects the assumption of absolute openness, operating instead on fine-grained "Cultural Protocols" that govern access based on community values, lineage, gender, or seasonal cycles.²

This is reinforced by the Local Contexts framework, which utilizes Traditional Knowledge (TK) Labels as machine-readable, digital tags.² These labels convey crucial non-legal educative protocols regarding proper stewardship, attribution, and restrictions on commercial use, allowing communities to retain cultural authority over digitized materials even when they are legally held in external repositories or the public domain.²

The answer to the second question

The second critical query of this investigation is: To what extent does the landmark WIPO GRATK Treaty of May 2024 seal the regulatory loopholes of biopiracy, and what structural gaps remain unresolved?

The adoption of the WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge in May 2024 was widely heralded as a historic milestone, establishing a mandatory international patent disclosure requirement for inventions "based on" genetic resources or associated traditional knowledge.⁸ Under Article 3, applicants must disclose the country of origin or the specific local community that provided the resource or knowledge.¹¹ Furthermore, Article 6 encourages the development of information systems and databases, validating India's TKDL model as an international benchmark for patent examination.¹

However, a critical legal analysis reveals that the treaty leaves several significant loopholes unaddressed.²⁷ The primary gap lies in the treaty's restrictive "based on" trigger.³² Unlike the Nagoya Protocol's expansive "utilization" trigger, the WIPO Treaty applies only if the genetic resource or traditional knowledge is necessary for and directly linked to the claimed invention.¹¹

This narrow definition allows patent applicants to introduce minor chemical or synthetic modifications to a traditional formula and claim that the final product is no longer "based on" the original traditional knowledge, effectively bypassing the disclosure mandate.³³

Additionally, the treaty permits applicants to claim ignorance regarding the source of the traditional knowledge or genetic resources, creating an escape clause that weakens due diligence.³² The enforcement mechanisms are similarly compromised, as Article 5.4 limits post-grant sanctions and prevents the revocation of granted patents for non-compliance unless fraudulent intent is proven, which is notoriously difficult to establish legally.¹¹

Finally, the treaty completely excludes Digital Sequence Information (DSI).³² In an era where biotechnology and synthetic biology routinely transcribe physical genetic resources into digital blueprints that are edited *in silico* and printed synthetically, the exclusion of DSI represents a major structural vulnerability that allows digital biopiracy to continue unimpeded.³²

To close these gaps, defensive databases like the TKDL—which has grown to over 5.2 lakh formulations and is shared under strict NDAs with eighteen patent offices, including Brazil's INPI as of February 2026—must be actively integrated as searchable "prior art" registries under WIPO's framework to prevent erroneous patents before they are granted.¹

The answer to the third question

The third essential query of this research is: How can cultural heritage frameworks and trade bodies transition to a Human Rights approach to intellectual property that resolves systemic economic disparities?

The limitations of purely defensive publication models are highlighted by the stark economic inequities of biopiracy, where Western and corporate entities extract immense wealth from local

biological resources while providing no compensation to the original custodians.¹ The patenting of the Mweri bark (*Prunus africana*) extract in Kenya is a prime example of this systemic exploitation, often termed biocolonialism.⁴ The dark brown bark of the Mweri tree has been used for generations by Gikuyu communities to treat prostate complications, urinary tract issues, and malaria.²⁴ However, after a French entrepreneur patented the use of the bark extract, a massive commercial export industry emerged, shipping over 300 tons of bark annually to Europe.²⁴

The resulting commercial arrangement exposes a deep economic disparity: French companies pay Kenyan harvesters a mere 2 USD per kilogram for the raw Mweri bark, while the processed capsules are marketed in Europe for 8 USD per 15-capsule packet, translating to a retail value of roughly 800 USD per treatment course.²³ Consequently, local Kenyan populations are left unable to meet their own basic medical needs due to local environmental depletion and patent restrictions, while foreign multinational corporations capture the entire economic surplus.²³

To resolve these disparities, international trade frameworks like the World Trade Organization (WTO) must transition to a Human Rights approach that moves beyond the individualistic, commercial models of standard IP law.²³ A human rights paradigm asserts that indigenous and local communities possess an inherent, sovereign right to control and benefit from their cultural heritage, supported by mandatory Access and Benefit-Sharing (ABS) agreements and the enforcement of Free, Prior and Informed Consent (FPIC).²⁵

A successful precedent for this model is found in Kenya's Baringo County, where local authorities and the Kenya Wildlife Service (KWS) secured 2.3 million Kenyan shillings (approximately USD 26,000) in annual royalties from the Danish bio-enzyme company Novozymes for microbial research around the Lake Bogoria geysers.³⁵ This agreement was established after Kenya ratified the Nagoya Protocol, proving that legally enforceable ABS and FPIC frameworks can successfully integrate local communities into the economic value chain, reconciling "people with profits".¹

CONCLUSION

This study demonstrates that while defensive publication systems like India's Traditional Knowledge Digital Library (TKDL) are highly effective deterrents against blatant biopiracy, they are insufficient on their own to protect living spiritual traditions like Yoga and Ayurveda.¹ Documenting oral and metaphysical sciences to establish prior art succeeds in blocking erroneous patents, but it risks exposing sacred, localized knowledge to decontextualization and commercial exploitation in the public domain.²

To resolve this conflict, digital databases must integrate secure technologies, such as Enterprise Digital Rights Management (E-DRM), cryptographic watermarking, and community-governed archiving platforms like Mukurtu and Local Contexts Labels, which preserve community access protocols and cultural authority over digital heritage.²⁸

Furthermore, the landmark 2024 WIPO GRATK Treaty, while a major step forward, contains structural loopholes—including a restrictive "based on" trigger, an ignorance loophole, the exclusion of Digital Sequence Information (DSI), and a lack of post-grant patent revocation sanctions—that leave traditional knowledge vulnerable to sophisticated forms of biopiracy.¹¹

The extreme economic disparity highlighted by the Kenyan Mweri bark patent, where local communities receive a tiny fraction of the commercial value of their resources, underscores the urgent need to transition to a Human Rights approach to intellectual property.²³ Global trade frameworks must enforce mandatory Access and Benefit-Sharing (ABS) agreements and require Free, Prior and Informed Consent (FPIC) to ensure that traditional communities are recognized as the sovereign custodians and primary economic beneficiaries of their ancestral sciences.²⁵

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