Ideological conundrums and technical challenges in protecting traditional knowledge using the intellectual property system

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Abstract

Most legal efforts aimed at protecting traditional knowledge (TK) have sought to use the prevailing intellectual property (IP) regime. This paper articulates the ideological conundrums and technical challenges that arise in using the IP system to protect TK. After examining the rationale and objectives of TK protection and promotion among TK holders, the study demonstrates that there are unfathomable variances between the rationale for TK and IP protection. These variances generate huge epistemological, ideological, methodological and technical problems in protecting TK.

1.1 Rationale and objectives for TK protection

The main features of TK are reflected in its holistic nature and the fact that it is collectively and intergenerationally held (unwritten but preserved in the oral tradition and collective memory); has cultural, historical, ecological and spiritual value; is culturally situated (and informed by customs, practices, rituals, proverbs, oral stories); governed by customary laws, and is dynamic and fluid.[1] Objectives that underlie the protection of TK vary among and between traditional communities.[2] The objectives are neither exhaustive nor mutually exclusive and some may overlap or conflict with each other. As such, frameworks for TK protection must not focus exclusively on selected objectives as they may lack enough buy-in from stakeholders.[3] These objectives can be collapsed into: moral/cultural, legal and utilitarian theorems.[4]

1.1.1 The cultural and moral theorem

In this study, the cultural and moral theorem is framed through the lens of conservation and preservation both of which are key objectives for TK protection. Preservation and conservation benefits not only traditional communities and the developing countries, but also nontraditional peoples

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[1] Elmien du Plessis 'Protection of Traditional Knowledge in South Africa: The Troubled Bill, the Inoperative Act, and the Commons Solution' in Caroline Ncube & Elmien du Plessis (eds) *Indigenous Knowledge & Intellectual Property* (2016) at 76.

[2] Deepa Varadarajan 'A Trade Secret Approach to Protecting Traditional Knowledge,' (2011) 36(2) *Yale Journal of International Law* 371-420, at 382.

[3] Peter K. Yu 'Cultural Relics, Intellectual Property, and Intangible Heritage' (2008) 81 *Temple Law Review* 433-506, at 483.

[4] However, these justifications are neither exhaustive nor mutually exclusive.

and developed countries.[5] Conservation recognises the biodiversity rights of TK holders which include rights to: their TK and genetic resources, grant or deny prior informed consent, veto, monitor, control and determine grounds for access to their resources, benefit-sharing, full disclosure of research results and file lawsuit against anyone violating access terms.[6] Conservation takes place within a biocultural context that ensures that indigenous lifestyles and the related TK are not disturbed or destroyed.[7]

TK holders are also interested in the recognition of their contributions over the centuries either through having greater control over their TK or a requirement to disclose prior art in new creations or inventions.[8] A disclosure requirement ensures a legitimate exchange between communities and 'follow-on authors or inventors' and informs the public of the origin of the underlying prior art.[9] A major weakness of the disclosure requirement is the inherent difficulty in determining the source or origin of the underlying materials which may lead to 'uncertainty and inconsistency and may ultimately reduce incentives for creation and innovation.'[10]

Preservation is key where TK is being lost rapidly. Globalisation, digital revolution and increasing commodification of TK paves way for instantaneous loss of TK and materials that are sacred or intended to be kept secret.[11] At times, TK is entrusted to certain specialists and disclosure to other unqualified members destroys it. Other times, TK may be shared among all community members, but not with outsiders. Moreover, TK plays an integral role in characterising and expressing the shared identity and essence of a community, a people and a nation.[12] Hence, even if TK is not sacred, it should not be used in a way that offends traditional communities.[13] But still in as much as the use may not be offensive, TK holders may prefer to keep their knowledge preserved and out of commercial channels.[14] Concerns about potential loss of TK explain why communities are 'generally skeptical of open access

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[5] Yu op cit note 3 at 471.

[6] Tonye Marcelin Mahop *Intellectual Property, Community Rights and Human Rights: The biological and genetic resources of developing countries* (2010) at 17. See also Tonye Marcelin Mahop 'Biodiversity Regulatory Options: Involvement of Rural Communities in Decision-making Processes in South Africa' (2005) 8(6) *The Journal of World Intellectual Property* 809-824 at 810.

[7] Sophia Twarog 'Preserving, Protecting and Promoting Traditional Knowledge: National Actions and International Dimensions' in S. Twarog & P. Kapoor (eds.) *Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions* (2004), 61-69, at 64.

[8] Yu op cit note 3 at 461. See Doris Schroeder 'Informed Consent: From Medical Research to Traditional Knowledge' in R. Wynberg *et al* (eds.), *Indigenous Peoples, Consent and Benefit Sharing: Lessons from the San-Hoodia Case* (2009) at 37.

[9] Yu op cit note 3 at 462.

[10] Ibid at 463.

[11] Secrecy is important for both cultural and spiritual purposes.

[12] Yu op cit note 3 at 455.

[13] Ibid at 456.

[14] Ibid at 457. See Schroeder op cit note 8 at 37.

arrangements, such as those relying on the development of a commons.'[15] Some of the tools that can be used to preserve TK include: the recognition of the rights of communities to their traditional lands and TK documentation, registries or databases.[16] There is consensus that because the need for preservation is probably immediate, abstract IP rights (IPRs) are probably not an efficient solution to the preservation problem.[17] The preservation approach faces certain practical limitations and is troubling in its emphasis on state control of genetic resources and TK.[18] Another problem arises in locking up culture through preservation of TK versus the society's interest in accessing the knowledge for health and nutrition.[19]

1.1.2 The legal theorem

Protection of TK is largely advocated for through the IP framework. However, the term protection has been interpreted variedly, and consequently TK protection 'initiatives and measures vary considerably in their form and substance.'[20] For example, in the classic IP sense, protection generally seeks to grant exclusive rights to inventors and creators using different IP tools (patents, copyright, trademarks, et cetera) and/or preventing unauthorised dealings in protected IP.[21] According to other scholars, TK protection measures include: compensation; social recognition of certain rights (e.g. the right to be asked for consent; right to be acknowledged as creators or descendants or share benefits); safeguarding; and maintaining, preserving and controlling access to and uses of TK through unfair competition principles.[22] But as Andanda postulates, the protection of TK is 'distinguishable from the efforts that have been made to promote and safeguard TK.'[23] Safeguarding measures aim at preserving aspects of TK through photographs, sound recordings, films and manuscripts, itineraries, cultural mapping, video recordings, and the preservation of artefacts in libraries and museums.[24] It is however

[15] Yu op cit note 3 at 458.

[16] Twarog op cit note 7 at 64.

[17] Paul J. Heald 'The Rhetoric of Biopiracy' (2003) 11 *Cardozo Journal of International and Comparative Law* at 519-546 at 525.

[18] Such an approach is taken in the Convention on Biological Diversity.

[19] Heald op cit note 17 at 529.

[20] Manuel Ruiz Muller 'Legal protection of widely shared and dispersed traditional knowledge' in Daniel F. Robinson et al (eds.) *Protecting Traditional Knowledge: The WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore* (2017), 123-140 at 123.

[21] Ibid at 123. See also Ken Chisa & Ruth Hoskins 'African customary law and the protection of indigenous cultural heritage: Challenges and issues in the digitization of indigenous knowledge in South Africa' (2016) 15 *African Journal of Indigenous Knowledge Systems* 1-15 at 3.

[22] Muller op cit note 20 at 123. See also Sue Farran 'Access to Knowledge and the Promotion of Innovation: Challenges for Pacific Island States' in Caroline Ncube & Elmien du Plessis (eds) *Indigenous Knowledge & Intellectual Property* (2016) at 22-23.

[23] Pamela Andanda 'Striking a Balance between Intellectual Property Protection of Traditional Knowledge, Cultural Preservation and Access to Knowledge' (2012) 17 *Journal of Intellectual Property Rights* at 547-558 at 547.

[24] Ibid at 547. See also Farran op cit note 22 at 22.

noteworthy that 'protection' is not tantamount to 'safeguarding'. Whereas safeguarding may engender the identification, documentation, transmission, revitalization and promotion of TK to ensure its continued existence and viability, it also risks placing TK unintentionally in the public domain, hence the need for protection in the legal sense.[25]

While proponents of TK protection suggest that legal protection would, among other things, promote respect for TK; deter misappropriation of TK; empower TK holders; and protect tradition-based innovations, some query whether IP protection is in order.[26] Others contend that although IP protection is inadequate for full protection of TK[27] 'there is room in that system for flexible, local initiatives driven by indigenous peoples to remedy the situation.'[28] Others argue that there are common policy objectives underlying the protection of TK and IP[29] such as the right to exclude others, economic incentives and innovation. First, the right to exclude others is common to both TK and IP 'insofar as traditional knowledge holders seek to prevent others from making use of their intangible goods without consent.'[30] But unlike in IP, in the case of TK it may be difficult to identify the 'other (s)' to be excluded as the boundaries of TK holders are amorphous[31] as will be explained later. Be that as it may, it is argued that exclusive rights in TK could offer incentives to TK holders to innovate, maintain and preserve their knowledge and plant genetic resources.[32] But some disagree with this view arguing that if TK holders have developed and maintained TK for generations without the carrot of IPRs protection, then new rights are unnecessary to provide incentives to create.[33]
Second, some argue that legal protection results in increased dissemination of information which creates economic incentives.[34] For example, the requirement to fully describe inventions and avail them to patent offices results in the dissemination of valuable information. But dissemination may also

[25] Andanda op cit note 23 at 547.
[26] Stephen R. Munzer & Kal Raustiala 'The Uneasy Case for Intellectual Property Rights in Traditional Knowledge' (2009) 27 *Cardozo Arts & Entertainment*, 37-97 at 39-40.
[27] J. Janewa Osei Tutu 'Emerging Scholars Series: A Sui Generis Regime for Traditional Knowledge: The Cultural Divide in Intellectual Property Law' (2011) 15 *Marquette Intellectual Property Law Review* at 164. See also Enyinna Nwauche 'The sui generis and intellectual property protection of expressions of folklore in Africa' 2016 Phd thesis available at https://dspace.nwu.ac.za/bitstream/handle/10394/19787/Nwauche_ES_2016.pdf?sequence=1&isAllowed=y accessed on 10 July 2019.
[28] Roger Chennells 'Putting Intellectual Property Rights into Practice: Experiences from the San' in R. Wynberg *et al* (eds.) *Indigenous Peoples, Consent and Benefit Sharing: Lessons from the San-Hoodia Case* (2009) at 211.
[29] Janewa op cit note 27 at 181.
[30] Ibid.
[31] Ibid.
[32] Tonye I op cit note 6 at 14.
[33] Heald op cit note 17 at 525 argues that although external incentives may be necessary to preserve TK from loss, the solution may not be the grant of IPRs over TK.
[34] Ibid.

facilitate access to TK by outsiders which may create tension with the interests of TK holders[35] who may be opposed to the commercialisation of aspects of their TK unless they exercise control over that access and use.[36] Likewise, scientists and archaeologists may place higher values on research and discoveries than cultural privacy and respect thus privileging the nontraditional worldview over the traditional one.[37] Additionally, whereas TK holders' believe that access by outsiders may occasion cultural, ecological and spiritual harm, scientists claim that research benefits all humanity.[38] It is the economic objective of TK protection that informs demands for equitable benefit sharing among TK holders.

Third, both IP and TK aim at innovation and development of new intangible goods. TK is innovative in so far as it is constantly evolving in response to a changing environment while IP seeks to incentivise innovators of new works even if they only build upon the prior works of others. However, although innovation is a shared objective, it is broader in the TK context than in IP due to the lower threshold for innovation.[39]

Fourth, protection aims at preventing unauthorised or inappropriate use (which includes unauthorised commercial use or IPR applications that are based on TK but without the prior informed consent of the TK holders and without benefit sharing) of TK by third parties.[40] Inappropriate use also includes stopping inaccurate use or transmission of TK.[41] However, some scholars argue that as indigenous people await reforms in the IPR system, they can prevent the misappropriation of their TK by using the existing IPR system.[42]

Fifth, there are equity-oriented goals of protection in that "if developed countries can protect their intangible goods, commercialise them and benefit economically, developing countries should be entitled to the same treatment for their intangible good."[43] Lastly, protection may promote respect for TK, TK holders and their development (including cultural)[44] since protection of TK cannot be dealt with satisfactorily in isolation from the more fundamental needs, interests and rights of the holders of TK.[45]

[35] Ibid. Deepa op cit note 2 at 378.
[36] Tonye I op cit note 6 at 17.
[37] Yu op cit note 3 at 475.
[38] Ibid at 476-77.
[39] Ibid.
[40] Twarog op cit note 7 at 64.
[41] Chennells op cit note 28 at 216.
[42] Ibid.
[43] Janewa op cit note 27 at 185.
[44] Ibid at 188.
[45] Graham Dutfield 'Developing and Implementing National Systems for Protecting Traditional Knowledge: Experiences in Selected Developing Countries' in S. Twarog & P. Kapoor (eds.) *Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions* (2004) at

Within the IP framework, there are two broad approaches to TK protection: *positive* (or offensive) and *defensive* protection. Positive protection 'entails the active assertion of IP rights in protected subject matter, with a view to excluding others from making specific forms of use of the protected material.'[46] It can give TK holders the 'right to take action or seek remedies against certain forms of misuse of their TK' and includes the use of existing IP systems, adaptations and *sui generis* aspects of existing IP regimes, and wholly *sui generis* frameworks[47] such as the recognition of customary laws.[48] Since it aims at propertising TK for market purposes,[49] it may be appropriate where TK holders want economic benefits from protection.

Defensive protection seeks to prevent others from 'asserting or acquiring IP rights over TK subject matter'.[50] Some opine that defensive protection can halt the misuse of TK, especially sacred TK that cannot be owned at all or at least by outsiders.[51] It allows TK information to be published so as to count as prior art and ensure its availability in a search for prior art.[52] Defensive protection does not replace formal recognition of positive rights in TK nor does it earn royalties like patents or copyrights. A good example of defensive protection is the use of TK databases that are available to patent and trademark examiners. Such databases prevent the grant of IP rights for TK that is in the public domain.[53] For both types of protection, there have been cases where TK holders have used conventional IP tools to protect their TK but since these tools 'were not developed with TK in mind, but rather modern industrial intellectual property, the fit is not always perfect.'[54] Moreover, enforceability of IPRs can be a huge problem for TK holders, most of whom have limited resources.[55] Stronger protection using IPRs would restrict communities' access to TK and their ability to exploit it.[56] Further, according to TK

146. See also John T Cross 'Property Rights and Traditional Knowledge' (2010) 13(4) *Potchefstroom Elec. L.J* at 32.

[46] WIPO 'Elements of a Sui Generis System for the Protection of Traditional Knowledge' WIPO/GRTKF/IC/4/8, 30 September 2002, para 13.

[47] Ibid.

[48] Twarog op cit note 7 at 65. Although the use of customary laws may work well within communities, outside the communities they may have little effect, unless they are recognised in law.

[49] Munzer & Raustiala op cit note 26 at 40.

[50] See also WIPO op cit note 80; Marisella Ouma 'The Policy Context for a Commons-Based Approach to Traditional Knowledge in Kenya' in Jeremy de Beer, Chris Armstrong, Chidi Oguamanam & Tobias Schonwetter (eds.) *Innovation & Intellectual Property: Collaborative Dynamics in Africa* (2014) at 138; Munzer & Raustiala op cit note 26 at 50.

[51] Munzer & Raustiala op cit note 26 at 40, 50.

[52] Ibid, at 82.

[53] Documentation may however undermine the unique spiritual and cultural value of TK which may even endanger the survival of a community.

[54] Twarog op cit note 7 at 65.

[55] Ibid, at 65.

[56] Yu op cit note 3 at 480.

advocates, the philosophy of conventional IP is too narrow or too hostile to their concerns and thus draw on the language of human rights, indigenous rights and biodiversity preservation to protect TK.[57] A human rights approach offers a broader framework for protecting TK[58] as it 'readjusts the inequality of the IP regime in failing to provide protection not geared towards commercial or trade advantages'[59] such as cultural or sacred value of TK and avoids the hierarchical difference between knowledge (that is protectable under IPR and TK which is assumed to be in the public domain and freely available to all).[60] It is apparent that efforts aimed at extensive protection of TK, require a substantial deviation from standard philosophies of property and substantial changes to existing IP law.[61]

1.1.3 The utilitarian theorem

In this study, the utilitarian theorem covers objectives that aim at the promotion of TK in order to harness it for trade and development. Objectives that result in the promotion of TK can be classed into three. First, there is the objective of promoting the use and further development of TK systems and TK-based innovations. Because TK is highly valuable to the survival of TK holders, there is need for measures aimed at strengthening and developing TK and TK systems.[62]

The second objective aims at promoting appropriate and sustainable commercialisation of TK. Nevertheless, the commercialisation of TK is controversial for several reasons. It is commonplace that much of TK is not appropriate for commercialisation (particularly TK that is sacred or secret). Moreover, most TK holders' are not 'as interested in commercialising the TK themselves as in preventing the inappropriate commercial use of it by others.'[63] In addition, commercialisation of TK often refers to the commercialisation of a product developed using TK as the 'know-how.'[64] Further, TK holders' ignorance of the market value of TK makes it difficult to establish a reliable market with those who wish to exploit TK.[65] Yu reminds us that it is important to let communities determine which knowledge is appropriate for outsiders based on customary laws, and allowing commercialisation only where it will not infringe on cultural privacy or religious dictates.[66]

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[57] Munzer & Raustiala op cit note 26 at 43. Deepa op cit note 2 at 374.
[58] Philipe Cullet 'Human Rights, Knowledge and Intellectual Property Protection' (2006) 11 *Journal of Intellectual Property* at 12; Peter K. Yu 'Reconceptualizing Intellectual Property Interests in a Human Rights Framework' (2007) 40 *University of California, Davis*, at 1039-1149 at 1148-1149. See Madhavi Sunder 'The Invention of Traditional Knowledge' (2007) 70 *Law and Contemporary Problems*, 97-124 at 124.
[59] Cullet op cit note 58 at 12.
[60] Ibid at 12.
[61] Ibid at 12.
[62] Tonye I op cit note 6 at 13.
[63] Twarog op cit note 7 at 66.
[64] Ibid at 67.
[65] Heald op cit note 17 at 537.
[66] Yu op cit note 3 at 459.

A third objective relates to TK holders' interest in sharing the benefits arising from the use of their TK. Sharing benefits enables communities to continue with their traditional lifestyle which preserves TK. Nonetheless, problems remain. First, benefit-sharing arrangements imply a commitment to the money economy and that TK can be freely commodified, which is untrue with respect to sacred TK.[67] Second, there is no enough altruism and community spirit to ensure that the benefits reach those who contributed to advancement of TK and resulting products.[68] Third, there is a representation difficulty. For instance, in negotiations with bioprospectors, ascertaining the legitimate representatives of a community can be extremely onerous. Who decides when communities have shared TK?[69] Can one community decide over the other? If so, would the other community be able to claim prior users' rights?'[70] Can the state speak for communities, or must they speak for themselves?[71] It is suggested that where TK-holders cannot be identified or the TK is more or less in the public domain, fees could be paid by an interested party into a community development fund.[72] It is also urged that an understanding of concurrent ownership, joint authorship, and derivative works may shed some light on how to resolve the dispute although difficulties remain 'if the original community has yet to be identified, no longer exists, or chooses to stay out of the dispute, for whatever reasons.'[73]

TK holders also demand compensation for economic, social, cultural, psychological and spiritual injuries occasioned by the unauthorised use of TK.[74] Even so, Yu identifies several reasons why compensation can be problematic.[75] First, compensation may not cover all the injuries fully. Second, sometimes it may be difficult to identify the beneficiaries especially where the TK is shared. Third, detecting the uses of TK and genetic resources can be difficult, time consuming and technology intensive. Fourth, researchers may find that a bioactive ingredient has a different use from the one suggested by the original collectors. Fifth, some may consider monetary compensation inadequate. For example, it is hard to quantify cultural erosion in monetary terms.

The unfathomable variances between the rationale for TK and IP protection generates epistemological, ideological, methodological and technical problems in protecting TK.

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[67] See Schroeder op cit note 8 at 37.

[68] Doris Schroeder 'Justice and Benefit Sharing' in R. Wynberg *et al* (eds.), *Indigenous Peoples, Consent and Benefit Sharing: Lessons from the San-Hoodia Case* (2009) at 24.

[69] Ibid at 18, Schroeder explains that among some communities decision-making is very complex. For example, among the San, decisions are taken by consensus, which is reached when significant opposition no longer exists.

[70] Yu op cit note 3 at 488.

[71] Ibid at 469.

[72] Twarog op cit note 7 at 68.

[73] Yu op cit note 3 at 490.

[74] Ibid at 463.

[75] Ibid at 463-465.

1.2 Assessing the conundrums attending the protection of TK using the IP system

1.2.1 A methodological, epistemological and conceptual problem

Protecting TK generates an epistemic, conceptual and methodological problematique. This polemical portends a cultural-hierarchical divergence between western and non-western empiricism that creates difficulties in TK protection. While Western empiricism is unabashedly heralded as 'scientific' and universal in character, non-western empiricism has largely been rubbished as 'folk-lore', 'culture-specific', unsystematic and as belonging to the 'realm of the natural, the mystical and the irrational'.[76] TK especially in Africa, operates on two entwined levels-empirical and cognitive level.[77] The empirical level is unpacked further into, natural,[78] technological and architectural[79] and socio-cultural spheres[80] while the cognitive level delineates a structure in which theories and perceptions of both nature and culture are conceptualised. Therefore, the relationship between TK, its holders, and the technologies and devices used for its application are bound to an indigenous cosmology that is about 'the co-evolution of spiritual, natural and human worlds.'[81] Because the epistemology of TK also rests on the metaphysical perceptions without necessarily having proven that empirically, critics claim that it is an incomplete knowledge or at worst a questionable understanding or conception of knowledge.[82] Such claims may make TK epistemes to be denied legitimacy, scholarly recognition and legal protection.

In Africa, the subordination and delegitimisation of TK and epistemic frameworks is said to be part of the colonial-cultural assault mounted on Africans through western legal and institutional frameworks.[83] These frameworks occasioned consistent inferiorisation of African TK as being unworthy of legal protection and concerted efforts to erase existing systems of knowledge and their replacement with

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[76] Ikechi Mgbeoji 'Bio-Cultural Knowledge and the Challenges of Intellectual Property Rights Regimes for African Development' in Chukwuemeka G. Nnona (ed.) *Law, Security and Development: Commemorative Essays of the University of Nigeria Law Faculty* (2013) at 483. See Andre Lalonde 'African Indigenous Knowledge and its Relevance to Sustainable Development' in Julian T Inglis (eds.) Traditional Knowledge: Concepts and Cases (1993) at 57.

[77] Anwar Osman 'Indigenous Knowledge in Africa: Challenges and Opportunities' available at http://www.ufs.ac.za/docs/librariesprovider20/centre-for-africa-studies-documents/all-documents/osman-lecture-1788-eng.pdf?sfvrsn=0 accessed on 29 May 2016.

[78] The natural sphere includes ecology, biodiversity, soil, agriculture, medicinal and pharmaceutical.

[79] The technological and architectural sphere consists of all the crafts such as metallurgy, textiles, basketry, food processing, building, etc.

[80] The socio-cultural sphere consists of aspects of life e.g. social welfare, governance, conflict resolution, music, art, etc.

[81] Osman op cit note 77. See also Lalonde op cit note 76 at 56.

[82] Osman op cit note 77.

[83] Ikechi op cit note 76 at 455; Lalonde op cit note 76 at 57; and Charles Takoyoh Eyong 'Indigenous Knowledge and Sustainable Development in Africa: Case Study on Central Africa' in E.K. Boon & L. Hens (eds.) *Indigenous Knowledge Systems and Sustainable Development: Relevance for Africa* (2007), 121-139, at 131.

Western-driven belief and knowledge systems.[84] Although this inferiorisation may have been necessary in view of the power embedded in knowledge systems and traditional epistemes, some dispute for instance, that the British colonial rule was responsible for undermining the ability of the different East African Protectorate communities to organise their means of survival.[85]

The interface between TK and IPRs presents an interesting dichotomy of cross-cultural relationship between a western-liberal ideology and an indigenous worldview.[86] Oftentimes, difficulties play out at the ideological interface seeing that the objectives of TK are diametrically opposed to western intellectual foundations of IPRs. Moreover, the interface may raise issues that straddle both legal and non-legal aspects especially because from an indigenous worldview, problems are not always legal or commercial in nature but can also assume cultural, historical, spiritual, ecological and moral dimensions.[87] There is thus an existing gap in the protection of TK within prevailing frameworks.

A traditional framework views TK as a worldview and looks beyond its instrumental value 'to the value systems within which it is situated, and to listen to that wisdom with our minds as well as our hearts.'[88] Scholars agree that there is need for approaching the IP system 'from below' by modifying it to ensure it takes into account the divergent views, histories and philosophies of developing countries and indigenous peoples.[89]

Others have suggested an intercultural approach to this problem which allows for the interaction of cultures when crafting theoretical postures from which to survey phenomena. An intercultural examination of phenomena seems to reside in the examination of power relationships between people.[90] Perceived power and status makes the relationship between TK and IPRs difficult because 'power relationships dictate so much of what is right, correct, logical and reasonable…The limits are drawn by those who wield the economic, political, and cultural power.'[91] As such in the intercultural encounters, TK holders must be allowed to define for themselves their own power and status vis-à-vis another.

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[84] Ikechi op cit note 76 at 469. See also Osman op cit note 77.

[85] James T. Gathii 'Imperialism, Colonialism, and International Law' (2006-2007) 54 (4) *Buffalo Law Review* 1013-1066, at 1027.

[86] Ken Chisa & Ruth Hoskins 'Decolonising Indigenous Intellectual and Cultural Rights in Heritage Institutions: A Survey of Policy and Protocol in South Africa' (2015) 33(3) *South African Journal of Information Studies* at 56.

[87] Ibid at 2.

[88] Nancy Doubleday 'Finding Common Ground: Natural and Collective Wisdom' in Julian T Inglis (eds.) Traditional Knowledge: Concepts and Cases (1993) at 52.

[89] Janewa op cit note 27 at 203. See also Munzer & Raustiala op cit note 26 at 51.

[90] Molefi Kete Asante 'The Ideological Significance of Afrocentricity in Intercultural Communication' (1983)14 *Journal of Black Studies* 3-19 at 4.

[91] Ibid at 5.

1.2.2 Ideological and political conundrums in TK protection

The IP-TK interface in Africa raises colonial and post-colonial (neo-colonial) reverberations whose articulation creates some conundrums in the protection of TK. Some of the conundrums can be traced to the development of international law (including IP and human rights law) which consisted of a set of rules that largely had a geographical bias (European law), a religious-ethical aspiration (it was a Christian law), an economic motivation (it was a mercantilist law) and political aims (it was an imperialist law).[92]

First, IP law is largely western/European because developing countries were not participants and signatories to the early international IP treaties yet the treaty provisions were often extended to them through colonialism.[93] Because the cultural values of TK holders were not taken into account, IP instruments are ill-fitted to protect TK.[94] Equally, in the development of human rights frameworks, the communitarian ethos of indigenous communities were ignored yet they are the main claimants of IP protection today.[95] For example, an individualistic focus is evident in the Universal Declaration of Human Rights (UDHR) and the International Covenant on Economic Social and Cultural Rights (ICESCR) both of which 'safeguard the right to the protection of moral and material interests in intellectual creations.'[96] Likewise, under the Kenyan Constitution, 'property' is defined as including IP[97] and IPRs are protected in the Constitution 2010 within the 'right to property'.[98] Chennells explains that framing and protecting IP rights within a human rights framework (as the Kenyan constitution does) has dire consequences for TK and TK holders, as it can be used to accord strong IP protection and in creating new rights.[99] Similarly, it may end up removing communally held TK from its paradigm and importing it into another worldview occasioning harm to it and its holders.[100] This incompatibility

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[92] Ikechi op cit note 76 at 473.
[93] Ibid at 453-493; Ruth L. Gana 'The Myth of Development, The Progress of Rights: Human Rights to Intellectual Property and Development' (1996) 18 *Law & Policy* 315, 329; Olufunmilayo B. Arewa 'TRIPS and Traditional Knowledge: Local Communities, Local Knowledge, and Global Intellectual Property Frameworks' (2006) 10 *Marquette International Property Law Review*, 160-163.
[94] Janewa op cit note 27 at 159, 201; Sunder op cit note 58 at 100 and Twarog op cit note 7 at 65.
[95] Cullet op cit note 58 at 10. See K. Yu (2007) op cit note 58 at 1073. See also Jacob Cornides 'Human Rights and Intellectual Property: Conflict or Convergence' (2004) 7 *Journal of World Intellectual Property*, at 135, 137. Article 27(2) of UDHR and Article 15(1)(c) of ICESCR recognise the right 'to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which *he* [or *she] is the author*.'
[96] Yu op cit note 3 at 436.
[97] Article 260.
[98] Article 40(5).
[99] Chennells op cit note 28 at 212.
[100] Ibid at 51. See Aled Dilwyn Fisher & Maria Lundberg 'Human rights' legitimacy in the face of the global ecological crisis – indigenous peoples, ecological rights claims and the Inter-American human rights system' (2015) 6(2) *Journal of Human Rights and the Environment* at 177, they argue that using a human rights framework 'as the key to all indigenous claims is unsatisfactory because such an approach does not provide comprehensive enough protection of indigenous rights.'

yields ineffectual solutions in the protection of TK[101] and necessitates a search for alternative frameworks.

Second, international law (and IP in particular) had a religious-ethical aspiration as Africans were viewed as uncivilised savages in immediate need of civilisation and enlightenment. In the colonial encounter of the 'Gods', traditional medicine and the herbalist/healer were the target of colonial vilification as witchcraft or sorcery.[102] This is also evident in statutes that create the offence of witchcraft and criminalise activities that are carried out by traditional herbalists.[103] This explains the trend where the IP regime seems to aim at accessing TK and the 'active' ingredients of medicinal plants without reference to the cultural and belief systems amongst TK holders.[104] However, in South Africa there are reports showing that traditional healers are commonly using 'over-the-counter' pharmaceuticals and patented drugs in their practice[105]casting doubt on the efficacy of their traditional remedies.

Third, IP law has an economic motivation as it is built on principles meant to curtail monopolies, but these monopolies use IP in order to extend their monopolistic tendencies in their relation with TK and TK holders.[106] As explained earlier, the commercialisation of TK and biological resources using the IP regime without respect for TK's wider cultural and holistic context portends great challenges for TK holders.[107] But again as stated previously, TK subject matter has commercial value and TK holders are not entirely opposed to commercialisation of aspects of their TK.

Fourth, IP laws had political aims achieved through repressive colonial political and ideological apparatuses. Colonial powers used law and brutal force to displace, dislocate and subjugate the African people in order to acquire full control over their lands and resources.[108] Such laws and policies

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[101] Chisa & Hoskins op cit note 86.

[102] See Pamela Andanda & Hajjat Khademi 'Protecting Traditional Medical Knowledge through the Intellectual Property Regime Based on the Experiences of Iran and South Africa' in Caroline B Ncube & Elmien Du Plessis *Indigenous Knowledge and Intellectual Property: Contemporary Legal and Applied Research Series* (2016) at 58, where they note that in South Africa 'the concept of African Science' or secret knowledge is used to describe harmful activities of witches and the healing activities of traditional healers. See also Ikechi op cit note 76 at 478.

[103] See for instance the Witchcraft Act, Cap. 67 of the laws of Kenya which is a 1925 law.

[104] Ikechi op cit note 76 at 478. See also Reyes-Garcia 'The relevance of traditional knowledge systems for ethnopharmacological research: theoretical and methodological contributions' (2010) 6(32) *Journal of Ethnobiology and Ethnomedicine* 1-12 at 4, who explains that although identifying active compounds in a plant is useful in the pharmacological industry, 'it requires the accompanying practices and beliefs that provide the medicinal 'meaning' to the plant.'

[105] Andanda & Khademi op cit note 102 at 58.

[106] Ikechi op cit note 76 at 478.

[107] Ibid at 464.

[108] Ibid at 455. See also HWO Okoth Ogendo 'The tragic African commons: A century of expropriation, suppression and subversion' (2003) *University of Nairobi Law Journal* 107-117 at 110-112.

contributed to the estrangement of Africans, delegitimisation of TK epistemes and occasioned the loss of knowledge systems making the restoration of TK a daunting challenge today.[109] It is reported, for instance, that the apartheid political context in South Africa 'forced the San people to hide their identity, especially with the enactment of the Coloured Registration Act of 1955 that officially erased the San communities as an identifiable ethnic group.'[110] Consequently, in the negotiations over the Hoodia and the associated knowledge, the South African Council for Scientific and Industrial Research (CSIR) is reported to have said to its international partners that 'the San people had all died.'[111] Such narratives explain why TK holders' challenge of IPR systems is linked to a political struggle, 'not merely to change the existing intellectual property regime, but to pursue the self-determination and even sovereignty of indigenous peoples.'[112] Withal, critics opine that TK and related systems are eroding due to the 'acculturation of indigenous people, their assimilation into the dominant society, and the failure of elders to transmit traditional knowledge to younger generations.'[113]

The project of western domination that privileges Western episteme while sabotaging TK regimes and epistemes persists in contemporary forms through post-colonial articulations in the IP, economic and political domains.[114] For example, economic globalisation contributes to the dispossession of local communities' knowledge systems, resources and products while cultural globalisation continues to add to the erosion and erasure of TK systems by dismissing it as undocumented and 'unscientific' knowledge.[115] Nevertheless, developments at the international level in IP[116] and the recognition of

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[109] Ogendo op cit note 108 at 111; Ikechi op cit note 76 at 454; and Djims Milius 'Justifying Intellectual Property in Traditional Knowledge' (2009) 2 *IPQ* 185-216 at 199, who comments on the legacy of indigenous groups' oppression and how they were not permitted to speak their languages and punished corporally for taking part in practices or ceremonies considered primitive by the slave masters yet oral tradition is the mechanism through which TK is passed on from one generation to the next.
[110] Tonye 2 op cit note 6 at 815.
[111] Ibid at 816.
[112] Chennells op cit note 28 at 216. See also Janewa op cit note 27 at 155 who argues that extending the existing IPR system to TK 'does not rectify the inequities caused by the excesses of the current system'.
[113] Erin Sherry & Heather Myers 'Traditional Environmental Knowledge in Practice' (2002) 15 (4) *Society & Natural Resources*, 345-358, at 349.
[114] Ikechi op cit note 76 at 456; Osman op cit note 77; and Saskia Widenhorn 'Towards Epistemic Justice with Indigenous Peoples' Knowledge? Exploring the potentials of the convention on biological diversity and the philosophy of *Buen Vivir*' (2014) 56(3) *Development* 378-386 at 380.
[115] See Osman op cit note 77.
[116] See for example the work of the Intergovernmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore (IGC) established by WIPO, which provides a forum for international policy debate and development of legal mechanisms and practical tools concerning the protection of TK and TCEs.

indigenous people's rights suggest that there is a gradual move towards privileging traditional epistemes, beliefs and practices.[117]

1.2.3 Technical and pragmatic problems

Because of the nature and divergent aims of TK and IP protection, there are technical and practical challenges of protecting TK within the IP regimes.[118] First, due to the narrow focus of the IP regime on material interests, it fails to offer robust protection to TK which is holistic while 'ensuring cultural preservation and access to knowledge.'[119] For example, whereas products based on TK and genetic resources are protected by IP law, the underlying TK and genetic resources are not.[120] Without respecting the holistic nature of TK and customary laws governing TK, current IP regimes cannot protect TK and afford fair and equitable access to it.

Second, IP vests exclusive ownership rights in the author or inventor thus fundamentally contradicting the ethos of TK in a number of ways. For example, with TK it is difficult to determine who 'owns' the knowledge within a given community[121] as TK is collectively and communally held.[122] In spite of this, however, customary law at times recognises the 'special status of certain individuals (like healers or medicine men)' who are viewed as informal creators or inventors distinct from the community.[123] Moreover, instead of viewing TK as property, most groups view it in terms of community and individual responsibility where TK holding gives rise to 'a bundle of relationships' rather than a 'bundle of economic rights.'[124] Essentially, TK holders are more concerned with 'people's obligations towards each other and the resources (nature), than with the rights of people in property.'[125]

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[117] Key international milestones in this regard include: the Convention Concerning the Protection of the World Cultural and Natural Heritage 1972 (the UNESCO Heritage Convention); the Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property 1970 (the UNESCO Cultural Property Convention); the Convention Concerning Indigenous Peoples in Independent Countries 1986 (ILO Convention 169); the Convention on Biological Diversity 1992 and United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) G.A. Res 61/295, UN. Doc. A/61/295 (2007).

[118] Thomas Cottier & Marion Panizzon 'Legal Perspectives on Traditional Knowledge: The Case for Intellectual Property Protection' (2004) 7(2) *Journal of International Economic Law* at 375-376.

[119] Andanda op cit note 23 at 547-558; Chennells op cit note 28 at 212 and Munzer & Raustiala op cit note 26 at 66.

[120] Kal Raustiala 'Density and Conflict in International Intellectual Property Law' (2007) 40 *U.C. Davis Law Review*, at 1021, 1033. See also Munzer & Raustiala op cit note 26 at 40.

[121] Srividhya Ragavan 'Protection of Traditional Knowledge' (2001) 2 *Minnesota Intellectual Property Review* at 5-27 at 35; Cross op cit note 45 at 12, 18.

[122] Ibid at 35. See also Cottier & Panizzon op cit note 118 at 381-383.

[123] Deepa op cit note 2 at 378.

[124] Yu op cit note 3 at 467.

[125] Elmien op cit note 1 at 81.

In addition, TK is transgenerational being the product of generational indigenous efforts rather than the creativity of one living heir or those that contributed to it but no longer alive.[126] This creates a difficulty in identifying a creator or innovator. But some disagree arguing that descendants of originators may serve as a 'good enough' kind of representative. According to Robert Merges,

> 'the current inhabitants of traditional leadership roles are assumed to adequately represent the generations past and future who have an interest in protecting and profiting from the traditional knowledge. There is no pretense that this is perfect or even procedurally fair representation. But it is assumed to be the best we can do… What is needed in cases of dispersed creativity is to identify similar representative people or entities. They may not speak perfectly for all contributors, but they can be assumed to be good enough.'[127]

This suggests that if TK holders are not owners, inventors or innovators, they are basically stewards, custodians or trustees explaining why it is common to find some TK kept within the custody of a selected few, along family lineages or between particular role-players[128] on behalf of the community. For example, amongst the East African Maasai, specific families or individuals hold TK related to medicine as custodians of the community. Similarly, in most communities specific music composers are often rewarded for their creativity by being recognised as custodians of the compositions.[129] Such custodians act as trustees of the components or aspects of TK entrusted to them.[130] In giving permission to outsiders to use TK 'a recognised group of elders or trustees appointed by the community must determine how and with whom a part of the entirety of their traditional knowledge is to be shared.'[131] Although every member of the community does not give assent to the use of TK, it is argued that it is a 'pragmatic compromise which ensures the legitimacy of whatever decision is reached on the matter.'[132] A custodianship model seems to take into account TK holders collective obligations towards their TK as it does not result in exclusion, alienation, and transfer-of some of the main concerns of traditional communities[133] without their assent. However, the concept of state's trusteeship over biological resources[134] may pose difficulties to TK holders' claim of custodianship over TK.

[126] Milius op cit note 109 at 193-194. See also Robert P. Merges 'Locke for the Masses: Property Rights and the Products of Collective Creativity' 36 *Hofstra Law Review* 1179-1191 at 1190.
[127] Merges op cit note 126 at 1190.
[128] Ouma op cit note 50 at 133.
[129] Ibid at 133.
[130] Milius op cit note 109 at 195.
[131] Ibid at 195.
[132] Ibid. See also Ogendo op cit note 108 at 109, where he clarifies that decision-making does not demand collective participation by all members within a community.
[133] Yu op cit note 3 at 468.
[134] Article 15, Convention on Biological Diversity thereof places all biological resources within a territory under the sovereignty of the State.

Moreover, TK is also held in a context of communal spirit of sharing and free exchange of resources such as seeds and related knowledge although customary norms may 'impose restrictions on the way traditional knowledge is shared within the community and with outsiders.'[135] It is clear then that protection of TK does not necessarily mean 'closing off links with other cultural communities-or of the related commercial domain-to exploit that knowledge' but 'deciding what aspects of the collective identity may be used and disseminated beyond the community, and on what terms.'[136] This argument casts doubt into the assertion by IP proponents that TK is in the public domain.[137] According to TK proponents, TK could not have entered the public domain as it was never protected as IP, and even if it was, some of it such as herbal remedies are secret and hence not known to outsiders.[138]

Third, demarcating explicitly the ethnic and cultural boundaries of a people is problematic due to the dynamic nature of culture, changes over time and geographical spread across communities and nations. Where a culture has been in existence for centuries, 'determining the "originating culture" can require herculean effort.'[139] It is thus argued that the culture should not have a broad property right to 'lock up' knowledge and thereby exclude all other potential users but only a right to prevent wrongs directed at the culture.[140] A property right designed to preserve culture, may also directly contradict the policy of dissemination as it allows the owner to prevent others from using the knowledge.[141] Where cultures are shared there may arise difficulties, if a joint property right is granted and one joint owner decides to allow outsiders to use the knowledge.[142] This act may threaten the continued existence of the other culture thus defeating the purpose of the property right.

Fourth, IPRs are protected for a limited duration of time which may not be apt for TK. [143] For instance, how would that time be measured? Would it make sense to create rights for ancient knowledge? Some suggest that given the intergenerational nature of TK, it should be protected perpetually and possibly retroactively to protect historical works.[144] However, if perpetual protection is offered to TK, access to the knowledge by outsiders would be hampered. Similarly, it is contended that granting new rights over TK would mean a retraction of knowledge that is already in the public domain thus requiring TK holders to 'provide a solid public policy rationale for limiting access to, and use of, such information.'[145]

[135] Deepa op cit note 2 at 378. See also Ouma op cit note 50 at 133.
[136] Milius op cit note 109 at 197.
[137] Cullet op cit note 58 at 11. See also Sunder op cit note 58 at 109.
[138] Janewa op cit note 27 at 191; Ikechi op cit note 76 at 453-493; and Munzer & Raustiala op cit note 26 at 53.
[139] Cross op cit note 45 at 21. See also Janewa op cit note 27 at 190.
[140] Cross op cit note 45 at 25.
[141] Ibid at 39.
[142] Ibid at 40. See also Deepa op cit note 2 at 374.
[143] Cross op cit note 45 at 21.
[144] Janewa op cit note 27 at 190. See Munzer & Raustiala op cit note 26 at 52.
[145] Janewa op cit note 27 at 190.

Fifth, there are objections to IPRs in TK rooted in IP policy. Generally, the grant of a property right is viewed as 'society's reward to the innovator for his creative efforts' and as 'a financial incentive to encourage innovative activity.'[146] Because the reward theory provides incentives for new creations, it is not apt in justifying the protection of existing knowledge like TK.[147] But because of the intergenerational nature of TK, it is rather difficult to justify property rights in TK under the reward theory not because of lack of creativity but rather because the grant of exclusive rights does not provide the right sort of reward for that creativity.[148] Moreover, the intergenerational nature of TK would suggest that property rights in TK would give the reward to the wrong party[149] thus violating the basic policies of the prevailing reward theory. And even if the knowledge is of recent origin and the originator can be identified, most proposals for IP in TK would vest the rights not in the person but in the person's culture or an agency that simply owes fiduciary duties to the culture. Therefore, a grant of IPRs in TK would run afoul of these fundamental policy concerns. Clearly, TK fits poorly within standard justifications of IP rights.[150]

The failure of the IP regime to pay adequate attention to the unique nature of TK and the concerns, beliefs, worldviews and customary laws and practices of indigenous peoples encourages continual loss of TK without attribution or compensation to the TK-generating community.[151]

1.3 Conclusion and suggestion on way forward

Due to the varying objectives of TK protection among TK holders, and the proponents of the IP regimes, there arises huge incompatibilities when IP frameworks are used to protect TK. This necessitates a search for alternative frameworks outside the IP system. One such alternative is the use of TK holders' governance structures. Those structures can effective in preserving and fostering equitable access to TK. These institutions are respectful of, and are appropriate in securing the indigenous cosmologies, territories, relationships with nature and people, epistemes, beliefs, and innovation processes that generate and perpetuate TK. Again, since TK holders are custodians rather than owners of TK, it is more appropriate to use traditional frameworks that respect customary

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[146] Cross op cit note 45 at 23. Early IPRs were often granted simply as a favour to someone who had pleased the government. Today, IPRs are justified as useful tools to improve the general lot of society and a grant of exclusivity that does not further these social goals is regarded improper.
[147] Heald op cit note 17 at 519-546.
[148] Cross op cit note 45 at 24.
[149] Ibid at 24.
[150] Munzer & Raustiala op cit note 26 at 40; and Deepa op cit note 2 at 374. See also Heald op cit note 17 at 542-3, that advocating IPRs for TK is a poor rhetorical strategy for maintaining the world's biodiversity and helping indigenous groups that hold so much critical knowledge about plant genetic resources.
[151] Saskia Vermeylen 'The Nagoya Protocol and Customary Law: The Paradox of Narratives in the Law' (2013) 9(2) *Law, Environment and Development Journal* at 190. See also Hans Morten Haugen 'Traditional Knowledge and Human Rights' (2005) 8 *Journal of World Intellectual Property,* at 667.

governance structures under which TK is held. This study recommends further investigation on the role of TK holders' institutions in the protection of TK.