

Indigenous Knowledge, Colonial Legacies, and Intellectual Property Rights in Fiji and the Pacific: Reclaiming Ownership in Education and Research

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ABSTRACT

The growing global emphasis on Artificial Intelligence, data-driven research, and knowledge economies has intensified longstanding debates around the ownership, control, and ethical use of Indigenous knowledge systems. In Fiji and the wider Pacific, these debates are deeply rooted in colonial histories that facilitated the extraction, documentation, and external control of Indigenous knowledge without meaningful consent, recognition, or benefit-sharing. This paper critically examines the intersection of Indigenous knowledge, colonial legacies, and intellectual property rights (IPR) within the context of education and research in the Pacific region, with particular focus on Fiji.

Drawing on decolonial theory, critical pedagogy, and Indigenous epistemological frameworks, the study interrogates how historical and contemporary research practices have contributed to what can be conceptualized as epistemic dispossession, where Indigenous communities have been systematically excluded from ownership and governance of their own knowledge systems. The paper further explores how existing international legal instruments and policy frameworks, including those advanced by UNESCO and World Intellectual Property Organization, attempt to address issues of intellectual property protection, while highlighting their limitations in adequately safeguarding communal, oral, and culturally embedded knowledge traditions characteristic of Pacific societies.

The analysis situates Fiji within the broader Pacific discourse, emphasizing the importance of culturally responsive and community-centred approaches to research, education, and policy development. It argues that prevailing Western-centric intellectual property regimes often fail to recognize collective ownership, intergenerational knowledge transmission, and the relational nature of Indigenous epistemologies. As a result, there is an urgent need to reconceptualize intellectual property frameworks to align with Indigenous worldviews, ensuring that knowledge is not commodified or appropriated in ways that undermine cultural integrity and sovereignty.

Furthermore, the paper examines emerging efforts to reclaim ownership and agency, including the integration of Indigenous knowledge into national curricula, the development of ethical research protocols, and the strengthening of community-led governance structures. It highlights the role of higher education institutions, policymakers, and researchers in advancing equitable partnerships that prioritize informed consent, reciprocity, and benefit-sharing. The study also addresses the implications of digital technologies and AI, which present both opportunities for preservation and risks of further exploitation of Indigenous knowledge.

Ultimately, this paper contributes to ongoing scholarly and policy debates by proposing a transformative framework for reclaiming Indigenous intellectual sovereignty in Fiji and the Pacific. It calls for a shift from extractive research paradigms toward inclusive, ethical, and decolonized approaches that respect Indigenous rights, promote cultural sustainability, and ensure that knowledge production serves the communities from which it originates.

Keywords: Indigenous Knowledge; Intellectual Property Rights; Decolonization; Colonial Legacies; Fiji; Pacific Islands; Research Ethics; Knowledge Ownership; Cultural Sustainability; Epistemic Justice; AI and Indigenous Data; Education Policy.

INTRODUCTION

The rapid expansion of knowledge economies, digital technologies, and global research networks has intensified longstanding debates about the ownership, control, and

ethical use of knowledge systems. Nowhere is this more evident than in the context of Indigenous knowledge in Fiji and the wider Pacific, where colonial histories, contemporary research practices, and evolving intellectual property regimes intersect in complex and often contested ways. Indigenous knowledge systems in

the Pacific are deeply embedded in cultural practices, oral traditions, communal relationships, and ecological stewardship, reflecting holistic worldviews that differ fundamentally from Western notions of individual ownership and commodification of knowledge (Smith, 2012; Thaman, 2009). However, these systems have historically been marginalized, appropriated, and, in many instances, exploited through colonial and postcolonial structures of power.

Colonial encounters in the Pacific facilitated the systematic extraction and documentation of Indigenous knowledge by external actors, including missionaries, anthropologists, and colonial administrators, often without the consent or participation of Indigenous communities. These processes contributed to what scholars describe as *epistemic dispossession*, the displacement of Indigenous peoples from ownership and control over their own knowledge systems (Battiste, 2013; Smith, 2012). In Fiji, as in many Pacific Island societies, knowledge relating to land, navigation, medicine, and cultural practices was recorded, translated, and disseminated through Western academic and institutional frameworks, frequently resulting in the erasure of Indigenous authorship and authority (Nabobo-Baba, 2006). Such practices have had enduring consequences, shaping contemporary inequalities in knowledge production, access, and recognition.

The persistence of these inequities raises critical questions regarding intellectual property rights (IPR) and their applicability to Indigenous knowledge systems. Conventional IPR frameworks, grounded in Western legal traditions, emphasize individual ownership, originality, and fixed forms of expression, thereby inadequately capturing the collective, intergenerational, and dynamic nature of Indigenous knowledge (Drahos & Frankel, 2012). As a result, Indigenous communities in Fiji and across the Pacific often find their knowledge unprotected or misappropriated within global research and commercial contexts. Efforts by international organizations such as UNESCO and World Intellectual Property Organization have sought to address these gaps through policy frameworks and guidelines aimed at safeguarding traditional knowledge and cultural expressions. Nevertheless, significant challenges remain in translating these frameworks into locally meaningful and enforceable protections (Torsen & Anderson, 2010).

In recent years, there has been a growing recognition of the need to decolonize research practices and re-center Indigenous epistemologies within education and knowledge production systems. Decolonial approaches emphasize the importance of Indigenous self-determination, community ownership of knowledge, and ethical research practices grounded in respect, reciprocity, and relational accountability

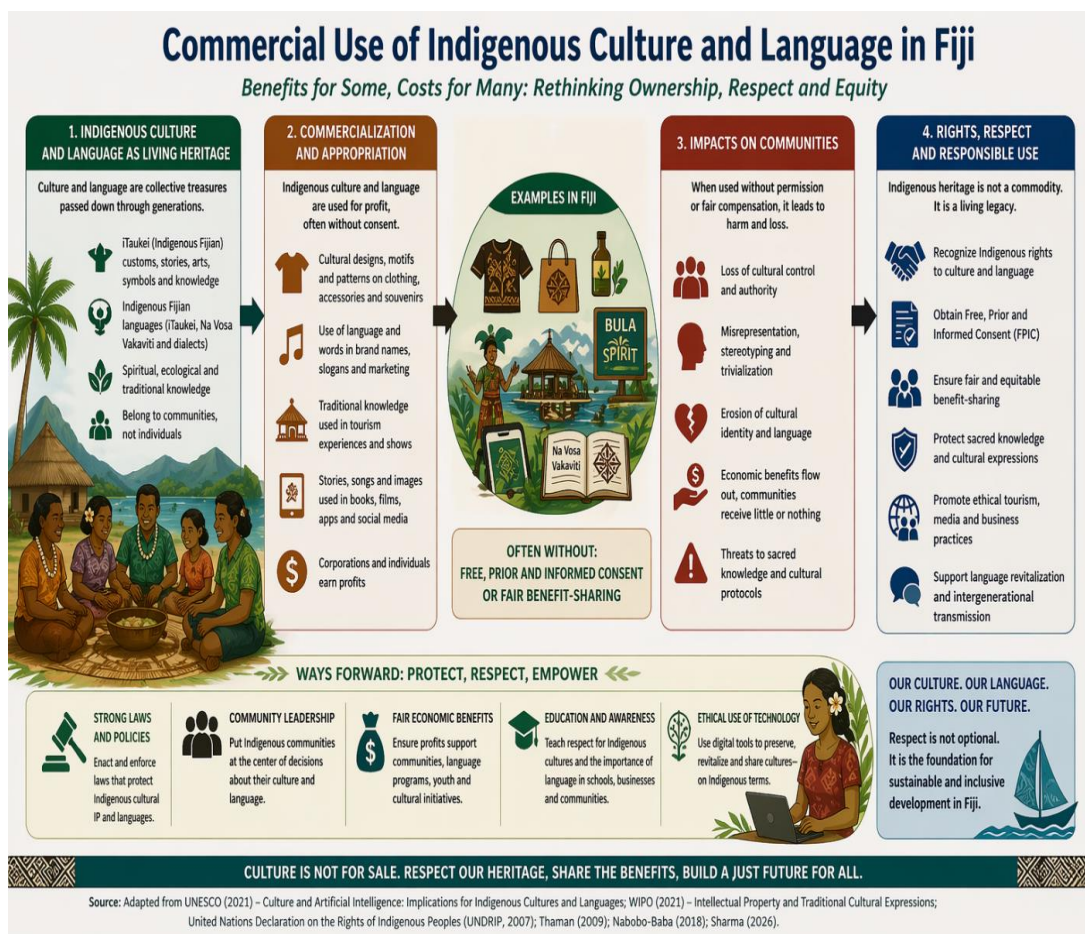
(Smith, 2012; Chilisa, 2012). In the Fijian and broader Pacific context, scholars and practitioners have increasingly advocated for culturally responsive frameworks that integrate Indigenous knowledge into formal education systems while ensuring that such integration does not lead to further appropriation or dilution (Thaman, 2009; Nabobo-Baba, 2006). These efforts align with broader regional movements toward reclaiming cultural identity, strengthening local governance, and promoting sustainable development rooted in Indigenous values.

At the same time, the rise of digital technologies, including artificial intelligence (AI), presents both opportunities and risks for Indigenous knowledge systems. On one hand, digital platforms offer new avenues for the preservation, documentation, and dissemination of Indigenous knowledge, potentially enhancing visibility and intergenerational transmission. On the other hand, they raise concerns about data sovereignty, unauthorized use, and the commodification of cultural knowledge in ways that may further marginalize Indigenous communities (Kukutai & Taylor, 2016). In this context, questions of intellectual property, consent, and benefit-sharing become even more critical, particularly as global research and innovation ecosystems increasingly rely on data-driven approaches.

This paper responds to these pressing issues by critically examining the intersection of Indigenous knowledge, colonial legacies, and intellectual property rights in Fiji and the Pacific. It seeks to interrogate how historical patterns of extraction and marginalization continue to shape contemporary research practices and policy frameworks, and to explore pathways for reclaiming ownership and agency over Indigenous knowledge systems. Drawing on decolonial theory, critical pedagogy, and Indigenous epistemological perspectives, the study aims to contribute to ongoing scholarly and policy debates by proposing a more equitable and culturally grounded approach to knowledge governance.

Ultimately, the paper argues that addressing the challenges associated with Indigenous intellectual property in Fiji and the Pacific requires more than legal reform; it demands a fundamental rethinking of the epistemological foundations of knowledge production and ownership. By centring Indigenous voices, recognizing collective rights, and promoting ethical and collaborative research practices, it is possible to move toward a more just and inclusive knowledge system—one that respects the cultural integrity, sovereignty, and aspirations of Indigenous communities in the Pacific and beyond.

Figure 1. Commercial Use of Indigenous Culture and Language in Fiji: Implications for Equity, Ownership, and Cultural Sustainability



LITERATURE REVIEW

The body of literature on Indigenous knowledge, colonial legacies, and intellectual property rights (IPR) in Fiji and the Pacific reflects a growing interdisciplinary engagement spanning education, law, anthropology, development studies, and ethics. Central to this scholarship is the recognition that Indigenous knowledge systems are not merely bodies of information but are deeply embedded in social, cultural, spiritual, and ecological relationships. These systems are collectively owned, orally transmitted, and intergenerationally sustained, which fundamentally challenges dominant Western epistemologies that privilege individual ownership, written documentation, and commodification.

A significant strand of literature examines the historical and ongoing impacts of colonialism on Indigenous knowledge systems. Scholars argue that colonial encounters facilitated the systematic extraction, classification, and institutionalization of Indigenous knowledge within Western frameworks, often without consent or recognition. This process contributed to what has been conceptualized as *epistemic injustice* or *epistemic dispossession*, whereby Indigenous communities were marginalized from the

ownership and control of their own knowledge systems. In the Pacific context, including Fiji, colonial administrators, missionaries, and researchers documented Indigenous practices, ranging from governance structures to ecological knowledge, while simultaneously undermining Indigenous authority and knowledge transmission systems.

Contemporary scholarship has increasingly focused on the ethical dimensions of research involving Indigenous communities. A key contribution in this regard is the work synthesized in the study by Etivina Lovo and colleagues, which highlights the importance of Indigenous principles such as respect, reciprocity, trust, and relational accountability in research governance. Their review identifies recurring issues across Oceania, including the exploitation of Indigenous populations in research, inadequate informed consent processes, and weak ethical governance structures in many Pacific Island countries. The literature further emphasizes that Indigenous research ethics frameworks differ fundamentally from Western models. Indigenous epistemologies prioritize relationality, spirituality, and community well-being, advocating participatory and collaborative approaches to research. Concepts such as partnership, reciprocity, and

shared benefit are central, reflecting a collective orientation toward knowledge production.

This has led to increasing calls for the integration of Indigenous principles into national and institutional research ethics frameworks, particularly in countries like Fiji where formalized systems remain underdeveloped or insufficiently aligned with local cultural values.

Another major area of scholarship examines the protection of Indigenous knowledge through intellectual property regimes. Studies highlight that conventional IPR frameworks are ill-suited to protect Indigenous knowledge due to their emphasis on individual ownership, novelty, and fixed expression. In contrast, Indigenous knowledge is communal, evolving, and often sacred, making it difficult to fit within existing legal categories. Research on the Pacific region underscores the urgent need for legal and institutional reforms that recognize and protect traditional knowledge, biodiversity, and cultural expressions.

In Fiji and the wider Pacific, the vulnerability of Indigenous knowledge systems is further exacerbated by socio-economic and environmental changes. For instance, studies on Indigenous fishing knowledge demonstrate that such knowledge is increasingly threatened by commercialization, urbanization, and the erosion of traditional social structures.

These findings highlight the dynamic and fragile nature of Indigenous knowledge systems, reinforcing the need for both preservation and protection mechanisms that are culturally appropriate and community-driven.

More recently, the literature has begun to engage with issues of Indigenous data sovereignty and the implications of emerging technologies such as artificial intelligence. Scholars argue that digital technologies can both preserve and exploit Indigenous knowledge, depending on how they are governed.

There is growing emphasis on frameworks such as the CARE principles (Collective Benefit, Authority to Control, Responsibility, and Ethics), which advocate for Indigenous control over data and knowledge systems. These developments signal a shift toward more inclusive and ethical approaches to knowledge governance, though their application in the Pacific context remains limited.

Overall, the literature reveals a clear trajectory from critique to transformation—from identifying colonial injustices and systemic inequities to advocating for decolonized, participatory, and culturally grounded frameworks for research, education, and intellectual property governance. However, while global and regional scholarship has advanced significantly, there remains a need for more localized, context-specific studies that capture the unique socio-cultural realities of Fiji and Pacific Island societies.

LITERATURE GAPS

Despite the growing body of scholarship, several critical gaps

remain in the literature on Indigenous knowledge, colonial legacies, and intellectual property rights in Fiji and the Pacific.

Limited Fiji-Specific Empirical Research

While regional studies provide valuable insights, there is a noticeable lack of in-depth, Fiji-specific empirical research examining how Indigenous knowledge is currently managed, protected, and utilized within education and research systems. Much of the existing literature generalizes across the Pacific, thereby overlooking the unique cultural, legal, and institutional contexts of Fiji.

Weak Integration of Indigenous Epistemologies in Policy and Practice

Although scholars advocate for the integration of Indigenous principles into research ethics and education systems, there is limited evidence of systematic implementation. Existing frameworks often remain theoretical, with insufficient analysis of how Indigenous epistemologies are operationalized in national policies, curricula, and research governance structures.

Inadequate Legal and Institutional Frameworks

The literature highlights the limitations of conventional intellectual property systems but offers limited practical models for alternative legal frameworks that align with Indigenous worldviews. There is a need for research that develops and evaluates context-specific legal and policy mechanisms for protecting Indigenous knowledge in Fiji and the Pacific.

Underexplored Role of Higher Education Institutions

There is insufficient research on the role of universities and research institutions in either perpetuating or addressing the extraction of Indigenous knowledge. Specifically, there is a gap in understanding how higher education institutions in Fiji can act as agents of decolonization and ethical knowledge governance.

Limited Focus on Digital and AI Implications

While emerging studies discuss Indigenous data sovereignty, there remains a significant gap in understanding how AI, big data, and digital platforms impact Indigenous knowledge systems in the Pacific. Research is needed to explore both risks (e.g., data exploitation) and opportunities (e.g., digital preservation) within this context.

Lack of Community-Centred Perspectives

Much of the existing literature is authored from academic or policy perspectives, with limited inclusion of Indigenous community voices and lived experiences. There is a need for participatory research that foregrounds Indigenous perspectives on ownership, consent, and knowledge sharing.

Insufficient Interdisciplinary Integration

The literature tends to be fragmented across disciplines (law, education, anthropology), resulting in a lack of integrated frameworks that address Indigenous knowledge, intellectual property, and research ethics holistically.

In summary, while the literature provides a strong foundation for understanding the complexities of Indigenous knowledge and intellectual property in the Pacific, it remains fragmented, uneven, and often insufficiently localized. Addressing these gaps requires a shift toward context-specific, interdisciplinary, and community-engaged research that not only critiques existing systems but also proposes actionable and culturally grounded solutions.

THEORETICAL FRAMEWORK

This study is anchored in an integrated, decolonial theoretical framework that brings into dialogue four complementary lenses, decolonial theory, Indigenous epistemologies, critical pedagogy, and intellectual property/innovation theory, to examine how knowledge is produced, governed, and contested in Fiji and the Pacific. Together, these perspectives enable a multi-scalar analysis of power, ownership, ethics, and agency in relation to Indigenous knowledge within education and research systems.

Decolonial Theory: Power, Knowledge, and Epistemic Justice

Decolonial theory provides the overarching lens for interrogating the historical and contemporary structures that shape knowledge production. It foregrounds the coloniality of power/knowledge, whereby Eurocentric epistemologies were institutionalized as universal, marginalizing Indigenous ways of knowing (Mignolo, 2011; Quijano, 2007). Within Pacific contexts, colonial administrations, missionary scholarship, and early anthropological research normalized extractive practices that detached knowledge from its communities, re-inscribing authority within Western institutions (Smith, 2012).

Applied to Fiji, decolonial theory exposes how epistemic hierarchies continue to influence curricula, research agendas, and validation of knowledge. It therefore justifies a normative shift toward epistemic justice—recognizing Indigenous

knowledge holders as authorities, restoring community control, and restructuring research relationships to be non-extractive and reciprocal. This lens frames the study's central problem as not only legal (IPR) but ontological and political, about whose knowledge counts and who decides.

Indigenous Epistemologies: Relationality, Custodianship, and Collective Rights

Indigenous epistemologies in the Pacific emphasize relationality, spirituality, land-based knowledge, and collective custodianship (Nabobo-Baba, 2006; Thaman, 2009). Knowledge is not a commodity but a living system, embedded in kinship networks, ecological practices, and cultural protocols. Ownership, in this view, is communal and intergenerational, governed by obligations of stewardship rather than exclusive rights.

This perspective directly challenges the assumptions underpinning conventional IPR regimes. It also reframes “ownership” as authority to care for, transmit, and protect knowledge according to cultural norms. Within the framework, Indigenous epistemologies function as a normative anchor, guiding what constitutes ethical research, valid knowledge, and legitimate governance. They underpin principles such as free, prior, and informed consent (FPIC), reciprocity, and benefit-sharing, which are essential for research in Fiji and the Pacific.

Critical Pedagogy: Education, Agency, and Transformation

Critical pedagogy contributes an educational lens by examining how power operates within teaching, learning, and knowledge dissemination (Freire, 1970; Giroux, 2011). It critiques “banking models” of education that reproduce dominant knowledge systems and instead advocates for dialogic, emancipatory learning that centres marginalized voices.

In the Pacific context, critical pedagogy supports the integration of Indigenous knowledge into curricula not as token inclusion but as a transformation of epistemic authority. It positions students, educators, and communities as co-creators of knowledge, thereby linking education reform to broader processes of decolonization. Within this study, critical pedagogy explains how schools and universities can either perpetuate epistemic dispossession or become sites of reclamation and agency.

Intellectual Property and Innovation Theory: Limits and Possibilities

Intellectual property and innovation theory provides the legal-economic lens for analysing how knowledge is

owned, protected, and commercialized (Draho & Frankel, 2012). Conventional IPR frameworks, patents, copyrights, and trademarks, are premised on individual authorship, novelty, and fixed expression, which are often incompatible with Indigenous knowledge systems.

This framework is used critically to expose the misalignment between Western legal regimes and Indigenous ontologies. It also enables engagement with emerging alternatives, including sui generis systems, customary law recognition, and international efforts by bodies such as World Intellectual Property Organization and UNESCO to safeguard traditional knowledge and cultural expressions. Here, the framework highlights both the constraints of current legal instruments and the possibilities for reform toward pluralistic, culturally responsive protections.

Integrative Logic of the Framework

The four perspectives are not treated as discrete silos but as interlocking analytical layers:

- Decolonial theory diagnoses structural inequities and frames the need for transformation.
- Indigenous epistemologies define the normative standards for ethical knowledge governance.
- Critical pedagogy operationalizes these principles within education and research practices.
- IPR/innovation theory interrogates and reimagines legal and policy mechanisms for protection and ownership.

Together, they produce a holistic explanatory model in which:

- Colonial legacies shape current knowledge systems and legal regimes;
- Indigenous epistemologies contest and reframe these systems;
- Education acts as a mediating site for transformation; and
- Policy/IPP frameworks determine the extent to which Indigenous ownership is recognized and enforced.

Propositions Guiding the Study

From this integrated framework, the study advances the following propositions:

1. **P1:** Colonial legacies continue to structure inequities in the ownership and control of Indigenous knowledge in Fiji and the Pacific.
2. **P2:** Indigenous epistemologies provide viable normative foundations for rethinking intellectual property and research ethics.
3. **P3:** Transformative, culturally responsive education systems can mediate the reclamation of Indigenous knowledge.
4. **P4:** Existing IPR regimes are insufficient without context-specific, pluralistic frameworks that incorporate customary law and community governance.
5. **P5:** Ethical, community-centred research practices enhance both knowledge integrity and equitable outcomes.

Implications for the Study

This theoretical framework informs:

- **Research design:** privileging participatory, culturally responsive methods;
- **Analysis:** interpreting findings through lenses of power, relationality, and justice;
- **Policy recommendations:** advocating for decolonized, community-led, and legally pluralistic approaches to knowledge governance.

In doing so, it supports a shift from extractive paradigms toward Indigenous intellectual sovereignty, where knowledge is generated, controlled, and applied in ways that align with the values, rights, and aspirations of Pacific communities.

Alignment of Theoretical Framework with the Conceptual Framework

The conceptual framework presented in **Figure 1** is explicitly grounded in the integrated theoretical framework comprising decolonial theory, Indigenous epistemologies, critical pedagogy, and intellectual property (IPR) theory. The alignment between theory and the conceptual model ensures that the study is both analytically coherent and epistemologically grounded.

Figure 2: Conceptual Framework Linking Colonial Legacies, Indigenous Epistemologies, Policy, and Educational Outcomes

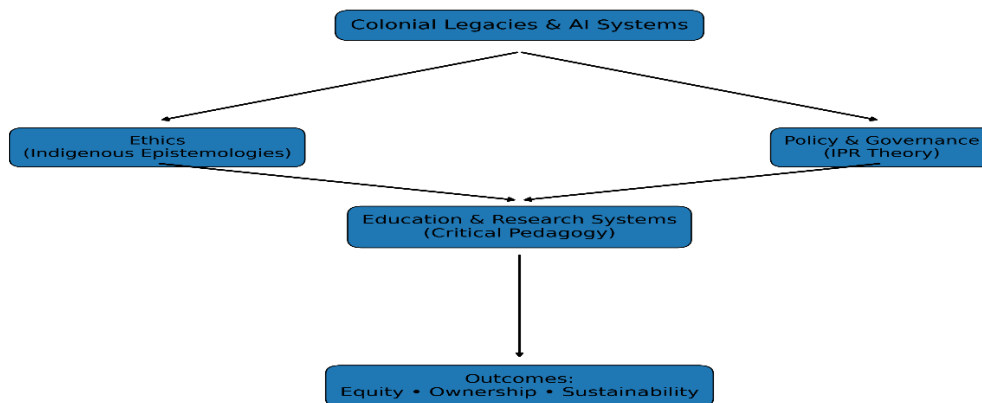


Table 1: Key Theoretical Perspectives and Their Contributions

Theory	Key Concepts	Relevance to Study	Application in Fiji & Pacific Context
Decolonial Theory	Coloniality, power, epistemic justice	Explains historical marginalization of Indigenous knowledge	Highlights need to decolonize education and research systems
Indigenous Epistemologies	Relationality, collective ownership, custodianship	Defines ethical and cultural foundations of knowledge	Supports culturally grounded education and community-based governance
Critical Pedagogy	Empowerment, dialogue, transformation	Positions education as a tool for change	Encourages inclusive and participatory learning systems
Intellectual Property Theory	Ownership, protection, legal frameworks	Examines limitations of Western IPR systems	Identifies need for sui generis and customary law integration

Source: Developed by the author based on literature review and theoretical framework.

CONCEPTUAL FRAMEWORK

The conceptual framework for this study provides a structured representation of the relationships between colonial legacies, ethical and policy mediators, education and research systems, and resulting educational and knowledge outcomes in Fiji and the Pacific. It is designed to illustrate how historical, institutional, and theoretical forces interact to shape the ownership, use, and governance of Indigenous knowledge.

At the input level, the framework recognizes the enduring influence of colonial legacies and emerging AI-driven knowledge systems. Colonial histories have shaped existing power relations in knowledge production, often privileging Western epistemologies while marginalizing Indigenous knowledge systems. In the contemporary context, the rise of

artificial intelligence and digital technologies further complicates these dynamics by introducing new forms of data extraction, ownership challenges, and ethical concerns.

The mediating layer consists of ethical considerations and policy/governance frameworks. Ethical dimensions, grounded in Indigenous epistemologies, emphasize principles such as respect, reciprocity, collective ownership, and cultural sensitivity. At the same time, policy and governance mechanisms—particularly those related to intellectual property rights—attempt to regulate the use and protection of knowledge. This layer represents the critical interface where Western legal systems and Indigenous value systems intersect, often creating tensions but also opportunities for reform.

At the core of the framework are education and research

systems, which act as transformative spaces where knowledge is produced, validated, and disseminated. These systems can either reinforce existing inequalities or serve as platforms for decolonization and inclusion. Through the lens of critical pedagogy, education institutions have the potential to empower Indigenous communities by integrating Indigenous knowledge into curricula, promoting participatory research practices, and challenging dominant knowledge hierarchies.

The output level reflects the outcomes of these interactions, including equity, knowledge ownership, cultural sustainability, and ethical use of technology. When ethical principles, inclusive policies, and transformative educational practices are effectively aligned, the framework suggests that more equitable and culturally responsive outcomes can be achieved. Conversely, misalignment may result in continued marginalization, knowledge exploitation, and inequitable access to benefits.

Overall, the conceptual framework highlights a dynamic and interconnected system, where historical legacies, governance structures, and educational practices collectively influence the future of Indigenous knowledge in Fiji and the Pacific. It underscores the need for integrated, culturally grounded, and ethically informed approaches to ensure that Indigenous communities retain control over their knowledge and benefit from its use in education and research.

DISCUSSION AND ANALYSIS

This study interrogates the intersection of Indigenous knowledge, colonial legacies, and intellectual property rights (IPR) in Fiji and the Pacific through an integrated decolonial framework. The analysis demonstrates that contemporary challenges in knowledge governance are not isolated technical or legal issues but are deeply rooted in historically embedded power relations that continue to shape education, research, and policy environments. By aligning the findings with decolonial theory, Indigenous epistemologies, critical pedagogy, and IPR scholarship, this section provides a critical synthesis of how these dynamics operate and what they imply for equitable and ethical knowledge systems.

Colonial Legacies and the Persistence of Epistemic Inequality

The findings reinforce the argument that colonialism has produced enduring structures of epistemic inequality, whereby Indigenous knowledge systems are systematically marginalized within formal education and research institutions. Colonial-era practices of documentation, classification, and extraction have evolved into contemporary research paradigms that often privilege Western methodologies and epistemologies (Smith, 2012; Battiste, 2013). In Fiji and the broader Pacific, this has resulted in the

institutionalization of knowledge hierarchies where Indigenous knowledge is frequently treated as supplementary rather than foundational.

This condition aligns with the concept of epistemic dispossession, where Indigenous communities are distanced from the ownership and authority over their knowledge (Mignolo, 2011). The persistence of such structures suggests that decolonization must go beyond symbolic inclusion and address the structural redistribution of epistemic power. Without such transformation, educational and research systems risk perpetuating colonial patterns under the guise of modernization and innovation.

Ethical Tensions: Indigenous Epistemologies versus Western Research Paradigms

A central finding of this study is the tension between Indigenous ethical frameworks and dominant Western research practices. Indigenous epistemologies emphasize relationality, collective ownership, and moral responsibility toward knowledge, whereas Western frameworks often prioritize individual authorship, objectivity, and commodification (Nabobo-Baba, 2006; Thaman, 2009). This divergence creates significant challenges in ensuring ethical research practices in Fiji and the Pacific.

The analysis highlights that, existing ethical guidelines, while increasingly incorporating principles such as informed consent and cultural sensitivity, remain insufficient in addressing deeper issues of power, ownership, and benefit-sharing. For instance, consent is often treated as a procedural requirement rather than an ongoing relational process grounded in trust and reciprocity (Chilisa, 2012). Consequently, research practices may still result in the extraction of knowledge without meaningful returns to the communities involved. This finding underscores the need for Indigenous-led ethical frameworks that are contextually grounded and enforceable. Such frameworks should prioritize collective consent, community governance, and long-term relational accountability, thereby aligning research practices with Indigenous worldviews.

Limitations of Intellectual Property Regimes in Protecting Indigenous Knowledge

The analysis reveals that conventional IPR systems remain largely inadequate in safeguarding Indigenous knowledge in Fiji and the Pacific. These systems are premised on concepts such as individual ownership, novelty, and fixed expression, which are incompatible with the collective, dynamic, and intergenerational nature of Indigenous

knowledge (Drahos & Frankel, 2012). Despite ongoing efforts by international bodies such as World Intellectual Property Organization and UNESCO, the translation of global frameworks into local contexts remains limited. The findings suggest that while these initiatives represent important steps toward recognition, they often fail to fully capture the cultural and relational dimensions of knowledge in Pacific societies.

Moreover, the commodification of knowledge within global markets introduces additional risks of biopiracy and cultural appropriation, particularly in areas such as traditional medicine, biodiversity, and cultural expressions. This highlights the urgent need for pluralistic legal approaches, including the recognition of customary law and the development of sui generis systems tailored to Indigenous contexts.

Education and Research as Sites of Transformation

The study identifies education and research institutions as critical sites for both the reproduction and transformation of knowledge systems. Through the lens of critical pedagogy, it becomes evident that these institutions can either reinforce existing hierarchies or facilitate epistemic transformation (Freire, 1970; Giroux, 2011).

In Fiji, there is growing momentum toward integrating Indigenous knowledge into curricula and research practices. However, the analysis indicates that such integration is often superficial, lacking the structural changes necessary to shift epistemic authority. True transformation requires moving beyond inclusion toward co-creation and co-governance of knowledge, where Indigenous communities are active partners rather than passive subjects.

This involves rethinking curriculum design, research methodologies, and institutional policies to reflect Indigenous priorities and epistemologies. It also requires capacity-building initiatives that empower Indigenous scholars and communities to lead research and knowledge production processes.

Digital Technologies, AI, and Emerging Risks

The rise of digital technologies and artificial intelligence introduces a new dimension to the governance of Indigenous knowledge. While these technologies offer opportunities for

preservation and dissemination, they also pose significant risks related to data extraction, misrepresentation, and loss of control (Kukutai & Taylor, 2016).

The analysis highlights that current digital ecosystems often operate within frameworks that do not adequately recognize Indigenous data sovereignty. As a result, Indigenous knowledge may be digitized, stored, and utilized without appropriate consent or benefit-sharing mechanisms. This raises critical ethical and legal questions regarding who owns and controls digital representations of Indigenous knowledge.

Emerging frameworks such as the CARE principles provide a foundation for addressing these challenges, emphasizing collective benefit, authority to control, responsibility, and ethics. However, their implementation in the Pacific context remains limited, pointing to the need for localized governance models that integrate Indigenous values with technological innovation.

Toward Indigenous Intellectual Sovereignty

A key contribution of this study is the articulation of Indigenous intellectual sovereignty as a guiding principle for future research and policy. This concept extends beyond legal ownership to encompass the right of Indigenous communities to control, manage, and benefit from their knowledge systems in accordance with their cultural values and aspirations.

Achieving this requires a multi-dimensional approach, including:

- Decolonizing education and research practices
- Reforming intellectual property and legal frameworks
- Strengthening community governance and participation
- Promoting ethical and equitable partnerships

The analysis suggests that such transformation is not only a matter of justice but also essential for sustainable development in Fiji and the Pacific. Indigenous knowledge systems offer valuable insights into environmental stewardship, social cohesion, and resilience, making their protection and promotion critical in addressing contemporary global challenges.

Table 2: Key Challenges in Indigenous Knowledge Governance

Challenge Area	Description	Impact in Fiji & Pacific
Colonial Legacy	Historical extraction and marginalization of knowledge	Loss of control and recognition of Indigenous knowledge
Legal Limitations	Incompatibility of Western IPR systems	Weak protection of communal knowledge

Ethical Issues	Lack of informed consent and benefit-sharing	Exploitation of Indigenous communities
Education Gaps	Limited integration of Indigenous knowledge	Continued dominance of Western epistemologies
Digital Risks	Misuse of data and AI exploitation	Threats to data sovereignty and ownership

Source: Developed by the author based on literature review and theoretical framework.

Overall, the discussion highlights that the challenges surrounding Indigenous knowledge in Fiji and the Pacific are systemic, multi-layered, and deeply interconnected. Addressing these challenges requires an integrated approach that combines theoretical insights with practical interventions.

Conclusion

This paper has critically examined the complex intersection of Indigenous knowledge, colonial legacies, and intellectual property rights (IPR) in Fiji and the wider Pacific, situating these issues within contemporary transformations in education, research, and digital innovation. The analysis demonstrates that current challenges surrounding knowledge ownership and governance are deeply embedded in historically constituted systems of power that continue to privilege Western epistemologies while marginalizing Indigenous ways of knowing. As such, the question of who owns Indigenous knowledge is not merely legal or technical; it is fundamentally epistemological, political, and ethical.

The findings reaffirm that colonial legacies have produced enduring forms of epistemic inequality and dispossession, whereby Indigenous communities have been systematically excluded from the control and benefits of their own knowledge systems (Smith, 2012; Battiste, 2013). In the Fijian and broader Pacific context, these legacies manifest in education systems, research practices, and policy frameworks that often fail to fully recognize the legitimacy and authority of Indigenous epistemologies. While efforts have been made to incorporate Indigenous knowledge into curricula and research, such initiatives frequently remain superficial, lacking the structural transformation necessary to redistribute epistemic power and authority.

A central argument advanced in this paper is that Indigenous knowledge cannot be adequately protected within conventional intellectual property regimes. Western IPR frameworks, grounded in individual ownership, commodification, and fixed expressions of knowledge, are fundamentally misaligned with Indigenous ontologies that emphasize collective custodianship, relational accountability, and intergenerational transmission (Drahos & Frankel, 2012). Consequently, Indigenous knowledge systems remain vulnerable to misappropriation, exploitation, and

commodification, particularly in the context of global research and market-driven innovation.

The analysis further highlights that ethical challenges in research are not simply procedural but structural. While institutional ethics frameworks increasingly emphasize informed consent and cultural sensitivity, they often fail to address deeper issues of power asymmetry, benefit-sharing, and long-term accountability (Chilisa, 2012). In contrast, Indigenous ethical frameworks prioritize relationships, reciprocity, and community well-being, offering a more holistic and contextually grounded approach to research governance. This underscores the need for a fundamental reorientation of research ethics toward Indigenous-led, community-centred models that recognize collective rights and responsibilities.

Importantly, this study identifies education and research institutions as critical sites of transformation. Drawing on critical pedagogy, it is evident that these institutions have the potential to either reproduce colonial knowledge hierarchies or facilitate processes of decolonization and empowerment (Freire, 1970; Giroux, 2011). In Fiji and the Pacific, this requires a shift from tokenistic inclusion of Indigenous knowledge toward meaningful integration, co-creation, and co-governance, where Indigenous communities are recognized as equal partners in knowledge production. Such transformation must also be supported by policy reforms that align educational practices with Indigenous values and priorities.

The emergence of digital technologies and artificial intelligence introduces new opportunities and risks for Indigenous knowledge systems. While digital platforms can support preservation and dissemination, they also raise critical concerns related to data sovereignty, unauthorized use, and algorithmic exploitation (Kukutai & Taylor, 2016). Without appropriate safeguards, these technologies may reproduce existing inequities on a global scale, further marginalizing Indigenous communities. This highlights the urgent need for governance frameworks that ensure Indigenous control over digital knowledge systems, guided by principles of collective benefit, authority, responsibility, and ethics.

In response to these challenges, this paper advances the concept of Indigenous intellectual sovereignty as a transformative framework for rethinking knowledge

ownership and governance. Indigenous intellectual sovereignty extends beyond legal recognition to encompass the right of Indigenous communities to control, manage, and benefit from their knowledge systems in accordance with their cultural values, protocols, and aspirations. Achieving this requires a multi-layered approach that integrates decolonial theory, Indigenous epistemologies, critical pedagogy, and reformed intellectual property frameworks.

From a policy perspective, the study underscores the need for context-specific, culturally responsive legal and institutional frameworks in Fiji and the Pacific. This includes the development of *sui generis* systems that recognize customary law, strengthen community governance, and ensure equitable benefit-sharing. It also calls for greater alignment between national policies and international efforts led by organizations such as UNESCO and World Intellectual Property Organization, while emphasizing the importance of local adaptation and Indigenous leadership in implementation.

Ultimately, this paper contributes to the growing body of scholarship advocating for the decolonization of knowledge systems and the re-centring of Indigenous voices in education, research, and policy. It argues that addressing the challenges of Indigenous knowledge governance is not only a matter of justice and equity but also essential for sustainable and inclusive development in the Pacific. Indigenous knowledge systems offer critical insights into environmental stewardship, resilience, and social cohesion, making their protection and promotion vital in the face of global challenges such as climate change and technological disruption.

In conclusion, the future of knowledge systems in Fiji and the Pacific depends on the extent to which institutions, policymakers, and researchers are willing to reimagine and restructure existing paradigms. This requires moving beyond extractive and commodified approaches toward ethical, relational, and community-driven models of knowledge governance. By embracing Indigenous intellectual sovereignty and fostering genuine partnerships grounded in respect, reciprocity, and accountability, it is possible to create a more just, inclusive, and sustainable knowledge ecosystem—one that honours the past, responds to present challenges, and empowers future generations.

WAY FORWARD: ADVANCING INDIGENOUS INTELLECTUAL SOVEREIGNTY IN FIJI AND THE PACIFIC

Moving from critique to action requires coordinated reform across law, education, research practice, and digital governance. The way forward is not a single policy fix but a systemic transition toward Indigenous intellectual sovereignty, where communities exercise authority over the creation, use, and stewardship of their knowledge. The following pillars outline a detailed, actionable pathway for Fiji

and the Pacific.

Legal and Policy Reform: Toward Pluralistic Protection Systems

A central priority is the development of context-specific, pluralistic legal frameworks that recognize both statutory law and customary governance.

- Develop *sui generis* legislation for traditional knowledge (TK) and traditional cultural expressions (TCEs), tailored to Pacific realities (Drahos & Frankel, 2012).
- Recognize customary law as a legitimate source of authority in determining ownership, access, and use of knowledge.
- Mandate Free, Prior, and Informed Consent (FPIC) for any research or commercial use of Indigenous knowledge, with provisions for ongoing consent rather than one-off approvals (Chilisa, 2012).
- Embed benefit-sharing mechanisms (royalties, co-ownership, community trusts) in national regulations.
- Align with international instruments advanced by World Intellectual Property Organization and UNESCO, while ensuring local adaptation and enforceability.

Outcome sought: Legal recognition of collective rights and enforceable protections that reflect Indigenous ontologies.

Ethical Research Governance: From Compliance to Relational Accountability

Ethics must shift from procedural compliance to relationship-centred governance.

- Establish national Indigenous Research Ethics Guidelines co-designed with chiefs, elders, and community representatives.
- Create community-based ethics review bodies that complement university committees, with authority over approvals involving local knowledge.
- Require co-design and co-authorship with Indigenous partners in research projects.
- Institutionalize reciprocity and return-of-benefit (e.g., community reports, capacity-building, data access).
- Adopt long-term partnership agreements rather than project-based engagements (Smith, 2012).

Outcome sought: Research that is co-owned, accountable, and beneficial to communities.

Transforming Education Systems: From Inclusion to Co-Governance

Education is the most powerful lever for long-term change. The goal is to move beyond token inclusion to epistemic transformation.

- Integrate Indigenous knowledge across curricula (not as add-ons), including language, environmental knowledge, and cultural protocols (Thaman, 2009; Nabobo-Baba, 2006).
- Co-develop curricula with knowledge holders (chiefs, elders, practitioners).
- Reform teacher education to include Indigenous pedagogies and ethics, grounded in relational learning and place-based approaches.
- Establish community-school partnerships where communities actively guide knowledge use and transmission.
- Support Indigenous-led research centres within universities to anchor scholarship in local epistemologies.

Outcome sought: Schools and universities as sites of co-creation and epistemic justice, not reproduction of hierarchy.

Digital Governance and AI: Safeguarding Indigenous Data Sovereignty

Digital systems must be governed to prevent new forms of extraction.

- Adopt Indigenous Data Sovereignty frameworks (e.g., CARE principles: Collective benefit, Authority to control, Responsibility, Ethics) (Kukutai & Taylor, 2016).
- Require data governance agreements specifying ownership, access, storage, and permissible uses of digitized knowledge.
- Develop community-controlled digital repositories with tiered access based on cultural protocols.
- Implement AI ethics guidelines that prohibit training models on Indigenous data without explicit consent and benefit-sharing.
- Build local technical capacity so Pacific institutions can manage and audit digital systems.

Outcome sought: Technology that preserves and empowers, rather than extracts and commodifies.

Institutional Reform and Capacity Building

Sustainable change requires capable institutions and empowered communities.

- Establish national coordinating bodies on Indigenous knowledge governance to harmonize policy across education, culture, environment, and trade.
- Provide funding streams for community-led projects, including documentation, revitalization, and enterprise development.

- Train researchers, policymakers, and educators in decolonial and Indigenous methodologies (Battiste, 2013).
- Strengthen regional collaboration across Pacific states to share best practices and negotiate collectively in global forums.

Outcome sought: Institutions that are responsive, coordinated, and culturally grounded.

Economic Pathways: Equitable Innovation and Benefit-Sharing

Indigenous knowledge should contribute to development on community terms.

- Create ethical commercialization pathways (e.g., cultural industries, eco-tourism, traditional medicine) with community ownership stakes.
- Establish licensing frameworks that ensure royalties and recognition for knowledge holders.
- Support social enterprises rooted in Indigenous knowledge systems, with safeguards against exploitation.
- Promote geographical indications and certification marks where appropriate, reflecting origin and cultural authenticity.

Outcome sought: Development that is inclusive, ethical, and community-benefiting.

Monitoring, Evaluation, and Accountability

Reforms must be tracked and enforced.

- Develop indicators of Indigenous intellectual sovereignty (e.g., percentage of projects with FPIC, co-authorship rates, revenue returned to communities).
- Require annual public reporting by ministries and universities on Indigenous knowledge use and benefits.
- Implement independent audits and grievance mechanisms for communities.
- Use participatory evaluation methods, ensuring communities assess outcomes against their own values.

Outcome sought: Transparent systems with measurable progress and accountability.

A Phased Implementation Roadmap

Short-term (1–2 years):

- Draft national TK/TCE policy; pilot FPIC protocols; establish community ethics panels; begin curriculum co-design.

Medium-term (3–5 years):

- Enact *sui generis* legislation; scale Indigenous curriculum integration; operationalize data sovereignty frameworks; fund Indigenous research centers.

Long-term (5+ years):

- Consolidate regional legal alignment; mature community-controlled digital ecosystems; demonstrate sustained benefit-sharing and co-governance across sectors.

The way forward requires a coherent, multi-level transformation: legal pluralism, ethical research governance, educational reform, and digitally informed protections. Grounded in decolonial theory and Indigenous epistemologies, and operationalized through policy and practice, this pathway enables Fiji and the Pacific to transition from extraction to stewardship, from recognition to authority, and from participation to sovereignty.

Table 3: Strategic Recommendations for Indigenous Knowledge Protection

Area	Strategy	Expected Outcome
Legal Reform	Develop sui generis laws and recognize customary law	Stronger protection of Indigenous knowledge
Education	Integrate Indigenous knowledge into curriculum	Culturally relevant and inclusive education
Research Ethics	Adopt Indigenous ethical frameworks	Fair and respectful research practices
Digital Governance	Implement data sovereignty principles	Protection against digital exploitation
Institutional Strengthening	Establish Indigenous knowledge authorities	Improved coordination and governance

Source: Developed by the author based on literature review and theoretical framework.

RECOMMENDATIONS

Building on the analysis and proposed way forward, the following recommendations provide targeted, actionable, and contextually grounded measures for advancing Indigenous intellectual sovereignty in Fiji and the Pacific. These recommendations are organized across legal, educational, research, technological, and institutional domains, ensuring a comprehensive and integrated approach.

Legal and Policy Recommendations

A. Develop Sui Generis Legal Frameworks

Governments in Fiji and the Pacific should design and implement customized (*sui generis*) intellectual property systems that recognize the collective, intergenerational, and cultural nature of Indigenous knowledge (Drahos & Frankel, 2012).

B. Recognize Customary Law in National Legislation

Legal systems should formally incorporate customary governance structures to determine ownership, access, and use of Indigenous knowledge, ensuring alignment

with cultural protocols.

C. Institutionalize Free, Prior, and Informed Consent (FPIC)

All research, commercialization, and digital use of Indigenous knowledge must require mandatory FPIC, with clear mechanisms for enforcement and redress (Chilisa, 2012).

D. Strengthen Policy Alignment with Global Frameworks

National policies should align with international standards promoted by World Intellectual Property Organization and UNESCO, while ensuring local adaptation and cultural relevance.

Educational Recommendations

A. Integrate Indigenous Knowledge Across Curricula

Education systems should move beyond token inclusion and embed Indigenous knowledge across all levels and subjects, ensuring it is treated as a

legitimate and foundational knowledge system (Thaman, 2009).

B. Promote Indigenous Pedagogies in Teacher Education

Teacher training programs must incorporate Indigenous teaching methods, values, and epistemologies, fostering culturally responsive and inclusive classrooms (Nabobo-Baba, 2006).

C. Establish Community-School Partnerships
Schools should collaborate with local knowledge holders, elders, and community leaders to co-design and co-deliver learning content, ensuring authenticity and relevance.

D. Support Indigenous-Led Academic Programs
Universities should establish centres or departments dedicated to Indigenous studies and knowledge systems, led by Indigenous scholars and communities.

Research and Ethics Recommendations

A. Develop Indigenous-Centred Research Ethics Frameworks

Research institutions should adopt ethics frameworks grounded in Indigenous values, emphasizing reciprocity, relational accountability, and collective benefit (Smith, 2012).

B. Ensure Co-Ownership and Co-Authorship

Research involving Indigenous knowledge must include community members as co-researchers and co-authors, recognizing their intellectual contributions.

C. Strengthen Community Governance of Research
Establish community-based ethics review boards with decision-making authority over research conducted within their contexts.

D. Mandate Benefit-Sharing Agreements

All research projects should include clear, enforceable benefit-sharing arrangements, ensuring communities receive tangible and intangible benefits.

Digital and AI Governance Recommendations

A. Adopt Indigenous Data Sovereignty Principles
Governments and institutions should implement frameworks such as the **CARE Principles**, ensuring Indigenous control over data collection, storage, and use (Kukutai & Taylor, 2016).

B. Regulate AI Use of Indigenous Knowledge
Policies must prevent the unauthorized use of Indigenous data in AI systems, requiring explicit consent and equitable benefit-sharing mechanisms.

C. Develop Community-Controlled Digital Repositories

Create secure, culturally governed digital platforms for storing and managing Indigenous knowledge, with access determined by community protocols.

D. Build Digital Capacity in Indigenous Communities

Invest in training and infrastructure to enable communities to manage and protect their knowledge in digital environments.

Institutional and Governance Recommendations

A. Establish National Indigenous Knowledge Authorities

Create dedicated bodies responsible for coordinating policy, research, and protection of Indigenous knowledge at the national level.

B. Strengthen Regional Collaboration

Pacific Island nations should collaborate through regional organizations to develop shared frameworks and collective bargaining power in global knowledge governance discussions.

C. Provide Sustainable Funding Mechanisms

Governments and development partners should allocate long-term funding for Indigenous knowledge preservation, research, and innovation initiatives.

D. Promote Indigenous Leadership in Decision-Making

Ensure Indigenous representation and leadership in policy development, research governance, and educational reform processes.

Monitoring and Accountability Recommendations

A. Develop Clear Indicators of Progress

Establish measurable indicators such as:

- Number of projects with FPIC
- Level of community participation
- Extent of benefit-sharing

B. Implement Transparent Reporting Mechanisms

Institutions should produce regular public reports on the use and protection of Indigenous knowledge.

C. Conduct Independent Audits and Evaluations

Regular external evaluations should assess compliance with ethical and legal standards.

D. Establish Grievance and Redress Systems

Communities must have access to mechanisms for reporting misuse and seeking justice.

Collectively, these recommendations emphasize the need for a holistic, multi-level transformation of knowledge systems in Fiji and the Pacific. They move beyond theoretical critique to provide practical pathways for action, grounded in Indigenous values and informed by global best practices. Implementing these recommendations will require sustained commitment, collaboration, and political will; however, it is essential for achieving equitable, ethical, and culturally sustainable knowledge governance.

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