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TRADITIONAL JUSTICE SYSTEMS AS *SUI GENERIS* FRAMEWORKS FOR THE PROTECTION OF TRADITIONAL ECOLOGICAL KNOWLEDGE IN KENYA

by

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SUPERVISOR: PROFESSOR PAMELA ANDANDA

SEPTEMBER 2019

DECLARATION

I, Francis Kariuki Kamau, hereby declare that this thesis is my own unaided work. It is submitted in fulfilment of the requirements of the degree of Doctor of Philosophy (PhD) in the Faculty of Commerce, Law and Management at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

FRANCIS KARIUKI KAMAU **DATE**:

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DEDICATION

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World Heritage Convention, 11*ILM* (1972) 1358.

ACRONYMS

ABN	African Biodiversity Network
ABS	Access and Benefit Sharing
ACHPR	African Charter on Human and Peoples' Rights
ARIPO	African Regional Intellectual Property Organization
ASAL	Arid and semi-arid land
AU	African Union
CANCO	Community Action Network for Nature Conservation
CBD	Convention on Biological Diversity
CBNRM	Community-Based Natural Resources Management
CESCR	Committee on Economic, Social and Cultural Rights
CFAs	Community Forest Associations
CFCU	Coastal Forest Conservation Unit
CIPIT	Center for Intellectual Property and Information Technology
COP	Conference of the Parties
EAC	East African Community
ECOSOC	Economic and Social Council
EMCA	Environmental Management and Co-ordination Act
EMRIP	Expert Mechanism on the Rights of Indigenous Peoples
FAO	Food and Agriculture Organization
FPIC	Free Prior Informed Consent
GIs	Geographical Indications
GR	Genetic Resources
HRC	Human Rights Council
ICCA	Indigenous Community Conserved Territories and Areas
ICCPR	International Covenant on Civil and Political Rights
ICE	Institute for Culture and Ecology
ICESCR	International Covenant on Economic Social and Cultural Rights
ICH	Intangible Cultural Heritage
IGC	Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore

IK	Indigenous Knowledge
ILC	Indigenous and Local Community
ILO	International Labour Organization
IP	Intellectual Property
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services
IPRs	Intellectual Property Rights
ITPGRA	International Treaty on Plant Genetic Resources for Food and Agriculture
IUPGR	International Undertaking on Plant Genetic Resources
KECOBO	Kenya Copyright Board
KENRIK	Kenya Resource Center for Indigenous Knowledge
KFS	Kenya Forest Service
KIPI	Kenya Industrial Property Institute
KWS	Kenya Wildlife Service
MAT	Mutually Agreed Terms
MEB	Multiple evidence base
MOU	Memorandum of Understanding
MTA	Material Transfer Agreement
NACOSTI	National Commission for Science, Technology and Innovation
NEMA	National Environmental Management Authority
NGOs	Non-governmental organizations
NMK	National Museums of Kenya
OAPI	*Organisation Africaine de la Propriété Intellectuelle*
OAU	Organisation of African Unity
PBRs	Plant Breeders Rights
PVP	Plant Variety Protection
RECONCILE	Resource Conflict Institute
SADC	Southern African Development Community
SCP	Standing Committee on the Law of Patents
TCEs	Traditional Cultural Expressions
TEK	Traditional Ecological Knowledge
TICAH	Trust for Indigenous Culture and Health

TJS	Traditional Justice Systems
TK	Traditional Knowledge
TM	Traditional Medicine
TRIPS	Trade-Related Aspects of Intellectual Property Rights
TUBAE	Turkana Bio Aloe Organization
UDHR	Universal Declaration on Human Rights
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Commission on Environment and Development
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
UNDP-GEF	United Nations Development Programme-Global Environmental Finance
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNPFII	United Nations Permanent Forum on Indigenous Issues
UPOV	International Convention for the Protection of New Varieties of Plants
WGIP	Working Group on Indigenous Populations
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WRUAs	Water Resource Users Associations
WTO	World Trade Organization
WWF	World Wildlife Fund

ABSTRACT

Traditional ecological knowledge (TEK) has huge ecological, cultural and socio-economic value to TEK holders, and the society in general. Due to its value, and a multiple of factors including biodiversity loss, biopiracy, cultural deterioration and disruption of traditional resource management systems, TEK is being lost at an alarming rate thus warranting its protection. The protection of TEK has principally been sought within the prevailing intellectual property (IP) regime, and at times within human rights and environmental law frameworks. However, the ideological, conceptual and epistemological foundations, and orientation of existing legal and IP frameworks, make them inapt in protecting the holistic nature of TEK. Moreover, these frameworks are not shaped by the concerns, beliefs, worldviews and customary laws and practices of TEK holders. It is for this reason that this thesis investigates the appropriateness of traditional justice systems (hereinafter 'TJS') as *sui generis* frameworks in the protection of TEK in Kenya. Using Laura Westra's tripartite framework of cultural, ecological and self-determination integrity, the thesis shows that an appropriate regime for TEK protection must secure the cultural, ecological and self-determination rights of TEK holders. The thesis argues that the obligation to protect TEK ought to be placed on custodial institutions such as TJS, which takes into account the multiple values of TEK to its holders and the integral links they have with the knowledge. Additionally, the thesis argues that due to the role played by TJS in asserting TEK holders' rights, regulating access to and use of TEK, designing bio-cultural protocols, granting free prior informed consent, TEK inventorying, gazettement, restoration of lost knowledge and ecosystems, a TJS approach can be used in striking a balance between protection and safeguarding measures, and thus bridge the current protection gap. Notwithstanding the inadequacies of the IP regime in protecting TEK, the thesis concludes that a TJS approach will work well in collaboration with the IP regime and not in isolation since there are components of TEK that can still be protected within the IP framework.

Three case studies of TEK holding communities in Kenya, namely Meru, Mijikenda and Ogiek are used to assess the prospects and appropriateness of a TJS approach in protecting TEK. The findings show that TEK is holistic and entails spiritual, socio-cultural, technological and traditional management systems dimensions. Consequently, TEK has ecological, cultural, and economic value, and is integral to the clamor for the right to self-determination by TEK holders. Additionally, the findings show that TEK holders are custodians with responsibilities over TEK to the communities and ecosystems in which it is used, and its protection cannot simply be a matter

of conferring IP-like rights to custodians. Notably, the communities under study have traditional structures that they use in protecting TEK. These structures proffer what the thesis describes as a TJS approach that provides a holistic, bottom-up form of protection that dovetails with Westra's tripartite framework in the protection of TEK.

CHAPTER ONE

INTRODUCTION

1 BACKGROUND TO A PROBLEM

Traditional knowledge (TK), defined broadly, is the body of knowledge that is vital to the day to day life of indigenous and local communities, and that is generated through generations of living in close contact with nature.[1] It is the 'totality of all knowledge and practices, whether explicit or implicit, used in the management of socio-economic and ecological facets of life.'[2] Categories of TK include: agricultural knowledge; scientific knowledge; technical knowledge; ecological knowledge and medicinal knowledge.[3] On this account, traditional ecological knowledge (TEK) is a subset of TK relevant to the ecological facets of life.[4] Indigenous knowledge (IK) is understood as the local knowledge that is unique to a particular culture and society that identifies itself as indigenous.[5] IK is thus a subset of TK held by indigenous peoples.

TEK is knowledge, innovations and practices[6] of local communities deriving from customary uses of biological resources. It is concerned with the relationships amongst living things

[1] See Republic of Kenya, *The National Policy on Traditional Knowledge, Genetic Resources and Traditional Cultural Expressions*, (Government of Kenya, 2009).

[2] John Mugabe 'Intellectual Property Protection and Traditional Knowledge: An Exploration in International Policy Discourse' 1999, at 3. See also WIPO 'The Protection of Traditional Knowledge: Outline of Policy Options and Legal Elements' WIPO/GRTKF/IC/7/6, para 17.

[3] 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) 458-459.

[4] Therefore, existing literature on TK is relevant in discussing TEK. Moreover, the use of the term 'traditional' does not denote or connote notions of antiquity, stagnation and immutability of the knowledge in question as 'recently established knowledge which is based on existing knowledge' can also be TEK, see Hans Morten Haugen 'Traditional Knowledge and Human Rights' (2005) 8 *Journal of World Intellectual Property*, at 665.

[5] Republic of Kenya op cit note 1. See also Mugabe op cit note 2 at 1-5.

[6] Fikret Berkes 'Traditional ecological knowledge in perspective' in Julian T Inglis (ed) *Traditional Ecological Knowledge: Concepts and Cases* (1993) at 1-9. See also Article 8(j), Convention on Biological Diversity (CBD), 31 *ILM*, 1992. See also International Centre for Trade and Sustainable Development Issue Paper No. 39 (Programme on Innovation, Technology and Intellectual Property) *Protecting Shared Traditional Knowledge: Issues, Challenges and Options* (2013) at 8.

and their ecologies[7] and is culturally situated.[8] Muller writing on TK, asserts that TK has three interrelated aspects: an intangible (knowledge *per se*); a tangible (material products or material innovations), and processes or procedures.[9] Berkes *et al* classify TEK into four broad groups.[10] First, there is local TEK of animals, plants, soils and landscapes. Second, there is the traditional resource management system. Third, there are social institutions for social organisation, coordination, conflict resolution, co-operation, rule-making and enforcement. Fourth, a worldview that shapes the environmental perception and gives meaning to social relations.[11] All these practices and skills are interlinked and are performed within a cultural context and surroundings of rituals (some of which include songs, dances and fashion and in harmony with nature).[12] For example, the protection of local TEK depends in the long run on the conservation of the integrity of TEK systems at all levels. However, there has been a disproportionate focal interest on local environmental knowledge with less interest in or work on traditional management systems, institutions or worldviews.[13]

In spite of its importance, TEK faces significant environmental, social and economic impacts that are occasioning its loss and deterioration[14] thus creating a need for its protection. Consequently, there is increased awareness of the need to protect TEK[15] in environmental,[16]

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[7] Robin Wall Kimmerer 'Weaving traditional ecological knowledge into biological education: A call to action' (2002) 52(5) *Bioscience*, 432-438, at 432. See also Fikret Berkes, Carl Folke & Madhav Gadgil 'Traditioinal Ecological Knowledge, Biodiversity, Resilience and Sustainability' at 284 available at *http://www.ces.iisc.ernet.in/biodiversity/pubs/mg/pdfs/mg138.pdf*, accessed on 20 April 2016.

[8] Kyle Powys Whyte 'On the role of traditional ecological knowledge as a collaborative concept: a philosophical study' (2013) 2(7) *Whyte Ecological Processes*, at 3.

[9] International Centre for Trade and Sustainable Development op cit note 6 at 8.

[10] Berkes, Folke & Gadgil op cit note 7 at 298.

[11] See Kimmerer op cite note 7 at 433. See also Nancy Doubleday 'Finding Common Ground: Natural and Collective Wisdom' in Julian T Inglis (eds.) Traditional Knowledge: Concepts and Cases (1993) at 41-54.

[12] 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.

[13] Berkes, Folke & Gadgil op cit note 7 at 298.

[14] Republic of Kenya op cit note 1, para 4.3.4. See also Andrew McWilliam 'Meto Disputes and Peacemaking: Cultural Notes on Conflict and its Resolution in West Timor' (2007) 8 *The Asia Pacific Journal of Anthropology*, 75 at 89; Erin Sherry & Heather Myers 'Traditional Environmental Knowledge in Practice' (2002) 15 (4) *Society & Natural Resources*, 345-358, at 349.

[15] International Centre for Trade and Sustainable Development op cit note 6 at v.

[16] See CBD op cit note 6 which recognises the importance of TEK in the conservation and sustainable use of biodiversity and the fair and equitable sharing of benefits arising from the utilisation of genetic resources. See Article 8(j) thereof which obligates States to 'respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for achieving the Convention's

human rights[17] and intellectual property (IP) frameworks[18] at the international, regional and national levels.

Most legal efforts aimed at protecting TK have sought to use the prevailing IP regimes. However, deficiencies in current legal and IP regimes in protecting tradition-based knowledge systems have contributed to loss of biodiversity, genetic resources and TK; cultural deterioration and the disruption of traditional resource management systems.[19] IP frameworks are unable to protect TK with its unique nature and customary governance[20] resulting in theft, biopiracy and misappropriation of TK without attribution or compensation to the TK-generating community.[21] In Kenya, genetic resources and related knowledge have been lost without any benefits to the country and local communities. Classic examples include the collection of *Maytenus buchananii* plant from the Shimba Hills of Kenya in 1970s when the US National Cancer Institute (NCI) collected tonnes of the shrub based on the TK of the Digo community who predominantly live around Shimba Hills and have used this knowledge for years to treat cancerous conditions. It is documented that the *Maytenus buchananii* plant contains maytansine, which is considered a

objectives.' See also Principle 22 of the Rio Declaration on Environment and Development, UN Doc. A/CONF.151/126 (vol.1) (adopted 14.7.1992). See also Conference of Parties (COP 6) to the Convention on Biological Diversity, 7 - 19 April 2002.

[17] Such as the Universal Declaration on Human Rights (UDHR), G.A. Res. 217 A (1948); International Covenant on Economic Social and Cultural Rights (ICESR), 993 U.N.T.S.3 (1966); Articles 26 & 31 of the United Nations Declaration on the Rights of Indigenous Peoples, G.A. Res 61/295, UN. Doc. A/61/295(2007); and Articles 8, 9 & 15 of the International Labour Organization (ILO) Convention 169 on Indigenous and Tribal Peoples in Independent Countries, 28 *ILM*, 1387 (1989).

[18] Article 12 of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable sharing of Benefits arising from their Utilization to the Convention on Biological Diversity, Nagoya, 29 October 2010. See the Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore, adopted by the Diplomatic Conference of African Regional Intellectual Property Organization (ARIPO) at Swakopmund on 9 August 2010 and the Andean Community Decision 391: Common Regime on Access to Genetic Resources of 1996 available at *www.sice.oas.org/trade/junac/decisiones/dec391e.asp*, accessed on 30 February 2016.

[19] See also Rodrigo de la Cruz, 'Regional Study in the Andean Countries: 'Customary Law in the Protection of Traditional Knowledge' (2006) Final Report Revised for WIPO at 25.

[20] Krystyna Swiderska 'Traditional Knowledge and recognition of customary law: policy issues and challenges,' background paper for the Planning Workshop on 'Protecting community rights over traditional knowledge: implications for customary laws and practices,' London 4-5 May 2004 at 7. See also 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 (Saskia contends that the CBD regime is also mostly concerned with issues of access to and sharing of benefits of genetic resources, with little in terms of providing adequate protection to TK and the well-being of indigenous peoples). Haugen op cit note 4 at 667. See also Berkes, Folke & Gadgil op cit note 7 at 297.

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

potential treatment for pancreatic cancer. All the material collected was traded without the consent of the Digo and recognition of their knowledge of the plant and its medicinal properties.[22] Another example relates to the collection of extremophiles that occur naturally in the hot water springs of Rift Valley lakes by Genencor International Inc. In 2002, Genencor International announced the development of an enzyme which causes a faded look in denim. The company acknowledges that the enzyme was discovered by one of its scientists in a Kenyan saline lake but little detail is available on the legal basis of the company's activities in obtaining the enzyme. [23]

On their part, mainstream environmental management frameworks meant to protect TEK have focused on the collection and documentation of TEK with little emphasis on its protection.[24] Although there are a number of policies formulated since 2009 to enhance the preservation and use of TEK in Kenya,[25] the principal environmental law that also protects TEK and genetic resources[26] tends to focus more on access rather than on protection.[27] However, with the 2010 Constitution, there is a firmer framework for the protection and preservation of TEK. There is protection of the right to acquire and own property either individually or in association with others.[28] Apart from that, the state is obligated to recognise culture as the foundation of the nation and the cumulative civilisation of the people and state,[29] promote all forms of national cultural

[22] See Mugabe op cit note 2 at 6.

[23] Ibid.

[24] Debora McGregor 'Ecological Knowledge and Sustainable Development: Towards Coexistence' in Blaser M, Feit HA, McRae G (ed.) *In the way of development: indigenous peoples, life projects and globalization* (2004) at 9-10.

[25] These include the *National Policy on Culture and Heritage*, 2009; *National Land Policy*, 2009; and the *National Policy on Traditional Knowledge, Genetic Resources and Traditional Cultural Expressions*, July, 2009, whose goal is to 'enhance the preservation, protection and promotion of sustainable use of traditional knowledge, genetic resources and traditional cultural expressions in Kenya' and Republic of Kenya, *National Environment Policy*, 2013 at 20, 43 and 44 which recognises the role of TK in environmental protection and conservation but then focuses more on access, documentation and integration of TK in environmental governance and benefit sharing.

[26] See for instance the Environmental Management and Coordination Act No. 8 of 1999 (EMCA) which is the overarching legal and institutional framework for the management of biodiversity. Ss 50-54 thereof deal with the conservation of biological diversity. S 50(f) requires the National Environmental Management Authority (NEMA) to 'protect indigenous property rights of local communities in respect of biological diversity' and s 51(f) requires NEMA to issue guidelines for 'integrating traditional knowledge for the conservation of biological diversity with mainstream scientific knowledge.' S 43 recognises the traditional interests of local communities.

[27] See for instance s 53 of EMCA that permits access to genetic resources of Kenya by non-citizens including the issuance of licenses and fees for that access. See generally Part III of the Environmental Management and Co-ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006.

[28] Article 40(1).

[29] Article 11(1).

expression, recognise the role of indigenous technologies in development and to promote the protection of IP rights.[30] Related also to TEK, the Constitution requires the state to ensure the sustainable management and use of natural resources, and to protect and enhance IP in, and indigenous knowledge of, biodiversity and the genetic resources of the communities.[31] Traditional justice systems (TJS)[32] and customary laws of communities are also recognised in law.[33] Besides, Kenya has enacted a law on the Protection of Traditional Knowledge and Cultural Expressions as a framework for the protection and promotion of TK and cultural expressions; to give effect to Articles 11, 40 and 69(1) (c) of the Constitution; and for connected purposes.[34] The Act deals, *inter alia*, with the rights of TK holders to have TK protected; criteria for protection; moral rights; that protection is not subject to formalities; TK registers; duration for protection and for compulsory licences for the protection of TK. However, the law fails to give enough attention to the role of traditional governance institutions and customary laws in the protection and use of TK.

1.1 RATIONALE AND OBJECTIVES FOR TEK PROTECTION

The main features of TEK 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.[35] Objectives that underlie the protection of TK vary among and between traditional communities.[36] 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.[37] The study collapses these objectives into: moral/cultural, legal and utilitarian theorems.[38]

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[30] Article 11(2).
[31] Article 69(1)(*c*).
[32] See Articles 159(2)*(c)*, 11 and 60(f).
[33] Article 2(4).
[34] Protection of Traditional Knowledge and Cultural Expressions Act No. 33 of 2016.
[35] Rodrigo op cit note 19 at 36. See also 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.
[36] Deepa Varadarajan 'A Trade Secret Approach to Protecting Traditional Knowledge,' (2011) 36(2) *Yale Journal of International Law* 371-420, at 382.
[37] Peter K. Yu 'Cultural Relics, Intellectual Property, and Intangible Heritage' (2008) 81 *Temple Law Review* 433-506, at 483.
[38] However, these justifications are neither exhaustive nor mutually exclusive.

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 and developed countries.[39] 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.[40] Conservation takes place within a biocultural context that ensures that indigenous lifestyles and the related TK are not disturbed or destroyed.[41]

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.[42] 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.[43] A major weakness of the disclosure requirement is the inherent difficulty in determining the source of origin of the underlying materials which may lead to 'uncertainty and inconsistency and may ultimately reduce incentives for creation and innovation.'[44]

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.[45] 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

[39] Yu op cit note 37 at 471.

[40] Deepa op cit note 36 at 374. 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.

[41] 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.

[42] Yu op cit note 37 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.

[43] Yu op cit note 37 at 462.

[44] Ibid at 463.

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

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.[46] Hence even if TK is not sacred, it should not be used in a way that offends traditional communities.[47] But still inasmuch as the use may not be offensive, TK holders may prefer to keep their knowledge preserved and out of commercial channels.[48] Concerns about potential loss of TK explains why communities are 'generally skeptical of open access arrangements, such as those relying on the development of a commons.'[49] 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.[50] 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.[51] The preservation approach faces certain practical limitations and is troubling in its emphasis on state control of genetic resources and TK.[52] Another problem arises in locking up culture through preservation of TK versus the society's interest in accessing the knowledge for health and nutrition.[53]

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.'[54] 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.[55] According to other scholars TK protection measures include: compensation; social recognition of

[46] Yu op cit note 37 at 455.
[47] Ibid at 456.
[48] Ibid at 457. See Schroeder op cit note 42 at 37.
[49] Yu op cit note 37 at 458.
[50] Twarog op cit note 41 at 64.
[51] Heald op cit note 21 at 525.
[52] Such an approach is taken in the Convention on Biological Diversity.
[53] Heald op cit note 21 at 529.
[54] 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.
[55] 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.

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.[56] But as Andanda postulates, the protection of TK is 'distinguishable from the efforts that have been made to promote and safeguard TK.'[57] 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.[58] It is however noteworthy that 'protection' is not tantamount to 'safeguarding' (as explained in chapter four, in relation to intangible cultural heritage). 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.[59] Chapter five demonstrates that a TJS approach is able to both protect and safeguard TEK.

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.[60] Others contend that although IP protection is inadequate for full protection of TK[61] 'there is room in that system for flexible, local initiatives driven by indigenous peoples to remedy the situation.'[62] Others argue that there are common policy objectives underlying the protection of TK and IP[63] 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

[56] Muller op cit note 54 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.

[57] 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.

[58] Ibid at 547. See also Farran op cit note 56 at 22.

[59] Andanda op cit note 57 at 547.

[60] 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.

[61] Janewa op cit note 21 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.

[62] 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.

[63] Janewa op cit note 21 at 181.

use of their intangible goods without consent.'[64] 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[65] 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.[66] 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.[67]

Second, some argue that legal protection results in increased dissemination of information which creates economic incentives.[68] 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 facilitate access to TK by outsiders which may create tension with the interests of TK holders[69] who may be opposed to the commercialisation of aspects of their TK unless they exercise control over that access and use.[70] 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.[71] Additionally, whereas TK holders' believe that access by outsiders may occasion cultural, ecological and spiritual harm, scientists claim that research benefits all humanity.[72] 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 insofar 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.[73]

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[64] Ibid.
[65] Ibid.
[66] Tonye 1 op cit note 40 at 14.
[67] Heald op cit note 21 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.
[68] Ibid.
[69] Ibid. Deepa op cit note 36 at 378.
[70] Tonye 1 op cit note 40 at 17.
[71] Yu op cit note 37 at 475.
[72] Ibid at 476-77.
[73] Ibid.

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.[74] Inappropriate use also includes stopping inaccurate use or transmission of TK.[75] 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.[76]

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."[77] Lastly, protection may promote respect for TK, TK holders and their development (including cultural)[78] since protection of TK cannot be dealt with satisfactorily in isolation from the more fundamental needs, interests and rights of the holders of TK.[79]

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.'[80] 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[81] such as the recognition of customary laws.[82] Since it aims at propertising TK for market purposes,[83] it may be appropriate where TK holders want economic benefits from protection.

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[74] Twarog op cit note 41 at 64.
[75] Chennells op cit note 62 at 216.
[76] Ibid.
[77] Janewa op cit note 21 at 185.
[78] Ibid at 188.
[79] 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 146. See also John T Cross 'Property Rights and Traditional Knowledge' (2010) 13(4) *Potchefstroom Elec. L.J* at 32.
[80] WIPO 'Elements of a Sui Generis System for the Protection of Traditional Knowledge' WIPO/GRTKF/IC/4/8, 30 September 2002, para 13.
[81] Ibid.
[82] Twarog op cit note 41 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.
[83] Munzer & Raustiala op cit note 60 at 40.

Defensive protection seeks to prevent others from 'asserting or acquiring IP rights over TK subject matter'.[84] 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.[85] It allows TK information to be published so as to count as prior art and ensure its availability in a search for prior art.[86] 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.[87]

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.'[88] Moreover, enforceability of IPRs can be a huge problem for TK holders, most of whom have limited resources.[89] Stronger protection using IPRs would restrict communities' access to TK and their ability to exploit it.[90] Further, according to TK 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.[91] A human rights approach offers a broader framework for protecting TK[92] as it 'readjusts the inequality of the IP regime in failing to provide protection not geared towards commercial or trade advantages'[93] such as cultural or sacred value of TK and avoids the hierarchical difference between knowledge (that is protectable under IPR

[84] 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 60 at 50.

[85] Munzer & Raustiala op cit note 60 at 40, 50.

[86] Ibid, at 82.

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

[88] Twarog op cit note 41 at 65.

[89] Ibid, at 65.

[90] Yu op cit note 37 at 480.

[91] Munzer & Raustiala op cit note 60 at 43. Deepa op cit note 36 at 374.

[92] 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.

[93] Cullet op cit note 92 at 12.

and TK which is assumed to be in the public domain and freely available to all).[94] 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.[95]

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.[96]

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.'[97] In addition, commercialisation of TK often refers to the commercialisation of a product developed using TK as the 'know-how.' [98] 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.[99] 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.[100]

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

[94] Ibid at 12.
[95] Ibid at 12.
[96] Tonye 1 op cit note 40 at 13.
[97] Twarog op cit note 41 at 66.
[98] Ibid at 67.
[99] Heald op cit note 21 at 537.
[100] Yu op cit note 37 at 459.

respect to sacred TK.[101] 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.[102] 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?[103] Can one community decide over the other? If so, would the other community be able to claim prior users' rights?'[104] Can the state speak for communities, or must they speak for themselves?[105] 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.[106] 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.'[107]

TK holders also demand compensation for economic, social, cultural, psychological and spiritual injuries occasioned by the unauthorised use of TK.[108] Even so, Yu identifies several reasons why compensation can be problematic.[109] 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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[101] See Schroeder op cit note 42 at 37.

[102] 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.

[103] 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.

[104] Yu op cit note 37 at 488.

[105] Ibid at 469.

[106] Twarog op cit note 41 at 68.

[107] Yu op cit note 37 at 490.

[108] Ibid at 463.

[109] Ibid at 463-465.

1.2 IDEOLOGICAL CONUNDRUMS AND TECHNICAL CHALLENGES IN PROTECTING TK

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'.[110] TK especially in Africa, operates on two entwined levels-empirical and cognitive level. [111] The empirical level is unpacked further into, natural,[112] technological and architectural[113] and socio-cultural spheres[114] 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.'[115] 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.[116] 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.[117] These frameworks occasioned consistent inferiorisation of African TK

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[110] Ikechi op cit note 3 at 483. Andre Lalonde 'African Indigenous Knowledge and its Relevance to Sustainable Development' in Julian T Inglis (eds.) Traditional Knowledge: Concepts and Cases (1993) at 57.

[111] Osman op cit note 12.

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

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

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

[115] Osman op cit note 12. See also Lalonde op cit note 110 at 56.

[116] Osman op cit note 12.

[117] Ikechi op cit note 3 at 455; Lalonde op cit note 110 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.

as being unworthy of legal protection and concerted efforts to erase existing systems of knowledge and their replacement with Western-driven belief and knowledge systems.[118] 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.[119]

The interface between TK and IPRs presents an interesting dichotomy of cross-cultural relationship between a western-liberal ideology and an indigenous worldview.[120] 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.[121] There is thus an existing gap in the protection of TK within prevailing frameworks.

Traditional frameworks as advanced in this study are suggested as one way of bridging the 'protection gap'. A traditional framework views TEK 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.'[122] 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.[123]

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.[124] Perceived power and status makes the relationship between TK and IPRs

[118] Ikechi op cit note 3 at 469. See also Osman op cit note 12.
[119] James T. Gathii 'Imperialism, Colonialism, and International Law' (2006-2007) 54 (4) *Buffalo Law Review* 1013-1066, at 1027.
[120] 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.
[121] Ibid at 2.
[122] Doubleday op cit note 11 at 52.
[123] Janewa op cit note 21 at 203. See also Munzer & Raustiala op cit note 60 at 51.
[124] Molefi Kete Asante 'The Ideological Significance of Afrocentricity in Intercultural Communication' (1983)14 *Journal of Black Studies* 3-19 at 4.

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.'[125] As such in the intercultural encounters, TK holders must be allowed to define for themselves their own power and status vis-à-vis another.

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).[126]

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.[127] Because the cultural values of TK holders were not taken into account, IP instruments are ill-fitted to protect TK.[128] 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.[129] 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.'[130] Likewise, under the Kenyan Constitution,

[125] Ibid at 5.

[126] Ikechi op cit note 3 at 473.

[127] 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; Doubleday op cit note 11 at 45 who argues that the reason for this state of affairs is that, 'traditional communities and other non-state collectivities, including indigenous peoples, have not been accorded a voice in international affairs until very recently and much debate continues about their inclusion.'

[128] Janewa op cit note 21 at 159, 201; Sunder op cit note 92 at 100 and Twarog op cit note 41 at 65.

[129] Cullet op cit note 92 at 10. See K. Yu op cit note 93 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*.'

[130] Yu op cit note 37 at 436.

'property' is defined as including IP[131] and IPRs are protected in the Constitution 2010 within the 'right to property'.[132] 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.[133] Similarly, it may end up removing communally held TK from its paradigm[134] and importing it into another worldview occasioning harm to it and its holders.[135] This incompatibility yields ineffectual solutions in the protection of TK[136] and necessitates a search for alternative frameworks as suggested in this study.

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.[137] This is also evident in statutes that create the offence of witchcraft and criminalise activities that are carried out by traditional herbalists.[138] 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.[139] However, in South Africa there are reports showing that traditional healers are commonly using

[131] Article 260.

[132] Article 40(5).

[133] Chennells op cit note 62 at 212.

[134] Doubleday op cit note 11 at 50.

[135] 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.'

[136] Chisa & Hoskins op cit note 120.

[137] 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 3 at 478.

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

[139] Ikechi op cit note 3 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.'

'over-the-counter' pharmaceuticals and patented drugs in their practice[140]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.[141] 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.[142] 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.[143] Such laws and policies 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.[144] 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.'[145] 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.'[146] 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

[140] Andanda & Khademi op cit note 137 at 58.
[141] Ikechi op cit note 3 at 478.
[142] Ibid at 464.
[143] 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.
[144] Ogendo op cit note 143 at 111; Ikechi op cit note 3 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.
[145] Tonye 2 op cit note 40 at 815.
[146] Ibid at 816.

indigenous peoples.'[147] 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.'[148]

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.[149] 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.[150] Nevertheless, developments at the international level in IP[151] and the recognition of indigenous people's rights suggest that there is a gradual move towards privileging traditional epistemes, beliefs and practices.[152]

1.2.3 Technical and pragmatic problems

Because of the nature and divergent aims of TEK and IP protection, there are technical and practical challenges of protecting TK within the IP regimes.[153] 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.'[154] For example, whereas products based on TK and genetic resources are protected by IP law, the underlying TK and genetic resources are

[147] Chennells op cit note 62 at 216. See also Janewa op cit note 21 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'.

[148] Sherry & Myers op cit note 14 at 349.

[149] Ikechi op cit note 3 at 456; Osman op cit note 12; 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.

[150] See Osman op cit note 12.

[151] 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.

[152] 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).

[153] 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.

[154] Andanda op cit note 57 at 547-558; Chennells op cit note 62 at 212 and Munzer & Raustiala op cit note 60 at 66.

not.[155] 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[156] as TK is collectively and communally held.[157] 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.[158] 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.'[159] 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.'[160]

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.[161] 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

[155] 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 60 at 40.
[156] Srividhya Ragavan 'Protection of Traditional Knowledge' (2001) 2 *Minnesota Intellectual Property Review* at 5-27 at 35; Cross op cit note 79 at 12, 18.
[157] Ibid at 35; Patricia Kameri-Mbote 'Access to Genetic Resources and Benefit-Sharing in Kenya' in C.O. Okidi, P. Kameri-Mbote & Migai Akech (eds.) *Environmental Governance in Kenya-Implementing the Framework Law* (2008), 391-412 at 393; and Cottier & Panizzon op cit note 153 at 381-383.
[158] Deepa op cit note 36 at 378.
[159] Yu op cit note 37 at 467.
[160] Elmien op cit note 35 at 81.
[161] Milius op cit note 144 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.

similar representative people or entities. They may not speak perfectly for all contributors, but they can be assumed to be good enough.'[162]

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[163] 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.[164] Such custodians act as trustees of the components or aspects of TK entrusted to them.[165] 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.'[166] 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.'[167] 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[168] without their assent. However, the concept of state's trusteeship over biological resources[169] may pose difficulties to TK holders' claim of custodianship over TK thus explaining why this study advances the need for traditional frameworks that respect customary governance structures under which TK is held.

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.'[170] It is clear

[162] Merges op cit note 161 at 1190.
[163] Ouma op cit note 84 at 133.
[164] Ibid at 133.
[165] Milius op cit note 144 at 195.
[166] Ibid at 195.
[167] Ibid. See also Ogendo op cit note 143 at 109, where he clarifies that decision-making does not demand collective participation by all members within a community.
[168] Yu op cit note 37 at 468.
[169] See CBD op cit note 6, article 15 thereof places all biological resources within a territory under the sovereignty of the State.
[170] Deepa op cit note 36 at 378. See also Ouma op cit note 84 at 133.

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.'[171] This argument casts doubt into the assertion by IP proponents that TK is in the public domain.[172] 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.[173] It therefore becomes necessary to propose a framework, as this study does, that can help in striking an appropriate balance between access to TK and the protection of cultural integrity of TK holders.

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.'[174] 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.[175] 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.[176] 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.[177] 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. [178] 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.[179] However, if perpetual

[171] Milius op cit note 144 at 197.
[172] Cullet op cit note 92 at 11. See also Sunder op cit note 92 at 109.
[173] Janewa op cit note 21 at 191; Ikechi op cit note 3 at 453-493; and Munzer & Raustiala op cit note 60 at 53.
[174] Cross op cit note 79 at 21. See also Janewa op cit note 21 at 190.
[175] Cross op cit note 79 at 25.
[176] Ibid at 39.
[177] Ibid at 40. See also Deepa op cit note 36 at 374.
[178] Cross op cit note 79 at 21.
[179] Janewa op cit note 21 at 190. See Munzer & Raustiala op cit note 60 at 52.

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.'[180]

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.'[181] Because the reward theory provides incentives for new creations, it is not apt in justifying the protection of existing knowledge like TK.[182] 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.[183] Moreover, the intergenerational nature of TK would suggest that property rights in TK would give the reward to the wrong party[184] 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.[185]

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.[186] This study seeks to fill this gap by examining whether TJS would be effective in preserving and fostering equitable access to TEK.

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[180] Janewa op cit note 21 at 190.

[181] Cross op cit note 79 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.

[182] Heald op cit note 21 at 519-546.

[183] Cross op cit note 79 at 24.

[184] Ibid at 24.

[185] Munzer & Raustiala op cit note 60 at 40; and Deepa op cit note 36 at 374. See also Heald op cit note 21 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.

[186] Swiderska op cit note 20 at 7; See Vermeylen op cit note 20 at 190; and Haugen op cit note 4 at 667.

1.3 LITERATURE REVIEW

1.3.1 What are TJS?

TJS are justice processes based on cooperation, communitarism, strong group coherence, social obligations, consensus-based decision-making, social conformity, and strong social sanctions.[187] They involve the use of shared patterns of dispute resolution, conciliatory dialogue, the admission of guilt or wrongdoing, and 'compensatory concessions and a ritual commensality where food exchanges symbolise the end of animosities and the harmonious re-engagement of the flow of social life.'[188] These mechanisms are culturally placed and are argued to be better frameworks in environmental management including dispute resolution.[189] Cultural practices including TJS are integral to TEK and can bring coherence and shared community values to biological resource[190] use and management.

They are legitimate and effective as they involve interactions, procedures and decisions that reflect people's culture.[191] As Ayinla documents, African traditions, beliefs, customs, practices, religions and values, regulate human affairs and are the basis of the system of administration of justice.[192] Because of social and religious sanctions, the compliance rate with decisions of TJS is higher than with formal justice systems.[193] Their legitimacy and localised nature makes them appropriate holistic frameworks for environmental governance.

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[187] Sherry & Myers op cit note 14 at 351. See Marguerite Johnston 'Giriama Reconciliation' (1978) 16 *African Legal Studies* at 92-131.Johnston notes that the possibility of reconciliation is dependent on the disputants' broader social relationship, of which the dispute is but a partial reflection). See also Katherine K. Stich 'Customary Justice Systems and Rule of Law' (2014) 221 *Military Law Review*, 215-256.

[188] McWilliam op cit note 14 at 88.

[189] Jess McLean 'Water Injustices and potential remedies in indigenous rural contexts: A water justice analysis' (2007) 27 *Environmentalist* 25-38, at 26-35.

[190] The study uses the term 'biological resources' to mean all resources emanating from terrestrial ecosystems, aquatic ecosystems and the ecological complexes of which they are part including genetic resources, organisms or parts thereof, populations, or any other biotic component or ecosystem with actual or potential use or value for humanity, see sec 2 of the Environmental Management and Co-ordination Act, Act No. 8 of 1999.

[191] Gail Whiteman 'All My Relations: Understanding Perceptions of Justice and Conflict Between Companies and Indigenous Peoples' (2009) 30 *Organization Studies* at 101-120; Bertha Kadenyi Amisi 'Indigenous Ideas of the Social and Conceptualising Peace in Africa' (2008) *Africa Peace and Conflict Journal* at 1-18; Peter Fitzpatrick 'Traditionalism and Traditional Law'(1984) 28 *Journal of African Law*, 20-27, at 21; Carey N. Vicenti 'The re-emergence of tribal society and traditional justice systems' (1995) 79(3) *Judicature*, 134-141.

[192] L.A. Ayinla 'African Philosophy of Law: A Critique' 151, available at *http://unilorin.edu.ng/publications/African%20Philosophy%20of%20Law.pdf* accessed on 29 May 2016.

[193] Ibid.

TJS are an aspect of the traditional 'commons' which refers to shared resources by a group of people[194] and an institutional framework regulating the right to access, use and control of resources[195] (these resources could include TK and TEK). As one of the design principles for effective common resource management,[196] TJS can be appropriate in ensuring and facilitating the rights of access, use and control of TEK. In Africa, for example, TJS, are seen as a reflection of the society's belief in the continuity of life after death, and a community of interest between the living, the dead and yet to be born.[197] TJS are thus aptly suited in mediating issues of 'ownership' and access to TEK which is not owned as earlier explained but held by custodians or stewards. TJS as proposed in this study, offers an apt approach in protecting TEK, that is more equitable and that 'would recognize and respect the contributions of non-Western cultures, as well as the interests of individuals, vis-à-vis large corporations or institutions.'[198]

The role of TJS is now recognised in international law.[199] For instance, the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) recognises the rights of indigenous peoples and requires these rights to be determined in accordance with their own indigenous decision-making institutions and customary laws.[200] Likewise, the Brundtland Report notes that the recognition of traditional rights must go hand in hand with the protection of local institutions that enforce responsibility in resource use.[201] Nationally, the role of TJS in promoting better environmental

[194] Ogendo op cit note 143 at 107-117.

[195] Yochai Benkler *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (2006) at 116-118 available at *https://www.jus.uio.no/sisu/the_wealth_of_networks.yochai_benkler/portrait.a4.pdf* accessed on 29 May 2016.

[196] Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Actions* (1990), at 90-102.

[197] Ayinla op cit note 192 at 152.

[198] Janewa op cit note 21 at 204.

[199] See generally, Articles 8 and 9, Convention on Biological Diversity, 31 *ILM*, 1992; See Article 26(3) of UNDRIP op cit note 147, which recognises the rights of indigenous peoples and requires these rights to be determined in accordance with their own indigenous decision-making institutions and customary laws; Principle 22 of the Rio Declaration on Environment and Development; Articles 8 & 9 of the International Labour Organization Convention 169 on Indigenous and Tribal Peoples in Independent Countries require States to recognise and respect indigenous peoples customary laws and traditional decision-making institutions; Article 12 of the Nagoya Protocol; and the World Commission on Environment and Development *Brundtland Report* 1987 at 115-116.

[200] See Article 26(3) of UNDRIP op cit note 153.

[201] World Commission on Environment and Development *Brundtland Report* 1987 at 115-116, notes that '*... the recognition of traditional rights must go hand in hand with measures to protect the local institutions that enforce responsibility in resource use. And this recognition must also give local communities a decisive voice in the decisions about resource use in their area.'*

governance is increasingly being recognised.[202] In Kenya, the 2010 Constitution allows for the use of TJS in the resolution of disputes including those touching on land and environment.[203] However, their role especially in protecting and facilitating access to TEK has not been investigated in Kenya. Moreover, and just like TEK, TJS systems are also threatened by modernisation brought about by urbanisation, a cash economy, and socio-economic, political and cultural changes.[204]

1.3.2 TEK and TJS

TEK and TJS are inextricably related and enjoy a symbiotic relationship. Due to this symbiotic relationship the study assesses whether TJS have any role in the protection of TEK, and whether the latter can play a role in the design of institutions charged with environmental governance especially dispute resolution. As already pointed out, TEK is also a 'doing system' or a practice[205] and hence the existence of TJS amongst communities is a manifestation of their TEK.[206] Such innovations and practices include the existence of elders, role of stewards/wise people, community assessments, taboos, rituals, ceremonies, cultural and religious sanctions.[207]

Among indigenous peoples, the use and control of TEK helps in resource management and in decision-making. TEK contributes factual knowledge about environmental patterns, human uses and impacts, accepted wise use practices, suggests outcomes and predictions, and contributes norms and values needed in decision-making.[208] In most communities, elders as custodians of TEK are in charge of making decisions about 'where, when and how resources' are used and shared. The authority conveyed on elders goes beyond ecological knowledge to include survival skills and

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[202] Julio Faundez 'Legal Pluralism and international Development Agencies: State Building or Legal Reform?' (2011) 3(1) *Hague Journal on the Rule of Law*, at 18-38. See for example, Articles 190 and 394, Bolivia Constitution of 2009 recognises the right of original indigenous peasant communities to administer justice in any civil or criminal dispute arising within their territory, applying their own principles, cultural values, norms and procedures.

[203] Article 159(2)(c), 60(f), 67(2)(f), Constitution of Kenya 2010. See also ss 18 and 20(1) of the Environment and Land Court Act No. 19 of 2011 allowing the Environment and Land Court to adopt and implement Article 159 of the Constitution.

[204] Republic of Kenya op cit note 1, para 4.3.4.

[205] See Roy C. Dudgeon & Fikret Berkes 'Local understanding of the land: Traditional Ecological Knowledge and Indigenous Knowledge' in H. Selin (ed) *Nature Across Cultures: Views of Nature and the Environment in Non-Western Cultures* (2003) 75-96, at 89.

[206] UNEP/CBD/TKBD/1/2, paragraph 84 and 86.

[207] Dudgeon & Berkes op cit note 205 at 88.

[208] Ibid at 91. See also Peter J Usher 'Traditional ecological knowledge in environmental assessment and management' (2000) 53(2) *Arctic* at 183-193; Sherry & Myers op cit note 14 at 352-356; Frances Abele 'Traditional knowledge in practice' (1997) 50 *Arctic* available at *http://pubs.aina.ucalgary.ca/arctic/arctic50-4-iii.pdf*, accessed on 12 February 2016.

'soft skills' related to group dynamics, such as coordinating camp movements, facilitating consensus decision-making, resolving internal issues, and equitably distributing resources. [209] In addition, there are social processes and compliance mechanisms undergirding TEK that inform TJS.[210] Dudgeon and Berkes identify four clusters of social processes informing ecological practices based on TEK systems.[211] These clusters are: first, *generation, accumulation and transmission of local ecological knowledge*;[212] secondly, *structure and dynamics of institutions*;[213] thirdly, *processes for cultural internalization*;[214] and fourthly, *worldview and cultural values*.[215] TJS principally fall within the second cluster, but they also impact and are informed by the other clusters. Arguably, therefore, TJS can play a preservative role and provide a platform for applying, transmitting and disseminating TEK for the benefit of communities.

1.3.3 Customary law and TEK Protection

Customary law refers to the laws, beliefs, practices and customs of indigenous peoples and local communities that are intrinsic to their life.[216] It is dynamic, legitimate, flexible, adaptable and promotes reciprocity while offering a forum for continued cultural recycling of TK *in situ*.[217] Because of its rich content and value,[218] customary law offers holistic approaches for the protection of TEK[219] unlike existing IP systems. Customary law allows indigenous peoples' to exercise

[209] See also McWilliam op cit note 23 at 75.

[210] See WIPO, Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (ICIPGRTKF), Traditional Knowledge, Operational Terms and Definitions, WIPO/GRTKF/IC/3/9, 13-21 June 2002, available at *http://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_3/wipo_grtkf_ic_3_9.pdf*, accessed on 13 February 2016.

[211] Dudgeon & Berkes op cit note 205 at 88.

[212] These processes include, reinterpreting signals for learning, revival of local knowledge, folklore and knowledge carriers, integration of knowledge, intergenerational transmission of knowledge and geographical diffusion of knowledge.

[213] These include role of stewards/wise people, cross-scale institutions, community assessments, taboos and regulations and social and religious sanctions.

[214] They include rituals, ceremonies and other traditions, and cultural frameworks for resource management.

[215] That is a worldview that provides appropriate environmental ethics and cultural values of respect, sharing, reciprocity and humility.

[216] WIPO, Customary law and traditional knowledge (Background Brief No. 7) available at *http://www.wipo.int/edocs/pubdocs/en/wipo_pub_tk_7.pdf*, accessed on 20 February 2016; Rodrigo op cit note 28 at 2.

[217] Ibid; Rodrigo op cit note 28 at 24-25; Swiderska op cit note 20 at 6.

[218] Rodrigo op cit note 19 at 24.

[219] WIPO op cit note 216. Article 12(4) of the Nagoya Protocol requires States not to *'restrict the customary use and exchange of genetic resources and associated traditional knowledge within and amongst indigenous and local communities in accordance with the objectives of the Convention.'*

control over TEK, determining when and with whom to share it, defining cases of misappropriation, resolution of disputes and ensuring equitable benefit sharing.[220] Brendan succinctly explains that customary law determines,

> '…the existence or otherwise of indigenous peoples' rights over genetic resources and knowledge; the identity of those entitled to grant prior informed consent; and, whether consent has indeed been given; as well as the nature of rights and limitations, including fiduciary obligations, associated with access to and use of relevant resources and knowledge.'[221]

Thus, customary law provides the normative framework for TEK governance which includes incentivising communities to protect, conserve and preserve their biodiversity.[222] It not only entitles TEK holders to take action to defend appropriated or reproduced material against inappropriate use, but positively obliges them to take steps to protect TEK.[223] The emphasis then is not only on legal entitlements but also on custodial responsibilities of communities over their TEK. TJS can play an important role of offering the forum for the exercise of such custodianship over TEK.

Because TEK and customary law are concepts inherent in the notion of territoriality for most indigenous and local communities,[224] protecting TEK must also be seen from a self-determination perspective. Using customary laws to protect TEK is a direct way of recognising indigenous peoples' territorial rights, as the latter constitutes the sphere of application and practice of TEK.[225]

However, there is a dearth of literature explaining how customary laws can be harnessed to protect TEK in practice. Moreover, customary law is limited in protecting TEK due to the fact that in most countries it is not recognised as a source of law [226] and where it is recognised, its

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[220] Darrel A Posey & Graham Dutfield *Beyond Intellectual Property Rights: Toward Traditional Resource Rights for Indigenous Peoples and Local Communities* (1996) ch 5. Rodrigo op cit note 19 at 24-25. See also Brendan M. Tobin, 'Bridging the Nagoya compliance gap: The fundamental role of customary law in protection of indigenous Peoples' resource and knowledge rights' (2013) 9(2) *Law Environment and Development Journal* at 142-162 at 151-153.

[221] Tobin op cit note 220 at 150. See also Articles 4, 16, 18, 22 and 24 of the Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore, adopted by the Diplomatic Conference of African Regional Intellectual Property Organization (ARIPO) at Swakopmund on 9 August 2010.

[222] See Conference of Parties (COP 6) to the Convention on Biological Diversity, 7 - 19 April 2002. See also Conference of Parties (COP 7) to the Convention on Biological Diversity, 9 - 20 February 2004.

[223] WIPO op cit note 80 at 25.

[224] Rodrigo op cit note 19 at 27.

[225] Ibid at 34.

[226] Swiderska op cit note 20 at 19.

application is allowed only in so far as it is consistent with formal laws[227] and not repugnant to justice and morality.[228] In Kenya, the application of customary law must be consistent with the Constitution[229]which in a way may imply that using customary law to protect TEK is subordinate to the IP protection guaranteed in the Bill of Rights. The Constitution limits the application of traditional dispute resolution mechanisms to the extent they are not 'repugnant to justice and morality or results in outcomes that are repugnant to justice or morality; or is inconsistent with this Constitution or any written law.'[230] This situation obtains because 'law' is state-centred and hence the difficulty in recognising the rights of TK holders whose primary unit of organisation is non-state.[231] As a result, 'the de facto sovereignty of indigenous peoples and their control of their territories' are not widely recognised or respected.[232] State law is often seen as the norm against which all other norms including customary law are measured and allowed.[233] Thus, the formal recognition of customary law remains 'lip service to customary law' unless 'law' as a concept is challenged.[234] As such, in protecting TEK there is need for bold approaches that challenges 'law' by going beyond legal pluralism for example an intercultural approach where both customary law and positive law can engage and 'draw upon their respective strengths, principles and equitable instruments, to ensure good governance.'[235] A TJS framework as suggested in this study takes into account the concerns, beliefs, worldviews and customary laws and practices of indigenous peoples hence a better forum for protecting TEK.

[227] This is the case in Kenya. See for example Article 2(4) of the Constitution which states that customary law must be consistent with the Constitution.

[228] See also ss 3(2) and 3(3) of the Judicature Act, Cap. 8, Laws of Kenya.

[229] Article 2(4).

[230] Article 159(3).

[231] Doubleday op cit note 11 at 46.

[232] Ibid at 46.

[233] Vermeylen op cit note 20 at 188. Unequal treatment of customary law weakens the protection of TK, See Kristin Howden 'Indigenous Traditional Knowledge and Native Title' (2001) 24 *UNSW Law Journal* at 81.

[234] Vermeylen op cit note 20 at 190-199. Vermeylen describes this form of recognition as 'repressed exclusion' in the sense that customary law is 'formally included in the law but at the same time stays excluded.'

[235] Tobin op cit note 220 at 160. Brendan posits that with the notion of legal pluralism indigenous peoples' legal regimes are limited to their own internal affairs with no bearing on third parties and hence not appropriate for today's world multicultural realities.

1.3.4 TJS, customary law and environmental dispute resolution

The customary law and practices of communities underpin TJS. Customary law explicates TJS[236] by providing the necessary normative framework for the administration of justice among local communities and offers an avenue for resolving disputes over TK custodianship and in determining appropriate remedies or sanctions upon breach of TK rights.[237]

TJS are most appropriate in managing environmental disputes because customary laws underpin them; they allow for the use of local languages; and apply implicit sanctions (both social and spiritual) thus making compliance easier.[238] Moreover, TJS not only deal with present conflicts, but are also part of integrated resource management.[239] Gail explains that TJS 'emerge holistically from deep-seated beliefs of the interconnectedness of all life forms'[240] depicting their usefulness in integrated environmental governance. Similarly, David Pimentel adds that the deep cultural and historical roots of TJS makes them effective in maintaining a sense of order, stability and continuity in tribal society.[241] Pimentel advocates for cultural sensitivity and respect for local practices and institutions, if rule of law initiatives are to succeed in Africa.[242] Deference to TJS would engender public confidence and trust in institutions compared to formal courts.

By their nature, environmental disputes are value-laden,[243] making them difficult to resolve using conventional mechanisms as they involve changing beliefs about what people consider to be important.[244] Carter[245] typologises values that underpin most environmental disputes into instrumental,[246] inherent[247] and intrinsic values.[248] Where disputes involve values, it becomes

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[236] See generally, Whiteman op cit note 191 at 101-120.

[237] WIPO op cit note 80. See McWilliam op cit note 14 at 83.

[238] McWilliam op cit note 14 at 89. See also William Bradford 'Beyond Reparations: Justice as Indigenism' (2005) 6(3) *Human Rights Review* 5-79 at 13.

[239] Karl Bruckmeier 'Interdisciplinary Conflict Analysis and Conflict mitigation in local resource management' (2005) 34(2) *Sustainable Coastal Zone Management* 65-73, at 70. See also Whiteman op cit note 191 at 106.

[240] Whiteman op cit note 191 at 103.

[241] David Pimentel 'Rule of Law Reform without cultural imperialism? Reinforcing Customary Justice through Collateral Review in Southern Sudan' (2010) 2 *Hague Journal on the Rule of Law* at 12.

[242] Ibid.

[243] They are conflicts with cultural, social, economic and ecological dynamics that cannot be reformulated only in political terms. See Bruckmeier op cit note 239 at 65.

[244] Ibid at 66.

[245] Neil Carter *The Politics of the Environment: Ideas, Activism, Policy* (2001) at 15-16.

[246] Instrumental value is the value which something has as a means to an end.

[247] Inherent value is the value something has for someone, but not as a means to a further end.

[248] Intrinsic value is the value which something has independently of anyone finding it valuable.

necessary to adopt a dispute resolution system that incorporates these values into the process.[249] Environmental conflicts are also socially complex[250] especially among indigenous and local communities who consider themselves 'relatives' of the land, meaning the disputes are embedded within local ecologies and complex relations across people, flora and fauna, and the spiritual world.[251] As already explained, TJS as holistic governance frameworks undergirded by customary laws, traditional values, norms and beliefs, are apt for resolving most environmental conflicts[252] including those touching on TEK.

However, and notwithstanding the close nexuses between TJS and customary law on one hand, and TJS and sound environmental governance on the other, mainstream frameworks for environmental dispute resolution in Kenya are not meaningfully informed by customary laws and traditional institutions.[253] Courts and tribunals continue to dispense justice applying formal laws.[254] Traditional and customary worldviews of justice have not adequately informed dispute resolution. Since customary law can only be effective and meaningful, if it continues to be owned, developed and applied in traditional ways[255] the study proposes that a TJS approach provides a useful model for its application. However, the low place that customary law occupies in the legal hierarchy means that TJS face a difficulty in developing, applying and interpreting customary law.[256] To overcome this legal hurdle, one of the aims of the study is to explore and recommend an appropriate legal and institutional framework for the protection of TEK that embeds Westra's tripartite fabric of cultural, ecological and self-determination models.[257] With such a framework

[249] Paul M. Smith 'The Application of Critical Discourse Analysis in Environmental Dispute Resolution' (2006) 9 *Ethics Place & Environment* at 86.

[250] Bruckmeier op cit note 239 at 69. This in terms of the kind and number of stakeholders, conflicting interests, values or rights; conflicting forms of knowledge, social norms and attitudes; scarcity of natural resources and unequal power among actors.

[251] Whiteman op cit note 191 at 114. See also Berkes, Folke & Gadgil op cit note 7 at 291.

[252] Raymond Pierotti & Daniel Wildcat 'Traditional Ecological Knowledge: The Third Alternative (Commentary)' (2000) 10(5) *Ecological Applications*, at 1333-1340. See also Kimmerer op cit note 7 at 433-434.

[253] This is can be explained by the discrimination of customary law by being subsumed and subject to statute law.

[254] See for example Part XII of EMCA establishing the National Environment Tribunal and the Environment and Land Court Act, 2012 which establishes the Environment and Land Court which with jurisdiction to hear and determine disputes relating to the environment and the use and occupation of and title to land.

[255] Pimentel op cit note 241 at 9. See also Tobin op cit note 220 at 150.

[256] Swiderska op cit note 20 at 31.

[257] See generally Laura Westra *Environmental Justice and the Rights of Indigenous Peoples: International and Domestic Legal Perspectives* (2012).

in place, it is opined that indigenous groups and other TEK holders can feel more empowered, included and their worldviews appreciated in global IP discussions.

1.3.5 Appropriateness of TJS in preserving TEK and fostering access to TEK

Customary law with its rich content and value undergirds TJS. As holistic and *in-situ* mechanisms, TJS are better placed to protect the equally holistic and unique nature of TEK compared to prevailing IP systems.[258] As indicated earlier, whereas the IP regime only offers protection to TEK, a TJS approach as advocated for in this study is capable of both protecting and safeguarding TEK due to the holistic nature of TJS. Moreover, because of their capacity to empower TEK holders,[259] strengthen and rebuild participatory approaches in natural resources management,[260] TJS could be the most effective means of protecting TEK. Dudgeon and Fikret asseverate that social institutions (including TJS) enable people to respond to uncertainties in their ecologies quite effectively and can thus be centres for production of TEK.[261]

TJS offers a better platform for determining what local communities 'deserve' for their work of conserving and protecting TEK and in regulating access and benefit sharing. They can be suitable in regulating the point of access and the point of use of genetic resources and TK by offering a platform for giving or withholding consent[262] which is an embodiment of 'cultural integrity' and 'self-determination' of indigenous and local peoples.

TJS could also be useful in providing facilities for genuine access to TEK and benefit sharing as it provides a forum for all concerned communities to participate in decisions over their communally generated knowledge.[263] Such a forum can then be used to negotiate with other local, national and international entities over TEK as states cannot secure a fair exchange of plant genetic resources and TEK as that would be tantamount to overruling the prior rights of indigenous peoples[264] to their lands and territories. It is for this reason that Vermeylen argues that even with the recognition of indigenous peoples rights in the CBD and Nagoya Protocol, state sovereignty over all natural resources severely 'limits the control of indigenous peoples and local communities

[258] McGregor op cit note 24 at 9-10.
[259] Tobin op cit note 220 at 160.
[260] Bruckmeier op cit note 239 at 70.
[261] Dudgeon & Berkes op cit note 205 at 85. See Rodrigo op cit note 19 at 29.
[262] Tobin op cit note 220 at 148.
[263] Bram De Jonge, 'Towards a Fair and Equitable ABS Regime: Is Nagoya Leading us in the Right Direction,' 9(2) *Law, Environment and Development Journal* (2013), at 250.
[264] Vermeylen op cit note 20 at 188, 249 & 250.

over their natural resources and ecosystems.'[265] It is the 'recovery and revaluation of traditional authorities' and their specific forms of organisation that are the best strategies for protecting TK against misuse by third parties because TK exists courtesy of customary rules, with roots in indigenous peoples worldviews.[266]

WIPO also documents that Alternative Dispute Resolution (ADR) processes could be tailored to deal with the specific aspects of disputes over TCEs, TK and related GRs, with rules of procedure that respond to the interests involved, in particular by accommodating customary law relating to substantive obligations, to procedural considerations, and to decision-making processes, while creating such certainty and legally-binding outcomes as are required.[267] Although this may be true, not all ADR processes may be amenable for the resolution of the said disputes. Some ADR processes such as arbitration, conciliation and mediation are informed by different worldviews from those held by TK holders. Moreover, most ADR processes are not informed by the customary laws of local communities. It is only TJS that can be effectively harnessed for resolving disputes over TK with its unique nature and character.

In Kenya, however, existing environmental management frameworks (which are largely sectoral)[268] have adopted a top-down approach, with the state being the policy maker, decision maker and implementer with little community involvement.[269] Top-down approaches are based on western assumptions, that man's relationship with nature is one of separation and dominance, yet amongst many traditional communities the biophysical environment and human societies are linked together in a web of relationships.[270] The same case applies to the justice systems (for example courts and tribunals) which makes them inaccessible and unavailable to local communities in vindicating environmental rights.[271] As a consequence, local communities have a

[265] Ibid at 190.
[266] Rodrigo op cit note 19 at 36.
[267] WIPO op cit note 80 at 19.
[268] Kenya has a plethora of laws regulating the environment. Although, the Environmental Management and Coordination Act, 1999 was meant to be the overarching law on environmental matters, environmental issues are also covered in other laws including those dealing with water, land, forests, wildlife, agriculture etc.
[269] See FDP Situma 'Forestry Law and the Environment' in C.O. Okidi, P. Kameri-Mbote & Migai Akech (eds.) *Environmental Governance in Kenya-Implementing the Framework Law* (2008) at 250.
[270] Berkes, Folke & Gadgil op cit note 7 at 291.
[271] It is noteworthy that the court system is a foreign system for vindicating rights, not informed by the local communities' world views and thus communities may not get justice there while pushing for their rights.

reduced sense of local ownership of resources, responsibility, control and lack of benefits.[272] Communities have thus not been able to effectively use traditional institutions in the management of the environment.

Currently, there are efforts to enhance environmental governance by incorporating participatory and collaborative aspects through local community involvement.[273] The 2010 Constitution has also sought to transform governance in Kenya by, *inter alia*, recognising public participation as a value for national governance;[274] role of culture in national development;[275] traditional dispute resolution mechanisms as a guiding value in the exercise of judicial authority;[276] TK[277] and the role of communities in environmental governance.[278] However, in spite of the value of TJS, their application in environmental governance is hampered by the marginalisation and subversion of customary laws and practices in law and policy further explaining the continued loss of TEK. Moreover, literature discussing the importance of social institutions has not addressed the value of TJS in protecting TEK.

Existing literature on the protection of TEK has dealt with the use of existing IP tools and *sui generis* frameworks without specifically looking at the role of TJS. Although, available literature implicitly shows that traditional justice institutions are part of TEK,[279] it fails to examine the role of TJS in protecting and in facilitating access to TEK. Most importantly, existing IPR and *sui generis* regimes are unable to adequately reflect the concerns, beliefs, values, worldviews and customary laws and practices of indigenous peoples and communities in TEK governance.

1.4 THEORETICAL FRAMEWORK

Because the language and vocabulary of property rights is epistemically, ideologically and technically problematic in protecting the holistic nature of TK, meaningful protection of TK would require a paradigmatic shift from IPRs philosophical doctrine. The study deploys Westra's

[272] Situma op cit note 269 at 250.
[273] See s46 of the Forests Act No. 7 of 2005 and Water Act No. 8 of 2002 which establish community forest associations and water resources users associations and Catchment Areas Advisory Committees respectively to engender community participation in resource governance.
[274] Article 10(2)*(a).*
[275] Article 11(1) and (2)*(b).*
[276] Article 159(2)*(c).*
[277] Article 11(3)*(b)* and 69(1)*(c).*
[278] Article 69(1)*(d).*
[279] See WIPO op cit note 80 at 13-21.

tripartite framework of cultural integrity, ecological integrity and self-determination models, in exploring appropriate ways of protecting TEK.[280]

A 'cultural integrity model', emphasises the value of traditional cultures and that the environment is an essential component to indigenous cultures and its sustenance is necessary for cultural survival.[281] Cultural integrity is dependent on the protection of the ecological integrity of the areas they occupy.[282] This is so because indigenous people would like to maintain a harmonious relationship with the earth that is central to their cultural survival.[283] Ergo, a cultural integrity model has two aspects. The first aspect emphasises 'the environmental closeness between environment and the traditional lifestyle of indigenous peoples, that in fact defines and delimits their cultural presence as a people.' The second aspect has their 'traditional knowledge as its focus, and especially the value of that knowledge to the global community.'[284] But again, indigenous peoples' cultural beliefs are vital in shaping their views about property[285] and harmonious coexistence with nature. Because TEK is culturally situated and is a manifestation of indigenous and local communities' interaction with their ecosystems,[286] the cultural integrity model becomes useful in crafting a framework for protecting TEK. Cultural identity is also the basis for the right to consultation and prior informed consent before appropriating TK.[287] TJS promote cultural integrity as they are embedded in the cultural norms, traditions and customary practices of the people suggesting that they may be effective in protecting tradition-based knowledge systems.

A 'self-determination model' emphasises that indigenous peoples' have the right to control their own destinies.[288] According to Anaya, self-determination is not merely a matter of political

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[280] Westra op cit note 257 preamble. See Fisher & Lundberg op cit note 135 at 177-203.

[281] Bradford Morse 'Indigenous Rights as a mechanism to promote Environmental Sustainability' in Laura Westra, Klaus Bosselman & Richard Westra (eds.) *Reconciling Human Existence with Ecological Integrity* (2008) at 162. See also Westra op cit note 257 at 10.

[282] Westra op cit note 257 at 10-11.

[283] Ibid at 10-11. Janewa op cit note 21 at 157.

[284] Westra op cit note 257 at 10-11.

[285] Janewa op cit note 21 at 157.

[286] Fisher & Lundberg op cit note 135 at 177-203 however note that the 'cultural integrity' model falls short as it also recognises an instrumental value of TK protected through IP and which may clash with indigenous norms that reject commodification of nature. Further, they contend that focusing exclusively on cultural rights can encourage static definitions of culture that may preclude cultural dynamism and the fact that not all individual claims may fall within a collective cultural unit.

[287] Ragavan op cit note 157 at 33.

[288] Morse op cit note 281 at 161. See also Articles 3, 4 and 5, UNDRIP op cit note 153, providing that the right includes the right of indigenous and local communities to freely determine their political status and freely pursue their

rights but has five dimensions: non-discrimination, cultural integrity, lands and resources, social welfare and development, and self-government.[289] The first norm, non-discrimination 'goes beyond ensuring for indigenous individuals either the same civil and political freedoms accorded others within an existing state structure or the same access to the state's social welfare programmes.'[290] It includes treating customary laws of indigenous peoples as legitimate sources of law. Second, because of ongoing encroachment into TK holders' territories and their struggles in maintaining their identity, they need opportunities for exercising control over their land and resources. The third norm, cultural integrity has already been discussed. The fourth dimension is social welfare and development which is concerned with improvement of the life and work conditions of indigenous peoples.[291] Lastly, self-government, is regarded as the 'overarching political dimension' of self-determination and consists of two facets. The first facet grants indigenous populations governmental autonomy at the community level, and the second ensures their effective participation within higher levels of state and national government. Granting or denying prior informed consent and routine consultation with TK holding communities before accessing their resources are increasingly demanded by human rights bodies and other international institutions as an essential part of self-government.[292] However, the use of a right to property that can be interfered with by the state falls short of the protection that full self-determination over indigenous lands might give.[293] Such is said to be 'a clear affront to the unique link that indigenous peoples have to their land, which cannot simply be replaced or impaired without undermining their existence as a group.'[294]

Cassese elucidates that for developing countries self-determination means three things: (a) the fight against colonialism and racism; (b) the struggle against the domination of any alien oppressor illegally occupying a territory; (c) the struggle against all manifestations of neocolonialism and in particular the exploitation by alien powers of the natural resources of

economic, social and cultural development, to autonomy or self-government in matters relating to their internal and local affairs and to maintain and strengthen their institutions

[289] S. James Anaya *Indigenous Peoples in International Law* (2004) at 129.

[290] Ibid at 131.

[291] Ibid at 149-150.

[292] Ibid at 150. See also Westra op cit note 257 at 12.

[293] See Anaya op cit note 289 at 150.

[294] See Fisher & Lundberg op cit note 135 at 191.

developing countries.[295] He argues that with ethnic and tribal conflicts in developing countries, the focus was on 'external' not 'internal' self-determination with the rights of minorities or nationalities living within sovereign states being ignored or even explicitly denied.[296]

Even though self-determination allows communities to determine for themselves what should be protected and how, there are many difficult situations when TK is shared by communities as discussed above. Moreover, tribal sovereignty and the right to self-determination may be violated by international interventions.[297] This is in spite of the near general consensus among scholars that in taming the loss of TK, it is no longer feasible to rely on national measures alone as they would have little effect beyond national borders.[298]

The 'biological/ecological integrity model' is a foundation for the other two models and is necessary for the survival of indigenous peoples.[299] It recognises that the biological integrity (right to life, physical security and healthy environment) of indigenous peoples is dependent upon the ecological integrity of their living environment and their access to environmental regimes that single out their specific habitat conditions.[300] Indigenous peoples' relationship with nature generates TEK which in turn becomes useful in environmental management.[301]

Westra's tripartite model is useful in forging appropriate frameworks for protecting TEK in African countries. It takes into account the holistic nature of TEK, the worldviews of indigenous peoples and underlying objectives of protecting TEK. The model recognises 'the sui generis relationship between indigenous peoples, their lands and their cultures.'[302] Westra's framework is also congruent with the intercultural approach which allows for the interaction of cultures when crafting theoretical postures from which to survey phenomena. It offers an appropriate architecture for protecting TEK and ensuring access and benefit sharing over TEK. The model also recognises the role of traditional frameworks (like TJS) for self-governance that foster proper self-determination than the 'abstract, and often contentious, right to self-determination.'[303] Using TJS

[295] Antonio Cassese *Self-Determination of Peoples: A Legal Reappraisal* (1995) at 45-46.
[296] Cassese op cit note 295 at 46.
[297] Yu op cit note 37 at 498.
[298] Ibid at 451. Twarog op cit note 41 at 62.
[299] Westra op cit note 257, preamble.
[300] Ibid at 9.
[301] See for example Principle 22 of the Rio Declaration op cit note 16.
[302] Fisher and Lundberg op cit note 135 at 185.
[303] Thomas Antkowiak 'Rights, Resources, and Rhetoric: Indigenous Peoples and the Inter-American Court' (2013) 35 *University of Pennsylvania Journal of International Law* at 183-6.

structures in protecting TEK links well with Westra's trilogy and neatly embeds them offering a harmonistic model that truly takes into account the unique nature of TK compared to existing IP systems. Most fundamentally, a TJS approach to TEK protection informed by Westra's model attempts to strike a balance between protection of TEK, access to it and harmonious co-existence with the environment.

1.5 RESEARCH PROBLEM

In spite of increased awareness of the need to protect TEK at the international, regional and national levels, the legal protection of TEK while allowing access and benefit sharing remains a hotly contested issue. Current IP laws have proven to be unsuitable in protecting TEK for technical and ideological reasons. These frameworks do not pay adequate attention to the unique nature of tradition-based knowledge systems and are equally not shaped by the concerns, beliefs, worldviews and customary laws and practices of indigenous peoples.[304] Mainstream environmental management frameworks have also not helped in curbing the loss of biodiversity and TEK.[305] It is for this very reason that genetic resources and TEK continue to be expropriated without due regard to the traditional interests of local communities even where recognised in law.[306] Without respecting customary law and practices, the current IP regimes cannot protect TEK with its holistic and unique nature and afford fair and equitable access to the knowledge.

To tackle the problem, the study hypothesises that TJS are appropriate frameworks for protecting TEK and providing a fair access and benefit sharing arrangement compared to the prevailing IP system. Three objectives are used to examine the problem. *Objective 1* explores the adequacy of the prevailing IP regime to assess whether it's appropriate in protecting and facilitating access to TEK. With the increasing loss of TEK under the existing IP regime, *objective 2* examines the appropriateness of TJS in protecting and facilitating access to TEK. Prospects and challenges in the use of TJS in protecting TEK will be examined. So as to effectively protect TEK within its cultural context, *objective 3* aims at developing an appropriate legal and institutional framework for the protection of TEK in Kenya. The study uses Westra's tripartite framework of

[304] Swiderska op cit note 20 at 7.

[305] Republic of Kenya, *Agricultural Sector Development Strategy* 2010-2020, at 73. This is mainly due to population increase, habitat destruction, desertification, over exploitation of species, conversion through deforestation, and drainage of wetlands for agriculture and settlement.

[306] S 43 Act No. 8 of 1999.

cultural integrity, ecological integrity and self-determination models to show how TJS can be effective in preserving TEK and fostering genuine access.

Westra's tripartite framework is effective in protecting TEK using TJS because it recognises the need to protect the cultural integrity of indigenous peoples. The cultural integrity model would require the preservation of culturally placed TJS and TEK. It thus supports the use of TJS in cultural preservation. In recognising ecological integrity, Westra's model recognises the role of local communities in nurturing nature, developing TEK and the pivotal role of TEK in ecological protection. And lastly, using TJS in preserving TEK supports the self-determination model. Communities can use TJS to exercise control over their lands and territories, exercise self-government and grant or deny access to their TEK. Therefore, a TJS approach to TEK protection that embeds Westra's tripartite model, is superior to existing IP tools that are incongruent with the ecological, cultural and self-determination goals of TEK holders.

1.6 RESEARCH OBJECTIVES AND QUESTIONS

The study seeks to achieve three principal objectives, that is:

(a) To examine the adequacy of the prevailing IP regime in protecting and facilitating access to TEK.
(b) To assess the appropriateness of TJS in protecting and facilitating access to TEK.
(c) To develop an appropriate legal and institutional framework for the protection of TEK in Kenya based on Westra's tripartite framework.

To meet the above objectives, the study mainly investigates the role of TJS in TEK protection. Related to this question are the following specific questions:

(i) What are the objectives of protecting TEK?
(ii) To what extent is TEK protected within the prevailing IP and environmental dispute resolution frameworks?
(iii) What is hampering the protection of TEK within the existing IP regime?
(iv) What role can TJS play in the protection of and access to TEK?
(v) How can an appropriate legal and institutional framework based on Westra's tripartite fabric be developed for the protection of TEK in Kenya?

1.7 RESEARCH METHODOLOGY

The study uses descriptive, analytical and prescriptive modes of research. Both primary and secondary sources of data were used. Primary sources include the Constitution of Kenya, conventions, protocols, statutes and bills. Primary data sources were useful as they outlined the frameworks regulating TEK and TJS, which forms the substratum of critique in this study.

Secondary sources include internet and on-line libraries, textbooks, journal articles, newspapers and other media reports and conference papers. Secondary sources are useful in their own right as they give insights on the various tools and mechanisms for protecting TEK internationally, regionally and nationally. Secondary sources were availed by accessing online and physical libraries. Primary and secondary data collected were analysed and evaluated in the context of the research objectives, questions and the stated problem.

A review of documented literature on the role of TJS and customary laws in protecting TEK among the Ogiek, Mijikenda and Meru communities of Kenya was conducted. Ogiek are a forest-dwelling hunter-gatherer community that has inhabited the Mau forest since time immemorial. Mau forest is a major water catchment area for Kenya and other countries in the region. The government has on numerous occasions sought to evict the Ogiek from the forest thus creating legal and political battles. The Ogiek were selected due to their long history of close interaction with nature and conservation of the environment using TEK. The Ogiek case study is useful as it illuminates the discourse between cultural and ecological integrity in TEK protection and modernity. On their part, the Mijikenda are a group of nine related Bantu ethnic groups (Chonyi, Kambe, Duruma, Kauma, Ribe, Rabai, Jibana, Digo and Giriama) inhabiting the coast of Kenya and each has a *kaya*. They are known for their effective form of traditional management systems of the *kaya* forests (sacred groves). The Meru community are found in the highlands near Mount Kenya and have one of the most vibrant TJS in Kenya, the *njuri ncheke*. The study targets the three communities as they are drawn from across the country (in rural and peri-urban contexts) to elaborate specific issues on TEK and TJS.

Informal interviews and focused group discussions (workshops) were used to collect data from community leaders; government officials; community members; civil society members;

researchers; and individuals knowledgeable about TEK and TJS.[307] Purposive selection was applied for all key informants where necessary. The participants met the following criteria: community elders in a community that has traditional justice structures and ecological knowledge or a community member versed with ecological knowledge and traditional justice structures; or a person who is currently or was previously involved in studies of this nature (mostly researchers in IP and TK); or persons involved in civil society activities in the target communities; or a person or agency with interest in policy making in this field.

Some of the civil society organisations (CSOs) involved in this study include Resource Conflict Institute (RECONCILE), Center for Intellectual Property and Information Technology (CIPIT), Natural Justice, African Biodiversity Network (ABN); Institute for Culture and Ecology (ICE), Community Action for Nature Conservation (CANCO), Community Forest Associations (CFAs), Trust for Indigenous Culture and Health (TICAH). Government officials were drawn from agencies dealing with IP, TK and conservation matters such as the Kenya Industrial Property Institute (KIPI), National Museums of Kenya (NMK), Coastal Forest Conservation Unit (CFCU), Kilifi County Forest Guards, local administration (assistant County Commissioners, chiefs and assistant chiefs), Kenya Forest Service (KFS), Kenya Wildlife Service (KWS), County Forest Officers, Kenya Resource Center for Indigenous Knowledge (KENRIK), Kenya Copyright Board (KECOBO) and National Environment Management Authority (NEMA).

Data collection was divided into two parts: the first part focused on the three communities and the second focused on researchers, government agencies and civil society actors. Data collection in the two parts was conducted concurrently due to logistical and financial constraints. However, this approach was useful as some of the researchers, government officials and civil society actors, offered helpful leads on how to go about the research among the various communities.

Because the communities under study straddle different counties, I conducted a feasibility/reconnaissance study which was quite helpful in delineating the geographical scope and focus of the study. In the case of the Ogiek, the feasibility study was done on 29th and 30th March 2018 and found out that the Ogiek are spread in over 5 counties and so I focused on the Ogiek in

[307] I obtained ethics clearance (Protocol number H18/02/13) from the University of the Witwatersrand and permit from the National Commission for Science, Technology and Innovation (NACOSTI) (Permit number NACOSTI/P/18/71236/21734) in Kenya.

the Mau East where cases of evictions and dispossession have been rampant. In the case of the Mijikenda, the feasibility study showed that the Mijikenda are mostly distributed in Mombasa, Kilifi and Kwale counties. However, there are no *kaya* forests in Mombasa and forests that have been managed well are in Kilifi where the institution of *kaya* elders is very strong. Therefore, the study focused on Kilifi. From the feasibility study of the Meru people, it was evident that the Meru are distributed in Meru and Tharaka-Nithi counties. The study focused on Meru County since that is the epicentre of the Meru people and headquarters of the *njuri ncheke*.

The informal interviews were conducted between April and June 2018. At least 20 community elders and 20 community members from each of the 3 case studies were interviewed. The informal interviews were based on an interview schedule that had questions for the various categories of respondents (see attached interview schedule). The interview schedule questions posed to the elders and community members were translated into Swahili during the interviews. Additionally, in the case of community elders and members, technical concepts were broken down into simple terms or equivalent local term during the interview and the workshop. The purpose of the proposed interviews was to help develop relevant themes and provide useful information for engaging with the stakeholders during the workshop.

The respondents who participated in the workshops include 5 Researchers in IP and TK; 10 government officials and 10 individuals from civil society organisations dealing with IP, TK or environmental matters who were purposively selected, interviewed and some (those within the locality of communities) were invited for the workshops. These workshops were conducted between May and June 2018 and would last between 30-45 minutes. Some of the respondents were not within reach however I shared the interview questions with them via email and managed to get their feedback. However, due to the tight budget lines that the researcher was working on, and the difficulty in securing appointments with researchers, most of the researchers could not make it to the workshops held in areas close to the communities. As such, most of the researchers were interviewed within Nairobi and did not participate in the workshops. Although some of the IP and TK experts did not make it to the workshops, due to financial limitations, their views during the interviews were nevertheless useful to the study findings. The researcher would brief the respondents about some of the findings from the discussions with communities.

Thereafter, I facilitated three workshops within the participants' locality to have a detailed discussion on, among other things, how they feel about the existing laws that protect ecological

knowledge in their community and identify aspects of that knowledge that ought to be protected by law but are currently neglected. The workshops lasted between 30-45 minutes. The workshop within Mau comprised community members, elders, CFA members, local leaders, Ogiek activists and a researcher on Ogiek culture. In Kilifi, the workshop included kaya elders, community members, assistant commissioner, a chief, an assistant chief, county forest guards, KFS, NMK and CFCU officials. While the workshop in Meru had community members, *njuri njeke* elders, a chief, a scholar on culture and representative from ABN. A stakeholder approach was useful for two main reasons. First, it provided insightful information on how these communities view current legal frameworks, how they feel neglected or protected and what they expect of an effective framework. Second, it helped identify the aspects of TEK that should be protected by IP law but are currently neglected. It also aided in identifying how the TJS among the three communities link with Westra's model and their adequacy in protecting TEK.

1.7.1 Thematic analysis of the case studies

The qualitative data gathered from the fieldwork was analysed using a thematic deductive analysis approach, to aid in the identification of themes and interpretation of information. The collected data was analysed using thematic analysis, a method that identifies, analyses, and reports patterns (or themes) within the data.[308] Thematic analysis was conducted in accordance with the six guidelines proposed by Virginia Braun and Victoria Clarke.[309] First, there was familiarisation with the data since the researcher gathered data through interactive means. Additionally, during data transcription (data that was in verbal form was transcribed into written form), some prior knowledge of the data was acquired, and initial analytical interests gained. As Matthew David & Carole Sutton note, data transcription involves 'a degree of interpretation and selection and so involves an element of analysis.'[310] As such, transcribing data also helped me acquire the requisite interpretative skills for analysing the data. Familiarisation was also accomplished through repeated reading of the transcripts and actively noting points of interest.

[308] Virginia Braun & Victoria Clarke 'Using thematic analysis in psychology' (2006) 3(2) *Qualitative Research in Psychology* 77-101 at 79. See also Alan Bryman, *Social Research Methods*, Oxford University Press, 4th edition (2012), 578-581.

[309] Braun & Clarke op cit note 308 at 87-93.

[310] Matthew David & Carole Sutton, *Social Research: The Basics*, SAGE Publications (2004), 192.

Second, the data was systematically coded using a coding grid. According to Alan Bryman coding 'entails reviewing transcripts and/or field notes and giving labels (names) to component parts that seem to be of potential theoretical significance and/or that appear to be particularly salient within the social worlds of those being studied.'[311] Whenever the same code was mentioned in the transcript, it was tagged, and all instances where the tag appeared compared. These codes were then interlinked to highlight similarities and differences within and between the codes.

Third, selected codes were consolidated and given a descriptive label in order to reflect a specific theme bearing in mind the research questions. A 'theme' is 'a category identified by the analyst through his/her data; that relates to his/her research focus (and quite possibly the research questions); that builds on codes identified in transcripts and/or field notes; and that provides the researcher with the basis for a theoretical understanding of his or her data that can make a theoretical contribution to the literature relating to the research focus.'[312]

Fourth, themes were reviewed and refined to eliminate coding redundancies and to ensure that the data was accurately portrayed. Fifth, themes were defined, named and those reflecting a similar idea were merged into global themes, and inserted in a column within the coding grid. The previous two phases, 4 and 5, were conducted deductively since the study aims to show the appropriateness of TJS in protecting TEK and facilitating access and benefit sharing. Using the coding grid, salient quotes relevant to the identified themes were extracted from the transcript and entered in the grid. This helped in the analysis and interpretation as attention shifted from the whole transcript, to the themes and important quotes captured in the grid.[313] Interpretation was also done by identifying and examining the underlying ideas, assumptions, conceptualisations and ideologies that shaped or informed the data, bearing in mind the research questions. Lastly, the research project was written up in a way that illustrates the trustworthiness and validity of the results, relating analytically the experiences from the three case studies, and linking them to relevant literature.[314]

Using a thematic analysis in this study offered flexibility in generating themes that were predominantly driven by the research questions, and the critical issues highlighted in the literature

[311] Bryman op cit note 16 at 568. See also David & Sutton op cit note 310 at 192.
[312] Bryman op cit note 308 at 580.
[313] David & Sutton op cit note 310 at 195, 203.
[314] Braun & Clarke op cit note 308 at 93.

review. It also allowed me to fully subscribe to the theoretical commitments of the study,[315] which is to advance a TJS approach to TEK protection anchored on Westra's tripartite framework.

1.8 CHAPTER BREAKDOWN

The study explores the subject in six chapters. Chapter one is the introduction to the study. It contains the background to the problem, rationale and objectives for TEK protection, the ideological conundrums and technical challenges in protecting TK, literature review, theoretical framework, the research problem, research objectives and questions, the research methodology and this chapter breakdown. Chapter two discusses the nature and characteristics of TEK laying out a clear basis for its holistic protection. It also discusses customary law and its role in the protection of TEK before examining the value of TEK from a cultural, ecological and self-determination perspective. Chapter three examines global efforts aimed at protecting TEK using existing IPR tools and sui generis frameworks including the role of various IPR institutions. The chapter then discusses the protection of TEK within the African region and in Kenya's IP regime while assessing the effectiveness of that protection. Chapter four looks at the protection of TEK within existing environmental and human rights frameworks including the role of international, regional and municipal institutions in protecting TEK and indigenous communities' rights. The aim is to assess what protection is accorded to TEK in these instruments. It also highlights judicial approaches to the rights of indigenous and local peoples to their territories in Kenya while critiquing their effectiveness. Chapter five advances a TJS approach to protecting TEK and facilitating access and benefit sharing. The nature of TJS, their role in protecting TEK and in facilitating access and benefit sharing is also assessed. The chapter then analyses the three case studies-Meru, Mijikenda and Ogiek on how they have harnessed TJS in protecting TK and how those structures can be used to foster access and benefit sharing. Chapter Six contains the study findings, recommendations and conclusions.

[315] Braun & Clarke op cit note 308 at 79-81.

CHAPTER TWO

TRADITIONAL ECOLOGICAL KNOWLEDGE AND LOCAL COMMUNITIES

2 INTRODUCTION

In this chapter, the study discusses the nature and characteristics of TEK with the aim of illustrating that existing IP regimes are inadequate in facilitating access to and protecting TEK. It then proceeds to a discourse on customary law and its special role in the generation, transmission, preservation and protection of TEK. Thereafter, the chapter examines the value of TEK from a cultural, ecological and self-determination perspective. Essentially, this chapter attempts to offer a basis and rationale for the holistic protection of TEK that is lacking within prevailing IP frameworks.

2.1 NATURE AND CHARACTERISTICS OF TEK

The highly diverse and dynamic nature of TK makes it difficult to formulate a singular and exclusive definition of the term.[1] As such, there is yet no accepted definition of TK globally. Some suggest that a singular definition may not be necessary in order to delimit the scope of subject matter for which protection is sought.[2] For instance, at the ninth session of the Intergovernmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore (IGC) the Committee generally made use of the term 'traditional knowledge' at two levels: 'as a general, umbrella term (*lato sensu*) and as a specific term denoting the subject of specific IP protection on the use of knowledge (*stricto sensu*).'[3] At a general level, TK is conceived as the broad description of subject matter which,

> '…generally includes the intellectual and intangible cultural heritage, practices and knowledge systems of traditional communities, including indigenous and local communities (traditional knowledge in a general sense or *lato sensu*). In other words, traditional knowledge in a general

[1] 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 15-16.

[2] Michael Blakeney 'Protecting the Knowledge and Cultural Expressions of Aboriginal Peoples' (2015) 39(2) *University of Western Australia Law Review*, 180-207, at 194.

[3] WIPO/GRTKF/IC/9/INF/5, March 27, 2006, at 70.

> sense embraces the content of knowledge itself as well as traditional cultural expressions, including distinctive signs and symbols associated with traditional knowledge.'[4]

Therefore, TK *lato sensu* is the 'ideas and expressions thereof developed by traditional communities and indigenous peoples, in a traditional and informal way, as a response to the needs imposed by their physical and cultural environments and that serve as means for their cultural identification.'[5] This definition, however, seems to cover both aspects of protection of TK *stricto sensu* and TCEs. In a narrow sense, TK refers to,

> 'knowledge as such, in particular the knowledge resulting from intellectual activity in a traditional context, and includes know-how, practices, skills, and innovations. Traditional knowledge can be found in a wide variety of contexts, including: agricultural knowledge; scientific knowledge; technical knowledge; ecological knowledge; medical knowledge, including related medicines and remedies; and biodiversity-related knowledge, etc.'[6]

As such, TEK is a subset of TK and according to the Convention on Biological Diversity (CBD) TEK is the 'knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity…'[7] This corresponds with Muller's assertion that TK (and TEK too) has three interrelated aspects: an intangible (knowledge *per se*); a tangible (material products or material innovations), and processes or procedures.[8] However, there are suggestions that the CBD defines TEK for that matter in a 'manner which approximates existing concepts of knowledge and intellectual property'[9] bringing with it the danger of fragmenting TEK and TEK systems which is strongly opposed by

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[4] WIPO 'Glossary of Key Terms Related to Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions' WIPO/GRTKF/IC/28/5, at 40.

[5] WIPO 1 op cit note 3 at 71.

[6] WIPO 2 op cit note 4 at 40.

[7] Article 8(j) refers to *knowledge, innovations and practices* as a sort of a single, all embracing concept. See Fikret Berkes 'Traditional ecological knowledge in perspective' Julian T Inglis (ed) *Traditional Ecological Knowledge: Concepts and Cases* (1993) at 1-9. This approach is also adopted by the Convention on Biological Diversity, when it describes traditional knowledge as entailing 'knowledge, innovations and practices.' See also International Centre for Trade and Sustainable Development Issue Paper No. 39 (Programme on Innovation, Technology and Intellectual Property) *Protecting Shared Traditional Knowledge: Issues, Challenges and Options* (2013) at 8.

[8] International Centre for Trade and Sustainable Development op cit note 7 at 8.

[9] With this analysis, TK may be seen as know-how, practices may be likened to processes and innovations to inventions, see Brendan Tobin 'The Role of Customary Law in Access and Benefit-Sharing and Traditional Knowledge Governance: Perspectives from Andean and Pacific Island Countries' (2008) at 18.

indigenous peoples[10] who see their knowledge as part of the complex relations with nature and fellow human beings.

Another attempt in defining TK more holistically is by WIPO where it is defined as '…any knowledge, creation, innovation or cultural expression, which is held by local or indigenous communities and has generally been transmitted from generation to generation…is generally regarded as pertaining to a particular people or its territory, and is constantly evolving in response to a changing environment.'[11]

More recently, indigenous peoples and local communities have advocated for the concept of 'collective biocultural heritage' in pushing for holistic approaches towards the protection of TK. According to this approach, TK is viewed as a collective biocultural heritage which is the,

> 'knowledge, innovations and practices of indigenous and local communities which are collectively held and are inextricably linked to; traditional resources and territories; local economies; the diversity of genes, species and ecosystems; cultural and spiritual values; and customary laws shaped within the socio-ecological context of communities.'[12]

This definition is broad enough since it sets out a framework for developing mechanisms to protect TEK which are holistic and based on human rights, including rights to land and natural resources, and the right to self-determination.[13] In this study, a holistic view of TEK is preferred as it demonstrates that there are aspects of TEK that are not adequately protected by IP regimes. It also supports the assertion that the thesis makes for a traditional approach in protecting TEK using Westra's tripartite framework.

Because of the holistic nature of TEK, the study showed in Chapter One, that TEK can be classified into 4 broad groups: local TEK of animals, animal habitats and behaviours, plants, soils, weather patterns, and landscapes; the traditional resource management system; social institutions for social organisation, coordination, co-operation, rule-making and enforcement; and a worldview that shapes the environmental perception and gives meaning to social relations.[14] Clearly evident

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[10] Ibid.

[11] WIPO 'Intellectual Property Needs and Expectations of Traditional Knowledge holders, WIPO Report on Fact-finding Missions on Intellectual Property and Traditional Knowledge' (1998-1999).

[12] Ibid.

[13] Ibid.

[14] Fikret Berkes, Carl Folke & Madhav Gadgil 'Traditional Ecological Knowledge, Biodiversity, Resilience and Sustainability' at 297 available at *http://www.ces.iisc.ernet.in/biodiversity/pubs/mg/pdfs/mg138.pdf,* accessed on 20 April 2016, at 298.

from this classification is the fact that TEK is a way of life, an integrated system of how a particular people 'think, believe and do' within a social, cultural and historical context and not just a repository of knowledge and practice.[15] Most, IP approaches to TEK protection ignore the holistic characteristic of TEK and explains why such approaches fragment and compartmentalise it into discrete components for protection using different IP tools as discussed later in chapter three. For example, in indigenous cosmovisions 'knowledge is mostly understood as existing in a social totality, embedded in social relations and spirituality.'[16] TEK is therefore more than a resource but an inextricable part of TEK holders' identity, as it is deeply rooted in their moral and spiritual values.[17] Its value goes beyond mere economic value.

But TEK is not only shaped by social forces. It in turn shapes society. The social processes informing TEK include dimensions such as: symbolic meaning through ceremonial practices, taboos, folklore or myths, place names and religious beliefs; a distinct cosmology or worldview, and relations based on reciprocity; obligations towards both community members and other beings and communal resource management institutions based on shared knowledge and meaning;[18] and the oral exchange of knowledge, innovation and practices according to customary rules and principles.[19]

TEK is unique in the sense that it derives from the physical, biological and spiritual experiences that are part of daily life and the interactions and relationships with the environment.[20]

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[15] Kyle Powys Whyte 'On the role of traditional ecological knowledge as a collaborative concept: a philosophical study' (2013) 2(7) *Whyte Ecological Processes*, at 3; Deborah McGregor 'Traditional Ecological Knowledge and Sustainable Development: Towards Coexistence' in Blaser M, Feit HA, McRae G (ed.) *In the way of development: indigenous peoples, life projects and globalization* (2004) at 7; Kenneth Ruddle 'The Transmission of Traditional Ecological Knowledge' in Julian T Inglis (ed) *Traditional Ecological Knowledge: Concepts and Cases* (1993) at 17-32; Joseph A. Yaro 'Neoliberal globalization and evolving local traditional institutions: implications for access to resources in rural northern Ghana' (2013) 40(137) *Review of African Political Economy*, 410-427, at 420; Berkes, Folke & Gadgil op cit note 14 at 291, 293. See also Ellen R & Harris H 'Introduction' in Ellen R, Parkes P & Bicker A (eds) *Indigenous environmental knowledge and its transformations* (2000) at 4-5, highlighting practicality, complexity and dynamism as common characteristics of TEK.

[16] 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 382.

[17] McGregor op cit note 15 at 7.

[18] Fikret Berkes op cit note 7 at 5. See also George S. Shemdoe & Loy Mhando 'National Policies and Legal Frameworks Governing Traditional Knowledge and Effective Intellectual Property Systems in Southern and Eastern Africa: The Case of Traditional Healers in Tanzania' (2012) at 15.

[19] Kristen Howden 'Indigenous Traditional Knowledge and Native Title' (2001) 24(1) *UNSW Law Journal* at 62.

[20] McGregor op cit note 15 at 7. See also Raymond Pierotti & Daniel Wildcat 'Traditional Ecological Knowledge: The Third Alternative (Commentary)' (2000) 10(5) *Ecological Applications* at 1339.

Often TEK holders will spend a lifetime 'enhancing and maintaining appropriate and sustainable relationships with the Creator and all of Creation.'[21] TEK and bio-resources are believed to come from God, and no person or group is allowed to claim private ownership of them[22] as all of them are seen as custodians.

Moreover, some TEK and bio-resources are considered sacred and kept secret, hence not accessible by outsiders.[23] There are rules regarding secrecy and sacredness which govern the management of knowledge.[24] Because all creation is sacred, and the sacred and secular are inseparable, TEK resource management systems avoid reducing TEK to simply 'ecological' aspects[25] but also include moral and ethical dimensions as part of the management system.[26] Possibly, this explains the tendency of TEK management systems being non-dualistic thus making Western dichotomies of 'natural vs. supernatural, physical vs. metaphysical, sacred and profane, nature vs. nurture' largely meaningless.[27] The harmonious coexistence between nature and society is inspired by a cosmovision that conceives of human beings, the non-human world, knowledges and spirituality as interdependent and related.[28] In this sense, TEK has a universal dimension that is 'expressed in the local.'[29]

TEK holders also view the people, knowledge and the land 'as a single, integrated whole' that is inseparable. TEK is 'holistic and cannot be separated from the people. It cannot be compartmentalised like scientific knowledge, which often ignores aspects of life to make a point.'[30] Thus, TEK systems depict ecosystems 'not as lifeless, mechanical and distinct from people, but as fully alive and encompassing humans.'[31]

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[21] McGregor op cit note 15 at 7.

[22] IIED Interim Report 'Protecting Community Rights over Traditional Knowledge: Implications of Customary Laws and Practices' (2005-2006] available at http://pubs.iied.org/G01253/ accessed on 6 April 2016.

[23] Ibid.

[24] Howden op cit note 19 at 63.

[25] McGregor op cit note 15 at 7.

[26] Roy C. Dudgeon & Fikret Berkes 'Local understanding of the land: Traditional Ecological Knowledge and Indigenous Knowledge' in H. Selin (ed) *Nature Across Cultures: Views of Nature and the Environment in Non-Western Cultures* (2003) 75-96, at 89.

[27] Pierotti & Wildcat op cit note 20 at 1339.

[28] Howden op cit note 19 at 62. See also Widenhorn op cit note 16 at 383.

[29] Darrell Addison Posey 'Selling Grandma: Commodification of the Sacred through Intellectual Property Rights' in E. Barkan & R. Bush (eds.) *Claiming the Stones/Naming the Bones: Cultural Property and the Negotiation of National and Ethnic Identity* (2002) at 201.

[30] McGregor op cit note 15 at 7.

[31] Dudgeon & Berkes op cit note 26 at 88.

TEK is based on continuous observation and close attachment to and utter dependence on natural resources and is thus a form of 'practical common sense, good reasoning, and logic built on experience.'[32] It is not static and discrete but dynamic and constantly evolving.[33] It provides access to a 'large amount of information and experience that has been previously ignored, or treated as mysticism.'[34] Such empirically derived knowledge provides 'scientifically testable insights into some of the most pressing problems facing humankind today.'[35] TEK research contributes 'clear emphasis upon practical matters such as resource management and biodiversity conservation.'[36] It is also an authority system (a standard of conduct), setting out rules governing the use and respect of resources, and an obligation to share. It is dynamic, yet stable, and is usually shared in stories, songs, dance, myths and in most practices, customs and traditions of a community.[37]

TEK is intergenerational and kept in perpetuity so that it can be safeguarded, developed and passed from one generation to the next.[38] It evolves by adaptive processes and is handed down through generations by cultural transmission.[39] The transmission of TEK from one generation to the other, is a collective responsibility, and in most cases it is done orally.[40] Its transgenerational nature suggests that it may require perpetual protection without time-limits as happens with IP protection. However, and whereas some of it may have ancient and mystical origins, it may also originate from a dynamic mix of past tradition and present innovation accumulated through trial and error over many years.[41]

In addition, TEK is held by 'individuals, clans, tribes, nations and different independent communities and its use and sharing is guided and regulated by complex collective systems and customary laws and norms.'[42] Therefore, TEK is more accurately viewed as communally and

[32] McGregor op cit note 15 at 7.
[33] Widenhorn op cit note 16 at 382.
[34] Pierotti & Wildcat op cit note 20 at 1339.
[35] Ibid.
[36] Dudgeon & Berkes op cit note 26 at 89.
[37] McGregor op cit note 15 at 7.
[38] Janewa op cit note 9 at 190.
[39] Y. Uprety, H. Asselin, Y. Bergeron, F. Doyon & J. Boucher 'Contribution of traditional knowledge to ecological restoration: Practices and applications' (2012) 19(3) *Ecoscience* 225-237 at 226.
[40] Victoria Tauli-Corpuz 'Biodiversity, Traditional Knowledge and Rights of Indigenous Peoples' (2003) at 7.
[41] Ibid.
[42] Ibid at 6-7.

cumulatively generated and owned, and decision-making over it being collective.[43] Many members of a community contribute, modify and enlarge TEK over time as they use it.[44]

It is openly shared within and between villages thus providing access to other forms of knowledge and varieties. That notwithstanding, most of TEK cannot be alienated from the community by transferring ownership to another person or corporation because that knowledge 'is part of the distinct and collective identity and has meaning in the context of that community, not outside it.'[45] In any case, if consent to use, display, depict or exercise is given by the community, it is temporary and granted only on the basis of trust that recipients respect and uphold the conditions and customary laws of the relevant community.[46] Nevertheless, and as explained in chapter one, individual rights may also be recognised in some cases.[47] But where individuals hold TEK, their right to use it is collectively determined and they cannot use it in an unconstrained and free manner as they are bound by customary laws, traditions and beliefs of the community.[48]

From the nature and characteristics of TEK, it is evident beyond doubt that it is holistic and requires protection that takes account of this fact. Therefore, existing IPR systems might not be appropriate in protecting TEK with its holistic nature.

2.2 TEK AND CUSTOMARY LAW

As illustrated in chapter one, customary law plays a useful role in the protection of TEK. Whereas customary laws vary widely between communities, the underlying customary principles or values such as reciprocity, equilibrium, duality and brotherhood/solidarity are quite consistent across different ethnic groups.[49] These principles give rise to a number of obligations such as to: openly share bio-resources and TK; reciprocate/exchange equally; maintain harmony in society; help those in need; and to respect nature, making them useful for building common policy frameworks for protection at national and international level, as well as for developing local TK protection tools and access and benefit sharing (ABS) contracts.[50]

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[43] IIED op cit note 22. See also Center for International Environmental Law 'The Gap between Indigenous Peoples' Demands and WIPO's framework on Traditional Knowledge' (2007) at 5. See also Howden op cit note 19 at 61.
[44] Joseph M. Wekundah 'Why Protect Traditional Knowledge?' (2012) at 8.
[45] Tauli-Corpuz op cit note 40 at 7.
[46] Ibid.
[47] Farran op cit note 1 at 16. See also IIED op cit note 22.
[48] Tauli-Corpuz op cit note 40 at 7.
[49] IIED op cit note 22.
[50] Ibid.

Moreover, its dynamism, legitimacy, flexibility, adaptability and promotion of reciprocity offers a forum for continued cultural recycling of TEK *in situ.*[51] Relatedly, customary institutions and laws play a central role in ensuring the continuity of traditional livelihoods based on TEK and biodiversity[52] because they encompass values and rules for equitable and sustainable resource use, poverty reduction, and protection of TEK.[53]

In addition, customary law offers holistic approaches for the protection of TEK because of its rich content and value.[54] It helps determine: the existence or otherwise of indigenous peoples' rights over TK; the nature of rights and fiduciary obligations; allows TK holders to exercise control over their knowledge; when, with whom and under what conditions to share it; cases of misappropriation; and is an avenue for resolving disputes over ownership or other forms of custodianship over TK and ensure equitable benefit sharing.[55]

Generally, it is also argued that customary law may also serve as: the fundamental legal basis or source of law for a community's legal rights over TK; a factual element in establishing a community's collective rights over TK; one element of the definition of TK, or can otherwise establish the relationship between the knowledge and a community that is central to the concept of TK; a means of determining or guiding the procedures to be followed in securing a community's 'free prior informed consent' for access to and/use of TK; a guide for the assessment of cultural or spiritual offence or damage caused by inappropriate use of TK; a means of determining appropriate

[51] Krystyna Swiderska 'Traditional Knowledge and recognition of customary law: policy issues and challenges,' background paper for the Planning Workshop on 'Protecting community rights over traditional knowledge: implications for customary laws and practices,' London 4-5 May 2004 at 7. See also WIPO, Customary law and traditional knowledge (Background Brief No. 7) available at *http://www.wipo.int/edocs/pubdocs/en/wipo_pub_tk_7.pdf,* accessed on 20 February 2016; Rodrigo de la Cruz, 'Regional Study in the Andean Countries: 'Customary Law in the Protection of Traditional Knowledge' (2006) Final Report Revised for WIPO at 24-25.

[52] IIED op cit note 22.

[53] Ibid.

[54] WIPO op cit note 52. Article 12(4) of the Nagoya Protocol requires States not to *'restrict the customary use and exchange of genetic resources and associated traditional knowledge within and amongst indigenous and local communities in accordance with the objectives of the Convention.'* See also Rodrigo op cit note 51 at 24.

[55] Darrel A Posey & Graham Dutfield *Beyond Intellectual Property Rights: Toward Traditional Resource Rights for Indigenous Peoples and Local Communities* (1996) ch 5. Rodrigo op cit note 51 at 24-25. See also Brendan M. Tobin, 'Bridging the Nagoya compliance gap: The fundamental role of customary law in protection of indigenous Peoples' resource and knowledge rights' (2013) 9(2) *Law Environment and Development Journal,* 142-162 at 151-153. See also Articles 4, 16, 18, 22 and 24 of the Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore, adopted by the Diplomatic Conference of African Regional Intellectual Property Organization (ARIPO) at Swakopmund on 9 August 2010.

remedies, sanctions or restitution following a breach of rights over TK; and a guide for the transmission of rights over TK from generation to generation.[56]

By providing the normative framework for TEK governance, customary law incentivizes communities to protect, conserve and preserve their biodiversity.[57] It not only allows communities to take action to defend appropriated or reproduced material against inappropriate use, but positively obliges them to take steps to protect TEK.[58] As explained in chapter one, customary law undergirds TJS suggesting that the latter may play an important role in offering the forum for the protection of TEK including the exercise of custodianship responsibilities over TEK.

From a procedural point of view, customary law may,

> 'govern how consultations should be undertaken, how disputes should be settled, how competing claims should be reconciled, and what penalties or remedies should be applied. In principle, such procedural aspects could be applied to subject matter that is not within the traditional scope of customary law for example, in determining the equitable sharing of benefits from the commercial exploitation of traditional knowledge, or in determining the distribution of damages in the case of infringement of intellectual property rights.'[59]

Because customary law is a concept inherent in the notion of territoriality, using customary laws (and TJS) to protect TEK, is a direct way of recognizing indigenous peoples' territorial rights, as the latter constitutes the sphere of application and practice of TEK.[60]

Although in international negotiations some TK holders have demonstrated 'great faith in the ability of their customary laws and practices to protect TK, demonstrating their continuing confidence in their own legal systems',[61] for others their customary laws have been 'disrupted or lost, largely due to external forces, including colonisation, globalisation, influence of organised religion, and development of new political structures which undermine traditional decision making authorities.'[62] Consequently, while for some communities, customary law may no longer have any meaningful role to play in the development of measures for protection of their TEK, 'traditional

[56] WIPO op cit note 51.
[57] See Conference of Parties (COP 6) to the Convention on Biological Diversity, 7 - 19 April 2002. See also Conference of Parties (COP 7) to the Convention on Biological Diversity, 9 - 20 February 2004.
[58] WIPO, Customary Law, Traditional Knowledge and Intellectual Property: An Outline of the Issues, 2013, 1-30 at 25.
[59] WIPO op cit note 51.
[60] Rodrigo op cit note 51 at 27, 34.
[61] Tobin op cit note 9 at 13-14.
[62] Ibid at 13-14.

decision making authorities and adherence to some form of internal community law may still play an influential role in community life'[63] as illustrated in chapter five.

However, and as has been pointed out earlier, there is a dearth of literature explaining how customary laws can be harnessed to protect TEK in practice. Moreover, the place of customary law in the hierarchy of legal norms, and its treatment at municipal and international levels, significantly hampers its effective application in protecting TEK. As such, in protecting TEK there is need for bold approaches that challenges 'law' by going beyond legal pluralism as this study does.

2.3 EVALUATING THE VALUE OF TEK

TEK systems generate socio-cultural and ecological values.[64] For example, through the work of traditional farmers in nurturing, conserving and using both plants and animals, scientists can rely on plant varieties whose value has been improved through continuous observation, selection, multiplication, trade and kept variants. Ironically, seed companies are able to collect these varieties, process and produce for sale and use the IP regime to protect and benefit from their innovations whereas farmers' contribution is overlooked[65] and inadequately recognised and compensated. In the ensuing part of this chapter, an assessment of the ecological, cultural and socio-economic value of TEK is made essentially laying a basis for its protection using a TJS framework in chapter five.

2.3.1 Ecological value

In the last few decades, 'the potential contribution of TEK in the conservation, management, and sustainable use of natural resources has been increasingly recognised, documented and utilised.'[66] Currently, there are international instruments such as the CBD and the UNDRIP[67] which require states to recognise and protect TEK in the conservation and sustainable use of biological diversity

[63] Ibid at 14.

[64] 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 136.

[65] Wekundah op cit note 44 at 11.

[66] Uprety *et al* op cit note 39 at 226.

[67] Article 31(1), United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) G.A. Res 61/295, UN. Doc. A/61/295 (2007).

and promote its wider application in resource management and biodiversity conservation.[68] Within the CBD framework, TEK is celebrated as a vital source of information for identifying uses of genetic resources that humanity as a whole can benefit from and is seen as particularly valuable for bioprospectors.[69] The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) has emphasised the importance of TEK in sustaining ecosystem services and biodiversity worldwide as it can strengthen the capacity of human societies to deal with disturbances and to maintain ecosystem services under conditions of uncertainty and change.[70] TEK offers 'not only biological insights but a cultural framework for environmental problem solving that incorporates human values.'[71] According to Dudgeon and Berkes there are four clusters of social processes informing ecological practices based on TEK systems.[72] The study uses these four clusters to assess the ecological contribution of TEK to society.

First, is the *generation, accumulation and transmission of local ecological knowledge*.[73] TEK resource management systems are viewed as 'experiments in successful living' and drawing upon TEK provides new alternatives and insights that can speed up the process of ecological management.[74] TEK therefore provides a 'long-term perspective on ecosystem dynamics, based on ancestral knowledge and interaction with habitats and species, and thus assist in the analysis and monitoring of long-term ecological changes.'[75] In this connection, TEK contributes a wealth of knowledge (both empirical and theoretical) on how to: value, utilise and manage natural resources (both fauna and flora); maintain an optimum use of resources and sustain the equilibrium of their ecosystems concurrently; cope with disasters and repair damages caused by natural conditions; ensure traditional institutions remain the guardian of resources; suggest outcomes and predictions; design adaptation and mitigation strategies to cope with environmental changes, and

[68]Article 8(j), Convention on Biological Diversity (CBD), 31 *ILM*, 1992.
[69] Widenhorn op cit note 16 at 382.
[70] Available at http://www.ipbes.net/ accessed on 29 May 2016.
[71] Whyte op cit note 15 at 6.
[72] Dudgeon & Berkes op cit note 26 at 88.
[73] These processes include, reinterpreting signals for learning, revival of local knowledge, folklore and knowledge carriers, integration of knowledge, intergenerational transmission of knowledge and geographical diffusion of knowledge.
[74] Dudgeon & Berkes op cit note 26 at 85.
[75] G. Oviedo, A. Gonzales & L. Maffi 'The Importance of Traditional Ecological Knowledge and Ways to Protect it' in S. Twarog & P. Kapoor (eds.) *Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions* (2004), 71-84 at 71.

make decisions.[76] For instance, it is documented that Meru farmers (who are part of the case studies in this study) hold fairly accurate past climate knowledge/drought nomenclature about the occurrence and intensity of drought and flood-related events, especially those affecting crop yields.[77] Moreover, the belief among the Maasai that eating bush meat (wild animals) is taboo helps in wildlife conservation.[78] Additionally, in Ishaqbini in Northern Kenya, the Somali communities believe that the Hirola antelope is sent by God to guide them on where to find good pastures for their livestock. They therefore protect the Hirola and graze their cattle together with the Hirola so that it can lead them to good pastures.[79]

TEK systems are also sustainable, self-reliant, cost-effective and continue to prove their viability and strength[80] as they are based on detailed observation of the dynamics of the natural environment, feedback learning, social system/ecological system linkages, and resilience-enhancing practices.[81] It is not so with conventional science and management which has a questionable record with regard to long-term sustainability.[82] For example, TEK is able to strengthen community resilience to the multiple stressors of global environmental change through the multiple ways it promotes biocultural diversity.[83] Such biocultural diversity stems from the traditional knowledge, practices, and institutions developed by human societies over a millenary experience of dealing with the environment.[84] As posited in this study, and as chapter five will illustrate, TJS are part of the institutions that communities have developed over time to promote biocultural diversity and that may be viable in protecting TEK.

In environmental impact assessment, TEK has been useful in 'complementing scientific knowledge, adding layers of detail to it, suggesting outcomes and predictions, or contributing

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[76] 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. See Fikret Berkes op cit note 7 at 5. See also Erik Gomez-Baggethu, Esteve Corbera & Victoria Reyes-Garcia 'Traditional Ecological Knowledge and Global Environmental Change: Research findings and policy implications' (2013) 18(4) *Ecology and Society* at 1.

[77] Christian Leclerc, Caroline Mwongera, Pierre Camberlin & Joseph Boyard-Micheau 'Indigenous Past Climate Knowledge as Cultural Built-in Object and its Accuracy' (2013) 18(4) *Ecology and Society* available at http://dx.doi.org/10.5751/ES-05896-180422 accessed on 6 April 2017.

[78] From an interview with a former prosecutor at Kenya Wildlife Service (KWS) on 11th May 2018.

[79] Ibid.

[80] Eyong op cit note 64 at125.

[81] Dudgeon & Berkes op cit note 26 at 85.

[82] Ibid.

[83] Gomez-Baggethu *et al* op cit note 76 at 1.

[84] Ibid. See also Dudgeon & Berkes op cit note 26 at 85.

norms and values to decision-making.'[85] It provides the 'information base for a society which facilitates communication and decision-making.'[86] For instance, the collation of information on traditional land and marine management strategies, hunting, agricultural and fisheries practices is vital in environmental protection. TEK also informs indigenous interactions with land, gives native title its character and assists in the identification of traditional tenure rights over land and marine resources, for the purposes of securing recognition and protection of such rights by national authorities.[87] By identifying tenure rights, TEK holders are able to prevent the unapproved and/or uncompensated access and use of their knowledge.[88]

Secondly, *structure and dynamics of institutions*.[89] Such institutions are in charge of leadership and rule making and include families, clans, stewards, wise people/elders and cross-scale or community-wide institutions. These institutions rely on customary norms, taboos, traditions and religious beliefs. For example, the Meru people have for generations been ruled by the *njuri njeke* council of elders which comprises of the 'most knowledgeable members of the community who by the virtue of living for many years and interacting with the environment for long have either devised new knowledge or are custodian of knowledge passed from the earlier generations.'[90] Likewise, the *kaya* elders among the Mijikenda people are also regarded as the custodians of sacred spaces and customary knowledge.[91] In most communities, such elders play a key role in fostering consensus decision-making and in ensuring equitable distribution of resources due to their ability to determine where, when and how resources including TEK are used, shared and transmitted to young generations through oral traditions.[92] As repositories of 'traditional

[85] Erin Sherry & Heather Myers 'Traditional Environmental Knowledge in Practice' (2002) 15 (4) *Society & Natural Resources*, 345-358, at 356.

[86] Wekundah op cit note 44 at 9.

[87] Tobin op cit note 9 at 18. See also Howden op cit note 19 at 61.

[88] Tobin op cit note 9 at 19.

[89] These include role of stewards/wise people, cross-scale institutions, community assessments, taboos and regulations and social and religious sanctions.

[90] Alex N. Kamwaria, Rukahu W. Mugwe, John M. Kamau, Anne Juliet Githaiga, Peter Mutuma Guantai, Kasoo Richard Makin, Charles Choti 'Recognizing and Strengthening the Role of the Njuri Ncheke in Devolved Governance in Meru County, Kenya' (2015) 2 *Journal of Educational Policy and Entrepreneurial Research (JEPER)* 42-47 at 43-44.

[91] Janet McIntosh 'Elders and 'Frauds': Commodified Expertise and Politicized Authenticity among Mijikenda' (2009) 79 *Journal of the International African Institute* 35-52 at 35.

[92] See also Andrew McWilliam 'Meto Disputes and Peacemaking: Cultural Notes on Conflict and its Resolution in West Timor' (2007) 8 *The Asia Pacific Journal of Anthropology*, at 75.

knowledge and of special skills such as the ability to attract rains and adjudicate disputes'[93] both the *kaya* and the *njuri njeke* elders are in a better position to promote peace-building, reconciliation and conflict resolution.[94] It is recorded that the *njuri njeke* makes decisions on a 'variety of issues, environmental conservation, settling land disputes, fighting crimes, promoting human rights, among others.'[95] This explains the focus of this study of using traditional justice frameworks in protecting TEK.

Thirdly, *processes for cultural internalization*. These processes include rituals, ceremonies and other traditions such as drumming and dancing, and cultural frameworks for resource management. For example 'oral tradition and long-term ecosystem observation by native people may hold clues to missing species.'[96] Through oral tradition, tribal memories and explanations by elders, TEK provides important information about historical land-use practices; knowledge of how historic landscapes came to be; how they were maintained by indigenous peoples; and what factors disturbed the landscapes.[97] Such information enables the formulation and development of management and restoration programs with a better chance of success and a greater level of historical authenticity.[98] Moreover, sacred sites or groves aid in the identification of reference ecosystems. Because such sites are dedicated to ancestral spirits or deities, they are normally kept intact by local people for centuries. Such areas cover a wide variety of habitats and are often located in biodiversity-rich regions and serve as refugia for many species.[99] This is the case with all the three case studies adopted in this study; the Mau Forest where the Ogieks live, the *kaya* forests in relation to the Mijikenda people and the shrines nurtured by the *njuri njeke* elders.

And fourthly, *worldview and cultural values*.[100] The worldviews of TEK holders inform their TEK, TEK management systems and ecological approaches. In turn their TEK management systems do not only contribute knowledge and values, 'but can provide a local framework for

[93] McIntosh op cit note 91 at 36.
[94] Ibid. see also Jeffrey A. Fadiman 'Mountain Witchcraft: Supernatural Practices and Practitioners among the Meru of Mount Kenya' (1977) 20 *African Studies Review*, 87-101 at 96-97.
[95] Kamwaria *et al* op cit note 90 at 43-44.
[96] Uprety *et al* op cit note 39 at 229-231.
[97] Ibid at 232.
[98] Ibid.
[99] Ibid at 231.
[100] That is a worldview that provides appropriate environmental ethics and cultural values of respect, sharing, reciprocity and humility.

workable comanagement.'[101] For instance, the past climate knowledge about drought and flood-related events among Meru farmers is embedded within their worldview and social organization such that even the 'political authority' of the community is 'transmitted between generations according to regular rain and sun cycles, which, respectively, correspond to the return of drought or heavy rainfall.'[102] When resource management solutions are relevant to a specific resource and setting they bring community standards, ideology, and social relations that underlie them.[103] This explains the trend of incorporating local communities in environmental governance such as having community forest associations and water resources users associations and Catchment Areas Advisory Committees respectively to engender community participation in resource governance.[104] The fact that these local governance frameworks are already in use in environmental management makes them suitable for the protection of TEK thus justifying the approach suggested in chapter five of using TJS.

From a TEK holders perspective, TEK is all about people caring for their relations with nature, with each other and with all the associated spiritual aspects.[105] These relationships are sustained through duty, responsibility and reciprocity.[106] 'If people do not take care of their relations, then they are not fulfilling their duties and responsibilities; they are denying their relationship with Creation, and dysfunction will result.'[107] As a result, TEK and its related systems will also be lost.

However, there are some who opine that TEK is unscientific and cannot be challenged or verified as it is spiritually based and therefore hinders rather than enhances the ability of governments to fully understand ecological processes.[108] But this is not true as a conservation ethic is a prevalent feature amongst most TEK holders. For instance, there are reports that much of the 'world's crop diversity is in the custody of farmers who follow age-old farming and land use practices in ecologically complex agricultural systems, which enable the conservation of

[101] Sherry & Myers op cit note 85 at 356.
[102] Leclerc *et al* op cit note 77.
[103] Ibid.
[104] See s46 of the Forests Act No. 7 of 2005 and Water Act No. 8 of 2002, Laws of Kenya.
[105] McGregor op cit note 15 at 7.
[106] Ibid.
[107] Ibid.
[108] Dudgeon & Berkes op cit note 26 at 80.

biodiversity.'[109] Traditional communities maintain the centres of crop genetic diversity (including traditional cultivars or landraces) that constitute an essential part of the world's crop genetic heritage and non-domesticated plant and animal species.[110]

The ecological worldview is also reflected in traditional management practices and skills which include: indigenous soil taxonomies; knowledge for potential use of local plants and forest products, and animal behaviour and acquired hunting skills; local knowledge of important tree species for agroforestry, firewood, integrated pest management, the control of soil erosion and soil fertility, and fodder management; indigenous agronomic practices such as terracing, contour bunding, fallowing, organic fertiliser application, crop-rotation and multi-cropping, and indigenous soil and water conservation and anti-desertification practices.[111]

Dudgeon & Berkes identify three unique management practices based on TEK. First is practices found both in conventional resource management and in some local and traditional societies. These include monitoring resource abundance and change in ecosystems; total protection of certain species; protection of vulnerable life history stages; protection of specific habitats and temporal restrictions of harvest. Second, there are practices abandoned by conventional resource management but still found in some local and traditional societies. They include multiple species management; maintaining ecosystem structure and function; resource rotation and succession management. Third, there are practices related to the dynamics of complex systems, seldom found in conventional resource management but found in some traditional societies. These are management of landscape patchiness; managing ecological processes at multiple scales; responding to and managing pulses and surprises; nurturing sources of ecosystem renewal and watershed-based management.[112] From these management practices, it is evident that TEK 'can make a clear and positive contribution to environmental assessment, recognizing different types of information: knowledge of the environment, knowledge of past and current uses of the environment; values about the environment, or the knowledge system itself.'[113] However, state

[109] 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 144.
[110] Ibid.
[111] Andre Lalonde 'African Indigenous Knowledge and its Relevance to Sustainable Development' in Julian T Inglis (ed) *Traditional Ecological Knowledge: Concepts and Cases* (1993) at 56.
[112] Dudgeon & Berkes op cit note 26 at 86.
[113] Sherry & Myers op cit note 85 at 356.

managers must discard myths about TEK and 'be more open to traditional knowledge, recognizing it as a different way of explaining the world, but one that can reflect a deeply held set of beliefs, values, and practices based on long-term experience in an area.'[114] Adoption of traditional frameworks (which assume a bottom-up approach) to the protection of TEK as posited in this thesis is perhaps one of the ways of deconstructing such myths about TEK.

2.3.1.1 Role of TEK in ecological restoration

Dudgeon and Berkes explain that due to the localised and site-specific nature of TEK, it is 'particularly applicable to restoration design, which is also site-specific.'[115] In landscapes in which traditional societies are integral components, ecological restoration efforts (that is the active intervention to renew and restore degraded, damaged or destroyed ecosystems and habitats) must be tailored on the basis of people's perceptions, resource dependence and reliance on ecosystem goods and services.[116] Careful evaluation of the connection between people and nature is needed to develop effective strategies for ecological restoration.[117] TEK can contribute to ecological restoration in a number of ways. First, it can provide knowledge of historical reference systems, including original species composition and distribution, successional trajectories, and appropriate management techniques.[118] In this regard, TEK is important in contexts where 'aerial photographs and ecoforestry maps are not available, or where paleoecological or archaeological records are scarce or incomplete.'[119]

Second, TEK provides 'knowledge of how historic landscapes came to be, how they were maintained by indigenous peoples, and what factors disturbed the landscapes enables development of restoration programs with a better chance of success and a greater level of historical authenticity.'[120] It can thus contribute information about the spatial and temporal distribution, composition, health, condition, and behaviour of many species and the factors that affect them.

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[114] Ibid.

[115] Uprety *et al* op cit note 39 at 229. Ecological restoration in this context refers to the active intervention to renew and restore degraded, damaged or destroyed ecosystems and habitats.

[116] Ibid at 229.

[117] Ibid.

[118] Ibid.

[119] Ibid.

[120] Ibid at 232.

Third, TEK can provide important information of equivalent or higher accuracy about the trajectory of the restoration plantation, disturbance factors, and further interventions, in less time and at a lower cost than conventional ecological research as it is already the result of long-term observations and experimentation.[121] As already noted in the case of Meru farmers who hold past climate knowledge, TEK holders are exceptionally good at observing extreme events, variations, and unusual patterns and remembering them through oral history and social memory. Therefore, TEK could also allow restorationists to cross-reference their information, thereby increasing data validity.[122]

Since TEK can provide a historical ecological dimension not accessible to modern conservation biology,[123] it should not be seen as irreconcilable with modern science as they complement each other significantly. Such complementarity can arise where TEK is used to 'fill information gaps and highlight promising directions for management and further research, but it must be used with full recognition of its limitations.'[124]

2.3.2 Cultural value

TEK as an embodiment of people's cultures, traditional lifestyles and contributions over many generations, plays an integral role in facilitating the survival and preservation of cultural diversity and social structures.[125] As already mentioned in this chapter, both TEK and culture exist in a symbiotic context where they complement and synergise. While, TEK is informed by cultural institutions, customary laws and systems that have existed amongst communities for millennia, TEK also contributes to society cultural values, norms and institutions over the years.[126] It is for this reason that TEK's protection also aims at ensuring the preservation of culturally important elements of a community such as languages, traditional institutions, customs, resources, religious beliefs and practices for the benefit of present and future generations.[127] This further supports the focus of this study of using culturally located TJS in the protection of TEK.

[121] Ibid at 233.
[122] Ibid at 234.
[123] Oviedo *et al* op cit note 75 at 75.
[124] Uprety *et al* op cit note 39 at 234.
[125] Fikret Berkes op cit note 7 at 5. See also Howden op cit note 19 at 64.
[126] See generally Janewa op cit note 9 at 157.
[127] Tobin op cit note 9 at 18.

Amongst most communities that hold TEK, there is a close connection between TEK and their culture. This is evident for example, among the Ogieks, a hunter-gatherer population (who are part of the case studies in this work), and who 'have established their homes, collected and produced food, medicine and ensured other means of survival in the Mau Forest.'[128] They also 'practise a monotheistic religion closely tied to their environment'[129] and still undertake their 'traditional activities: traditional wedding ceremonies, oral traditions, folklores, and songs' within the forest.[130] Whereas their traditional activities have ensured the maintenance of the environment, restrictions on access to and evictions from the forest have greatly affected their ability to preserve these traditions. Moreover, during the evictions that took place in the 1980s there was destruction of 'sacred places in the Mau Forest, caves, hills, specific trees areas within the forest' and 'knowledge about them has not been passed on by the elders to younger members of their community, as they can no longer access them.'[131]

Similarly, the Meru people have a shrine located at the heart of Meru territory where the *njuri ncheke* council of elders' usually sit and which is regarded as the hallmark of conservation and a symbol of culture and heritage.[132] Notwithstanding the changes in time, the *njuri ncheke* continues to influence the community in political decision-making; promotion of peace, conflict resolution, reconciliation and environmental and heritage protection.[133] A detailed investigation of the *njuri njeke* as a TJS framework for the protection of TEK will be undertaken in chapter five of this thesis.

According to all the nine Mijikenda groups,[134] the *kayas* are considered as 'historically significant spaces that serve as burial grounds for some of the most venerated ancestors and the locus of vital traditional powers and rituals that are overseen by a small number of elders.'[135] However, due to the market economy and the presence of Christianity and Islam, 'customary Mijikenda ritual and knowledge have been profoundly marginalized' although variations of

[128] *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017, paragraph 155.
[129] Ibid at paragraph 158.
[130] Ibid at paragraph 183.
[131] Ibid at paragraph 158.
[132] Kamwaria *et al* op cit note 90 at 43-44.
[133] Ibid at 44.
[134] The term 'mijikenda' means nine tribes that are culturally and linguistically related and comprises of: Giriama, Jibana, Chonyi, Ribe, Kambe, Kauma, Rabai, Digo and Duruma.
[135] McIntosh op cit note 91 at 37.

Mijikenda traditions and customs are still influential.[136] The study will revert to a fuller discussion of the Mijikenda traditional institutions in chapter five.

It is also recorded that the introduction of modern crop varieties in the 1970s among the Kraho Indians of Brazil, marked the beginning of the loss of the seed varieties that they had developed and maintained for generations together with the associated TK.[137] According to Kraho elderly community members, the disappearance of those seeds led to a gradual loss of 'community roots' represented by rituals associated with traditional agricultural methods and the agricultural calendar.[138] As a result, the modernization of Kraho agriculture failed to consider the impact of a radical shift from traditional farming practices on people's sense of cultural identity. It created a generation gap in the community, as elders no longer passed on TK to their children and grandchildren. In addition, with increased poverty and a fading cultural identity, many Kraho Indians chose to abandon their traditional territory for greener pastures in urban areas.[139] It is saddening that this has been the case in most of the other TK-rich countries of the world.

To most TEK holders, TEK is also a 'tangible aspect of a way of life' that is considered valuable in characterising and expressing the shared identity and essence of a community, a people and a nation.[140] It forms part of their cultural heritage and identity, and its protection and preservation is linked to the promotion of cultural diversity and human creativity.[141] As such, the protection of TEK is akin to the recognition and protection of the 'moral rights' of custodians of TEK[142] although extrapolating the 'moral rights' concept to communally held resources such as TEK may be practically difficult since moral rights strictly speaking mostly apply to individual

[136] Ibid at 37-38.

[137] Antonio C. Guedes & Maria José Amstalden Sampaio 'Genetic Resources and Traditional Knowledge in Brazil' in S. Twarog & P. Kapoor (eds.) *Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions* (2004) 29-31 at 30.

[138] Ibid.

[139] Ibid.

[140] See generally Peter K. Yu 'Cultural Relics, Intellectual Property, and Intangible Heritage' (2008) 81 *Temple Law Review* 433-506, at 455-461; and 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.

[141] Traditional Cultural Expressions (Folklore), WIPO, available at http://www.wipo.int/tk/en/folklore/ accessed on 28 July 2017.

[142] Tobin op cit note 9 at 18.

creators[143] as discussed in chapter three. As the discussion in chapter three reveals, the moral rights ideology is readily linked to personhood and human rights and, in some jurisdictions, including Kenya they are inalienable and perpetual.[144] Be that as it may, if 'moral rights' arguments were to extend to TEK, it appears that they would protect the unique cultural interests and rights of TEK holders to their knowledge and resources and would include the prevention of unauthorised or derogatory treatment of works drawing on their traditions, customs and beliefs. But because TEK is culturally situated and is a manifestation of TEK holders' contribution as a result of interacting with their ecosystems,[145] the cultural integrity model and the use of TJS structures as suggested in this study offers a useful and appropriate framework for protecting TEK rather than IPRs concepts such as 'moral rights'.

2.3.3 Socio-economic valuation of TEK

TEK has enormous economic, health and social endowments.[146] Economically, TEK-based products such as handcrafts, medicinal plants, agricultural products, and non-wood forest products are traded both locally and internationally.[147] It is also used as an input into modern industries such as pharmaceuticals, botanical medicines, cosmetics and toiletries, agriculture and biological pesticides.[148] It is particularly difficult to estimate the contribution of TEK to the global economy and its full value in monetary terms, because TEK is 'often an essential component in the development of other products' and because 'most TK-derived products never enter modern markets.'[149] Moreover, most of TEK has 'cultural or spiritual value that cannot be quantified in any monetary sense.'[150] In Kenya, for example, there is an increase in trade related to traditional

[143] In relation to copyright, moral rights incorporate the right of publication, attribution, respect and integrity and withdrawal of a work to prevent further reproduction or distribution, see section 32(1) of the Kenyan Copyright Act No.12 of 2001.

[144] See section 32 of the Copyright Act No.12 of 2001, Laws of Kenya.

[145] Fisher & Lundberg op cit note 69 at 177-203 however note that the 'cultural integrity' model falls short as it also recognises an instrumental value of TK protected through IP and which may clash with indigenous norms that reject commodification of nature. Further, they contend that focusing exclusively on cultural rights can encourage static definitions of culture that may preclude cultural dynamism and the fact that not all individual claims may fall within a collective cultural unit.

[146] Eyong op cit note 64 at 136.

[147] Dutfield op cit note 109 at 143.

[148] Ibid at 143.

[149] Ibid at 144.

[150] Ibid.

cultural expressions which include tourism-related activities such as traditional songs and dance, cultural artefacts such as wood and soft stones, carvings, and traditional baskets like the *kiondo.*[151]

There is also increased acceptance of TEK as an important source of information useful for achieving sustainable development and alleviating poverty.'[152] Multilateral and bilateral agencies,[153] non-governmental organisations and indigenous movements, recognise and promote the role of TEK in sustainable rural development programmes.[154] First and foremost, TEK is valuable to indigenous and local communities that depend on it for their livelihoods and well-being, as well as for enabling them to sustainably manage and exploit their local ecosystems.[155] Indigenous peoples in Africa have extensive knowledge of plants and animals which are used for food, shelter and decoration, and some plants have multiple values which help to increase their economic, cultural and social importance.[156] For instance, it is reported that the people of Africa south of the Sahara have 'long used the knowledge of their environment and resources to provide food, medicine and cosmetics, to breed crops and livestock and in general to shape their ecosystems.'[157] TEK is therefore essential for the food security, health, agriculture and cultural needs of indigenous and local communities, which include many of the poorest people in the world.[158]

In Eastern and Southern Africa regions local communities have over the years developed different food security strategies and mechanisms for surviving in these conditions. These strategies include various technologies of saving seeds and other planting materials, food production, processing, preservation and storage that have not received much attention from policy

[151] Wekundah op cit note 44 at 10.
[152] Dutfield op cit note 109 at 142.
[153] Including the World Bank, Food and Agriculture Organisation (FAO), United Nations Educational, Scientific and Cultural Organization (UNESCO), and the United Nations Environment Programme (UNEP).
[154] Dutfield op cit note 109 at 142.
[155] Dutfield op cit note 109 at 142. See also 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 66.
[156] Eyong op cit note 64 at 125.
[157] Nicasius Achu Check 'Indigenous Forest Conservation Methods: The case of the pygmy forest conservation techniques' (2011) (49) *African Institute of South Africa Policy Brief,* at 3.
[158] IIED op cit note 22.

makers and extension workers.[159] Food taboos, for example, reflect TEK and local perceptions of 'edible and inedible foods, which in turn impact subsistence, technology, the construction of social landscapes, social interactions, notions of prestige, and gender distinctions, among other behaviours.'[160]

Plant genetic resources (PGR) (such as farm-saved seeds and planting materials) and the related TEK hold the promise for ensuring global food security.[161] The International Undertaking on Plant Genetic Resources (IUPGR) established by the Food and Agriculture Organisation (FAO's) Conference Resolution 9/83 was the first comprehensive agreement on PGR to recognize the need to enhance food security by applying PGR and TEK. IUPGR also viewed PGR as a common heritage of mankind that should be explored, preserved, evaluated and made available without restrictions.[162] However, it was subsequently revised to bring it into line with the CBD. On 3 November 2001, the International Treaty on PGRFA was adopted by the FAO. The treaty creates a multilateral system for access and benefit sharing[163] and the list of crops covered under the system to guarantee food security and independence[164] include major food crops such as rice, wheat, maize, sorghum and millet; grain legumes such as beans, peas, lentils, chickpeas and cowpeas; roots and tubers such as potatoes, sweet potatoes, cassavas and yams; and a list of forages. Under the treaty states are to,

> 'recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.'[165]

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[159] Hassan O. Kaya 'Promotion of Public Health Care Using African Indigenous Knowledge Systems and Implications for IPRs: Experiences from Southern and Eastern Africa' (2007) (30) *African Technology Policy Studies Network (ATPS) Special Paper Series*, at 7.

[160] 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 8.

[161] Murthi Anishetty 'Conservation and Utilization of Plant Genetic Resources for Food and Agriculture: Strengthening Local Capacity for Food Security' in S. Twarog & P. Kapoor (eds.) *Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions* (2004), 33-39 at 33.

[162] Article 1, International Undertaking on Plant Genetic Resources for Food and Agriculture, Report of the Conference of the FAO, 22nd Session, Rome, 5-23 November 1983.

[163] Article 10, International Treaty on Plant Genetic Resources for Food and Agriculture.

[164] Annex 1, International Treaty on Plant Genetic Resources for Food and Agriculture.

[165] Article 9(1), International Treaty on Plant Genetic Resources for Food and Agriculture.

One of the measures provided for in the Treaty to protect and promote farmers' rights is the protection of TK relevant to PGRFA.[166]

TEK also is related to traditional medicine (TM) which is vital in the mitigation of human and animal diseases.[167] The World Health Organization (WHO) defines TM as the 'sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnosis, improvement or treatment of physical and mental illnesses.'[168] According to WHO, 80% of the world's population depends on TM for its primary health care.[169] It is also reported that in most rural and urban areas of Eastern and Southern Africa, TM is the local population's main medical resource and that traditional healers and pharmacists are,

> '…known to possess a special connection to plants, and for their knowledge of sacred artefacts used to invoke their healing power. Their knowledge comes from experience, from trial and error with plant remedies, from methods passed down from generation to generation.'[170]

TM, however, does not only rely on plants (leaves, flowers, fruits, seeds, stems, wood, bark, roots, rhizomes or other plant parts) and other natural resources to make natural remedies,[171] but some of the plants used in TM have inspired major pharmaceutical drugs globally.[172] Because 'TM requires an astute awareness of medicinal plants, animals, and other natural resources, of cultural or spiritual beliefs relating to health and disease, and of how to prepare and dispense medicines' it is seen as a 'significant component of TEK.'[173] Moreover, while TEK is vital in biodiversity

[166] Article 9(2)(a), International Treaty on Plant Genetic Resources for Food and Agriculture.

[167] Hassan op cit note 158 at 2.

[168] WHO, 'Traditional Medicine: Definitions', WHO/EDM/TRM/2000.1, 2000, available at http://www.who.int/medicines/areas/traditional/definitions/en/ accessed on 28 July 2017.

[169] UNCTAD 2000.

[170] Hassan op cit note 158 at 5.

[171] CH Saslis-Lagoudakis, JA Hawkins, SJ Greenhill, CA Pendry, MF Watson, W Tuladhar-Douglas, SR Baral, V Savolainen, 'The evolution of traditional knowledge: environment shapes medicinal plant use in Nepal' (2014) *Proc. R. Soc. B 281*, available at http://rspb.royalsocietypublishing.org/content/281/1780/20132768 accessed on 28 July 2017.

[172] Available at http://shodhganga.inflibnet.ac.in/bitstream/10603/12824/10/10_chapter%204.pdf accessed on 28 July 2017.

[173] Kayla N. Deur, 'Traditional Medicine Usage and the Transmission of Traditional Ecological Knowledge in Three Villages near Phnom Kulen National Park', (2015) *Environmental Studies / Environmental Science Student Scholarship* http://digitalcommons.hollins.edu/cgi/viewcontent.cgi?article=1001&context=esstudents accessed on 28 July 2017.

conservation which is helpful to TM practitioners,[174] traditional medical knowledge of medicinal plants and their use is helpful in the conservation of culture and biodiversity.[175] It also follows that while TEK and the natural environment shape the evolution of TM,[176] the latter is also key in biodiversity conservation. Orinda Okumu illustrates this co-evolution and co-existence of TM and TEK amongst the Mijikenda when he notes that the *kaya* forests are not only rich in biodiversity but are also 'believed to be home to some of the rarest flora with medicinal value, courtesy of the Mijikenda IKS.'[177] More importantly, one of the qualification for serving as a guardian of the forests surrounding a *kaya* is expertise in 'understanding the medicinal and sacred value of certain trees and plants (*mitishamba*).'[178] This further explains the focus of this study in adopting a traditional and/or holistic approach in the protection of TEK using TJS.

Clearly, TEK plays an important role in the health of indigenous and local communities, since TM can be understood as being an aspect of TEK. This relationship suggests the need for protecting TEK using traditional and/or holistic frameworks appreciative of the co-evolution and co-existence of the two subcategories of TK. Such an approach, in the protection of TEK may perhaps help curb the loss of biodiversity and traditional herbs due to the ever expanding demand for herbal products in the pharmaceutical industry.[179] Such concerns may not be adequately addressed within IPRs and that is why chapter five examines the role and functions of traditional frameworks in protecting and facilitating access to TEK.

2.3.4 Value of TK to Indigenous and local communities right to self-determination

As illustrated in chapter one, self-determination is not merely a matter of political rights but also the recognition of the communities' customary laws as sources of law and the demand for greater

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[174] Ryan Abbot 'Documenting Traditional Medicine' 2014 at 5 available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2406649 accessed on 29 July 2017.

[175] Sarbajit Kumar Ghosh, Sanat Kumar Guchhait, Shyamal Santra 'Decay of Traditional Ecological Knowledge and Ethno Medicine: A Study in Joypur Jungle Mahal, Bankura District, West Bengal' (2014) 19(3) *IOSR Journal of Humanities and Social Science*, 74-80 at 79.

[176] Saslis-Lagoudakis *et al* op cit note 171. See also Lecia Bushak 'Changes in Environment Can Pose 'Threat' To Traditional Medicine around the World: Study' Medical Daily, Feb 13, 2014.

[177] Orinda Shadrack Okumu 'The concept of intangible cultural heritage in Kenya' in Anne-Marie Deisser, Mugwima Njuguna (eds) *Conservation of Natural and Cultural Heritage in Kenya* (2016) 45-58 at 52. See also McIntosh op cit note 91 at 37.

[178] McIntosh op cit note 91 at 39.

[179] Ibid.

opportunities for exercising control over their land and resources (including TEK).[180] It means that indigenous and local communities have the right to freely determine their political status and freely pursue their economic, social and cultural development.[181] It also means that in no case may such communities be deprived of their means of subsistence including the right to free and prior informed consent and the right 'to say no to dams, mining, oil and gas extraction, logging, bioprospecting and research done in our communities by external entities.'[182] For indigenous peoples, self-determination is thus the basis for sustainable local livelihoods, community solidarity and for resilient ecosystems which are realized through secure land rights.

In this part, the study discusses two broad aspects in the relationship between TEK and the right to self-determination. First, that the protection of TEK is vital for the realisation and enjoyment of the right to self-determination. And second, that the recognition of the right to self-determination is a basis for protecting indigenous people's rights over TEK.

According to the first claim, the protection and recognition of communities' right to use and control access to their resources and TEK is a central concern in indigenous and local communities fight for the right to self-determination. There are several reasons why this is so. First, heritage and TEK are inextricably linked to indigenous peoples' territorial, resource rights and cultural rights.[183] And the right to control and manage heritage, TEK and biodiversity is based on the inherent right to self-determination.[184] Moreover, their customary laws, traditional institutions (such as TJS) and systems which define relationships with nature and with their neighbours, are also necessary in asserting the right to self-determination.

Second, TK plays an integral role in the preservation of self-identity and in characterising and expressing the shared identity and essence of a community, a people and a nation. [185] It charts a community's sense of self and ensures the continuous existence of indigenous and traditional

[180] S. James Anaya *Indigenous Peoples in International Law* (2004) at 129.

[181] See generally Article 3, United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) G.A. Res 61/295, UN. Doc. A/61/295 (2007), Article 1(1), International Covenant on Civil and Political Rights (ICCPR), Adopted by the General Assembly of the United Nations on 19 December 1966 and Article 1 (1), International Covenant on Economic, Social and Cultural Rights (ICESCR) Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966.

[182] Tauli-Corpuz op cit note 40 at 3.

[183] Ibid at 2.

[184] Ibid.

[185] Wekundah op cit note 44 at 11.

people explaining why disclosing it loosens a community's self-identity.[186] Third, indigenous peoples want their contributions (TEK) over the centuries to be recognised and to be given greater control over their TEK or a requirement to disclose prior art in new creations or inventions.[187] Such recognition entails acknowledging their: inalienable rights over TK, rights to veto access to TK, right to have full disclosure of research results, right to grant or deny prior informed consent and recognising that their resources are vital to their survival and maintenance of biodiversity.[188] As illustrated in chapter one, TJS might offer a good platform for affording communities greater control over their resources and TEK. Third, TEK helps in improving the performance of local governments and in decision-making processes.[189] As explained in detail in chapter one, TEK is a 'doing system' and the use and control of TEK helps in resource management and in decision-making.[190] TEK contributes, *inter alia*, factual knowledge, norms and values needed in decision-making[191] using traditional frameworks such as TJS. This contribution is essential to indigenous peoples, in exercising their right to self-determination, as it allows them to have the right to autonomy or self-government in matters relating to their internal and local affairs.[192] TEK's contribution may also help indigenous peoples to maintain and strengthen their distinct political, legal, economic, social and cultural institutions.[193] TJS can promote self-governance and also foster proper self-determination as discussed in chapter one.

According to the second claim, the recognition of the right to self-determination lays a basis for protecting indigenous people's rights over TEK. According to Tauli-Corpuz the best protection and defense of TK and biodiversity is the persistent assertion of the right to self-determination and rights to territories and resources.[194] She observes that the recognition of

[186] Yu op cit note 140 at 455.
[187] Yu op cit note 140 at 461. See also Schroeder op cit note 140 at 37.
[188] Deepa Varadarajan 'A Trade Secret Approach to Protecting Traditional Knowledge,' (2011) 36(2) *Yale Journal of International Law* 371-420, at 374. See also Tonye Marcelin Mahop *Intellectual Property, Community Rights and Human Rights: The biological and genetic resources of developing countries* (2010) at 17.
[189] Osman op cit note 76.
[190] Dudgeon & Berkes op cit note 26 at 89.
[191] Peter J Usher 'Traditional ecological knowledge in environmental assessment and management' (2000) 53(2) *Arctic* at 183-193.
[192] Article 4, United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) G.A. Res 61/295, UN. Doc. A/61/295 (2007).
[193] Article 5, United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) G.A. Res 61/295, UN. Doc. A/61/295 (2007).
[194] Tauli-Corpuz op cit note 40 at 3.

indigenous peoples' right to self-determination, is one of the non-IPRs route of safeguarding and protecting indigenous and local communities TK, their territories and resources.[195] Numerous international instruments such as the United Nations Declaration on the Rights of Indigenous Peoples,[196] Charter of the United Nations, the International Covenant on Economic, Social and Cultural Rights[197] and the International Covenant on Civil and Political Rights,[198] as well as the Vienna Declaration and Programme of Action,[199] affirm the fundamental importance of the right to self-determination of all peoples, to freely determine their political status and freely pursue their economic, social and cultural development. Indigenous communities define and implement their priorities for economic, social and cultural development and environmental protection, based on their traditional cultures, knowledge and practices.[200]

In addition, the development of indigenous groups essentially includes the protection of TEK because its (TEK's) protection is connected fundamentally with the realization of their territorial and self-determination rights.[201] In addition, indigenous peoples and local communities have demanded that measures for protection of TEK must be based upon their customary laws and practices.[202] This is so since the realisation of the right to self-determination is closely linked to recognition and respect for their rights to regulate their affairs in accordance with their own customary laws and practices.[203] However, the 'association between self-determination and the protection of cultural and intellectual property has raised political problems, particularly in those countries that are nervous about the aspirations of their indigenous peoples.'[204] States' recalcitrance to recognize the self–determination rights for indigenous peoples arises from a

[195] Ibid at 17.

[196] Article 3, United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) G.A. Res 61/295, UN. Doc. A/61/295 (2007).

[197] See Article 1 (1), International Covenant on Economic, Social and Cultural Rights (ICESCR) Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966.

[198] Article 1(1), International Covenant on Civil and Political Rights (ICCPR), Adopted by the General Assembly of the United Nations on 19 December 1966.

[199] Article 2 of the Vienna Declaration and Programme of Action as adopted by the World Conference on Human Rights in Vienna on 25 June 1993, A/CONF.157/24.

[200] Indigenous Peoples International Declaration on Self-Determination and Sustainable Development https://www.culturalsurvival.org/news/indigenous-peoples-international-declaration-self-determination-and-sustainable-development.

[201] Erica-Irene Daes 'Discrimination Against Indigenous Peoples' E/CN.4/Sub.2/1993/28, 28 July 1993.

[202] Tobin op cit note 9 at 13.

[203] See Article 3 of UNDRIP, Article 1(1) of ICCPR and ICESCR. See also Anaya op cit note 180 at 150.

[204] Blakeney op cit note 2 at 182-183.

fundamental clash between a positivist statist–centred approach and a peoples–centred approach to self–determination.[205] 'Whereas indigenous peoples have invoked the right to self–determination in terms of their 'desire to continue as distinct communities free from oppression…in virtually all instances denying aspirations to independence', governments have continued to frame it according to a positivist approach to international system.'[206] According to indigenous peoples, they do not seek to dismember states but instead insist on the right to control their territories, resources, organise their societies, their own decision–making institutions, and maintain their own cultures and ways of life.[207] Clearly, the recognition and respect of the right to self-determination is fundamental in the protection of TEK. Likewise, the need to protect and safeguard TEK is one of the many justifications for the recognition of the right to self-determination of indigenous peoples.

[205] Francesca Panzironi 'Indigenous Peoples' Right To Self–Determination and Development Policy' PhD thesis, University of Sydney 2006, at 82.
[206] Ibid.
[207] Statement by the National Coalition of Aboriginal Organizations, Australia, during the 75th session of the International Labour Conference, 13 June 1988, at 2.

CHAPTER THREE

THE PROTECTION OF TEK UNDER THE EXISTING IP REGIME AND INTERNATIONAL INSTITUTIONS

3 INTRODUCTION

The issue of protecting TEK has been debated in numerous fora, but we do not have a globally agreed mechanism on how to protect it. The focus has always been to fit TEK protection within existing IP forms of protection[1] without taking account of the fact that TEK holders have their own protection mechanisms.[2] In this chapter, the study examines global efforts aimed at protecting TEK using existing IP tools and *sui generis* frameworks. Select international and regional instruments touching on IP and TEK are analysed to assess the extent to which they offer protection to TEK. Likewise, the chapter looks at various IP institutions and their role in TEK protection. It then discusses the protection of TEK in Kenya's IP regime while assessing the effectiveness of that protection. It should be noted that most IP instruments and scholarly writings discussed in this chapter make reference to TK rather than TEK but are still useful to the study since the latter is a subset of the former.

3.1 IPRs and TK

The IP system is a territorial system that protects 'creations of the human mind.'[3] IPRs developed as economic rights creating monopolies over various forms of knowledge, processes, products, innovations, inventions, even over naturally-occurring plants, animals, human genetic material, microorganisms, and parts or components of plants and animals, such as genes, cells, DNA sequences and biological, microbiological processes and non-biological processes.[4]

Although TEK existed long before the IP system was developed, it was not considered worthy of IP protection until quite recently.[5] Yet, few TEK holders have used the IP system to

[1] George S. Shemdoe & Loy Mhando 'National Policies and Legal Frameworks Governing Traditional Knowledge and Effective Intellectual Property Systems in Southern and Eastern Africa: The Case of Traditional Healers in Tanzania' (2012) *African Technology Policy Studies Network Working Paper Series* at 11.
[2] Ibid at 8.
[3] WIPO 'Protect and Promote Your Culture: A Practical Guide to Intellectual Property for Indigenous Peoples and Local Communities' (2017) at 9.
[4] Victoria Tauli-Corpuz 'Biodiversity, Traditional Knowledge and Rights of Indigenous Peoples' (2003) Third World Network at 5.
[5] WIPO 2017 op cit note 3 at 10.

protect their great wealth of knowledge.[6] It is argued that although the IP system does not provide solutions to all the challenges that TEK holders face, if used strategically, it can protect and halt the misappropriation of TEK and 'maximize the economic value of products and services' developed using TEK.[7]

There are two broad approaches to TEK protection within the IP framework: *positive* (or offensive) and *defensive* protection, as discussed in chapter one. On one hand, positive protection allows TEK holders to assert IP rights in protected subject matter and to stop others from using the protected material.[8] It includes the use of existing IP systems, adaptations and *sui generis* aspects of existing IP regimes, and wholly *sui generis* frameworks[9] such as the recognition of customary laws.[10] On the other hand, defensive protection seeks to prevent others from 'asserting or acquiring IP rights over TK subject matter'[11] and includes the use of TEK databases and registers.

The most important and widely used IP rights are patents, copyright, trademarks, geographical indications (GIs), industrial designs and confidential information. The different categories of IP tools serve two broad but different purposes. While patents, designs and copyright seek to reward creators and innovators for their creative and inventive outputs,[12] the protection granted to trademarks and GIs helps to identify and distinguish a producer's goods or services from those of competitors and to make them more attractive to consumers.[13] In the ensuing section, the study discusses the main IP tools.

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[6] Ibid at 3.

[7] Ibid at 8 & 10.

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

[9] Ibid.

[10] 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 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.

[11] Stephen R. Munzer & Kal Raustiala 'The Uneasy Case for Intellectual Property Rights in Traditional Knowledge' (2009) 27 *Cardozo Arts & Entertainment*, 37-97 at 50; 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; WIPO op cit note 8.

[12] WIPO (2017) op cit note 3 at 14.

[13] Ibid.

(a) Patents

A patent is an exclusive right granted for an invention (that is a product or process in any field of technology) that provides a new way of doing something, or that offers a new technical solution to a problem.[14] Generally speaking, the patent system seeks to promote technological innovation by rewarding inventors for their successful inventions, while ensuring the full disclosure of inventions so that society may benefit from them.[15] Once patented an invention cannot be commercially made, used, distributed or sold without the patent owner's consent. Such patent rights are usually enforced in courts. Patent protection is territorial[16] and granted for a limited period of time usually 20 years counted from the filing date in most countries.[17]

For an invention to be patented it must meet some conditions.[18] First, the invention must be novel (new, not prior art and not in the public domain). It must be new and not part of the body of existing knowledge in the particular technical field. Second, it must be useful (industrially applicable). Third, it must involve an inventive step (non-obviousness) in the sense that it should not be obvious to a person with ordinary skills in the technical field. In addition, the subject matter of the invention must fall within the *patentable subject matter*, as provided under the applicable patent law. States may refuse to grant a patent for an invention if its commercial exploitation is prohibited for reasons of public order or morality including to protect human, animal or plant life or health or to avoid serious prejudice to the environment.[19] Aspects such as scientific theories, mathematical methods, plants and animals (other than microorganisms), biological processes for the production of plants or animals (other than non-biological and microbiological processes), discoveries of natural substances and diagnostic, therapeutic and surgical methods, are generally not patentable.[20]

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[14] WIPO 'What is Intellectual Property?' available at www.wipo.int/edocs/pubdocs/en/intproperty/450/wipo_pub_450.pdf accessed on 20 July 2017 at 5. See also WIPO (2017) op cit note 3 at 32.

[15] 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 214. See also WIPO (2017) op cit note 3 at 32.

[16] WIPO (2017) op cit note 3 at 32.

[17] Article 33 of the Agreement on Trade-Related Aspects of Intellectual Property Rights adopted on 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994) [hereinafter TRIPS Agreement].

[18] Ibid, Article 27(1). See also ss 22-29, Industrial Property Act Chapter 509, Laws of Kenya.

[19] Article 27(2), TRIPS Agreement. See also s 26, the Industrial Property Act Chapter 509, Laws of Kenya.

[20] Article 27 (3), TRIPS Agreement. See s 21(3), the Industrial Property Act Chapter 509, Laws of Kenya.

TEK may not meet this stringent criterion for patentability. Because most of TEK has been in existence for generations, it may not meet the test for novelty yet an invention must be new and inventive.[21] Novelty is assessed by comparing the invention with the relevant *prior art*. Generally, prior art consists of everything that was known or disclosed before the date that the patent application was filed at the patent office and which is relevant to the invention in the sense of describing the invention in whole or in part.[22] It is for this reason that some would consider TEK as prior art if it has already been: published; publicly used (which requires proof of when and where it was used); or orally disclosed (which again requires proof).[23] This shows that TEK can be a source of prior art and so it may be used to prove that a claimed invention lacks novelty or inventive step.

Moreover, the undocumented nature of TEK may not prevent an inventor from obtaining a patent on the same idea given that examiners in patent offices depend heavily on documentation and literature in ascertaining novelty.[24] It is also very difficult to identify a particular individual or entity as the 'owner' of TEK. But the African Group has previously proposed that where TK has been a lead to an invention, or any invention has derived at any stage from TK or is based on *in situ* genetic resources of any Member state then,

> 'no intellectual property rights shall be granted or protected in any Member unless the requirements on access to genetic resources under the Convention on Biological Diversity have been fully complied with.' [25]

Essentially, the existence of TEK in any form or at any stage defeats novelty and inventiveness requirements for purposes of patents, and originality for purposes of copyrights only if the further work is not 'original' or has been copied from TEK.

[21] Shemdoe & Mhando op cit note 1 at 11.
[22] WIPO (2017) op cit note 3 at 34.
[23] Ibid.
[24] John T Cross 'Property Rights and Traditional Knowledge' (2010) 13(4) *Potchefstroom Elec. L.J* at 13. See also Joseph M. Mbeva 'Experiences and Lessons Learned Regarding the use of Existing Intellectual Property Rights Instruments for the Protection of Traditional Knowledge in Kenya' in S. Twarog & P. Kapoor (eds.) *Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions* (2004), 167-174 at 170.
[25] See Draft 'Decision on Traditional Knowledge' contained in WTO document IP/C/W/404 'Taking Forward the Review of Article 27.3(b) of the TRIPS Agreement, Joint Communication from the African Group' (2003) at 7.

Additionally, the limited period of patent protection does not fully compensate for the disclosure of TEK which has been guarded for hundreds of years by communities.[26] It would be hard to determine the amount of the reward to be given to the community for creating or inventing TEK. Moreover, it would be practically impossible to identify the beneficiaries of such a reward as explained in chapter one. Lastly, most TK holders cannot afford the high fees required for patent offices and the high costs for effective protection and enforcement of patents.[27]

(b) Copyrights and 'related rights'

Copyright law grants protection to authors, artists and other creators for their literary and artistic creations, generally referred to as 'works'. It protects the form of expression of original ideas and not the ideas, procedures, methods of operation or mathematical concepts as such.[28] Rights related to copyright or 'related rights' refer to rights that are similar or identical to those of copyright, although sometimes more limited and of shorter duration.[29] Beneficiaries of related rights include performers (such as actors and musicians) in their performances;[30] producers of phonograms (for example, compact discs) in their sound recordings;[31] and broadcasting organisations in their radio and television programs.[32]

Copyright law protects economic and moral rights. Economic rights permit the owner of copyrights to get a financial reward from the use of his works by others.[33] Generally, economic rights last for the lifetime of the creator plus at least 50 years after his death.[34] Rights protected by copyright accrue to the author automatically on affixation of a work, but can be transferred or assigned to someone else.[35] Moral rights protect the integrity and reputation of the creator of the protected work and include the right of attribution or paternity (that is the right of the creator to be acknowledged as the creator of the work) and the right of integrity (which is the right to object to any distortion, mutilation or other modification of or other derogatory action in relation to the said

[26] Shemdoe & Mhando op cit note 1 at 11.
[27] Mbeva op cit note 24 at 170. See also Shemdoe & Mhando op cit note 1 at 11.
[28] Article 9(2), TRIPS Agreement. See s 22(3) & (5), Copyright Act No. 12 of 2001.
[29] WIPO op cit note 14 at 18.
[30] S 30(1), Copyright Act No. 12 of 2001.
[31] Ibid, s 28(1).
[32] Ibid, s 29.
[33] WIPO (2017) op cit note 3 at 25.
[34] S 23(2), Copyright Act No. 12 of 2001.
[35] WIPO (2017) op cit note 3 at 25.

work which is prejudicial to his honour or reputation).[36] In many jurisdictions, moral rights cannot be transferred, and in some jurisdictions they last forever.[37] In Kenya, moral rights are not transmissible during the life of the author but the right to exercise moral rights can be transmitted by testamentary disposition or by operation of the law following the demise of the author.'[38]

Copyright protection incentivises authors, artists and creators thus contributing to increased investments in the creation, development and dissemination of works which in turn promotes access to and enjoyment of culture, knowledge and entertainment.[39] Ultimately, this stimulates economic and social development in a country. Moreover, protection is extended to performers of musical, dramatic or choreographic works because their creative intervention gives life or perpetuates those works.[40]

Copyright law may be potentially relevant to TEK. For example, cultural expressions such as dances, songs and proverbs may qualify for copyright protection because copyright law can protect works by unknown authors and works made by groups of authors.[41] Additionally, the recognition of the author's moral rights which vest indefinitely means that copyright can be used to protect components of TEK that embody moral rights indefinitely for the benefit of the communities. But copyright law may also be impractical in TEK protection. For instance, TEK is intergenerational, collective and dynamic meaning that it is hard to identify an author or creator in TEK to receive copyright protection.[42] Copyrights for TEK will not be effective as well as it would be difficult to enforce.[43]

[36] S 32(1), Copyright Act No. 12 of 2001.
[37] Chennells op cit note 15 at 215. See also WIPO (2017) op cit note 3 at 26.
[38] S 32(2), Copyright Act No. 12 of 2001.
[39] WIPO op cit note 14 at 20.
[40] WIPO (2017) op cit note 3 at 26.
[41] Ibid.
[42] Ibid.
[43] Shemdoe & Mhando op cit note 1 at 11.

(c) Trade marks[44]

Trade marks are distinctive marks or signs, registered in a state's trade mark office capable of distinguishing the goods or services of one undertaking from those of other undertakings.[45] The nature of the goods or services to which a trade mark is to be applied, cannot be an obstacle to the registration of a trade mark.[46] Although an action cannot be brought for infringement of unregistered trade marks under Kenyan law, the law does not 'affect rights of action against any person for passing off.'[47] A mark may consist of one or more words, letters, numbers, drawings, symbols, sounds, device, slogan, brand, signature, heading, ticket, fragrances, the shape and packaging of goods or a combination of two or more of these.[48] For a mark or sign to be protected as a trade mark it must meet some set criteria. First, it must meet the criteria of distinctiveness. That is to say, it must be capable of distinguishing the goods and/or services of one provider from those of other providers.[49] Second, it should not be generic, descriptive or deceptive in relation to the goods and/or services to which the mark is applied. This means that it must neither mislead nor deceive customers.[50] Third, it is also important that the mark applied for should not be identical or confusingly similar to other marks already granted to another trade mark owner.[51] The trade marks system helps 'consumers to identify and purchase a product or service based on whether it's specific characteristics and quality – as indicated by its unique trademark– meet their needs.'[52]

Generally, the registration of a person as the proprietor of a trade mark gives that person the exclusive right to use the mark to identify goods or services, or to authorise others to use them

[44] The use of the word Trade Mark, that is, two separate words, is the correct way of spelling the term in most of the English-speaking world, for example, in Kenya we have the Trade Marks Act (Chapter 506, Laws of Kenya). In USA and Philippines, the use of a single word, Trademark, is common although the American usage is gaining currency in UK and elsewhere. In Canada, the use of the hyphenated word, Trade-mark Act, is quite common. See generally, Is it Trade Mark, Trademark or Trade-mark? Available at http:// www.bb-ip.com/is-it-trade-mark-trademark-or-trade-mark/ accessed on 24 July 2017.

[45] Article 15(1), TRIPS Agreement. See s 2(1), Trade Marks Act Chapter 506, Laws of Kenya.

[46] Ibid, Article 15(4).

[47] S 5, Trade Marks Act Chapter 506, Laws of Kenya.

[48] Ibid, s 2(1).

[49] Ibid, s 12(2).

[50] Ibid, s 14. See also Article 15, TRIPS Agreement.

[51] S 15, Trade Marks Act Chapter 506, Laws of Kenya.

[52] Ibid, s 7. See also WIPO op cit note 14 at 8.

in return for payment.[53] The period of protection varies in different countries, but it usually lasts for 10 years and is renewable indefinitely on timely payment of the prescribed fees.[54]

There are different categories of trade marks including 'certification marks', 'collective marks', 'service marks' and 'authentication marks.'[55] Collective marks are owned by associations such as accountants, engineers or architects, to distinguish in the course of trade, goods or services of persons who are members of an association, from those of persons who are not members of such association.[56] Collective marks may be especially useful to TEK holders as they can be used to market products such as handicrafts or native crops that are produced using traditional methods.[57] Certification marks are granted to anyone to certify that their products or services meet certain standards in respect of origin, material, mode of manufacture, quality, accuracy or other characteristic from goods not so certified.[58] Examples of certification marks include the 'ISO 9000' quality standards and Ecolabels for products with reduced environmental impact. Another example of a collective mark is the 'Echuhuka' registered by the Turkana Bio Aloe Organisation (Tubae) on 25/09/2006; and Maasai/Masai registered on 25/08/2010 by the Maasai Community Trust to guarantee that the products are an authentic product of the Maasai/Masai people.[59] TEK holders might use certification marks for goods and/or services with certain distinctive qualities.[60] For example, in Taita Taveta in Kenya sisal baskets are produced according to a traditional art by local women who have formed the Taita Baskets Association, which is the proud owner of the collective trade mark 'TAITA BASKET.' This collective mark can be used by members of the Association to protect and promote their baskets.[61]

Additionally, an action in respect of unregistered trade marks may be brought by TEK holders' against anyone for passing off or for remedies such as damages or an account of profits; an order for the delivery up or the destruction of the infringing articles or products; or injunction.[62] However, and although trade marks may be useful in protecting expressions of TK like handicrafts

[53] Article 16(1), TRIPS Agreement. See s 7(1), Trade Marks Act Chapter 506, Laws of Kenya.
[54] Article 18, TRIPS Agreement. See s 23(1), Trade Marks Act Chapter 506, Laws of Kenya.
[55] Chennells op cit note 15 at 215.
[56] S 40A(1), Trade Marks Act, Chapter 506, Laws of Kenya.
[57] WIPO (2017) op cit note 3 at 42.
[58] S 40 (1), Trade Marks Act, Chapter 506, Laws of Kenya. See also WIPO op cit note 14 at 10.
[59] Interview with a senior Patent Examiner at KIPI, at Nairobi on 11/06/2018.
[60] WIPO (2017) op cit note 3 at 42.
[61] Ibid at 43.
[62] S 5, Trade Marks Act, Chapter 506, Laws of Kenya.

as explained above, and in identifying goods as originating from particular farming communities,[63] they may not be very effective in protecting the knowledge itself[64] owing to *inter alia* its holistic nature, 'ownership' contestations among communities and intergenerational character. Additionally, knowledge itself is not the object of IP protection according to Article 15 of TRIPS.

(d) Geographical indications (GIs)

A GI is basically a sign placed on goods from a specific geographical origin and where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.[65] It guarantees to consumers that a product was produced in a certain place and that its characteristics are due to that place of production. In most cases, a geographical indication consists of the name of the place of origin of the goods. It is commonly used for agricultural products because such products have qualities that are largely derived from their place of production and are influenced by specific local geographical factors, such as climate and soil.[66] But the use of GIs is not limited to agricultural products as they can also be used to highlight specific qualities of a product that are due to 'human factors found in the product's place of origin, such as specific manufacturing skills and traditions.'[67] This suggests that GIs can be used to protect TEK holder's products such as handicrafts.

Whereas the structure of GIs makes them particularly suited to TEK because they recognise collective rights and involve authenticity,[68] the existing IP system affords strong GI protection for wines and spirits (mostly from developed world) compared to products originating from developing countries. Perhaps this is because GIs are 'considered to be where much of the wealth of poor people lies: in local production methods and cultural goods…'[69] Another limitation with

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[63] Hans Morten Haugen 'Traditional Knowledge and Human Rights' (2005) 8 *Journal of World Intellectual Property,* at 670.

[64] Shemdoe & Mhando op cit note 1 at 11.

[65] Article 22(1), TRIPS Agreement. See s 40A(5), Trade Marks Act Chapter 506, Laws of Kenya.

[66] WIPO op cit note 14 at 15. See also s 40A(1) & 5, Trade Marks Act, Chapter 506, Laws of Kenya which provides for the registration of geographical names or other indications of geographical origin as collective trade marks or service marks.

[67] WIPO op cit note 14 at 15-16.

[68] Madhavi Sunder 'The Invention of Traditional Knowledge' (2007) 70 *Law and Contemporary Problems*, 97-124 at 115. See also Munzer & Raustiala op cit note 11 at 47 ('Geographical indications ("GIs") are somewhat closer to TK in this respect, because both involve authenticity and groups-for example, the winemakers of Champagne and the South Asian users of neem oil.').

[69] Sunder op cit note 68 at 113.

GIs is that they may only be useful in protecting the product but not the underlying TEK.[70] Moreover, if not adequately protected, GIs can be misrepresented by commercial operators to the detriment of consumers and legitimate producers. Consumers can be deceived into believing they are buying a genuine product with specific qualities and characteristics, while legitimate producers may be deprived of valuable business and suffer damage to the established reputation of their products.[71]

(e) Trade secret/confidential information

Trade secrets includes technical know-how like formulas, manufacturing processes and other technical knowledge resulting from experience and intellectual talent.[72] Trade secret protection normally allows a holder of confidential information to prevent others from disclosing, acquiring or using the information without his consent and in a manner contrary to honest commercial practices.[73] Confidential information is protected using either unfair competition or confidential information laws. For protection to apply, the information must be kept secret or disclosed in confidence only to those who need to know it for its normal use; reasonable measures must be taken to preserve such secrecy; and the information must have commercial value.[74] Trade secret protection continues indefinitely as long as the three conditions are met. Moreover, the confidential information does not need to be registered at any government office to be protected.[75]

Laws dealing with confidential information/trade secrets hold important possibilities in the protection of TEK. Protection of trade secrets could be relevant to TEK holders' as part of '...the right to keep their cultural heritage secret whenever they so wish'[76] in spite of the restrictions that TEK holders' might encounter in protecting collective rights within an individual liberal rights

[70] Shemdoe & Mhando op cit note 1 at 11.
[71] WIPO op cit note 14 at 16.
[72] WIPO (2017) op cit note 3 at 62.
[73] Article 39(2), TRIPS Agreement. See s 21(5), Trade Descriptions Act Chapter 505, Laws of Kenya and s 20 (10), Competition Act, No. 12 of 2010.
[74] Ibid. See also Haugen op cit note 63 at 672.
[75] WIPO (2017) op cit note 3 at 60.
[76] See Article 11, United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) G.A. Res 61/295, UN. Doc. A/61/295 (2007). See also Art. 15 (1), International Covenant on Economic, Social and Cultural Rights (ICESCR) Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966.

framework[77] as discussed in chapter four. For example, the Pitjantjatjara Council of Australia was able to use trade secret law to prevent the sale of a book entitled *Nomads of the Desert* written by anthropologist Charles Mountford which contained significant and secret ceremonial information of the Pitjantjatjara people. According to the Pitjantjatjara Council, the information concerning religious and sacred matters had been given to Mountford in confidence. The court granted an injunction preventing the sale of the book in Western Australia.[78] However, since TEK has not been documented and thus exists as a 'family secret', there is a likelihood that it may leak into the public domain and the leakage cannot be effectively prevented unlike trade secrets in the corporate sector.[79]

(f) Plant Breeders Rights (PBRs)/Plant variety protection (PVP)

PBRs are rights granted by the state to persons or institutions as a form of recognition and economic reward for their efforts and investments in the development of new varieties of plants, for a limited period of time.[80] PBRs are akin to patents as they allow the owner to have exclusive rights to exploit the variety and prevent unauthorised use by others of the variety. A plant variety is new if it is distinguishable from other varieties (by reason of one or more identifiable characteristics), stable (in its essential characteristics after repeated reproduction or propagation) and uniform (having regard to its particular features of sexual reproduction or vegetative propagation).[81] A protected variety, therefore, is one for which PBRs have been granted to the owner. There have been different forms of PBRs protection under different laws.

The International Convention for the Protection of New Varieties of Plants (UPOV 1991), offers PBRs protection similar to the one available to patents and is thus likely to facilitate the misappropriation of germplasm and plant varieties bred by traditional farmers using TEK.[82] The

[77] Karen Engle 'On Fragile Architecture: The UN Declaration on the Rights of Indigenous Peoples in the Context of Human Rights' (2011) 22 *The European Journal of International Law* 141-163 at 148-150.

[78] Jane Anderson *Indigenous/Traditional Knowledge & Intellectual Property* (2010) at 21-22.

[79] Shemdoe & Mhando op cit note 1 at 11. See also Tong LA, 'Protecting Traditional Knowledge – Does Secrecy offer a Solution' 2010(13)4 *PER / PELJ* 159-180.

[80] Article 28, African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources, (2000).

[81] See Articles 5, 6, 7, 8 & 9, International Convention for the Protection of New Varieties of Plants as Revised at Geneva on March 19, 1991. See also Part 2 of Fourth Schedule to the Seed and Plant Varieties Act, Chapter 326, Laws of Kenya.

[82] Tauli-Corpuz op cit note 4 at 31.

proliferation of PBRs regimes means that traditional farmers' rights to sow, save, re-use and sell their seeds are likely to be eroded and extinguished[83] yet developed countries continue to push developing countries to adopt UPOV l991 as an appropriate *sui generis* system. For example, the TRIPS Agreement requires member states to protect plant varieties using patents or through the creation of a *sui generis* system or any combination of the two.[84] PBRs is the envisaged *sui generis* system under TRIPS.

But under the 1978 International Convention for the Protection of New Varieties of Plants (UPOV 1978), farmers had the 'privilege' of using seeds derived from a first crop and to plant a second crop without paying commercial breeders a second time. The 1991 UPOV Convention theoretically abolishes this privilege by extending PBR to all uses, although it does allow member States to limit PBR in their national legislation. The African Group, has maintained that regardless of the system that is adopted for protecting plant varieties, 'non-commercial use of plant varieties, and the system of seed saving and exchange as well as selling among farmers, are rights and exceptions that should be ensured as matters of important public policy to, *inter alia*, ensure food security and preserve the integrity of rural or local communities.'[85] Nonetheless, the legitimate rights of commercial plant breeders ought to be balanced against the needs of farmers and local communities to continue innovating and developing new plant varieties and enhancing biological diversity.[86]

(g) TEK registers and databases

As a means of defensive protection of TEK, there are proposals for a centralised international database on TEK. TEK registries and databases are developed for a myriad of reasons. Some have been developed by libraries, anthropologists, and as documentary and archival sites for indigenous peoples themselves. Others are used to record and document TEK to minimise its use by others

[83] Center for International Environmental Law (CIEL) 'A Citizens Guide to WIPO' (2007) at 3.

[84] Article 27.3(b) of TRIPS. See the Seeds and Plant Varieties Act Chapter 326, Laws of Kenya.

[85] See Draft 'Decision on Traditional Knowledge' contained in WTO document IP/C/W/404 'Taking Forward the Review of Article 27.3(b) of the TRIPS Agreement, Joint Communication from the African Group' (2003) at 3.

[86] Ibid. See also Chidi Oguamanam 'Breeding Apples for Oranges: Africa's Misplaced Priority Over Plant Breeders Rights' (2015) 18(5) *The Journal of World Intellectual Property* 165-195; HM Haugen 'Inappropriate Processes and Unbalanced Outcomes: Plant Variety Protection in Africa Goes Beyond UPOV 1991 Requirements' (2015) 18(5) *The Journal of World Intellectual Property* 196-216; Bram de Jonge 'Plant variety protection in Sub-Saharan Africa: balancing commercial and smallholder farmers' interests' (2014) 7(3) *Journal of Politics and Law* 100-111.

without acknowledgment.[87] Documentation of TEK in databases is also useful in assisting in patent searches and examinations for novelty and inventive step, and can aid in stopping the grant of IP rights for TEK that is in the public domain.[88]

However, databases present some difficulties in protecting TEK. First, collecting TK and storing it in databases that TEK holders have no control over or access to, diminishes their involvement on how their TEK is used.[89] Second, TEK databases, registries and libraries facilitate greater access to TEK by outsiders without directly dealing or negotiating with the community.[90] Third, if TEK is to be documented, it is crucially important that it is done with the relevant people's prior and informed consent. [91] This follows from the fundamental right to self-determination which requires TEK holders to decide whether or not to document their TEK and if so, in accordance with their respective needs and objectives.[92] Fourth, there are concerns over ownership that arise, in terms of ownership of the database (as a whole), legal ownership of the documented TEK, the duration of protection and what happens if there are inter-community disputes over who the rightful owners or custodians are.[93] Fifth, since databases operate squarely within the IP paradigm, there is the danger of documented TEK eventually getting into the public domain for anyone to use.[94] Anderson notes that with documentation of TK, there is a further problem of 'de-contextualizing knowledge and knowledge practices from the locales that actually make it meaningful' and loss of salient dimensions of TK. She cautions that,

> 'It is also worth being mindful of re-creating colonizing paradigms of knowledge control through these recording processes. For instance, where will the databases be located? Will indigenous peoples be able to access them easily? Who does the recording? What kind of literacy support (digital and other) is provided to the participating communities?'[95]

However, it is noteworthy that TEK holders may be open to having community registers documenting their TK only if they are involved in establishing and controlling the databases and

[87] Anderson op cit note 78 at 30.
[88] Documentation may however undermine the unique spiritual and cultural value of TK which may even endanger the survival of a community.
[89] Tauli-Corpuz op cit note 4 at 19.
[90] Anderson op cit note 78 at 30-31.
[91] Tauli Corpuz op cit note 4 at 20.
[92] Ibid.
[93] Anderson op cit note 78 at 30-31.
[94] Ibid at 31.
[95] Ibid.

designate a competent authority to continually carry out this exercise.[96] But Berglund aptly notes that:

> 'By voluntarily placing information in community registers indigenous communities also forgo the possibility of receiving compensation for that knowledge. Open-access databases should only be used for TK which is already in the public domain or for which prior informed consent has been obtained. Insight as to how to obtain compensation for TK in the public domain may be gained from systems of domaine public payant whereby royalties are paid for the use of artistic or musical works in the public domain. To avoid this issue of non-compensation, confidential registers have been proposed.'[97]

But because the collection and documentation of TEK is incomplete and still an ongoing process, it may not amount to an effective international mechanism for stopping the misappropriation of TEK and related resources. For instance, in applying the test of prior art, some domestic laws may not recognise certain (unwritten) forms of TEK making it far too costly for local communities and developing countries to seek remedies in foreign courts suggesting that international solutions are needed quite urgently given the ongoing nature of the problem.[98]

3.2 *SUI GENERIS* FRAMEWORKS

The expression *'sui generis'* means 'unique, or of its own kind' and entails the use of a combination of different tools, mechanisms and procedures in protecting TK.[99] *Sui generis* approaches employ, *inter alia*, aspects of existing IP regimes, and wholly *sui generis* frameworks[100] such as the recognition and use of customary laws[101] and TJS as proposed in this study. Some of the instruments that are examples of *sui generis* systems include: the International Treaty on Plant Genetic Resources, the CBD, the 1978 Act of the Convention of UPOV, and the African Model Legislation on the Protection of the Rights of Local Communities, Farmers and Breeders and the

[96] See Draft decision op cit note 85 at 8.
[97] Marko Berglund 'The Protection of Traditional Knowledge Related to Genetic Resources: The case for a modified patent application procedure' (2005) 2(2) *SCRIPT-ed* 206-222 at 213.
[98] See Draft decision op cit note 85 at 4-5.
[99] WIPO op cit note 8.
[100] Ibid.
[101] Twarog op cit note 10 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. See also 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 551.

Regulation of Access to Biological Resources.[102] The African Model Law is a good example of a regional *sui generis* system as it provides appropriate and effective protection for the rights and TK of farmers, in a manner that suits the African circumstances. The South African Protection, Promotion, Development and Management of Indigenous Knowledge Systems Act (approved by Parliament and awaiting presidential assent) and the Kenyan law on the Protection of Traditional Knowledge and Cultural Expressions Act of 2016[103] are other examples of *sui generis* systems modelled along the IP framework.

An advantage of *sui generis* legislation is that it need not resemble any current law or IP framework thus offering TEK holders a good opportunity for participation and flexibility in developing frameworks that govern the control, use and sharing of TEK.[104] As a consequence, Tobin and Swiderska have remarked that:

> 'The role of a *sui-generis* regime could therefore be to establish a bridge between indigenous/local community and national and international legal systems, in order to secure the effective recognition and protection of rights which derive from customary law and practice.'[105]

Be that as it may, there are ongoing debates about how to develop *sui generis* frameworks. For instance, it is contended that a *sui generis* system within the IP framework could result in new intangible property rights not appropriate to TK and that may exclude anyone who is not a right holder from using the knowledge without consent.[106] Such a *sui generis* right could also include perpetual protection which may hinder access to the knowledge and other affordable knowledge goods for developing nations and local and indigenous peoples.[107] It may therefore not adequately guarantee the protection of TEK and facilitate fair and equitable access and benefit sharing.[108]

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[102] See Draft decision op cit note 85 at 2-3.

[103] Act No. 33 of 2016.

[104] Anderson op cit note 78 at 34.

[105] Brendan Tobin & Krysyna Swiderska, Speaking in Tongues: Indigenous Participation in the Development of a Sui-Generis Regime to Protect Traditional Knowledge in Peru (2001) International Institute for Environment and Development (IIED) at 47.

[106] Janewa op cit note 21 at 155. See also Anderson op cit note 78 at 34.

[107] Janewa at 151, 192.

[108] It is noteworthy that on-going negotiations at the World Intellectual Property Organisation (WIPO) Intergovernmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore (IGC) since 2001 have already recognised the importance of respecting and recognising customary law in the protection and regulation of TK, genetic resources and traditional cultural expressions. Central to the IGC deliberations is the role of customary law and traditional institutions in the protection and regulation of access to and use of genetic resources and TK. See also Andanda op cit note 101 at 556.

TEK holders therefore contend that governments and international bodies need not create any new *sui generis* laws to protect TEK but recognise customary laws and systems as appropriate ways of safeguarding, preserving and protecting their knowledge.[109] This explains the focus of this study in advocating for TJS frameworks in the protection of TEK.

There is also the concern as to whether it is appropriate for international agencies to assist states in the development of *sui generis* legislation or whether each country should take responsibility for the development of a *sui generis* approach that is suited to its circumstances.[110] Other concerns such as the difficulty of identifying owners/custodians, the diversity of subject matter, the applicability, enforceability and transferability of *sui-generis* legislation across diverse cultural contexts raise challenges that may affect the approaches to be taken.[111]

3.3 GLOBAL IP EFFORTS IN THE PROTECTION OF TEK

This part discusses the main frameworks dealing with IP at the international level including those touching on plant varieties and TK. Such a discussion offers a good basis for assessing the effectiveness of international instruments in TK protection.

3.3.1 International IP instruments

The architecture of international IP law comprises of a plethora of multilateral agreements, conventions and bilateral arrangements. Some of the notable ones are the Paris Convention for the Protection of Industrial Property (l883), Berne Convention for the Protection of Literary and Artistic Works (1886), UPOV, the Patent Cooperation Treaty, and TRIPS. A common thread running across most international IP instruments is the prominence given to conventional IP with little emphasis on TEK. Nevertheless, the study discusses their main provisions highlighting areas that may be relevant to TEK protection.

3.3.1.1 Paris Convention for the Protection of Industrial Property (1883)

The Convention defines the scope of industrial property broadly such that it applies not only to industry and commerce proper but also to 'agricultural and extractive industries and to all manufactured or natural products...'[112] Its scope therefore extends to IP tools such as patents, utility

[109] Tauli-Corpuz op cit note 4 at 20-21.
[110] Anderson op cit note 78 at 35.
[111] Ibid.
[112] Article 1 (3), Paris Convention for the Protection of Industrial Property (1883).

models, trade marks, industrial designs, geographical indications and trade secrets,[113] which as explained above may possibly be used to protect TEK albeit with some technical challenges. For example, formulations of traditional medicines that show synergistic or new effects, extracts from plants and animals, process technologies, agricultural and industrial tools, plant varieties, nutritional formulations and ecological managements systems, have been successfully patented under the existing IP system.[114] The Convention also allows for the protection of collective marks belonging to associations the existence of which is not contrary to the law of the country of origin, even if such associations do not possess an industrial or commercial establishment[115] again suggesting they may be useful to TEK.

3.3.1.2 Berne Convention for the Protection of Literary and Artistic Works (1886)

The Berne Convention is the oldest international copyright treaty providing a high level of protection to authors in their literary and artistic works.[116] It protects both the economic and moral rights of the author.[117] The term of protection granted is 'the life of the author and fifty years after his death'[118] Although it does not mention TK in its provisions, Article 15(4) seems to leave to the discretion of each member country how (if at all) to protect TCEs. Article 15(4) stipulates that,

> 'In the case of unpublished works where the identity of the author is unknown, but where there is every ground to presume that he is a national of a country of the Union, it shall be a matter for legislation in that country to designate the competent authority which shall represent the author and shall be entitled to protect and enforce his rights in the countries of the Union.'

However, Article 15(4) as well as the other provisions of this Convention seems to apply to works by individual authors and not communal works such as folklore explaining their unsuitability in protecting TEK.

3.3.1.3 International Convention for the Protection of New Varieties of Plants (UPOV)

UPOV was signed in 2 December 1961 and came into force in 1968. It has since been amended three times in 1972, 1978 and 1991. Membership to the 1972 and 1978 Acts has been closed and

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[113] Ibid, Article 1(2).
[114] Emmanuel KA Sackey & Ossy MJ Kasilo 'Intellectual Property Approaches to the Protection of Traditional Knowledge in the African Region' (2010) 14 *The African Health Monitor* at 96-97.
[115] Article 7*bis*, Paris Convention for the Protection of Industrial Property (1883).
[116] Article 1 & 9, Berne Convention (1886).
[117] Ibid, Article 6*bis*.
[118] Ibid, Article 7(1).

any country wishing to join UPOV can do so through the 1991 Act only.[119] The 1978 and 1991 Acts are the main operating Acts. The objective of the UPOV conventions is to grant and protect breeders' rights.[120] Essentially, UPOV 'acknowledges inventions by plant breeders and rewards them with exclusive rights over new plant varieties.'[121] As mentioned earlier in this chapter, such plant variety protection is in many ways similar to patent protection.

Under the 1978 Act, the prior authorisation of the breeder is needed for the 'production for purposes of commercial marketing, the offering for sale, and the marketing of the reproductive or vegetative propagating material' of the variety.[122] Prior authorisation is however not needed from the plant breeder if the variety is to be used as an 'initial source of variation for the purpose of creating other varieties or for the marketing of such varieties.'[123] But the 1991 Act widens the scope of protection of breeders' rights by broadening the range of activities (to include production or reproduction and conditioning for the purpose of propagation) that require the authorisation of the plant breeder.[124] Under the 1978 Act, farmers have the right to save seeds or reproductive material of a protected variety for replanting while under the 1991 Act, farmers have a privilege which may be granted by contracting parties 'within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder.'[125] The net effect of the 1991 Act is that it significantly ignores farmers' contribution and wealth of knowledge in saving seeds and other propagative material that contributes to biodiversity conservation.

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

The TRIPS Agreement is the most comprehensive multilateral agreement on IP negotiated under the auspices of the World Trade Organization (WTO). It came into effect on 1 January 1995 and sets minimum standards for countries to adopt in the protection and enforcement of IPRs.[126] TRIPS recognises that IPRs are 'private rights'[127] and extends its scope of protection to copyrights,

[119] Lois Muraguri, Richard Boardi & Moni Wekesa 'IPRs, Agriculture and Food Security' in Moni Wekesa *et al* (eds) *Intellectual Property Rights in Kenya* (2009) at 53.
[120] See Article 2, UPOV 1991. See also Article 1(1), UPOV 1978.
[121] Muraguri *et al* op cit note 119 at 53.
[122] Article 5(1), UPOV 1978.
[123] Ibid, Article 5(3).
[124] Article 14(1), UPOV 1991.
[125] Ibid, Article 15(2).
[126] Article 1(1), TRIPS Agreement.
[127] Preamble, TRIPS Agreement. See also Anderson op cit note 78 at 39.

trademarks, geographical indications, industrial designs, patents (including the protection of plant varieties), layout-designs of integrated circuits and trade secrets.[128] Thus, it neither addresses TK protection nor the misappropriation of TK and genetic resources.[129]

One of the controversial provision in TRIPS is Article 27 which declares that patents are available for 'any inventions, whether products or processes in all fields of technology'[130] subject to the patentability criteria highlighted earlier in this chapter. Whilst in the past, patents were restricted to the protection of industrial and mechanical processes and products, Article 27.3(b) seems to allow the patenting of life-forms and life-processes. The use of the term 'may' suggests that TRIPS does not prohibit patent protection for plants, animals, micro-organisms, non-biological and microbiological processes.[131] It also urges state parties to protect plant varieties either by patents or by an effective *sui generis* system or by any combination thereof.[132] The TRIPS Agreement does not interpret what amounts to an '*effective sui generis system*' leaving many to suggest that it would have to conform to the patent-like standards prescribed under the UPOV conventions.[133]

Patenting of life-forms and processes facilitates loss of TK and genetic resources because third parties (corporations, researchers, governments) can make patent claims on genetic materials of plants, animals or microorganisms, based on TK of indigenous peoples.[134] As discussed in chapter one, this has happened in Kenya with the collection of *Maytenus buchananii* plant from the Shimba Hills of Kenya in 1970s and the extremophiles that naturally occur in the hot water springs of Rift Valley lakes. Other examples of patents granted on plant, animal and human genetic materials and processing techniques include the *hoodia* plant of the San peoples in the Kalahari Desert;[135] *ayahuasca, sangre de drago, quinoa, maca*, among others, of the indigenous peoples of

[128] Article 1(2) and section 1-7 of Part II, TRIPS Agreement.
[129] R.V. Anuradha 'IPRs: Implications for Biodiversity and Local and Indigenous Communities' (2001) 10 *RECIEL*, 27-36 at 28.
[130] Article 27(1), TRIPS Agreement.
[131] Ibid, Article 27(3) (b).
[132] Ibid, Article 27(3) (b).
[133] Anuradha op cit note 129 at 31. See also Muraguri *et al* op cit note 119 at 55-56.
[134] Anuradha op cit note 129 at 28-29. See also Tauli-Corpuz op cit note 4 at 25.
[135] Chennells op cit 15.

Central and South America;[136] and neem, turmeric, basmati rice, jasmine rice, bitter melon, *kava*, *nonu*, etc., from Asia and the Pacific.[137]

As a result, the African Group has made comprehensive proposals for the review of Article 27.3(b) to prohibit patents on plants, animals, micro-organisms, essentially biological processes for the production of plants or animals. They have also reiterated that 'the distinction drawn in Article 27.3(b) for micro-organisms, and for non-biological and microbiological processes for the production of plants or animals, is artificial and unwarranted, and should be removed from the TRIPS Agreement, so that exception from patentability in paragraph 3(b) covers plants, animals, and micro-organisms, as well as essentially biological processes and non-biological and micro-biological processes for the production of plants or animals.'[138] While African countries have proposed an amendment to Article 27.3(b) so as to oblige all Members to make life forms and parts thereof non-patentable, India has suggested that if that is not possible, patents based on TK and that are inconsistent with Article 15 of the CBD should not be granted protection.[139] Additionally, the African Group has proposed that with respect to the protection of plant varieties, a balance ought to be struck between community interests and the protection of farmers' rights and TK and ensuring the preservation of biological diversity.[140] Such a proposal is welcome in view of the interrelationship between farmers' rights, TK and conservation of biodiversity.

The African Group has also suggested an amendment to Article 29 to include *inter alia* disclosure of the community of origin of the genetic resources and TK, and evidence of compliance with all access regulations in the country of origin.[141] This requirement would stop the grant of 'bad' patents obtained without prior informed consent of communities and fair and equitable benefit sharing. Requiring patent applicants to enter into contracts with the rightful holder of

[136] The International Cancun Declaration of Indigenous Peoples adopted at the 5th WTO Ministerial Conference, Cancun, Mexico (2003) available at http://www.ienearth.org/the-international-cancun-declaration-of-indigenous-peoples/ accessed on 28 September 2017.

[137] Tauli-Corpuz op cit note 4 at at 26; Anuradha op cit note 129 at 34-35; Saipriya Balasubramanian 'Traditional Knowledge And Patent Issues: An Overview Of Turmeric, Basmati, Neem Cases' available at http://www.mondaq.com/india/x/586384/Patent/Traditional+Knowledge+And+Patent+Issues+An+Overview+Of+Turmeric+Basmati+Neem+Cases, accessed on 28 September 2017.

[138] See Draft decision op cit note 85 at 4.

[139] WTO, The Relationship Between the Trips Agreement and the Convention on Biological Diversity, 8 February 2006, IP/C/W/368/Rev.1 at 8.

[140] Ibid.

[141] Draft decision op cit note 85 at 6.

genetic resources or TK or establishing databases that patent examiners can use to avoid granting 'bad' patents[142] could also ameliorate the problems posed by Article 27. Contracts however pose numerous challenges including the unequal bargaining power, difficulty in determining the rightful holders of TK or representatives to enter into the contracts, as mentioned in chapter one.

3.3.2 International IP institutions

There are a number of international institutions that play a quintessential role in IP promotion and protection. Some of these institutions have in the recent past broadened their mandate to include TK. Moreover, there are others that do not deal with IP but whose work extends to TK and IP. The ensuing part discusses some of these institutions with a view of assessing the extent to which they are effective in TK protection.

3.3.2.1 The World Intellectual Property Organization (WIPO)

WIPO is an intergovernmental organisation established in 1967 by the WIPO Convention.[143] It is one of the key institution that administers IP treaties.[144] In 1974, it became one of the United Nations (UN) agency responsible for taking appropriate action in 'promoting creative intellectual activity and for facilitating the transfer of technology related to industrial property to the developing countries in order to accelerate economic, social and cultural development.'[145] Currently, it has 189 member states, and administers 26 international treaties making it a global forum for IP services, policy, information and cooperation.[146] Its objectives are *inter alia* to promote the protection of IP throughout the world through cooperation among States and where appropriate in collaboration with any other international organization and 'ensure administrative cooperation among the Unions.'[147] Its mission is to develop 'a balanced and effective international

[142] Berglund op cit note 97 at 209-211. See also Draft decision op cit note 85 at 7.

[143] Article 1, Convention Establishing the World Intellectual Property Organization **(**Signed at Stockholm on July 14, 1967 and as amended on September 28, 1979) (hereinafter 'WIPO Convention').

[144] These treaties include the Paris Convention for the Protection of Industrial Property (l883), Berne Convention for the Protection of Literary and Artistic Works (1886), the International Union for the Protection of New Varieties of Plants (UPOV) and the Patent Cooperation Treaty.

[145] Article 1, Agreement between the United Nations and the World Intellectual Property Organization, available at http://www.wipo.int/treaties/en/agreement/index.html, accessed on 22 July 2017.

[146] Available at http://www.wipo.int/about-wipo/en/, accessed on 22 July 2017.

[147] Article 3, WIPO Convention.

intellectual property (IP) system that enables innovation and creativity for the benefit of all'[148] suggesting that it is to work for everyone including those who hold TEK.

WIPO is mainly responsible for: encouraging the conclusion of international treaties; administering such treaties and other systems of global IP protection; and offering legal-technical assistance and training. It also assembles and disseminates information concerning the protection of IP, carry out and promote studies in IP, and publish the results of such studies.[149] It also provides administrative and financial services to UPOV. But historically, it has emphasised and focused on the promotion of efficient protection of IP and harmonisation of IP laws throughout the world.[150] Thus, its mandate is not explicit when it comes to TEK. For example, WIPO's patent agenda, through the work of the Standing Committee on the Law of Patents (SCP),[151] aims at increasing the ease of getting patents including on plants and plant varieties which may be detrimental to TEK holders as earlier explained.

However, increased privatisation and misappropriation of TK, folklore and germplasm provided impetus for the formation of the IGC in 2000.[152] These issues were seen as cutting across the conventional branches of IP law (Patent, Copyright and Trademarks) and therefore did not fit into existing WIPO bodies. IGC is charged with the mandate of negotiating a text-based instrument(s) for the protection of TK, genetic resources and folklore, and is thus expected to provide concrete outputs to address concerns about gaps in the existing IP system.[153] IGC is seen as a forum for addressing IP issues concerning access, benefit-sharing and protection of TK, genetic resources and folklore. Developing countries, indigenous peoples and civil society have since been pushing for recognition of the rights of indigenous and local communities' to their knowledge and for alterations to the international IP system to accommodate their concerns and rights.[154] They have also highlighted the need to ensure that WIPO's norms are coherent with the

[148] Available at http://www.wipo.int/about-wipo/en/ accessed on 24 July 2017.
[149] Article 4, WIPO Convention.
[150] Ibid.
[151] Standing Committee on the Law of Patents (SCP) available at http://www.wipo.int/policy/en/scp/ accessed on 24 July 2017.
[152] CIEL op cit note 83 at 4.
[153] Ibid at 23.
[154] Ibid at 4.

provisions of the CBD regarding Access and Benefit Sharing, the rights of TEK holders, and the conservation of *in situ* biological diversity.[155]

Whereas the participation of indigenous groups and NGO's is particularly significant in the IGC process, and the number of NGOs accredited to the IGC as *ad hoc* observers has increased,[156] their attendance at IGC forums is hampered by financial challenges. Developing countries have also increasingly expressed concern about the lack of progress and called for a more focused and result-oriented debate.[157] Moreover, it is claimed that the IGC is being used by developed countries as a dumping ground for difficult issues (such as the protection of TK from misappropriation) that have been legitimately raised in other fora such as the WTO.[158] For, example, some countries have responded to proposals on 'disclosure of origin' of genetic resources at the WTO by arguing that these issues are under discussion at WIPO and should not therefore be raised at WTO.[159] Simultaneously, it is argued that developed states are slowing progress on these issues at WIPO.[160] Considering that misappropriation of genetic resources and TK continues unabated and enactment of a treaty setting minimum standards for TK protection remains a mirage,[161] such delays are a major source of concern to TEK holders.

Even with a higher visibility and greater participation of TK holders at the IGC, WIPO is still viewed as the inappropriate forum to develop any policy recommendation to safeguard TK holder's rights.[162] This is because of its inherent limitations in terms of mandate and the IP philosophy it promotes and administers which conflicts with TK holders' worldviews and values.[163]

Universalisation of IPRs is boosted by the combination of WIPO's resources and WTO's power to impose sanctions on its members if they fail to adhere to the Agreements they sign on

[155] Ibid.
[156] Ibid at 24.
[157] Ibid.
[158] See Draft decision op cit note 85 at 5.
[159] Harriet Deacon 'Transboundary knowledge and regional cooperation in the protection of Traditional Knowledge in Kenya' (2017) *Journal of Intellectual Property Law & Practice*, 1-10, at 2.
[160] CIEL op cit note 83 at 24.
[161] Deacon op cit note 159 at 3. See also Draft decision op cit note 85 at 5.
[162] Tauli-Corpuz op cit note 4 at 16.
[163] Ibid.

to.[164] Tying IP issues (WIPO) and trade (WTO) contributes to rapid expansion and growth of IP regimes which benefits the global North.[165] For developing states, protecting TK is not a 'trade' issue solely but largely a nationalist or populist agenda that seeks to reclaim 'national' or 'indigenous' assets so that they can benefit communities at the national level[166] as demonstrated in this study in its use of Westra's tripartite model of cultural, self-determination and ecological integrity.

Further, the desegregation of TK holder's issues into discrete rights to be handled by different international intergovernmental bodies is creating multiple problems for indigenous peoples.[167] While WIPO maintains that its mandate is to promote and protect IPRs and not human rights, CBD's mandate is the conservation and sustainable use, and equitable sharing of biological diversity and that human rights issues such as land rights and self-determination should be handled by the UN Commission on Human Rights.[168] However, and as this study seeks to demonstrate, TEK holder's interests show a link between TEK, biodiversity and the right to self-determination.

3.3.2.2 WTO

WTO is a global international organisation established by the Marrakesh Agreement to deal with the rules of trade between nations.[169] Currently, it has a membership of 164 states with a significant number being from the African region.[170] At its heart are the WTO agreements, which are negotiated and signed by the bulk of the world's trading nations to provide the ground-rules for

[164] WIPO op cit note 14 at 23. Unlike many intergovernmental organizations, WIPO is largely self-financed, generating more than 90% of its annual budget through its global registration and filing systems, publications and arbitration and mediation services. Contributions from Member States are small in terms of WIPO's annual budget and are not a significant figure in terms of WIPO's overall income.

[165] Deacon op cit note 159 at 3.

[166] Ibid.

[167] Tauli-Corpuz op cit note 4 at 14.

[168] Ibid at 14-15.

[169] Article II (1), Marrakesh Agreement Establishing the World Trade Organization, available at https://www.wto.org/english/docs_e/legal_e/04-wto_e.htm, accessed on 01 August 2017 (hereinafter 'Marrakesh Agreement').

[170] WTO available at https://www.wto.org/english/thewto_e/countries_e/org6_map_e.htm, accessed on 01 August 2017.

international commerce.[171] WTO agreements are essentially contracts, binding governments to keep their trade policies within agreed limits.[172] One such agreement is the TRIPS agreement.

As mentioned earlier, universalisation of IPRs is a major source of concern for TEK holders'[173] especially where it seeks to promote the commercial interests of developed countries.[174] Linking IP and trade issues under WTO suggests that existing laws and policies on 'indigenous peoples' rights in developing countries may be considered trade distortive if not consistent with TRIPS and other WTO Agreements.[175] And if a country is in breach of its TRIPS obligations, the WTO dispute settlement procedure kicks in whose outcome includes trade sanctions or cross-retaliatory measures such as the exclusion of a country's exports.[176] It is claimed that it is for this reason that developed countries chose WTO rather than WIPO as the appropriate organ for globalising IP issues.[177] WTO cannot therefore be an ideal forum for dealing with TEK or advocating for the rights of TEK holders.

3.4 PROTECTION OF TEK WITHIN THE AFRICAN REGION

Several international treaties[178] support the creation of regional IP systems. In Africa, IP systems are a significant part of the building blocks of the African Union (AU).[179] IP frameworks have a role in the achievement of the objectives of the AU which include the promotion of sustainable development at the economic, social and cultural levels; establishment of the necessary conditions to enable Africa play its rightful role in the global economy and in international negotiations;

[171] See Annexes 1, 2, 3 & 4, Marrakesh Agreement.

[172] See WTO Agreements, available at https://www.wto.org/english/docs_e/legal_e/ursum_e.htm#Agreement, accessed on 28 July 2017.

[173] Tauli-Corpuz op cit note 4 at 23.

[174] Ibid.

[175] Ibid at 24.

[176] Linda M. Opati 'Intellectual Property Rights in Health-Impact on Access to Drugs' in Moni Wekesa *et al* (eds) *Intellectual Property Rights in Kenya* (2009) at 21.

[177] Ibid.

[178] See for example Article 4(iv) of the WIPO Convention; Article 20 of the Berne Convention; Article 22 of the Rome Convention; Article xx of the Universal Copyright Convention; Article 14 of the Lisbon Agreement for the Protection of Appellations of Origins and their International Registration (the Lisbon Agreement); Article 3(1) of the Patent Co-operation Treaty (PCT); and Article 69 of TRIPS Agreement.

[179] Article 2, Constitutive Act of the African Union, adopted by the Thirty-Sixth Ordinary Session of the Assembly of Heads of State and Government on 11th July, 2000 at Lome, Togo.

promotion of co-operation in all fields of endeavour to raise the living standards of African peoples; and acceleration of the political and socio-economic integration of the continent.[180]

Currently, Africa's IP regulatory framework is fragmented and is principally comprised of two sub-regional IP organisations: the African Regional Intellectual Property Organisation (ARIPO) established by the Lusaka Agreement[181] and the *Organisation Africaine de la Propriété Intellectuelle* (OAPI) established by the Bangui Agreement.[182] Some differences exist between the two systems. First, while ARIPO comprises mostly of the Anglophone countries,[183] OAPI largely operates in the francophone countries. Second, while ARIPO member states have different IP frameworks,[184] OAPI member states subscribe to a system that is unified and harmonised with the international IP System.[185] Third, the ARIPO system is essentially procedural, as it only facilitates registration whereas the OAPI system is a combination of procedural and substantive law.[186] Therefore, the ARIPO system appears as being more attractive for countries that want to retain particular features of their IP law, especially in the protection of TEK.

There are however several AU members who do not belong to either of these two sub-regional IP organisations, including regional powerhouses such as Egypt, Nigeria and South Africa. Kenya is a member of ARIPO and hence the study will mostly focus on the work being undertaken within ARIPO's ambit.

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[180] Ibid, Article 3.

[181] Article I, Lusaka Agreement on the Creation of the African Regional Intellectual Property Organization (ARIPO) as amended on August 13, 2004 (hereinafter Lusaka Agreement).

[182] Article I (1), Bangui Agreement Relating to the Creation of an African Intellectual Property Organization, Constituting a Revision of the Agreement Relating to the Creation of an African and Malagasy Office of Industrial Property (Central African Republic, March 2, 1977).

[183] However, Article IV of the Lusaka Agreement states that membership is open to member states of the United Nations Economic Commission for Africa or the African Union.

[184] Caroline B Ncube '*Sui Generis* Legislation for the Protection of Traditional Knowledge in South Africa: An Opportunity Lost' in Caroline Ncube & Elmien du Plessis (eds) *Indigenous Knowledge & Intellectual Property* (2016) at 8.

[185] See Article 3(2) of the Revised Bangui Agreement as amended on February 24, 1999, which permits nationals of its Member States to claim the benefit of the provisions of the Paris Convention for the Protection of Industrial Property (the 1967 Act), the Berne Convention for the Protection of Literary and Artistic Works (the 1971 Act), the Universal Copyright Convention, and the TRIPS Agreement in cases where such provisions are more favourable than the provisions of the Revised Agreement and its Annexes.

[186] Enyinna S. Nwauche 'An Evaluation of the African Regional Intellectual Property Right Systems' (2005) 6 *The Journal of World Intellectual Property,* 101-138 at 135.

3.4.1 The African Regional Industrial Property Organization (ARIPO)

One of the objectives of ARIPO is the promotion of the harmonisation and development of industrial property laws that are appropriate to the needs of its members and of the region as a whole.[187] In this regard, two Protocols, one on patents and industrial designs (the Harare Protocol) and another on marks (the Banjul Protocol) have since been adopted by ARIPO. The Harare Protocol empowers ARIPO to grant patents and to register industrial designs and to administer such patents and industrial designs on behalf of the Contracting Parties.[188] Banjul Protocol on marks establishes a trademark filing system similar to the one under the Harare Protocol and entrusts the registration and administration of such registered marks to the ARIPO Office on behalf of the Contracting States.[189] Surprisingly, neither the Harare nor the Banjul Protocol has specific mention of TK or TEK demonstrating their IPRs focus and insensitivity towards the intellectual and creative wealth of Africa. But the Lusaka Agreement requires ARIPO to establish and maintain close and continuous working relationships with WIPO and other organisations.[190] Likewise, one of ARIPO's object is to 'establish such common services or organs as may be necessary or desirable for the coordination, harmonization and development of the intellectual property activities affecting its members.'[191] Consequently, in 2000 the Administrative Council resolved that in view of the need for a coordinated strategy to deal with the issue of TK, ARIPO should take initiatives on TK and link its initiatives with those undertaken by WIPO.[192] It is through ARIPO's initiatives that the Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore was adopted in 2010.

[187] Article III, Lusaka Agreement.

[188] Section 1(1), Harare Protocol and Implementing Regulations on Patents and Industrial Designs within the Framework of the African Regional Industrial Property Organization (ARIPO) as amended on November 25, 2013.

[189] Section 1(1), Banjul Protocol and Implementing Regulations on Marks within the Framework of the African Regional Industrial Property Organization (ARIPO) as amended on November 25, 2013.

[190] See preamble and Article V, Lusaka Agreement.

[191] Article III(c), Lusaka Agreement.

[192] Available at http://www.aripo.org/services/traditional-knowledge accessed on 25 July 2017.

3.4.2 ARIPO's Swakopmund Protocol[193]

The Protocol provides a context for building and scaling up a region-wide TK framework. In the preamble, it affirms the importance of an effective and efficient protection framework that maintains an equitable balance between the rights and interests of those who develop, preserve and maintain TK and expressions of folklore, and those who use and benefit from TK and expressions of folklore. It extends protection to TK that is generated, preserved and transmitted in a traditional and intergenerational context; distinctively associated with a local or traditional community; and that is integral to the cultural identity of that community.[194] The owners of TK are the holders of TK, namely the local and traditional communities, and recognised individuals within such communities, who create, preserve and transmit knowledge in a traditional and intergenerational context.[195] Where TK is used beyond its traditional context, the user must 'acknowledge its holders, indicate its source and, where possible, its origin, and use such knowledge in a manner that respects the cultural values of its holders.'[196] Moreover, owners have the right to prevent anyone from exploiting their TK without their prior informed consent.[197] It extends protection of TK holders to include 'the fair and equitable sharing of benefits arising from the commercial or industrial use of their knowledge, to be determined by mutual agreement between the parties.'[198]

The Protocol seeks to vest ownership of TK on communities on one hand, while still recognising state control and management of TK on the other. This approach has been followed in Kenya where control over TK and folklore is vested in the Kenyan Copyright Board.[199] It is not evident what will be the effect of state control and administration of TK seeing that holders of TK have their customary laws and institutions that govern the management of their knowledge.

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[193] Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore within the Framework of the African Regional Intellectual Property Organization (ARIPO), adopted by the Diplomatic Conference of ARIPO at Swakopmund (Namibia) on August 9, 2010.

[194] Ibid, s 4.

[195] Ibid, s 6.

[196] Ibid, s 10.

[197] Ibid, s 7.2.

[198] Ibid, s 9.1.

[199] S 5, Copyright Act No. 12 of 2001 and Ss 5, 7(6) and 8(3), Protection of Traditional Knowledge and Cultural Expressions Act No. 33 of 2016.

3.4.3 African Model Legislation[200]

Just like the Swakopmund Protocol, the African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources, is an effort to put in place a region-wide *sui generis* framework for the protection of TK, biological resources and the rights of local communities, farmers and breeders in Africa.[201] The process of developing the law was initiated by the then Organisation of African Unity (OAU) (now African Union (AU)) through its Scientific, Technical and Research Commission in April 1998 and on June/July 1998 the Summit of Heads of State and Government decided to formally adopt the Model Law.[202] First, it is not legally binding but provides a guide to African states to some of the philosophical and practical difficulties encountered in the protection of TK.[203] Second, it offers 'a mechanism through which African governments can fulfill their mandate to protect TK under regional treaties.'[204] Although the Model Law is not binding on member states it is intended to act as a guide for African countries in developing their national laws on local community rights, plant breeders' rights and regulation of access to biological resources. In this regard, countries like Egypt, Namibia, Zimbabwe and South Africa have laws with some components of the Model Law.[205] Moreover, it is reported that the Southern African Development Community (SADC) developed the *Nyaga Guidelines for Developing Principles for Sui Generis, National Policies and Legislation for Intellectual Property Protection that Emphasise Community, Farmers and Breeders Rights* (2000) to assist SADC member states 'approximate the AU model law in their domestic systems.'[206]

It recognises the inalienability of biological resources, TK or technologies of local communities (including traditional professional groups, particularly traditional practitioners).[207]

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[200] Adopted by the 68th Ordinary Session of the Council of Ministers of OAU held in Ouagadougou, Burkina Faso, in June 1998.

[201] See Part I and Article 2, African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources (hereinafter African Model Law).

[202] Loretta Feris 'Protecting traditional knowledge in Africa: Considering African approaches' (2004) 4 *African Human Rights Law Journal*, 242-255 at 243.

[203] Ibid at 252.

[204] Ibid.

[205] Ibid.

[206] Ncube op cit note 184 at 35-36.

[207] Articles 3(1) & 23(1), African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources (hereinafter African Model Law).

The rights of local communities over their biological resources, knowledge and technologies are *a priori* rights which take precedence over rights based on private interests.[208]

It recognises farmers' rights and their enormous contributions in the conservation, development and sustainable use of plant and animal genetic resources particularly those in the centres of origin of biodiversity.[209] Farmers' rights include *inter alia* the right to: the protection of TK relevant to plant and animal genetic resources;[210] participate in making decisions[211] and save, use, exchange and sell farm-saved seed/propagating material of farmers' varieties.[212] Farmers' varieties and breeds are to be recognised and protected under the customary practices and laws of the concerned local farming communities, whether such laws are written or not.[213] Legal barriers are not to be placed on the exercise of the traditional exchange system and any other rights provided by the customary practices and laws of the concerned local communities.[214] However, the OAPI member states by adopting the 1991 UPOV Act have eliminated the farmer's privilege by extending the scope of the breeder's right.[215]

It recognises and protects community rights under the norms and practices of customary law[216] and the responsibility of identifying, interpreting and ascertaining what constitutes those rights is upon the local communities themselves using their customary practice and law, whether written or not.[217] Protection of TK exists even without the requirement of a positive act such as registration.[218] The publication of a written or oral description of a biological resource and its associated knowledge and information, or the presence of these resources in a genebank or any other collection, or its local use, does not preclude the local community from exercising its community intellectual property rights in relation to those resources.[219]

[208] Ibid, preamble.
[209] Ibid, Article 24(1).
[210] Ibid, Article 26 (1) (*a*).
[211] Ibid, Article 26 (1) (*c*).
[212] Ibid, Article 26 (1) (*d*).
[213] Ibid, Article 24(1).
[214] Ibid, Article 21(2).
[215] Enyinna op cit note 186 at 126.
[216] Article 17, African Model Law.
[217] Ibid, Article 23(2).
[218] Ibid, Article 23(3).
[219] Ibid, Article 23(4).

Any access to TEK of local communities in any part of the country is subject to the written prior informed consent of the relevant National Competent Authority as well as that of the concerned local communities, ensuring that women are also involved in decision making.[220] The National Competent Authority must consult with communities to ascertain that their consent is sought and granted otherwise any access granted without consultation is invalid and in violation of the requirement for prior informed consent.[221] However, local communities have the right to refuse access to their biological resources, innovations, practices, knowledge and technologies where such access will be detrimental to the integrity of their natural or cultural heritage.[222] They also have the right to withdraw consent or place restrictions on access where such access is likely to be detrimental to their socio-economic life, or their natural or cultural heritage.[223]

3.5 PROTECTION OF TEK IN KENYA'S IP REGIME

Due to the inherent weaknesses, vagueness and gaps in the protection of TEK within international and regional IP instruments, it becomes necessary to have national level instruments dealing with TEK protection. For example, as a member of the WTO, Kenya is compliant with TRIPS through national legislation such as the Copyright Act,[224] Trade marks Act,[225] Industrial Property Act[226] and the Seeds and Plant Varieties Acts.[227] Kenya is also a signatory to the CBD and its Nagoya Protocol, which are implemented under the Environmental Management and Control Act.[228] Moreover, Kenya is a member state of ARIPO but is yet to ratify ARIPO's Swakopmund Protocol.

There are policies that are relevant to TEK to wit: The National Policy on Traditional Knowledge, Genetic Resources and Traditional Cultural Expressions (2009) and the National Policy on Culture and Heritage (2009). In addition, the Constitution 2010 and the Protection of Traditional Knowledge and Cultural Expressions Act 2016 have explicit provisions dealing with TK. There are various institutions whose work is relevant to the protection of TEK such as the Kenya Industrial Property Institute (KIPI) which administers trade marks, patents, utility models

[220] Ibid, Article 5(1).
[221] Ibid, Article 5(2) and (3).
[222] Ibid, Article 19.
[223] Ibid, Article 20.
[224] Act No. 12 of 2001.
[225] Chapter 506, Laws of Kenya.
[226] Act No. 3 of 2001.
[227] Chapter 326, Laws of Kenya.
[228] Act No. 8 of 1999 as amended in 2017.

and industrial designs;[229] the Kenya Copyright Board (KECOBO) which administers TK[230] and all matters of copyright and related rights in Kenya[231] and the Kenya Plant Health Inspectorate Service (KEPHIS) which administers plant protection, seeds and plant breeders' rights.[232]

3.5.1 The National Policy on TK, GRs and TCEs

This policy provides a national framework that recognises, preserves, protects and promotes the sustainable use of TK to enhance the mainstreaming of TK systems into national development planning and decision making processes at all levels.[233] The policy recognises that TK is holistic, dynamic and constantly evolving through experimentation and innovation, fresh insight and external stimuli[234] and is transmitted in many ways through repeated practice, oral traditions, sayings, proverbs, metaphors, apprenticeship with elders and specialists.[235] In consonance with the study's problem statement, it notes that TK and related traditions are being transferred illicitly from original communities to the 'western' world without fully understanding their meaning and purpose thus eroding, debasing and ultimately destroying them.[236] However, the policy fails to recognise the role of traditional systems and institutions which play a central role in the control, access and use of TK and that can ultimately safeguard TK against such illicit transfers and loss.

With regard to TEK, it acknowledges that TEK relies on a complex of ecological processes, management of ecological zones and a variety of habitats to maximise the range of products and services that the ecosystem can provide.[237] It observes that there are elaborate taboos, myths, folklore and other cultural practices and controlled systems which are integral to TEK that bring coherence and shared community values to resource use and management.[238] The policy does not identify those 'systems' or outline their role in TK protection.

It recognises that IPRs are inappropriate for the protection of TK as they serve to protect private and corporate property but not the collective wisdom of the past, present and future

[229] Ss 3 & 5, Industrial Property Act No. 3 of 2001.
[230] S 5(a), Protection of Traditional Knowledge and Cultural Expressions Act No. 33 of 2016.
[231] Ss 3 & 5, Copyright Act No. 12 of 2001.
[232] S 5, Kenya Plant Health Inspectorate Service Act No. 54 of 2012.
[233] Republic of Kenya, *The National Policy on Traditional Knowledge, Genetic Resources and Traditional Cultural Expressions* (2009), para 1.1.10.
[234] Ibid, para 1.1.3.
[235] Ibid, para 1.1.2.
[236] Ibid, preamble.
[237] Ibid, para 4.3.3.
[238] Ibid, para 4.3.4.

generations of local communities.[239] It also notes that a great deal of TK is not traceable to a specific individual, community or geographical area and is ineligible for patent protection[240] hence the need for *sui generis* systems to enhance, protect and honour TK. Apart from obligating all actors to respect, support and facilitate customary use, development, exchange and transmission of TK; and to support and augment customary custodianship of knowledge and associated genetic resources, the policy does not recognise or lay any emphasis on the role of TJS in the protection of TK.

3.5.2 The National Policy on Culture and Heritage (2009)

Although it deals with culture and heritage, this policy is relevant to TEK. 'Culture' is defined in the policy as 'that whole complex of distinctive, spiritual, material, *intellectual* and emotional features characterizing a society or social group' while 'national heritage' is defined as the 'sum total of all the *creativity* in all its forms preserved, enhanced and handed over to future generations as a record of human experience and aspirations.' [241] It recognises the unique cultural innovations of the people of Kenya resulting from the long term interaction with the environment and nature. It also recognises culture as a repository of 'knowledge'[242] and urges the government to harness culture, heritage and TEK in sustainable management, preservation and conservation of the environment.[243] While it advocates for the adoption of interventions geared towards promotion and protection of the cultures of Kenya's communities,[244] little attention is given to TJS in the protection of culture (a repository of TEK). Another pitfall with the policy is that cultural creativity is identified as an IP accruing to individuals, communities, artist or performers and is to be protected as such.[245]

3.5.3 Protection of TEK under the Constitution 2010

The Constitution obligates the state to support, promote and protect the IP rights of the 'people of Kenya'[246] and to protect and enhance the IP and 'indigenous knowledge' associated with

[239] Ibid, para 4.5.1.
[240] Ibid.
[241] Republic of Kenya, *The National Policy on Culture and Heritage* (2009) at 2.
[242] Ibid at 4.
[243] Ibid at 10.
[244] Ibid at 33.
[245] Ibid at 9.
[246] Article 40(5), Constitution of Kenya 2010.

biodiversity and the 'genetic resources of the communities'.[247] It recognises culture as the foundation of the nation and as the cumulative civilisation of the Kenyan people and nation,[248] and requires the State to promote the IPRs of the people of Kenya.[249] It also enjoins parliament to enact legislation to ensure that 'communities receive compensation or royalties for the use of their cultures and cultural heritage'[250] and to recognise and protect the ownership of genetic resources and associated knowledge by indigenous peoples.[251] While the provisions of the Constitution are germane to the protection of TEK, their Achilles heel is the fact that they are couched in IP terms suggesting that TEK is to be protected within a similar context as earlier observed in chapter one.

3.5.4 Protection of Traditional Knowledge and Cultural Expressions Act 2016

The Act aims 'to provide a framework for the protection and promotion of traditional knowledge and cultural expressions' in Kenya, giving effect to articles 11, 40 and 69(1)(c) of the Constitution 2010. It vests 'ownership' of TK on local and traditional communities, and recognised individuals or organisations entrusted with the custody or protection of TK in accordance with customary law and practices. [252] It goes ahead to define a 'holder' of TK as recognised individuals or organisations within communities who are entrusted with the custody or protection of TK in accordance with customary law and practices. Defining an 'owner' and 'holder' separately is confusing. This confusion is apparent when the law seeks to confer the right to protection of TK on both 'owners' and 'holders'.[253] The Swakopmund Protocol avoids this problem by defining owners as the 'holders of TK' 'namely the local and traditional communities, and recognized individuals within such communities, who create, preserve and transmit knowledge in a traditional and intergenerational context.'[254] But as mentioned in chapter one, the notion of 'ownership' of TK is elusive and quite problematic seeing that it is alien to TK holders.

Protection is extended to TK that is 'generated, preserved and transmitted' over generations in a community with which they are 'distinctively associated' and 'integral to [its] cultural

[247] Ibid, Article 69(1)(*c*) & (*e*).
[248] Ibid, Article 11(1).
[249] Ibid, Article 11(2)(*c*).
[250] Ibid, Article 11(3)(*a*).
[251] Ibid, Article 11 (3)(*b*).
[252] S 2, Protection of Traditional Knowledge and Cultural Expressions Act No. 33 of 2016.
[253] Ibid, s 9.
[254] S 6, Swakopmund Protocol.

identity'.[255] From the way the provision is couched, it appears as if TK that does not meet set conjunctive conditions may not receive protection.

It confers both moral[256] and economic[257] *sui generis* rights akin to IPRs on 'owners' and 'holders' of TK (or in their absence, a state agency). There are additional cultural rights in TK which include any subsisting rights under any law relating to copyright, trade marks, patents, designs or other intellectual property.[258] However, rights in TK are conferred without formalities[259] and exist in perpetuity as long as the subject matter complies with the requirements for protection.[260]

Both the county and national governments are charged with the responsibility of protecting TK. The county government is to *inter alia* establish a TK repository within a county and to preserve, conserve, protect and promote TK of communities within the county.[261] On its part, the national government is to *inter alia* establish and maintain a national TK Repository at the Kenya Copyright Board and to preserve, conserve and protect TK from misuse and misappropriation.[262] Although registration of TK in the repository is purely declaratory and does not confer rights in itself,[263] the role of communities in establishing the registers and in the protection and promotion of TK is not clear. Likewise, the role of customary laws and traditional governance structures (like TJS) in the protection of TK is not addressed. Equally, it is not apparent who 'owns' the database and documented TK. Is it the communities or the county or national government?

While 'ownership' is vested on communities, the state seems to have sovereign rights over TK and trusteeship role over TK. For example, where protected TK is not being sufficiently exploited by the owner or rights holder, or where the owner or holder of rights in TK refuses to grant licenses for exploitation, the Cabinet Secretary may, with prior informed consent of the owners, grant a compulsory licence for exploitation subject to Article 40(3)(b) of the Constitution.'[264] As earlier indicated, a philosophy of 'property' as applied to real property seems

[255] Ss 6 and 14, Protection of Traditional Knowledge and Cultural Expressions Act No. 33 of 2016.
[256] Ibid, ss 19(2) and 21(4).
[257] Ibid, ss 18, 20, 22 and 24.
[258] Ibid, s 28(1).
[259] Ibid, s 7(1).
[260] Ibid, s 13.
[261] Ibid, s 4.
[262] Ibid, s 5.
[263] Ibid, ss 2, 4, 5 and 7(7).
[264] Ibid, s 12(1). See also s 12 (1), Swakopmund protocol.

to be extended to TK such that TK is treated like a resource that can be alienated/compulsorily acquired from TK holders. Some concerns arise from this approach. For instance, what happens to the inalienable aspects of TK which are an aspect of the cultural identity of a people? Moreover, there is an assumption that communities will grant free prior informed consent. Further, TK is treated as a resources that 'belongs to the people of Kenya' collectively like land in Kenya raising *inter alia* the question as to who should be rewarded for creativity. Likewise, benefits for the protection of TK are framed as primarily local (for communities in Kenya) and national (for Kenya as a nation state)'[265] as is the case with other forms of real property essentially undermining or ignoring the creative contributions of local communities as envisaged in the National Policy on Culture and Heritage, 2009.

The Act 'does not make clear provision for cross-border cooperation for either the protection of transboundary TK or the protection of TK originating in other states.'[266] It pursues cross-border cooperation mainly through reciprocal bilateral agreements with other states which may 'create a patchwork of very inconsistent approaches.'[267] Suggesting perhaps the need for Kenya to ratify the Swakopmund Protocol as it provides for cross-border cooperation and administration of transboundary TK between signatory states.[268]

3.5.5 Protection of TEK under the Trade Marks Act

As pointed out earlier, this law relates to the registration of trade marks in Kenya. A cultural group, or indigenous community can register a trade mark as it allows for the registration of collective marks which can be used to market products such as handicrafts or native crops that are produced using TK and traditional methods.[269] There are no special conditions attached to the use of collective marks. Under this Act also, geographical names or GIs, as discussed earlier, may be registered as collective trade marks or service marks.[270] But these products including the *kiondo* baskets and other local handicrafts (made using TEK) have already penetrated the world market without any indication of their geographical origin making it more complex for communities to

[265] S 31(5), Protection of Traditional Knowledge and Cultural Expressions Act No. 33 of 2016. See also Deacon op cit note 159 at 4.
[266] Deacon op cit note 159 at 10.
[267] Ibid.
[268] Ibid.
[269] S 40A (1), Trade Marks Act, Chapter 506.
[270] Ibid, s 40A (5).

protect genuine or authentic products.[271] Similarly, the law recognises certification marks that can also be used to certify TEK holders' products or services that meet certain standards in respect of origin, material, mode of manufacture, quality, accuracy or other characteristic from goods not so certified.[272]

3.5.6 Protection of TEK under the Industrial Property Act

This law provides for the promotion of inventive and innovative activities through the grant and regulation of patents, utility models, technovations and industrial designs.[273] It also establishes KIPI[274] whose function is to consider applications for and grant industrial property rights; screen technology transfer agreements and licenses; provide industrial property information to the public, and promote inventiveness and innovativeness in Kenya.[275]

Under the Act, an invention is patentable if it is new, involves an inventive step and is industrially applicable[276] suggesting as earlier pointed out, that TEK is ineligible for patent protection. Some inventions such as plant varieties (but not parts thereof or products of biotechnological processes) and inventions contrary to public order, morality, public health and safety, principles of humanity and environmental conservation.[277] Several communities in Kenya have handicrafts with unique designs, style, reputation and goodwill that vary from community to community.[278] However, they may not be eligible for protection as industrial designs, as industrial designs law recognises the article only and not the method of making the baskets, making them inappropriate for indigenous designs.

3.5.7 Protection of TEK under the Copyright Act

The Act makes provision for copyright in literary, musical and artistic works, audio-visual works, sound recordings, broadcasts and for connected purposes. Some of the works that are eligible for copyright protection under the Act include literary works, musical works, artistic works, audio-

[271] Mbeva op cit note 24 at 171.
[272] S 40 (1), Trade Marks Act, Chapter 506.
[273] Industrial Property Act No. 3 of 2001.
[274] Ibid, s 3.
[275] Ibid, s 5.
[276] Ibid, s 22.
[277] Ibid, s 26.
[278] Moni Wekesa 'Traditional Knowledge-The need for *Sui generis* System of Intellectual Property Rights Protection' in Moni Wekesa & Ben Sihanya (eds) *Intellectual Property Rights in Kenya* (2009), 267-301 at 284.

visual works, sound recordings and broadcasts.[279] The Attorney-General is empowered to authorise and prescribe the terms and conditions governing the commercial use of expressions of folklore[280] suggesting that folklore and other traditional artistic and literary works may be eligible for copyright protection. But as highlighted earlier, folklore may not meet the conditions for protection. A literary, musical or artistic work is eligible for copyright if 'sufficient effort has been expended on making the work to give it an original character' and 'the work has been written down, recorded or otherwise reduced to material form.'[281] Generally, this presents challenges in the protection of folklore, legends, music and dances embodying TEK as they are passed orally (not fixed in some form) and may not meet the test of originality. But the law also seems to grant copyright for works of unknown authors for 50 years from the end of the year in which it was first published.[282] But in the event the identity of the author is known, the term of protection is 50 years after the life of the author. Additionally, the duration of copyright protection which is 50 years after the life of the author or after the work was published[283] suggests that copyright law might not be apt for TEK which is intergenerational and collectively held making it hard to identify the author or creator.

3.5.8 The Seeds and Plant varieties Act[284] and Act the Kenya Plant Health Inspectorate Service Act[285]

The Seeds and Plant Varieties Act seeks to *inter alia* regulate transactions in seeds; provide for the grant of proprietary rights to plant breeders; and to establish a national centre for plant genetic resources. It is relevant to TEK since plant breeders substantially benefit from free access to germplasm and TEK[286] of local farmers developed over a long time collecting, selecting and breeding traditional crop varieties that are suited to the ecological zones they occupy.[287] A critique of this law is that while it confers property rights to plant breeders it fails to recognise farmer's

[279] S 22(1), Copyright Act No. 12 of 2001.
[280] Ibid, s 49(d).
[281] Ibid, s 22(3).
[282] Ibid, s 23(3).
[283] Ibid, s 23(2).
[284] Chapter 326.
[285] Act No. 54 of 2012.
[286] Republic of Kenya, *The National Policy on Traditional Knowledge, Genetic Resources and Traditional Cultural Expressions* (2009), para 4.1.2.
[287] Mbeva op cit note 24 at 172.

rights and contributions in collecting, selecting and nurturing traditional varieties for generations using TEK making it inadequate for TEK protection. The Seeds and Plant Varieties Act is administered by KEPHIS which is established by the Kenya Plant Health Inspectorate Service Act as a regulatory body for the protection of plants, seeds and plant varieties and agricultural produce.[288]

3.5.9 Protection of TEK under the National Museums and Heritage Act[289]

One of the objectives of the law is to establish the National Museums of Kenya[290] whose functions may be relevant in the protection and preservation of TEK. The National Museums of Kenya are to: serve as a national repository for things of scientific, cultural, technological and human interest; serve as centres for research and dissemination of knowledge in all fields of scientific, cultural, technological and human interest; identify, protect, conserve and transmit the cultural and natural heritage of Kenya; and promote cultural resources in the context of social and economic development.[291] A 'natural heritage' under the Act means *inter alia* 'areas which are or have been of religious significance, use or veneration and which include but are not limited to *kayas*.'[292] As mentioned in chapter two and further in chapter five, *kayas* are centres of biodiversity courtesy of the rich TEK held by the Mijikenda people hence their choice as a case study in this work. However, the Act seems to adopt a state-centric approach in protecting natural heritage which might limit and hinder the participation, involvement or control of TEK holders' over their resources (such as *kayas*) and knowledge in protected areas. This might also hinder the usefulness of traditional structures in the protection of TEK.

3.6 EFFECTIVENESS OF PROTECTING TEK UNDER THE EXISTING IPR REGIME

It is not in doubt that some TK holders and indigenous peoples have used IPRs to protect their cultural creations like songs, arts and handicrafts.[293] However, and as the foregoing discussion has shown, the IP regime is hugely deficient and inappropriate in protecting TEK. In addition, the view

[288] Section 6(1) and First Schedule to Act No. 54 of 2012.
[289] Act No. 6 of 2006.
[290] Ibid, s 3.
[291] Ibid, s 4.
[292] Ibid, s 2(1).
[293] Tauli-Corpuz op cit note 4 at 21.

propagated by IP stalwarts that IP can offer protection to TEK, is fraught with many shortcomings. One of the fundamental flaws of existing national and international IP regimes, is their failure to acknowledge and recognise TEK and the customary laws and systems developed and used by TEK holders to protect, safeguard and perpetuate their heritage and knowledge.[294] Consequently, the IP framework forces TEK holders to accept a model that was not constructed with TEK in mind. There is also the assumption that by adopting existing or new forms of IPRs protection, the problems of injustice, discrimination, inequity and the continuous erosion of TEK can be solved.[295] As a result, the IP regime fails significantly to offer robust protection to tradition-based knowledge systems with their holistic nature while 'ensuring cultural preservation and access to knowledge.'[296]

Second, IP vests exclusive ownership rights on the author or inventor thus contradicting fundamentally with the ethos of TEK in a number of ways as discussed in chapter one. The upshot of this is that, IP models are unable to address the high social costs of TK monopolisation which include,

> 'undermining and destruction of TK holders cosmovisions, cultures and heritage, theft or biopiracy of plant, animal, and human genetic materials and the knowledge around these, the increasing difficulty for millions of poor people to have the access to traditional medicines and treatments, and the increasing monopolization of control over knowledge and technologies by fewer individuals, countries and corporations.'[297]

Third, TEK is transgenerational thus creating a difficulty in identifying a creator or innovator to be rewarded for their creativity.[298] The transgenerational nature also raises the problem of the duration of protection since IPRs are protected for a limited duration of time which may not be apt for TEK.[299] Lastly, and as hinted in chapter one, the reward theory which underlies IP policy is

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[294] Ibid at 7-8. See also Deepa Varadarajan 'A Trade Secret Approach to Protecting Traditional Knowledge,' (2011) 36(2) *Yale Journal of International Law* 371-420 at 378; and Ouma op cit note 11 at 133.

[295] 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.

[296] Andanda op cit note 101 at 547-558. See also Chennells op cit note 15 at 212; Munzer & Raustiala op cit note 11 at 66.

[297] Tauli-Corpuz op cit note 4 at 9.

[298] Djims Milius 'Justifying Intellectual Property in Traditional Knowledge' (2009) 2 *IPQ* 185-216 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.

[299] Cross op cit note 24 at 21.

not apt in justifying the protection of existing knowledge like TK.[300] There is need to un-earth the indigenous/traditional protection systems and use them in protecting TEK.

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

CHAPTER FOUR

THE PROTECTION OF TEK WITHIN HUMAN RIGHTS AND ENVIRONMENTAL FRAMEWORKS AND INSTITUTIONS

4.1 INTRODUCTION

Chapter four looks at the protection of TEK within existing human rights and environmental frameworks including the role of international and regional human rights institutions in the protection of TEK and indigenous peoples' rights. The chapter begins with a discussion of international human rights frameworks and institutions while assessing the kind of protection they extend to TEK. It then examines the main human rights frameworks and institutions within the African region and efforts taken by Kenya in protecting TEK holders' rights. Thereafter, the chapter explores relevant global, regional and municipal environmental law frameworks with the aim of examining how TEK is protected therein.

Some of the frameworks and scholarly writings discussed in this chapter however make reference to TK or indigenous knowledge rather than TEK but are still useful since the latter is a subset of the former. Moreover, instruments addressing indigenous peoples' rights are heavily relied on owing to the fact that most TEK holders' also happen to be indigenous peoples.

4.2 PROTECTION OF TEK UNDER INTERNATIONAL HUMAN RIGHTS FRAMEWORKS

Although TK has recently received explicit recognition within human rights instruments on indigenous peoples, the interface between IP and human rights is quite problematic as explained in chapter one. On one hand, there is a coexistence approach which strives to balance IP rights with human rights standards[1] while on the other, there is a view that the two regimes are not compatible and that there are inherent conflicts between the two.[2] From a human rights perspective, TK is discussed within the context of addressing the social, economic and cultural rights of indigenous peoples including the rights to own and control access to traditional resources

[1] Peter K Yu 'Reconceptualizing Intellectual Property Interests in a Human Rights Framework' (2007) 40 *University of California, Davis*, at 1039-1149 at 1076-1078.

[2] Ibid. See also Lawrence Helfer 'Towards a Human Rights Framework for Intellectual Property' (2006) 40 *University of California, Davis*, at 971; Preamble, Resolution 2000/7 on Intellectual Property Rights and Human Rights, UN Subcommission on the Promotion and Protection of Human Rights, 52nd session, UN Doc. E/CN.4/Sub.2/RES/2000/7.

and territories, and the right to decide their own priorities and participate fully in decisions affecting them.[3] Moreover, TK is 'part of the indigenous and local communities' cultural identity and is significant with regard to rights to land and resources-without taking the potential environmental impact or economic benefits into consideration.'[4] The basis of this discussion is found in numerous human rights instruments including those on indigenous people's rights.

(a) Universal Declaration on Human Rights (1948)[5]

Although it is not a binding instrument under international law, it represents an authoritative reference point for 'human rights' especially civil and political rights. The declaration recognises the right to property[6] which, as explained in chapter one, is inherently limited and inapt in the context of TK. It also recognises the right of everyone to 'participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits'[7] and 'to benefit from the protection of the moral and material interests resulting from any scientific, literary, or artistic production of which he is the author.'[8] As is illustrated below, Article 27 has been interpreted broadly by human rights institutions as extending also to all types of knowledge including TK.

(b) International Covenant on Civil and Political Rights (ICCPR, 1966)

The covenant affirms the fundamental importance of the right to self-determination of all peoples, by virtue of which they freely determine their political status and freely pursue their economic, social and cultural development.[9] The ICCPR recognises the right of ethnic, religious or linguistic minorities 'in community with other members of their group, to enjoy their own culture, to profess and practice their own religion, or to use their own language.'[10] General Comment No. 23 on the right to culture notes that culture manifests in many forms, including a particular way of life

[3] Elena Blanco & Jona Razzaque *Globalisation and Natural Resources Law: Challenges, Key Issues and Perspectives* (2011) ch.9 at 393.
[4] Anja Meyer 'International Environmental Law and Human Rights: Towards the Explicit Recognition of Traditional Knowledge' (2001) 10 *RECIEL*, 37-46 at 42.
[5] GA Res, 217A (III), UN Doc, A/810 at 71 (1948) (hereinafter 'UDHR').
[6] Ibid, Article 17.
[7] Ibid, Article 27(1).
[8] Ibid, Article 27 (2).
[9] Article 1(1), International Covenant on Civil and Political Rights, adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966, entry into force 23 March 1976.
[10] Ibid, Article 27.

associated with the use of land and natural resources, especially in the case of indigenous peoples.[11] Since the rights protected under Article 27 are dependent on the ability of a community to maintain its culture, language or religion, positive measures by States are necessary to protect those rights, their enjoyment and development in community with other members of the group.[12] In the case of TEK holders, positive action includes protecting the material basis for their culture (traditional activities such as fishing or hunting), the right to live in reserves protected by law, as well as giving members a right to participate in relevant decision-making.[13] For example, in *Chief Bernard Ominayak and the Lubicon Lake Band v Canada*[14] the Human Rights Committee (HRC) has found Canada to be in violation of Article 27 due to interference by oil and gas drilling, and pulp plant logging which threaten the way of life and culture of the Lubicon Lake Band. Moreover, both the Committee on Economic, Social and Cultural Rights (CESCR) and the HRC have linked cultural rights to the right to self-determination[15] as a way of emphasising the importance of granting indigenous peoples rights to their ancestral lands.[16] Additionally, the right to culture is said to encompass both free prior informed consent (FPIC) and benefit-sharing requirements underscoring the fact that communities should be consulted and invited to actively participate in the identification, selection, classification, interpretation, preservation and safeguarding, stewardship, and development of cultural heritage.[17] Therefore, the right to culture potentially complements the protection of TK in international law by providing 'an entry point for complaints about the misuse and misappropriation of traditional knowledge and the reporting of unauthorized access, thus facilitating access to remedies.'[18]

(c) International Covenant on Economic Social and Cultural Rights (ICESCR, 1966)

Just like the UDHR and the ICCPR, the ICESCR recognises the right of everyone to 'benefit from the protection of the *moral and material interests resulting from any scientific, literary or artistic*

[11] Para 7, General comment No. 23(50) (art. 27),CCPR/C/21/Rev.1/Add.5, 26 April 1994.
[12] Ibid, para 6.2.
[13] Geir Ulfstein 'Indigenous Peoples' Right to Land' in A Bogdandy & R. Wolfrum (eds.) *Max Planck Yearbook of United Nations Law* (2004), 1-48 at 8.
[14] Para 13.3, Communication No. 167/1984: Canada, of 10 May 1990, Doc. CCPR/C/38/D/167/1984.
[15] Para 6.2, General comment No. 23(50) (art. 27),CCPR/C/21/Rev.1/Add.5, 26 April 1994.
[16] Ben Saul, *Indigenous Peoples and Human Rights: International and Regional Jurisprudence* (2016).
[17] Annalisa Savaresi 'Traditional knowledge and climate change: a new legal frontier?' (2018) 9 *Journal of Human Rights and the Environment*, 32-50 at 42.
[18] Ibid at 43.

production of which he is the author.'[19] Pursuant to this right, Resolution 2000/7 encourages the Committee on Economic, Social and Cultural Rights to clarify the relationship between intellectual property rights (IPRs) and human rights, including through the drafting of a general comment on this subject.[20] General Comment No. 17 which was drafted in this regard, has interpreted Article 15(1)(c) by extending its application to the protection of all types of knowledge 'including knowledge, innovations and practices of indigenous and local communities…'[21] It notes that although the wording of Article 15(1)(c), generally refers to the individual creator, under certain circumstances, the right can also be enjoyed by groups of individuals or by communities.[22] Accordingly, Article 15(1)(c) is seen as a human right, which derives from the inherent dignity and worth of all persons thus distinguishing it from legal entitlements recognised in IP systems.[23] Moreover, it clarifies that while IP rights are 'generally of a temporary nature, and can be revoked, licensed or assigned to someone else' human rights are 'timeless expressions of fundamental entitlements of the human person.'[24] Likewise, the right in Article 15(1)(c) is also linked intrinsically to Article 15(1)(a) on the right to take part in cultural life[25] explaining why many states include development of IP rights in their report to the CESCR suggesting that perhaps IP rights are cultural rights under international human rights law.[26] And therefore, if IP rights are rights under the ICESCR, it is submitted that, all parties ought to ensure that the 'IPRS recognised in their jurisdiction are established, granted, exercised, licensed, and otherwise used in a fashion that does not infringe upon the human rights…'[27] However, while the right in Article 15(1)(a) has been extended to TK, it is noteworthy that it 'derives from the inherent dignity and worth of all persons' meaning that it may be inappropriate when applied to communally held knowledge.[28]

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[19] Article 15(1)(c), International Covenant on Economic, Social and Cultural Rights (ICESCR) adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966 (hereinafter 'ICESCR').

[20] Resolution 2000/7 op cit note 2 at para 11.

[21] General Comment No. 17, E/C.12/GC/17, 12 January 2006, para, 9.

[22] Ibid, para 8.

[23] Ibid, para 1.

[24] Ibid, para 2.

[25] Ibid, para 4. See also Article 15(1)(a), ICESCR.

[26] RJ Coombe 'Intellectual Property, Human Rights and Sovereignty: New Dilemmas in International Law Posed by the Recognition of Indigenous Knowledge and the Conservation of Biological Diversity' (1998) 6 *Indiana Journal of Global Legal Studies*, 59-115 at 64.

[27] Ibid at 70.

[28] See generally Yu op cit note 1 at 1039-1149.

According to General Comment No. 21, the right of everyone to take part in cultural life[29] can be enjoyed individually or collectively and is available to minorities and persons belonging to minority groups to *inter alia* 'conserve, promote and develop their own culture.'[30] Such protection extends to indigenous peoples who have the right to act collectively to ensure respect for their right 'to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions (TCEs), as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literature, designs, sports and traditional games, and visual and performing arts.'[31] As with the ICCPR, the ICESCR also recognises the right to self-determination of all peoples[32] which is important in the protection of cultural and territorial rights.

(d) International Labour Organization (ILO) Convention No. 107 of 1957

Most TEK holders also happen to be indigenous peoples[33] implying that instruments dealing with indigenous groups are relevant to TEK discourses. Convention No. 107, Concerning the Protection and Integration of Indigenous Peoples and other Tribal and Semi-Tribal Populations in Independent Countries, was the earliest instrument to codify international obligations of States in respect of indigenous and tribal populations,[34] defines indigenous peoples as distinct peoples and emphasises the need to improve their living and working conditions. Although it did not use the term 'peoples', its main aim was to ensure their integration into industrialised and modern societies.[35] In addition, whereas it was developed after several studies and consultations with different actors, there was no participation from indigenous peoples.[36] As such, it was neither explicit on the need nor the means for protecting their knowledge.

[29] Article 15(1)(a), ICESCR.
[30] Para 32, General Comment No. 21, E/C.12/GC/21, 21 December 2009.
[31] Ibid, para 37.
[32] Article 1(1), ICESCR.
[33] Kuei-Jung Ni 'Traditional Knowledge and Global Lawmaking' (2011) 10(2) *Northwestern Journal of International Human Rights*, 85-118 at 110.
[34] FAO, 'FAO Policy on Indigenous and Tribal Peoples' (2015) at 24.
[35] Karen Engle 'On Fragile Architecture: The UN Declaration on the Rights of Indigenous Peoples in the Context of Human Rights' (2011) 22 *The European Journal of International Law* 141-163 at 156.
[36] Albert Barume, *Land Rights of Indigenous Peoples in Africa* (2014) at 27-29.

(e) International Labour Organization (ILO) Convention No. 169 of 1989[37]

Convention No.169 is the only legally binding international instrument dealing with indigenous peoples' rights and interests yet it has not been widely ratified by countries with indigenous populations.[38] In Africa, it is only Central African Republic that has ratified the Convention. Moreover, whereas it does not make explicit reference to TEK, some of its provisions as discussed below are relevant to TEK especially those dealing with collective rights. The Convention was adopted at a time when assimilation of indigenous peoples to the majority population was a key imperative by States.[39] It therefore sought to revise the 1957 Convention by *inter alia* abolishing the assimilationist policy[40] which was not serving the interests of indigenous peoples.[41] During the process of drafting the Convention, there was the issue as to whether indigenous peoples were entitled to self-determination which arose in part over whether to include the term 'peoples' instead of either 'people' or 'populations', since Convention No. 107 had used the latter term.[42] This controversy delayed the negotiations but a compromise was reached with the inclusion of the term 'peoples' with a proviso that 'disclaimed the attachment of any international rights to them.'[43] Although there is explicit rejection of the term 'self-determination',[44] the use of the term 'peoples' and recognition of their aspirations to exercise control over their own institutions, ways of life and economic development and to maintain and develop their identities, languages and religions, within the framework of the States in which they live,[45] arguably amounts to recognition of collective rights.

The Convention requires States to consult indigenous peoples directly when undertaking legislative or administrative measures which may affect them through appropriate procedures and

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[37] Convention Concerning Indigenous and Tribal Peoples in Independent Countries Adopted on 27 June 1989 and entered into force on 5 September 1991.

[38] Patricia Birnie, Alan Boyle & Catherin Redgwell, *International Law & the Environment* (3rd ed. 2009) at 626; Russel Lawrence Barsh 'Is the Expropriation of Indigenous Peoples' Land GATT-able? (2001)10 *RECIEL* 13-26 at 15.

[39] Meyer op cit note 4 at 42; Russel op cit note 38 at 14; Katja Gocke 'Protection and Realization of Indigenous Peoples' Land Rights at the National and International Level' (2013) 5 *Goettingen Journal of International Law,* 87-154.

[40] Preamble, ILO Convention No.169.

[41] Meyer op cit note 4 at 42.

[42] Engle op cit note 35 at 156.

[43] Ibid at 156. See also Article 1(3), ILO Convention No.169.

[44] Siegfried Wiessner 'United Nations Declaration on the Rights of Indigenous Peoples' available at http://www.un.org/law/avl/ accessed on 20 October 2017 at 2. See also Ulfstein op cit note 13 at 46.

[45] Preamble and Article 5, ILO Convention No.169.

in particular through their representative institutions.[46] Those consultations must be 'a genuine dialogue' where the peoples concerned participate freely at all levels in the formulation, application and evaluation of measures and programmes through their representative institutions.[47] Ulfstein notes that the spirit of consultation and participation is the cornerstone upon which all the Convention's provisions are based.[48] It has been argued that ILO focuses on a mechanic process of consultation that is not in line with FPIC as envisaged by UNDRIP.[49] Be that as it may, states can fulfill the obligation of consultation by working with traditional institutional structures as advocated for in this study.

Moreover, it guarantees indigenous peoples the right to retain their own customs and institutions. However, those customs and institutions must be compatible with fundamental rights as 'defined by the national legal system and with internationally recognised human rights.'[50] This clause is similar to the colonial 'repugnancy clause' mentioned in chapter one that has been used to limit the application of customary law in many African states.

Additionally, the Convention recognises the close relationship between indigenous peoples and the lands they occupy or use and in particular the collective aspects of this relationship.[51] Because 'land and resources are indispensable to the preservation of traditional lifestyles and knowledge'[52] it becomes necessary to protect the communal land rights of TEK holders who are the guardians of those lands and territories. As stated elsewhere in this chapter, guaranteeing the communal land rights of TEK holders is vital as it is one of the strongest ways for a community to express its culture.[53] The Convention recognises the 'rights of ownership and possession' of indigenous peoples over the lands they 'traditionally occupy' and 'lands not exclusively occupied by them, but to which they have traditionally had access for their subsistence and traditional

[46] Article 6.
[47] Ulfstein op cit note 13 at 15. See also Article 7.
[48] Ulfstein op cit note 13 at 14.
[49] Albert Barume 'Indigenous peoples and conservation in Africa: FPIC vis-à-vis extractive industries, infrastructural as well as energy projects and international banks' presentation made during the Advanced Human rights course on 28th September 2018 in Pretoria.
[50] Article 8(2).
[51] Article 13(1).
[52] Meyer op cit note 4 at 42. See also Gocke op cit note 39 at 89.
[53] Wilmien Wicomb & Henk Smith 'Customary communities as 'peoples' and their customary tenure as 'culture': What we can do with the *Endorois* decision' (2011) 11 *African Human Rights Law Journal*, 422-446 at 446.

activities'.[54] From this provision, it appears that indigenous peoples have 'rights of ownership and possession' only to those lands that 'they have traditionally and exclusively occupied' while in relation to lands not exclusively used they 'only have continuous use rights.'[55] It has been argued that such an approach can lead to a narrow, Eurocentric interpretation that requires an 'occupation' to have 'settlement, possession, use and effective control over a tract of land'[56] requirements which some indigenous people do not fulfill (for example nomadic peoples and shifting cultivators) and can thus amount to a denial of the existence of inherent indigenous ownership rights.[57] As such, indigenous ownership 'should not necessarily require exclusive control to the same extent as under ordinary national property law'[58] but the acquisition of rights that allow community members access and user rights to land.[59]

In the South African case of *Salem Party Club and others v Salem Community and others,* the Constitutional Court has recognised the traditional land rights of a community though it did not have exclusive occupation.[60] Likewise, the Inter-American Court has held that traditional possession of land by indigenous people 'has equivalent effects to those of a state-granted full property title.'[61] Therefore, in proving indigenous land rights, indigenous peoples need not establish continuous occupation since time immemorial, but that their 'ancestors have occupied or otherwise used the land.'[62]

Governments are to respect the special importance for the cultures and spiritual values of the peoples concerned and their relationship with the lands or territories.[63] For example, indigenous peoples must not be removed from the lands they occupy[64] unless the relocation takes place with their free and informed consent.[65] Whenever possible, indigenous peoples have the right to return

[54] Article 14(1), ILO Convention No.169.
[55] Gocke op cit note 39 at 140. See also Ulfstein op cit note 13 at 22.
[56] Ibid.
[57] Jo M. Pasqualucci 'International Indigenous Land Rights: A Critique of the Jurisprudence of the Inter-American Court of Human Rights in Light of the United Nations Declaration on the Rights of Indigenous Peoples' (2009) 27 *Wisconsin International Law Journal,* 51-98 at 66; Gocke op cit note 39 at 90.
[58] Ulfstein op cit note 13 at 19.
[59] See generally *Salem Party Club and others v Salem Community and others* [2017] ZACC 46.
[60] [2017] ZACC 46 at para 161.
[61] In *Sawhoyamaxa Indigenous Community*, 2006 Inter-Am. Ct. H.R. (ser. C) No. 146, 128.
[62] Gocke op cit note 39 at 143.
[63] Article 13(1)
[64] Article 16(1)
[65] Article 16(2)

to their traditional lands, as soon as the grounds for relocation cease to exist.[66] Where return to their land is not possible and the peoples have expressed a preference for compensation in money or in kind, they shall be so compensated under appropriate guarantees.[67] While it shows the significance of land and resource rights 'which are prerequisites for generating and preserving traditional knowledge, an explicit protection of traditional knowledge is not called for.'[68]

The Convention safeguards the rights of indigenous peoples to the natural resources pertaining to their lands including the right of these peoples to participate in the use, management and conservation of these resources.[69] This provision is viewed as being more protective of indigenous rights to the natural resources on or beneath their lands unlike under the Inter-American human rights system where the state may have the right to harvest or to grant concessions to third parties to harvest other resources on indigenous lands.[70]

(f) Convention for the Safeguarding of the Intangible Cultural Heritage (2003)

Most United Nations Educational, Scientific and Cultural Organization (UNESCO) instruments recognise the contribution of communities to cultural diversity.[71] The Convention defines 'intangible cultural heritage' (ICH) as the practices, representations, expressions, *knowledge*, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and individuals recognise as part of their cultural heritage.[72] Just like TEK, ICH is intergenerational, is constantly recreated by communities in response to their environment, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity.[73] ICH manifests in different forms including oral traditions and expressions, language; performing arts; social practices, rituals and festive events; knowledge and practices concerning nature and the universe; and traditional craftsmanship.[74] Apparently ICH

[66] Article 16(3)
[67] Article 16 (4) & (5).
[68] Meyer op cit note 4 at 43.
[69] Article 15(1), ILO Convention No.169.
[70] Pasqualucci op cit note 57 at 81.
[71] Wiessner op cit note 44 at 1-2.
[72] Article 1, Convention for the Safeguarding of the Intangible Cultural Heritage 2003.
[73] Article 1. See also Federico Lenzerini 'Intangible Cultural Heritage: The Living Culture of Peoples' (2011) 22(1) *The European Journal of International Law*, 101-120 at 108.
[74] Article 2.

includes TEK and both are part of the cultural heritage of a people thus lending credence to the use of Westra's tripartite framework in protecting TEK in this thesis.

The Convention organises the safeguarding of ICH by means of a system of lists[75] which is inappropriate in light of the inherent nature of ICH as it appears as a 'tool for states to obtain visibility for the ICH located in their own territory' devoid of legal guarantees for ICH.[76] This is evident from the obligation imposed on states to 'take the necessary measures to ensure' such safeguarding.[77]

In light of the fact that ICH is intricately interrelated with the cultural identity of communities, the Convention requires state parties to ensure their widest possible participation and involvement in its management.[78] However, it has been argued that the Convention adopts a state-oriented approach in the management of ICH which,

> '…may not be in achieving its proper safeguarding, the heritage concerned being a product and an element of the identity of groups and communities the interests of which may not coincide with those of state governments.'[79]

It is claimed that a national model for the safeguarding of ICH in a given territory may not address the diversity existing between the different manifestations of ICH[80] as illustrated earlier.

The Convention also acknowledges the rights of communities to manage and benefit from the practice of their ICH (broadly contiguous with TK in the general sense), and encourages states to protect these rights using IP law, among other means.[81] As demonstrated in chapter three, the use of IP law to protect community rights to TEK and even to ICH may create some difficulties owing to IP's failure to protect the cultural, ecological and self-determination aspects of local communities. Additionally, the Convention's emphasis on 'safeguarding heritage' seems to be beyond the scope of the IPR regime and might raise concerns of lack of legal protection. Lenzerini cautions that 'safeguarding' should not be considered tantamount to 'protection' as it "encompasses a more dynamic concept, meaning that international action should 'simply' provide

[75] Article 16(1).
[76] Lenzerini op cit note 73 at 111.
[77] Article 11(a).
[78] Articles 11(b) and 15.
[79] Lenzerini op cit note 73 at 112.
[80] Ibid.
[81] Harriet Deacon 'Transboundary knowledge and regional cooperation in the protection of Traditional Knowledge in Kenya' (2017) *Journal of Intellectual Property Law & Practice*, 1-10, at 3.

a favourable environment within which ICH is allowed to flow freely according to the expectations and needs of its creators and bearers."[82] IP law may not safeguard ICH by creating the conditions for its creators and bearers to develop ICH without external interferences brought about by the dominant sectors of society that may corrupt its spontaneous evolutionary process.[83] Kenya is a state party to the 2003 UNESCO Convention following the government's ratification of the convention in October 2007.

(g) Convention on the Protection and Promotion on the Diversity of Cultural Expressions (2005)

It is a UNESCO Convention that protects 'cultural diversity' which refers to the manifold ways in which the cultures of groups and societies find expression.[84] It recognises the importance of TK as a source of intangible and material wealth, and in particular the knowledge systems of indigenous peoples, and its positive contribution to sustainable development, as well as the need for its adequate protection and promotion.[85] The importance of the vitality of cultures, including for persons belonging to minorities and indigenous peoples, as manifested in their freedom to create, disseminate and distribute their TCEs and to have access thereto, so as to benefit them for their own development is recognised.[86] Although it recognises the contribution of TK to sustainable development, it seeks to rely on IPRs in sustaining those involved in cultural creativity.[87] Certainly, and as demonstrated in chapter one and three, IPRs are not appropriate in protecting the rights of TEK holders (who sustain cultural creativity) hence the suggestion in this study of using traditional structures in TEK protection.

[82] Lenzerini op cit note 73 at 109.
[83] Ibid.
[84] Article 4(1), Convention on the Protection and Promotion on the Diversity of Cultural Expressions adopted 20 October 2005.
[85] Ibid, preamble.
[86] Ibid.
[87] Ibid.

(h) Convention Concerning the Protection of the World Cultural and Natural Heritage[88]

This Convention deals with cultural heritage (monuments, groups of buildings and sites)[89] and natural heritage (natural features, geological and physiographical formations and natural sites)[90] suggesting that it is relevant to TEK holders. In some cases the Convention has played a positive role in helping indigenous peoples protect their lands, territories, culture and heritage from developmental pressures.[91] World Heritage sites may also create business and employment opportunities for indigenous peoples, especially in the tourism sector or in directly managing the sites.[92] Moreover, the World Heritage Committee and its advisory bodies may also call on States to improve indigenous peoples' participation in decision-making processes, management of sites and benefit-sharing mechanisms.[93] But the impact of this Convention to indigenous peoples (who are also TEK holders) is a recurring concern, notably because of the violation of their rights in its implementation.

Often, protected areas with heritage status are established without consultation with indigenous peoples thus resulting in serious and systemic violations of their rights through expropriation of traditional lands and territories, forced displacements, killings of community members, non-recognition of their authorities, marginalisation in the on-site decision-making and management, denial of access to livelihood activities and spiritual sites and subsequent loss of their culture.[94] For example, the designation of Lake Bogoria National Reserve as a World Heritage site in 2011 happened without the consent of the indigenous Endorois community. As such, the community has expressed concern that the Kenyan Government may use the World Heritage status as a pretext for denying them restitution, as required by the African Court on Human and Peoples' Rights in 2009.[95] The situation is worsened by the fact that for a long time, the Operational Guidelines for Implementation of the World Heritage Convention, which sets out

[88] *Adopted* on 16th November 1972.
[89] Ibid, Article 1.
[90] Ibid, Article 2.
[91] Stefan Disko, Helen Tugendhat & Lola Garcia-Alix 'World Heritage Sites and Indigenous Peoples' Rights: An Introduction' in Stefan Disko & Helen Tugendhat (eds.) *World Heritage sites and indigenous peoples rights* (2015) at 20-21.
[92] Ibid.
[93] Ibid.
[94] Report of the Special Rapporteur of the Human Rights Council on the rights of indigenous peoples, Victoria Tauli-Corpuz, 29 July 2016, A/71/229 at para 60. See also Disko *et al* op cit note 91 at 20.
[95] Special Rapporteur (Tauli-Corpuz) op cit note 94, para 61.

the procedure for the inscription of properties on the World Heritage list and the protection and conservation of sites, did not require participation by indigenous peoples.[96] But the 2017 guidelines do require states to nominate properties for inscription on the World Heritage List with the participation of indigenous peoples.[97] As a result, the UNPFII, the Expert Mechanism on the Rights of Indigenous Peoples and the Special Rapporteur, have called for reforms on the application of the Convention so that the Operational Guidelines are aligned with UNDRIP standards.[98] Indeed, the application of this Convention illustrates a lack of respect amongst States for the collective rights and worldviews of local communities.

(i) United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)[99]

UNDRIP embodies a 'solemn, comprehensive response of the international community of States to the claims of indigenous peoples, with which maximum compliance is expected'[100] yet it is not a legally binding instrument. It deals with 'indigenous peoples' rights, a controversial subject in international law. Generally, indigenous peoples are characterised by self-identification; the existence of and desire to maintain a special relationship with ancestral territories; distinct social, economic or political systems from mainstream society; and a historically non-dominant position within society.[101] While UNDRIP does not define the concept of 'indigenous peoples' it recognises their 'indispensable' collective rights, to wit self-determination, preservation and flourishing of cultures, and the protection of territorial and land rights.[102] It approaches indigenous peoples rights holistically by recognising that 'respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment.'[103] However, the Preamble notes that 'indigenous peoples have suffered from historic injustices as a result of, *inter alia*, their colonisation and dispossession of lands, territories

[96] Ibid.
[97] UNESCO 'The Operational Guidelines for Implementation of the World Heritage Convention' (2017).
[98] Special Rapporteur (Tauli-Corpuz) op cit note 94 at para 60.
[99] Adopted by the United Nations General Assembly in its Resolution A/RES/61/295 of 13 September 2007 (hereinafter 'UNDRIP').
[100] Wiessner op cit note 44 at 5. See also Permanent Forum on Indigenous Issues Sixteenth session on the theme 'Tenth anniversary of the United Nations Declaration on the Rights of Indigenous Peoples: measures taken to implement the Declaration,' E/C.19/2017/4.
[101] Para 15, Report of the Special Rapporteur on the rights of indigenous people, Human Rights Council, 11 August 2016, A/HRC/33/42.
[102] Wiessner op cit note 44 at 4.
[103] Preamble, UNDRIP.

and resources' and thus seeks to respond to the urgent need to respect and promote the inherent rights of indigenous peoples. The Declaration therefore becomes vital in discussing the protection of TEK owing to the fact that TEK is as a result of TEK holders' interactions with their lands, territories and resources.

It recognises several collective rights. For instance, it guarantees the right to self-determination by virtue of which indigenous peoples freely determine their political status and pursue their economic, social and cultural development.[104] Self-determination is an overarching right to indigenous peoples and is a necessary pre-condition for the realisation and fulfilment of other rights because of its cross-cutting nature.[105] The right to self-determination fortifies 'indigenous sovereignty' to 'preserve their inherited ways of life, change those traditions as they see necessary, and make their cultures flourish.'[106] UNDRIP reiterates this fundamental policy by recognising the right of indigenous peoples to 'maintain and strengthen their distinct political, legal, economic, social and cultural institutions, while retaining their right to participate fully, if they so choose, in the political, economic, social and cultural life of the State.'[107] However, Engle rightly opines that UNDRIP eschews strong forms of self-determination, to wit external self-determination models and forms of self-determination that provide for significant autonomy for indigenous groups vis-à-vis the state.[108] She notes that while the 1993 draft of UNDRIP had an additional provision on the right to self-determination in listing areas over which indigenous peoples would have control: culture, religion, education, information, media, health, housing, employment, social welfare, economic activities, land and resources management, environment and entry by non-members,[109] the final draft left out that provision. Instead, the final draft watered-down self-determination by providing that the right only guarantees 'autonomy or self-government in matters relating to their internal and local affairs, as well as ways and means for financing their autonomous functions.'[110] Such attempts to limit the right to self-determination and contestations

[104] Ibid, Article 3.
[105] Special Rapporteur (Tauli-Corpuz) op cit note 94 at para 22.
[106] Wiessner op cit note 44 at 4.
[107] Article 5, UNDRIP.
[108] Engle op cit note 35 at 142. See also Rohaida Nordin & Matthew Albert Witbrodt 'Self-determination of indigenous peoples: The case of Orang Asli' (2012) 20(2) *Asia Pacific Law Review*, 189-210 at 193-196; Ulfstein op cit note 13 at 12.
[109] Engle op cit note 35 at 145.
[110] Ibid.

over its potential meaning, contributed to the failure of states and indigenous groups to agree upon a text for the declaration for many years.[111] African countries (who were concerned about the effect of a 'new wave of self-determination') supported the draft document after a new compromise in Article 46(1) making it clear that UNDRIP would not support external forms of self-determination.[112]

Moreover, Engle argues that Article 3 of UNDRIP (on self-determination) applies common Article 1 of ICCPR and ICESCR 'on human rights to indigenous peoples' and therefore it 'represents the continued power and persistence of an international human rights paradigm that eschews strong forms of indigenous self-determination and privileges individual civil and political rights'[113] portending difficulties to indigenous peoples when protecting their collective rights.

It recognises the rights of the peoples to practice and revitalise their cultural traditions and customs including the right to maintain, protect and develop the past, present, and future manifestations of their cultures[114] and requires States to provide mechanisms for redress when their cultural, intellectual, religious and spiritual property is taken without their free, prior and informed consent (FPIC) or in violation of their laws, traditions and customs.[115] And in a marked departure from the assimilationist policy of the 1957 ILO Convention, UNDRIP guarantees indigenous peoples the right not to be subjected to forced assimilation or destruction of their culture.[116] Guaranteeing indigenous peoples the right to cultural life is critical because culture is 'indispensable to their existence, well-being and full development.'[117]

To ensure effective enjoyment of the right to culture, UNDRIP recognises the distinct spiritual relationship between indigenous peoples and their traditionally owned, occupied, used or acquired lands, territories, and resources;[118] and affirms their right to own, use, develop and control such areas.[119] Respect for the rights of indigenous peoples to ownership of, control over and access to their lands and resources is a 'precondition for the enjoyment of other rights such as the rights

[111] Ibid at 144-145.
[112] Ibid at 146.
[113] Ibid at 141-144.
[114] Article 11(1), UNDRIP.
[115] Article 11(2).
[116] Article 8(1).
[117] Paras 36-37, General Comment No. 21, E/C.12/GC/21, 21 December 2009.
[118] Article 25, UNDRIP.
[119] Article 26(2).

to food, health, adequate housing, culture and free exercise of religion'[120] and is also necessary for the protection of their TEK. Unlike the ILO Convention No. 169, UNDRIP offers a better approach by not drawing a distinction between 'rights to traditionally occupied lands' and rights to traditionally used lands'.[121] It recognises that the basis for indigenous land rights is the indigenous peoples cultural and spiritual relationship to their ancestral lands.[122] According to the Inter-American Court, indigenous peoples relationship with land, is 'not merely a matter of possession and production but [have] a material and spiritual element which they must fully enjoy, even to preserve their cultural legacy and transmit it to future generations.'[123] UNDRIP seems to recognise the rights to sub-surface resources unlike the ILO Convention No. 169 which expressly allows States to retain ownership of those resources.[124] Moreover, if they are to be relocated[125] or their lands, territories and resources confiscated, taken, occupied, used or damaged without their FPIC, they have the right to redress by means such as return, restitution or just, fair and equitable compensation.[126] Gocke argues that since unilateral compulsory acquisition is generally prohibited, indigenous land rights 'enjoy *de facto* a higher level of protection than non-indigenous land rights' because of the cultural and spiritual relationship with land and the fact that the land rights inhered in a time before the formation of the state. [127] But this may not be the situation in Kenya where the security of indigenous land rights appears to be weak both *de facto* and *de jure* as will be illustrated using the *Ogiek*[128] and *Endorois* case.[129]

UNDRIP also requires the 'legal recognition and protection' of indigenous lands.[130] Some argue that recognition of indigenous rights is meaningless without the identification of those lands, demarcation and protection by granting indigenous peoples formal legal title.[131] The Inter-

[120] Para. 43, Report of the Special Rapporteur on the Situation of Human rights and fundamental freedoms of indigenous people, Rodolfo Stavenhagen to the Human Rights Council, UN Doc. A/HRC/6/15.
[121] Gocke op cit note 39 at 140.
[122] Pasqualucci op cit note 57 at 56. See also Gocke op cit note 39 at 128.
[123] *Mayagna (Sumo) Awas Tingni Community v Nicaragua*, 2001 Inter-Am. Ct. H.R. (ser. C) No. 79, 149.
[124] Gocke op cit note 39 at 131.
[125] Article 10.
[126] Article 28.
[127] Gocke op cit note 39 at 134.
[128] *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017.
[129] *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v. Kenya*, Communication No. 276/2003, 25 November 2009.
[130] Article 26(3), UNDRIP.
[131] Pasqualucci op cit note 57 at 61. See also Gocke op cit note 39 at 144.

American Court has explained that indigenous peoples 'must obtain title to their territory in order to guarantee its permanent use and enjoyment…'[132] However, the Special Rapporteur on the rights of indigenous people has opined that the territorial and property rights of indigenous peoples' are *sui generis* in nature and 'exist irrespective of State titles and are premised on: their status as self-determining peoples entitled to the lands and resources necessary for their physical and cultural survival; their customary land tenure regimes; and long-term possession of ancestral territories.'[133] In *Salem Party Club and others v Salem Community and others,* the Constitutional Court of South Africa has recognised the land rights of a traditional community though the Settlers had a registered title.[134] Likewise, the African Court on Human and Peoples' Rights has argued that Article 26(2) of UNDRIP 'places greater emphasis on the rights of possession, occupation, use/utilization of land' and not necessarily 'the right of ownership in its classical meaning, including the right to dispose thereof (*abusus*).'[135] As explained elsewhere in this chapter, such a jurisprudence on community ownership seeks to eschew the dangers of a narrow and common law-inspired understanding of property whose application can lead to loss of community land rights.[136]

It also recognises the right of indigenous peoples to conserve and protect the environment and the productive capacity of those areas[137] which is an acknowledgement of their guardianship over natural resources and their contribution to sustainability[138] as discussed in chapter two. The Preamble to UNDRIP recognises that 'respect for indigenous knowledge, culture and traditional practices contributes to sustainable and equitable development and proper management of the environment.'[139] As explained in chapter two, this seems to be an acknowledgement of the role of TEK in sustainable management of the environment.

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[132] *Yakye Axa Indigenous Community v Paraquay,* 2005 Inter-Am. Ct. H.R. (ser. C) No. 125, 143.
[133] Para 16, Report of the Special Rapporteur on the rights of indigenous people, Human Rights Council, 11 August 2016, A/HRC/33/42.
[134] [2017] ZACC 46.
[135] *African Commission on Human and Peoples' Rights v Republic of Kenya,* Application No. 006/2012, Judgment 26 May 2017, para 127. See also *Salem Party Club and others v Salem Community and others* [2017] ZACC 46 where the land rights of a community were recognised by the Constitutional Court though the Settlers had a registered title.
[136] Wicomb & Smith op cit note 53 at 434-35.
[137] Article 29(1).
[138] Pasqualucci op cit note 57 at 76.
[139] Preamble, UNDRIP.

Most importantly, it recognises the rights of indigenous peoples to maintain, control, protect and develop their IP over their cultural heritage, TK and TCEs including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora.[140] States are to take effective measures to recognise and protect the exercise of these rights in conjunction with indigenous peoples.[141] Clearly, UNDRIP seems to go further than Convention No. 169 by providing rights to TK and plant varieties in Article 31, and emphasising strongly the close link between indigenous peoples, their environment and the need for prior informed consent before accessing their resources.[142] However, the protection of cultural heritage, land rights, and development is done in a way that is potentially undermined by UNDRIP's commitment to state sovereignty and to a liberal and individualistic form of human rights[143] as alluded to earlier. Moreover, it is apparent that while Article 31(1) is formulated as a collective right, it uses the term 'intellectual property' which might suggest an acknowledgement of the effectiveness of using IPRs in protecting TK.

The right of indigenous peoples to promote, develop and maintain their indigenous decision-making institutions,[144] institutional structures and their distinctive customs, spirituality, traditions, procedures, practices and, in the cases where they exist, juridical systems or customs, in accordance with international human rights standards, is recognised.[145] States have a duty to consult and cooperate with indigenous peoples through their own representative institutions in order to obtain their FPIC before adopting and implementing legislative or administrative measures that may affect them.[146] The 'participatory rights of indigenous peoples, and corresponding duties of States, are essential elements of indigenous peoples'[147] right to self-determination which affirms and supports the theoretical framework adopted in this study. Indigenous peoples are to participate in decision-making in matters that affect them and to be consulted prior to the approval of projects or measures that may affect them through their chosen

[140] Article 31(1), UNDRIP.
[141] Article 31(2).
[142] Meyer op cit note 4 at 44.
[143] Engle op cit note 35 at 143.
[144] Article 18, UNDRIP.
[145] Article 34.
[146] Article 19.
[147] Disko *et al* op cit note 91 at 10.

representatives in accordance with their own procedures.[148] FPIC under UNDRIP operates fundamentally as a safeguard for collective rights of indigenous peoples. Under UNDRIP, FPIC goes beyond mere 'consultation' as envisaged under the ILO Convention 169 since consultation marks the beginning of obtaining FPIC.[149] They also confirm that traditional governance structures such as TJS can perform a vital role amongst communities in consultations and decision-making before granting FPIC.

UNDRIP has reaffirmed the concept of 'peoples' and that they are entitled to self-determination; equality and has negated certain theories and doctrines that acted as structural constraints in the marginalisation of communities and peoples. UNDRIP has actually become so dynamic and influential as to shape States' behavior and policy[150] and seeks to strengthen its implementation and effectiveness by requesting the United Nations systems including the Permanent Forum on Indigenous Issues (UNPFII), specialised agencies and States to promote respect for and full application of the Declaration.[151] Be that as it may, UNDRIP remains a legally non-binding instrument with 4 developed countries with indigenous populations voting against its adoption (Australia, Canada, New Zealand, and the United States), and several others expressing reservations owing to its provisions on, *inter alia*, land and resources.[152] Kenya abstained from the vote,[153] but it has since taken some steps in implementing the Declaration, as will be illustrated later in this chapter.

While it is lauded for its recognition and expansion of collective rights, it contains significant compromises which are serious limitations on the collective rights it is praised for promoting.[154] For instance, the model for cultural, economic and political justice it promotes is provided largely by human rights[155] with the effect that collective rights (to self-determination, culture, and property) are defined using a human rights framework that is based on some of the very premises they are meant to challenge.[156] For example, while a number of human rights

[148] Articles 18, 19 & 32.
[149] Barume (2018) op cit note 49.
[150] Kuei-Jung op cit note 33 at 113. See also Barume op cit no 36 at 254-257.
[151] Article 42, UNDRIP.
[152] Birnie *et al* op cit note 38 at 627.
[153] See Resolution A/61/PV.107.
[154] Engle op cit note 35 at 141.
[155] Ibid at 147.
[156] Ibid at 149.

instruments make it clear that some or all of the rights they embody are subject 'only to such limitations as are determined by law',[157] UNDRIP provides that the exercise of the rights it sets forth is subject only to 'such limitations as are determined by law and in accordance with international human rights obligations.'[158] This demonstrates that indigenous rights are not permitted to stray outside the boundaries of a human rights framework. It also calls for the interpretation of rights in accordance with the 'principles of justice, democracy, respect for human rights, equality, non-discrimination, good governance and good faith.'[159] Articles 46 (2) and (3) seem to function in the same way as the repugnancy clause, in that it offers states a 'way to define certain indigenous claims out of these categories, and to deny them accordingly.'[160] A human rights framework is eschewed as it fails to sufficiently protect group or collective rights.[161]

4.3 THE ROLE OF INTERNATIONAL HUMAN RIGHTS INSTITUTIONS

There are numerous human rights institutions charged with the mandate of monitoring the implementation of international human rights instruments. The ensuing part outlines briefly the work of the main human rights institutions.

(a) The Human Rights Committee (HRC)

HRC is a body of independent experts who monitor the implementation of the ICCPR by State parties.[162] It replaced the Commission on Human Rights and abolished the United Nations Working Group on Indigenous Peoples which was established by the United Nations Economic and Social Council (ECOSOC) in 1982.[163] As the precursor to HRC, the United Nations Working Group on Indigenous Peoples initiated the drafting of UNDRIP. All States parties are obliged to submit regular reports to the Committee on how the rights are being implemented.[164] It has the power to provide Concluding Observations based on the reports submitted by member states on the implementation of their treaty obligations. Such Concluding Observations contain a collective

[157] See Article 29, UDHR and Article 5, ICESCR.
[158] Article 46(2), UNDRIP.
[159] Article 46(3).
[160] Engle op cit note 35 at 162.
[161] See chapter one in this study. See also Kelly *Roy* & Gudmundur *Alfredsson* 'Indigenous Rights: The Literature Explosion' (1987) *Transnational Perspectives* 13 at 21.
[162] Article 28(1), ICCPR.
[163] Barume op cit note 36 at 260.
[164] Article 40.

assessment of a State's record and recommendations for enhanced implementation of the rights in question.[165] For example, it has observed regarding the report submitted by Sweden in 2002, that the Sami Parliament of Sweden should have a significant role in the decision-making process on issues affecting traditional lands and economic activities of the Sami Indigenous peoples.[166] It can also publish its interpretation of the content of human rights provisions, known as general comments on thematic issues or its methods of work. General Comment No. 23 on the right to culture is relevant to this study as the HRC has alluded to the fact that culture manifests itself in many forms, including a particular way of life associated with the use of land amongst indigenous peoples.

Additionally, HRC has repeatedly held that indigenous peoples have inherent rights to their lands based on their cultural and spiritual relationship to those lands.[167] For instance, in its Concluding Observations on Canada, it has described indigenous peoples rights to their lands as 'inherent aboriginal rights' and that 'without a greater share of lands and resources, institutions of aboriginal self-government will fail'.[168] This underscores the importance of land rights in sustenance of TJS.

Moreover, HRC has emphasised that the right to 'self-determination requires, *inter alia,* that all peoples must be able to freely dispose of their natural wealth and resources and that they may not be deprived of their own means of subsistence.' [169] Likewise, in the *Lubicon Lake Band case* the HRC while interpreting article 27 which relates to ethnic, religious or linguistic minorities, noted that article 27 could be used to protect indigenous peoples. Consequently, the HRC found Canada to be in violation of the right to culture and demanded the government to consult with the Band before granting licences for economic exploitation of the disputed land.[170] In the *Apirana Mahuika et al v New Zealand*,[171] the HRC has formally recognised the interconnection between the right to culture and self-determination in that indigenous peoples have the right to enjoy their

[165] Michael O'Flaherty 'The Concluding Observations of United Nations Human Rights Treaty Bodies' (2006) 6(1) *Human Rights Law Review,* at 27–52.

[166] Kamrul Hossain 'The Human Rights Committee on Traditional Cultural Rights: the Case of the Arctic Indigenous Peoples' at 38-39.

[167] Gocke op cit note 39 at 128.

[168] HRC, Consideration of Reports Submitted by States Parties under Article 40 of the Covenant: Concluding Observations of the Human Rights Committee: Canada, UN Doc CCPR/C/79/Add.105, 7 April 1999 at para 8.

[169] Ibid.

[170] Hossain op cit note 166 at 36.

[171] Communication No. 547/1993, CCPR/C/70/D/547/1993 [2000].

right to culture not only as minorities under Article 27, but also as a 'people' under Article 1. In the *Apirana Mahuika case*, the HRC noted that indigenous peoples have a connection with their land and that,

> 'minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture [which] may consist in a way of life which is closely associated with territory and use of its resources. This may particularly be true of members of indigenous communities or any other communities constituting a minority.'[172]

Similarly, in *Sandra Lovelace v Canada*[173] the HRC interpreted article 27. In this case, an Indian woman who married a non-Indian man lost her Indian status which also meant, *inter alia*, losing access to federal programs for Indians in education, housing and social assistance; the right to own a home or live on a reserve; to traditional hunting and fishing rights; and cultural benefits that come with living among family and friends on the reserve. The HRC held that people who are born and raised on a reserve, have ties to the community and seek to further maintain those ties, and are considered part of that minority group within the meaning of Article 27. Therefore, denying Sandra Lovelace the Indian status interfered with her right to enjoy her culture because there are no communities outside of the reserve that share the same language and culture.

(b) The Expert Mechanism on the Rights of Indigenous Peoples (EMRIP)

EMRIP was established by the HRC in 2007 under resolution 6/36 as a subsidiary body of the Council. Its mandate is to assist the HRC in implementation of its mandated by providing thematic expertise and advise on the rights of indigenous peoples as set out in UNDRIP, and assist Member States, upon request, in achieving the ends of UNRIP.[174] Its annual meeting is open to the participation, as observers of states, UN mechanisms, UN bodies and specialised agencies, indigenous peoples and NGOs, national human rights institutions and academics.[175]

(c) The Committee on Economic, Social and Cultural Rights (CESCR)

CESCR is a body of 18 independent experts who monitor the implementation of ICESCR by its States parties. It was established by Resolution 1985/17 to monitor the functions assigned to the United Nations Economic and Social Council (ECOSOC) in Part IV of ICESCR. All States parties

[172] Ibid at para 9.7.
[173] Communication No.24/1977 (30 July 1981), U.N. Doc. CCPR/C/13/D/24/1977.
[174] Available at https://www.ohchr.org/en/issues/ipeoples/emrip/pages/emripindex.aspx, accessed on 11/12/2018.
[175] Barume op cit no 36 at 263-264.

are obliged to submit regular reports to the Committee on how they are implementing ECOSOC rights.[176] In addition to the reporting procedure, the CESCR has competence to receive and consider communications from individuals claiming that their rights under the Covenant have been violated.[177] Moreover, under certain circumstances, CESCR may undertake inquiries on grave or systematic violations of any of the ECOSOC rights set forth in the Covenant, and consider inter-state complaints.[178]

However, statistical survey of individual complaints dealt with by CESCR under the Optional Protocol to the Covenant shows that it has only received 8 complaints from Spain and Ecuador. These complaints do not relate to indigenous rights. Although the CESCR has not yet handled cases dealing directly with TEK issues, its interpretation of the content of human rights in General Comments including General Comments No. 17 and 21(discussed earlier) and Concluding Observations on states' practices, demonstrate that its work has impact on the rights of indigenous peoples who are also TEK holders. In its concluding observations on Australia, the Committee remains concerned about the inadequacy of meaningful consultation with indigenous peoples in programmes and policies affecting them including insufficient compliance with FPIC.[179] In its concluding observations on Kenya, the CESCR is concerned with the long delay in the implementation of the decision of the African Commission on Human and Peoples' Rights relating to the Endorois, despite acceptance of that decision.[180] It therefore recommends that Kenya should implement the decision without further delay and ensure adequate representation and consultation of the Endorois at all stages of the implementation process. It also recommends that a mechanism be set up to facilitate and monitor the implementation, with active participation of the Endorois. Further, it recommends that the State party ratify the Indigenous and Tribal Peoples Convention, 1989 (No. 169), of the International Labour Organization.[181] The CESCR has also raised concerns under article 1 in its Concluding Observations concerning the impacts on the way of life of

[176] United Nations Economic and Social Council (ECOSOC), Resolution 1985/17 of 28 May 1985.
[177] Optional Protocol to the International Covenant on Economic, Social and Cultural Rights, adopted by the General Assembly resolution A/RES/63/117, on 10 December 2008, Entered into force on 5 may 2013.
[178] Ibid, Article 11(2).
[179] Para 15, CESCR, Concluding observations on the fifth periodic report of Australia, E/C.12/AUS/CO/5, 11th July 2017.
[180] Concluding observations on the combined second to fifth periodic reports of Kenya, E/C12/KEN/CO/2-5, 6 April 2016, para 15.
[181] Ibid at para 16.

indigenous peoples caused by natural resource exploitation, land acquisition by foreign investors, and land degradation as a result of concessions, among other factors.[182]

(d) Office of the Special Rapporteur on the rights of indigenous peoples

The office of the Special Rapporteur on the rights of indigenous peoples appointed by the Commission on Human Rights in 2001 plays a major role in the promotion of indigenous peoples rights.[183] The mandate of the Special Rapporteur is *inter alia* to: examine ways and means of overcoming existing obstacles to the full and effective protection of the rights of indigenous peoples; gather, request, receive and exchange information and communications from all relevant sources, including Governments, indigenous peoples and their communities and organisations, on alleged violations of the rights of indigenous peoples; formulate recommendations and proposals on appropriate measures and activities to prevent and remedy violations of the rights of indigenous peoples; and work in close cooperation and coordination with other organs dealing with indigenous peoples rights.[184] As stated earlier, the Special Rapporteur has also highlighted the negative impact that the declaration and management of World Heritage Sites have had on their rights, especially rights to land and resources.[185] Already, the Special Rapporteur has noted that the current IP regime does not adequately protect indigenous people's TK given its collective nature.[186]

Some of the cases that the Special Rapporteur has handled relate to Kenya. For example, in his letter of 1 November 2013 to Kenya, the Special Rapporteur raised concerns regarding the alleged burning of Maasai houses and property in the community of Narasha and the alleged proposed expansion of the KenGen geothermal project operating in the area within the traditional, but as of yet, untitled lands of the surrounding Maasai communities. The Special Rapporteur called upon the Government to provide compensation to those who had their homes and possessions burnt. In relation to agreements with indigenous peoples allowing for extractive projects within their territories, the Special Rapporteur has recommended that they must be crafted on the basis of full respect for their land and territorial rights and include provisions for impact mitigation,

[182] Report by Minority Rights Group 'Moving towards a Right to Land: The Committee on Economic, Social and Cultural Rights' Treatment of Land Rights as Human Rights' (2015) at 15.
[183] Commission on Human Rights Resolution E/CN.4/RES/2001/57 of 24 April 2001.
[184] Human Rights Council Resolution, A/HRC/RES/33/12, 06 October 2016.
[185] Disko *et al* op cit note 91 at 3-4.
[186] Para 58, Report of the Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous people, 27 February 2007, A/HRC/4/32.

equitable distribution of the benefits of the projects within a framework of genuine partnership, and grievance mechanisms.[187] The Special Rapporteur in his letter of 10 January 2014, also dealt with the alleged imminent threats of eviction faced by the Sengwer indigenous people from their homes in the Embobut Forest area. He urged the government to ensure that the human rights of the Sengwer indigenous peoples are fully respected, in strict compliance with international standards protecting the rights of indigenous peoples and reminded Kenya of its obligations under Article 10 of UNDRIP.[188]

(e) The Permanent Forum on Indigenous Issues (UNPFII)

UNPFII is a high-level advisory body to the Economic and Social Council established on 28 July 2000 by resolution 2000/22, with the mandate of dealing with indigenous issues related to economic and social development, culture, the environment, education, health and human rights.[189] In this regard, it seeks to: provide expert advice and recommendations on indigenous issues to the Council, as well as to programmes, funds and agencies of the United Nations, through the Council; raise awareness and promote the integration and coordination of activities relating to indigenous issues within the United Nations system; and prepare and disseminate information on indigenous issues.[190] UNPFII has observed that lands, territories and natural resources (including TEK) 'are of fundamental importance to indigenous peoples since they constitute the basis of their life, existence and economic livelihood, and are the sources of their spiritual, cultural and social identity.'[191] UNPFII has also raised concerns regarding the negative impact of the declaration and management of World Heritage Sites and has encouraged the World Heritage Committee to revise the World Heritage Convention's procedures and Operational Guidelines so that the rights of indigenous peoples are respected, and their livelihoods and heritage protected in World Heritage areas.[192]

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[187] Report on observations to communications sent and replies received by the Special Rapporteur on the Rights of Indigenous Peoples, James Anaya, A/HRC/27/52/Add.4 at paras 114-116.

[188] Ibid at paras 118-119.

[189] Paras 1 & 2, Resolution 2000/22 adopted during the 45th plenary meeting of the Economic and Social Council (ECOSOC) on 28 July 2000.

[190] Ibid, para 2.

[191] Paras 4 & 6, Permanent Forum on Indigenous Issues: Report on the sixth session, 14th-25th May 2007, UN Doc. E/2007/43-E/C.19/2007/12.

[192] Disko *et al* op cit note 91 at 28.

(f) UNESCO[193]

UNESCO is a specialised UN agency responsible for coordinating international cooperation in education, science, culture and communication.[194] The furthering of universal respect for human rights, and in particular the rights of indigenous peoples, is one of UNESCO's fundamental purpose[195] expressed by its commitment to principles and values such as cultural diversity, sustainable development and good governance.[196] UNESCO places the needs of indigenous peoples amongst its priority areas for response. Its policies, programmes and projects provide opportunities and have significant impacts (positive and negative) for indigenous peoples worldwide.[197] It is argued that UNESCO faces challenges in implementing the UNDRIP in all components of its work because there are two layers of intergovernmental governance within it.[198] Whereas the main decision-making bodies of UNESCO are the General Conference of Member States and the Executive Board, some UNESCO Conventions and programmes have their own independent intergovernmental governance structures. A good illustration for this is the World Heritage Convention which has its own States Parties and a separate intergovernmental governance structure, which as earlier stated has a history of violating sovereignty and indigenous peoples' rights.[199]

Under the World Heritage program, the principles of consent and consultation of concerned indigenous peoples have frequently been lacking from UNESCO's 'Five C's' of credibility, conservation, capacity-building, communication, and communities.[200] For instance, the approval in 2010 of the Ngorongoro Conservation Area in Tanzania as a World Heritage demonstrates UNESCO's failure to get the FPIC of Indigenous communities and is a violation of their self-determination rights as discussed above. [201] As mentioned earlier, the nomination of heritage sites

[193] Constitution of the United Nations Educational, Scientific and Cultural Organization, adopted in London on 16 November 1945.
[194] Ibid, Article 1(1).
[195] Ibid.
[196] Disko *et al* op cit note 91 at 15.
[197] Available at https://en.unesco.org/indigenous-peoples/policy, accessed on 10 October 2017. See generally Disko *et al* op cit note 91.
[198] Disko *et al* op cit note 91 at 16-17.
[199] Mililani Trask 'UNESCO: (Dis) honoring indigenous rights' Cultural Survival Quarterly Magazine, March 2014. https://www.culturalsurvival.org/publications/cultural-survival-quarterly/unesco-dishonoring-indigenous-rights.
[200] UNESCO 'World Heritage Resource Manual-Managing Cultural World Heritage' (2013) at 46.
[201] Mililani op cit note 198.

without the participation of communities causes devastating harm to their economic resources, affects their livelihoods, and prevents them from accessing cultural and religious sites essential to their history and identity. But through partnerships with indigenous peoples, UNESCO is now acknowledging the significant role played by indigenous peoples in sustaining the diversity of the world's cultural and biological landscape, and is improving and promoting their FPIC and effective participation in the establishment and management of sites.[202]

(g) ILO[203]

The ILO was founded in 1919, becoming the first specialised UN agency in 1946. It sets labour standards, develops policies and devises programmes that promote decent work for all women and men. Since its establishment, ILO has been engaged with indigenous and tribal peoples' issues and is responsible for the Indigenous and Tribal Peoples Convention No. 169, which deals exclusively with their rights.[204] Parties to the ILO Constitution are required to file regular reports with ILO on their implementation of ILO Conventions,[205] however statements from ILO on parties' observance of ratified Conventions are not legally binding.[206]

4.4 REGIONAL HUMAN RIGHTS FRAMEWORKS IN AFRICA

In this part, the study discusses the Banjul Charter, one of the most important human and peoples' rights instruments in the region and the Charter for African Cultural Renaissance because of their relevance to collective rights such as culture, land, religion and self-determination.

(a) African (Banjul) Charter on Human and Peoples' Rights (ACHPR)[207]

The Charter is a legally binding document that embodies a commitment of African states to 'promote and protect human and peoples' rights and freedoms taking into account the importance traditionally attached to these rights and freedoms in Africa.[208] Just like UNDRIP, ICCPR and ICESCR, the Charter guarantees all peoples the right to existence and self-determination by virtue

[202] Available at https://en.unesco.org/indigenous-peoples, accessed on 10 October 2017.
[203] Article 1(1), ILO Constitution.
[204] Available at http://www.ilo.org/global/topics/indigenous-tribal/lang--en/index.htm, accessed on 10 October 2017.
[205] Articles 22 and 23.
[206] Ulfstein op cit note 13 at 13.
[207] African (Banjul) Charter on Human and Peoples' Rights, Adopted 27 June 1981, OAU Doc. CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), entered into force 21 October 1986).
[208] Preamble.

of which they freely determine their political status and pursue their economic and social development according to the policies they have freely chosen.[209] The African Charter expressly recognises collective rights by using the term 'peoples' recognises both individual and collective rights.[210]

It guarantees the right to property[211] which although addressed in the part that enshrines individual rights can also be extended to 'groups or communities.'[212] The African Court on Human and Peoples' Rights has examined this right in relation to the Ogiek community who are part of the case studies in this thesis. It has held that by 'expelling the Ogiek from their ancestral lands against their will, without prior consultation and without respecting the conditions of expulsion in the interest of public need' Kenya violated their rights to land as guaranteed in the Charter and UNDRIP.[213]

The Charter also recognises the right of indigenous peoples to freely dispose of their wealth and natural resources.[214] Again, the African Court on Human and Peoples' Rights has found the Kenyan Government in violation of Article 21 in evicting the Ogieks from the Mau Forest thus depriving them of their traditional food resources.[215]

It attempts to link development to the integration of culture by guaranteeing all peoples the right to 'economic, social and cultural development with due regard to their freedoms and identity and in the equal enjoyment of the common heritage of mankind.'[216] TK can be a vehicle for social, cultural and economic development of TK holders[217] as illustrated in chapter two. The African Commission on Human and People's Rights has interpreted the right to development and the right to freely dispose of wealth. In *Endorois Welfare Council v. Kenya* the Commission held that the rights of the Endorois to property, to freely dispose of wealth and natural resources and to

[209] Article 20(1).
[210] Preamble.
[211] Article 14.
[212] *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017, para 123. See also Loretta Feris 'Protecting traditional knowledge in Africa: Considering African approaches' (2004) 4 *African Human Rights Law Journal*, 242-255 at 253.
[213] *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017, para 131.
[214] Article 21(1), Banjul Charter.
[215] *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017, paras 200-201.
[216] Article 22(1), Banjul Charter.
[217] Feris op cit note 212 at 255.

development under the Charter had been violated when they were denied access to their traditional lands after the lands were turned into a Game Reserve in 1973.[218] According to the Commission, the creation of the Reserve did not need to preclude the Endorois from the land as they were its guardians and thus best equipped to maintain its delicate ecosystem; and their alienation from the land threatened their cultural survival and was not proportionate.[219] Therefore, the Commission recommended: the recognition by Kenya of the communal land rights of the Endorois peoples; compensation for losses and restitution of their ancestral lands or provision of alternative lands of equal extent and quality in agreement with the indigenous community.[220]

It also guarantees the right 'to a generally satisfactory environment favourable to their development.'[221] According to the African Commission, the environmental right is an essential right requiring governments to *inter alia*, promote conservation and ensure ecological sustainable development and use of natural resources; provide access to information for communities involved; and grant those affected an opportunity to be heard and participate in the development process.[222] These obligations extend to the protection of the related knowledge which is TEK.

In addition, the Charter guarantees the right of everyone to religion[223] and to freely take part in the cultural life of his community[224] and to the promotion and protection of morals and traditional values recognised by the community.[225] However, there is no explicit recognition of customary law in the Charter in spite of its importance in the regulation of communal life. The African Court on Human and Peoples' Rights in its judgment has stated that 'given the link between indigenous populations and their land for purposes of practicing their religion, the evictions of the Ogieks from the Mau Forest rendered it impossible for the community to continue its religious practices and is an unjustifiable interference with the freedom of religion of the

[218] African Commission on Human and People's Rights, *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v. Kenya*, Communication No. 276/2003, 25 November 2009.
[219] Ibid, para 173.
[220] Ibid, para 299.
[221] Article 24, Banjul Charter.
[222] Communication 155/96, *SERAC & Another v Nigeria*, paras 52, 53 & 68.
[223] Article 8, Banjul Charter.
[224] Article 17(2).
[225] Article 17(3).

Ogieks.'[226] The Court found the Kenyan Government in violation of the right to culture of the Ogiek by evicting them from the Mau Forest area, thereby, restricting their exercise of cultural practices.[227] Wicomb & Smith have linked culture and the right to property by arguing that communal ownership is an expression or articulation of a community's culture. [228] Consequently, they argue that in the African context, the best avenue for protecting communally-held rights is by basing them on customary law so that even if a communities' customary law and culture is not linked to a specific territory (as in the case of communities dispossessed of their land), they can still be able to establish their communal land rights.[229] Additionally, they support this view by arguing that since the right to culture under the Charter cannot be limited, 'it provides a strong argument for the recognition and protection of these land rights.'[230] Such an approach that roots communal ownership in customary law, supports the argument made in this thesis that the protection of TEK ought to be founded on traditional institutional structures.

(b) Charter for African Cultural Renaissance (2006)

The Charter is a binding instrument that seeks to *inter alia* 'promote in each country the popularisation of science and technology including traditional knowledge systems as a condition for better understanding and preservation of cultural and natural heritage'[231] making it relevant to this study. It replaced the Cultural Charter for Africa adopted in 1976 by the Heads of States and Governments of the Organization of African Unity. To fulfil its objectives, it urges African States to, *inter alia*, subscribe to principles which require 'strengthening the role of science and technology, including endogenous systems of knowledge, in the life of the African peoples by incorporating the use of African languages.'[232] It underscores the significance of culture as 'a factor of social progress and a driving force for innovation'[233] and urges States to create an

[226] *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017, para 169.
[227] Ibid, para 190.
[228] Wicomb & Smith op cit note 53 at 440-443.
[229] Ibid at 432.
[230] Ibid at 444.
[231] Article 3(i), Charter for African Cultural Renaissance, adopted by the Sixth Ordinary Session of the Assembly, Held in Khartoum, Sudan, 24 January 2006.
[232] Article 4(d).
[233] Article 8.

enabling environment for cultural innovation and development[234] through, *inter alia*, taking appropriate measures for the protection of IPRs related to the expression of cultural diversity.[235] Additionally, it expects States to: protect and promote the freedom of artists, intellectuals and men and women of culture; protect and develop tangible and intangible cultural heritage; financially and materially support cultural initiatives in all strata of society; facilitate access to education and culture for all segments of the population.[236]

It requires States to prepare an inter-African convention on copyright in order to guarantee the protection of African works and intensify efforts towards modifying existing international conventions to meet African interests.[237] Likewise, it urges States to enact national and inter-African laws and regulations that guarantee the protection of copyright and set up national authors' associations and copyright offices; and encourage the establishment of authors' associations responsible for protecting the material and moral interests of those who produce cultural goods and services.[238] Elders and traditional leaders are recognised as cultural stakeholders in their own right who should be integrated in modern mechanisms of conflict resolution and the inter-cultural dialogue system.[239] The provisions of the Charter on the protection of African culture and heritage are essential to the protection of TEK since as demonstrated in chapter one, an appropriate model for TEK protection must safeguard the cultural integrity of TEK holders.

4.4.1 Role of Regional Human Rights Institutions in Africa

In this part, two of the most important human rights institutions in Africa are discussed, to wit the African Commission on Human and Peoples' Rights and the African Court on Human and Peoples' Rights, with a view to assessing their role in TEK protection.

(a) African Commission on Human and Peoples' Rights

The Commission is established by the Banjul Charter with the broad mandate of promoting and protecting human and peoples' rights in Africa.[240] On the promotion of human and peoples' rights, the Commission is to: collect documents, undertake studies and research on African problems in

[234] Article 9.
[235] Article 22(e).
[236] Article 10(2).
[237] Article 23.
[238] Article 24.
[239] Article 14.
[240] Article 30, Banjul Charter.

the field of human and peoples' rights, organise seminars, symposia and conferences, disseminate information, encourage national and local institutions concerned with human and peoples' rights, and should the case arise, give its views or make recommendations to Governments; formulate and lay down, principles and rules aimed at solving legal problems relating to human and peoples' rights and fundamental freedoms upon which African Governments may base their legislations; and co-operate with other African and international institutions concerned with the promotion and protection of human and peoples' rights.[241]

In addition, the Commission has the mandate of protecting human and peoples' rights under conditions laid down by the Charter;[242] interpreting the Charter at the request of a State party, an institution of the African Union or an African Organization recognised by the African Union;[243] and perform any other tasks which may be entrusted to it by the Assembly of Heads of State and Government.[244] As illustrated above, the Commission has played a key role in affirming the rights of indigenous and local communities to property, culture, religion and development in Africa and Kenya in particular. Gocke notes that in recognising the close ties that indigenous peoples have with their land as the basis for their culture and identity, the Commission has in essence stressed the inherent nature of indigenous land rights[245] whose promotion and protection is vital in the protection of TEK.

(b) African Court on Human and Peoples' Rights[246]

The African Court complements and reinforces the protective mandate of the Commission.[247] Its jurisdiction extends to 'all cases and disputes submitted to it concerning the interpretation and application of the Charter, its Protocol and any other relevant human rights instrument ratified by the States concerned.'[248] Accordingly, the Court has held that 'as long as the rights allegedly violated are protected by the Charter or any other human rights instruments ratified by the State

[241] Article 45(1).
[242] Article 45(2).
[243] Article 45(3).
[244] Article 45(4).
[245] Gocke op cit note 39 at 130.
[246] Article 1, Protocol to the African Charter on Human And Peoples` Rights on the Establishment of an African Court on Human and Peoples` Rights, adopted by the Organization of African Unity (OAU) in Ouagadougou, Burkina Faso, in June 1998.
[247] Ibid, Article 2.
[248] Ibid, Article 3(1). See also Rule 26(1)(a), Rules of the African Court on Human and Peoples' Rights.

concerned, the Court will have jurisdiction over the matter.'[249] It is, therefore, apparent that the Court can be called upon in the protection of the collective rights of TEK holders as discussed above whenever a state violates its human rights obligations.

(c) Working Group on Indigenous Populations/Communities (WGIP)

The WGIP in Africa was established in May 2001 by the African Commission on Human and Peoples' Rights to advise the Commission on matters relating to the rights of indigenous populations/communities on the continent.[250] Most importantly, the WGIP was to look into the applicability of the concept of 'indigenous peoples' in Africa and give appropriate recommendations for the monitoring and protection of indigenous peoples' rights in Africa. The WGIP has since undertaken several researches, studies, country visits and several other activities with a view to bringing the plight of indigenous communities to light and find common grounds and solution to the challenges indigenous communities face in Africa.[251]

4.4.2 Protection of indigenous peoples' and local communities rights in Kenya

Kenya is a party to a number of international and regional human rights instruments. It became a party to both the ICCPR and the ICESCR on 23 March 1976 and to the Banjul Charter on 25 July 2000 and its Protocol on 4 February 2004. Kenya has a sizeable number of communities that self-identify themselves as indigenous people. Both the UN Special Rapporteur on indigenous peoples[252] and the African Commission[253] have documented at least 14 communities that self-identity themselves as indigenous peoples in Kenya including pastoral communities such as the Endorois, Borana, Gabra, Pokot, Ilchamus, Samburu, Turkana, Maasai and Somali, and hunter-gatherer communities such as the Ogiek, Sengwer, or Yaaku and Awer (Boni). However, for a

[249] See *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017, para 51.

[250] Report of the African Commission's Working Group on Indigenous Populations/communities-Extractive Industries, Land rights and indigenous populations/communities' rights adopted by the African Commission on Human and Peoples' Rights at its 58th Ordinary Session, April 2016, at 16.

[251] African Commission & IWGIA 'Indigenous peoples in Africa: The forgotten peoples? The African Commission's work on indigenous peoples in Africa' (2006) at 25-29.

[252] Report of the Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous peoples, R Stavenhagen, Mission to Kenya, A/HRC/4/32/Add3, 26 February 2007 (Report of the UN Special Rapporteur on Indigenous Peoples in Kenya) at para 10.

[253] African Commission & IWGIA 'Indigenous peoples in Africa: The forgotten peoples? The African Commission's work on indigenous peoples in Africa' (2006) at 15.

long time, Kenya has not fully respected and fulfilled its obligations towards these communities. Since colonial times, indigenous and local communities have suffered from assimilationist laws and policies that have tended to assimilate them amongst the larger communities they live with.[254] This assimilationist policy adopted both by the colonial and post-colonial governments has occasioned massive evictions, loss of ancestral lands, cultural heritage and knowledge systems.[255] As a result, the Office of the Special Rapporteur on the rights of indigenous peoples has expressed long-standing concerns regarding the repeated evictions and forced displacement of several indigenous peoples in Kenya including the Ogiek and Sengwer from their ancestral lands, and which have consequently been declared protected areas.[256] Most of these evictions and displacements have occurred in violation of international law norms that guarantee the rights of communities to exercise FPIC and prohibit forcible relocation. Additionally, attempts by communities like the Ogiek (in *Kemai & 9 others v Attorney General & 3 others*)[257] and the Endorois (in *William Yatich Sitetalia & others v Baringo County Council*)[258] to litigate their collective rights in Kenyan courts have been unsuccessful. In the *Kemai case*, members of the Ogiek community who had been evicted from Tinet forest, were denied relief by the High Court of Kenya on the basis that they: were no longer forest dependant; did not have a licence to occupy land in the forest as required in the Forest Act; and had not been deprived of their means of livelihood nor discriminated against.

Consequently, these communities have resorted to regional human rights bodies like the African Commission and the African Court for recourse. As an instance, in February 2010, the African Commission made a landmark recommendation in the Endorois peoples' case where it condemned the expulsion of the Endorois from their ancestral lands around Lake Bogoria and recommended restitution of their land.[259] Apart from setting up a taskforce to implement the decision, the Kenyan government is yet to fully implement this decision. Similarly, the African

[254] *Joseph Letuya & 21 others v Attorney General & 5 others* ELC Civil Suit No. 821 of 2012 (OS) [2014] eKLR.
[255] Republic of Kenya, *Sessional Paper No. 3 of 2009 on National Land Policy* (2009) at para 199.
[256] Special Rapporteur (Tauli-Corpuz) op cit note 94 at para 53. See also Human Rights Council Twenty-sixth session, Communications report of Special Procedures, 2 June 2014, A/HRC/26/21 at 39.
[257] Civil Case No. 238 of 1999 at the High Court, Nairobi.
[258] Civil Case No. 183 of 2000.
[259] *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v. Kenya*, Communication No. 276/2003, 25 November 2009.

Court has recently found Kenya to have violated the rights of the Ogiek under Articles 1, 2, 8, 14, 17(2) and (3), 21 and 22 of the Banjul Charter.[260]

In the recent past, Kenya has however undertaken some steps towards the promotion and protection of human and peoples' rights. Most of these efforts are largely policy and legislative. For example, the 2010 Constitution of Kenya implicitly addresses indigenous peoples, by recognising historically marginalised groups, including pastoralists and hunter-gatherers that identify themselves as indigenous peoples.[261] Additionally, the Constitution has a very robust bill of rights that guarantees a range of civil, political, socio-economic and cultural rights that have relevance to indigenous peoples including rights to culture, environment, access to justice, and community land rights.[262] Article 22 of the Constitution provides that a person can institute a suit on behalf of another person, group or class of persons.

The State is urged to put in place affirmative action programmes to ensure that minorities and marginalised groups *inter alia* 'develop their cultural values, languages and practices.'[263] A 'marginalised community' includes an indigenous community that has retained and maintained a traditional lifestyle and livelihood based on a hunter or gatherer economy.[264] The Constitution recognises community land which vests and is held by communities identified on the basis of ethnicity, culture or similar community of interest.[265] Community land consists of, *inter alia*, land lawfully held, managed or used by specific communities as community forests, grazing areas or shrines[266] and ancestral lands traditionally occupied by hunter-gatherer communities.[267] Under the Community Land Act, special purpose areas such as community conservation areas[268] and cultural and religious sites,[269] are to be exclusively used for the designated purposes. In resolving community land disputes, communities are to use 'alternative methods of dispute resolution mechanisms including traditional dispute and conflict resolution mechanisms' where it is

[260] *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017.
[261] Articles 56 & 260, Constitution of Kenya 2010.
[262] Ibid, Articles 11, 26, 27, 33, 39, 40, 41, 42, 43, 44, 63 & 69.
[263] Article 56(d).
[264] Article 260.
[265] Article 63(1).
[266] Article 63(2)(d)(i).
[267] Article 63(2)(d)(ii).
[268] Section 29(1)(c), Community Land Act No. 27 of 2016.
[269] Ibid, s 29(1)(e).

appropriate.[270] Moreover, courts or any other dispute resolution body must apply customary law applicable to the parties to a dispute or binding on the parties in settling community land disputes so far as it is not repugnant to justice and morality and inconsistent with the Constitution.[271]

These developments in law are influencing judicial attitudes towards indigenous and local communities. For instance, in *Joseph Letuya & 21 others v Attorney General & 5 others*[272] the High Court *inter alia* found that the constitutional rights to life, dignity and the economic and social rights of the members of the Ogiek Community in Marioshioni Location, Elburgon Division and Nessuit Location, Njoro Division, and Nakuru in the Mau Forest Complex had been contravened by their forcible eviction from the said locations without resettlement and deprived of their means of livelihood. The High Court further noted that their eviction was a contravention of their right not to be discriminated against under the Constitution 2010 as they were being unfairly prevented from living in accordance with their culture as farmers, hunters and gatherers in the forests. The Judge was however quick to distinguish the case from the *Kemai case* (supra) delivered on 23 March, 2000 by opining that the law and circumstances since then had significantly changed due to, among other things, the enactment of a Forests Act in 2005, the formulation of a National Land Policy in 2009 and the promulgation of the 2010 Constitution. Kenya has also enacted the Protection of Traditional Knowledge and Cultural Expressions Act which is relevant to TEK and indigenous peoples[273] as illustrated in chapter three.

For a long time, and due to their small numbers, it has been practically impossible for communities such as the Ogiek to elect any leader to represent them in Parliament or any other Government forum to have their grievances addressed.[274] However, in *Rangal Lemeiguran & Others v Attorney General & Others,* the High Court recognised the right of the Ilchamus to effective representation in Parliament, while grounding its argument in the Constitution and several provisions of the UNDRIP.[275] Gradually, Kenyan courts have started to prove that they can be appropriate forums in the adjudication of indigenous people's rights. But as urged in this study, formal courts may not be apt in TEK protection with its holistic nature, hence the need for TJS.

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[270] Ibid, s 39(1).
[271] Ibid, s 39(4).
[272] ELC Civil Suit No. 821 of 2012 (OS) [2014] eKLR.
[273] Deacon op cit note 81 at 4.
[274] See *Joseph Letuya & 21 others v Attorney General & 5 others* ELC Civil Suit No. 821 of 2012 (OS) [2014] eKLR & *Kemai & 9 others v Attorney General & 3 others,* Civil Case No. 238 of 1999 at the High Court, Nairobi.
[275] [2006] eKLR.

4.5 PROTECTION OF TEK UNDER ENVIRONMENTAL LAW FRAMEWORKS

In the past few decades, the role of TEK in resource management activities aimed at achieving long-term sustainability, has been recognised. In the ensuing part, the study discusses various environmental frameworks while assessing the extent to which they make provision for TEK in environmental governance.

(a) Stockholm Declaration on the Human Environment[276]

This is one of the earliest instruments urging for a common outlook and common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment. A shortcoming of this Declaration is its failure to address TEK or the role of TEK holders in the preservation and conservation of the environment.

(b) World Charter for Nature[277]

The Charter proclaims general principles meant to help persuade states to adopt environmentally sound development strategies.[278] All human conduct affecting nature is to be guided and judged by these conservation principles. The fundamental principle upon which all other principles are anchored is that 'nature shall be respected and its essential processes shall not be impaired.'[279] This fundamental principle is buttressed by other principles requiring that: the population levels and habitat of all life forms be safeguarded for their survival;[280] special protection be given to unique ecosystems and habitats of rare and endangered species;[281] ecosystems, organisms and resources be managed to maintain 'optimum sustainable productivity';[282] and that nature be secured against degradation caused by warfare or other hostile activities.[283] However, the Charter's principles are merely recommendations that are unenforceable. But whereas the Charter is not explicit on TK or on the role of communities in nurturing nature, it requires the 'knowledge of

[276] From the Report of the United Nations Conference on the Human Environment, Stockholm, June 1972.
[277] World Charter for Nature, A/RES/37/7, adopted on 28 October 1982.
[278] Harold W. Wood Jr 'The United Nations World Charter for Nature: The Developing Nations' Initiative to Establish Protections for the Environment' (1985) 12 (4) *Ecology Law Quarterly* 977-996 at 977-978.
[279] Article 1(1), World Charter for Nature, A/RES/37/7, adopted on 28 October 1982.
[280] Article 1(2).
[281] Article 1(3).
[282] Article 1(4).
[283] Article 1(5).

nature' to be 'broadly disseminated by all possible means, particularly by ecological education as an integral part of general education.'[284] It is, however, not clear whether by using the term 'knowledge of nature' the Charter envisages TEK or only 'scientific knowledge.' Moreover, it guarantees all persons the opportunity to participate in the formulation of decisions of direct concern to their environment, and to have access to means of redress when their environment has suffered damage or degradation.[285] This provision could be used to promote the participation of TEK holders and application of their knowledge.

(c) Report of the World Commission on Environment and Development: Our Common Future[286]

The Report represents a major paradigm shift in indigenous peoples' discourses and the environment. With this document, indigenous people are no longer viewed as problems to be solved and/or victims to be rescued but as contributors to global sustainability by virtue of their millennia of experience of sustainable living on the land.[287] It acknowledges that these people are the 'repositories of vast accumulations of traditional knowledge and experience that links humanity with its ancient origins' and that their disappearance is a loss for the larger society.[288] It notes that encroachment into rain forests, deserts, and other isolated environments in pursuit of economic development was disrupting traditional life-styles yet those life-styles can 'offer modern societies many lessons in the management of resources in complex forest, mountain, and dryland ecosystems.'[289] The Report urges that the traditional rights of indigenous peoples be recognised and they be given a 'decisive voice in formulating policies about resource development in their areas.'[290] It is evident from this Report that sustainable development cannot be realised without the participation of TEK holders and their knowledge.

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[284] Article 15.
[285] Article 23.
[286] World Commission on Environment and Development, *Our Common Future* (1987).
[287] Deborah McGregor 'Traditional Ecological Knowledge' available at http://www.silvafor.org/assets/silva/PDF/DebMcGregor.pdf, accessed on 24 August 2017.
[288] World Commission on Environment and Development op cit note 278 at para 74, Chapter 4.
[289] Ibid, para 46, A call for action.
[290] Ibid.

(d) Rio Declaration on Environment and Development[291]

At the 1992 United Nations Conference on Environment and Development, or 'Earth Summit', in Rio de Janeiro, Brazil, several instruments with far reaching impacts on sustainable development and TEK holders' rights were agreed upon. One of these instruments, is the legally non-binding Rio Declaration which recognises the integral and interdependent nature of the earth. Under the Declaration, indigenous people and other local communities have a vital role in environmental management and development 'because of their knowledge and traditional practices.'[292] As such, states are to recognise and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.[293] Certainly, the knowledge referred to here is TEK as it is relevant to ecological aspects. The Declaration further requires the 'environment and natural resources of people under oppression, domination and occupation' most of whom fall under the definition of indigenous peoples' to be protected.[294] In contrast to the human rights instruments, the protection of TK under Rio appears to be a means to an end and not an end in itself.[295] Such a utilitarian view of TK can be a setback in efforts to protect TK since the assumption is that the knowledge is valueless except as a means to attaining sustainable development.

(e) Agenda 21[296]

Apart from the Rio Declaration, the 1992 'Earth Summit' established Agenda 21, as the blueprint for sustainability in the 21st century. Agenda 21 puts forward legally non-binding goals, activities and programmes that are vital in the protection of TEK. First, it acknowledges indigenous peoples and local communities as the 'repositories of vast accumulations of traditional knowledge'[297] that is holistic and intergenerational.[298] It notes that it is ironical that as 'formal development reaches more deeply into rain forests, deserts, and other isolated environments, it tends to destroy the only

[291]Annex 1, Report of the United Nations Conference on Environment and Development (Rio de Janeiro, 3-14 June 1992) A/CONF.151/26 (Vol. I).
[292] Ibid, principle 22.
[293] Ibid.
[294] Ibid, principle 23.
[295] Meyer op cit note 4 at 40.
[296] Agenda 21, United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992.
[297] Ibid, para 74.
[298] Ibid, para 26.1.

cultures that have proved able to thrive in these environments.'[299] Second, it requires the recognition and protection of their traditional rights to land and the other resources that sustain their way of life - rights they may define in terms that do not fit into standard legal systems.[300] The recognition of traditional rights must go hand in hand with measures to protect the local institutions that enforce responsibility in resource use and must also give local communities a decisive voice in the decisions about resource use in their area.[301] This recognition is vital as it acknowledges the role of traditional institutional structures amongst communities and their role in resource governance.

Third, it requires governments and other intergovernmental actors in full partnership with indigenous people and their communities, to recognise their 'values, traditional knowledge and resource management practices with a view to promoting environmentally sound and sustainable development.'[302] Four, states are required to strengthen the active participation of indigenous people and their communities in the national formulation of policies, laws and programmes relating to resource management and other development processes that may affect them[303] including adoption or strengthening of appropriate policies and/or legal instruments that will protect indigenous intellectual and cultural property and the right to preserve customary and administrative systems and practices.[304] Evidently, attaining the goals of sustainability will require that traditional institutional structures be harnessed because of their role in natural resources governance and in increasing the participation of indigenous peoples in decision-making.

(f) Convention on Biological Diversity (CBD) and the Access and Benefit Sharing (ABS) regime

The CBD was adopted in 1992 and is the only binding international instrument with explicit reference to TK[305] and one of the most important environmental framework that seeks to entrench the three integrated and holistic objectives of 'conservation of biological diversity' 'sustainable

[299] Ibid, para 74.
[300] Ibid, para 75.
[301] Ibid, para 75.
[302] Ibid, para 26.3.
[303] Ibid, paras 26.3.b. & 26.3.c.
[304] Ibid, para 26.4.b.
[305] Bernard O'Connor 'Protecting Traditional Knowledge: An Overview of a Developing Area of Intellectual Property Law' (2003) 6(5) *The Journal of World Intellectual Property,* 677–698 at 680.

use of its components' and 'fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.'[306] It recognises the close and traditional dependence of many indigenous and local communities on biological diversity and their role in conservation.[307] State parties' are enjoined to 'respect, preserve and maintain knowledge, innovations, and practices of indigenous and local communities embodying traditional lifestyles'[308] relevant in fulfilling the CBD's objectives. Owing to the fact that TEK is a subset of TK relevant to ecological conservation and use, one can deduce that Article 8(j) is referring to TEK. A similar view is taken by Meyer who asserts that Article 8(j) is limited to ecological knowledge (TEK) only because of the scope and objective of the CBD.[309]

While state obligations in Article 8(j) are not 'precise and definite' in terms of TEK protection, Kuei-Jung opines that the envisaged obligations entail three aspects.[310] First, each state is to preserve TK in its territory. Second, the utilisation of TK is not allowed without the approval of TK holders. And third, each state must formulate a system to ensure TK holders enjoy the benefits arising from the utilisation of their TK.[311] Nevertheless, and whereas Article 8(j)[312] is relevant in the protection of TEK, it avoids the use of the terms 'rights' or 'peoples', fails to define 'indigenous and local communities' or cross-reference to any definitions in indigenous peoples' conventions thus creating ambiguities and uncertainties in ensuring effective protection of TEK.[313] Furthermore, Article 8(j) is qualified by the positivist phrase 'subject to national legislation' suggesting that if there are no existing national laws, states can choose not to implement Article 8(j).[314] But Jeffery argues that the positivist phrase seeks to protect existing relationships between states and their indigenous populations and should not be interpreted in a manner that can generate

[306] Article 1, Convention on Biological Diversity (CBD), 31 *ILM*, 1992.
[307] Ibid, Preamble.
[308] Ibid, Article 8(j).
[309] Meyer op cit note 4 at 41.
[310] Kuei-Jung op cit note 33 at 100.
[311] Ibid at 91.
[312] See also Articles 10(c), 17(2) & 18(4)), Convention on Biological Diversity (CBD), 31 *ILM*, 1992.
[313] Birnie *et al* op cit note 38 at 627; Meyer op cit note 4 at 42; Elisa Morgera & Elsa Tsioumani 'Yesterday, Today, and Tomorrow: Looking Afresh at the Convention on Biological Diversity' (2011) 21 *Yearbook of International Environmental Law*, 1-33 at 1, 18.
[314] Birnie *et al* op cit note 38 at 627; Kuei-Jung op cit note 33 at 91; Grethel Aguilar 'Access to Genetic Resources and Protection of Traditional Knowledge in Indigenous Territories' in Christophe Bellmann *et al*. (eds) *Trading in Knowledge: Development Perspectives On Trips, Trade and Sustainability* (2003) 176.

multiple interpretations and outcomes.[315] However, failure to interpret the phrase in a positive manner that respects TEK holders' rights can undermine their cultural and biological diversity.

The CBD also vests natural resources and rights to exploit them on states.[316] Besides, the prior and informed consent that is envisaged before accessing genetic resources pertains to the State party and not to indigenous peoples nor local communities[317] which is a serious shortcoming of the CBD. The CBD is also silent on the existence of customary laws and institutions regulating the use and access to TEK and genetic resources. State sovereignty over resources can severely limit the control of indigenous peoples and local communities over their natural resources and ecosystems.[318] But it has been claimed that this approach was advocated for by developing nations so as to protect national interests against developed countries and multinational corporations.[319] Be that as it may, it is noteworthy that TEK holders' live within the boundaries of states, and have inalienable rights to their territories and resources which inhered prior to the establishment of states.

Moreover, 'indigenous and traditional knowledge' is placed in CBD's 'exchange of information' part suggesting that TEK falls within the category of information to be exchanged[320] with all the attendant negative consequences to TEK holders. Likewise, on the deployment of techniques to facilitate the fulfillment of CBD's objectives, TEK is treated as part of the technologies that state parties' are to exchange as part of technical and scientific cooperation.[321] With such an emphasis on the 'transmission, diffusion, and sharing of knowledge, innovations, and environmental practices rather than upon their protection'[322] TEK is effectively exposed to the dangers of misappropriation.

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[315] Michael I. Jeffery 'Bioprospecting: Access to Genetic Resources and Benefit-Sharing under the Convention on Biodiversity and the Bonn Guidelines' (2002) 6 *Singapore Journal of International & Comparative Law* 747, 782.
[316] Articles 3 & 15, Convention on Biological Diversity (CBD), 31 *ILM*, 1992.
[317] Ibid, Article 15(5).
[318] 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 'The Biodiversity Convention-The Concerns of indigenous peoples' available at www.tebtebba.org/index.../100-supporting-documents?...the-biodiversity-convention, *accessed on 24 August 2017.*
[319] Tauli-Corpuz op cit note 94 at 33.
[320] Article 17(1) & (2), Convention on Biological Diversity (CBD), 31 *ILM*, 1992.
[321] Ibid, Article 18.
[322] Coombe op cit note 26 at 59-115.

Moreover, the CBD seems to affirm the effectiveness of IPRs in the conservation of biological diversity in a number of ways.[323] First, it requires access to and transfer of technologies to be consistent with the 'adequate and effective protection of intellectual property rights'[324] indicating its reliance on the IP regime. Second, it does not acknowledge the failure of the IPRs regime in protecting TK holders' rights to biological diversity,[325] but merely urges Parties to cooperate to ensure that patents and other IPRs are 'supportive of and do not run counter to its objectives.'[326] This adds weight to the assertion that it affords 'very limited and weak protection' to TEK holders.[327] Third, the ambiguity surrounding Article 8(j) and lack of specific means for protecting TK creates room for IP-like approaches in protecting TK.[328] Conversely, TRIPS does not support the CBD's objectives because the criteria for patentability does not include prior informed consent or mutually agreed terms for benefit-sharing[329] as discussed in chapter three. Although as mentioned in chapter three, TRIPS only provides the minimum standards for patentability and leaves Member States free to prescribe any additional requirements, having been enacted after the CBD, one would have expected it to support the CBD's objectives by at least requiring patent applicants to disclose the source of origin of biological resources or TEK used in developing products; adduction of evidence that TEK holders' have given FPIC; and that there are mutually agreed terms for benefit-sharing.

As a consequence, scholars seem to concur that while the CBD provided developing states with a negotiating toehold internationally by acknowledging the value of TEK and laying out a framework for FPIC and benefit sharing, it lacks direct and adequate means for protecting TEK.[330] It is for this reason also that a Working group on Article 8(j) and related provisions (whose work is discussed later in this chapter) was established in 1998 by the fourth meeting of the Conference

[323] R.V. Anuradha 'IPRs: Implications for Biodiversity and Local and Indigenous Communities' (2001) 10 *RECIEL*, 27-36 at 32-33. See Brendan Tobin 'Redefining Perspectives in the Search for Protection of Traditional Knowledge: A Case Study from Peru' (2001) 10 *RECIEL* 47-64.

[324] Article 16(2), Convention on Biological Diversity (CBD), 31 *ILM*, 1992.

[325] Tauli-Corpuz op cit note 94 at 34.

[326] Article 16(5), Convention on Biological Diversity (CBD), 31 *ILM*, 1992.

[327] Joji Carino 'Traditional Knowledge, the CBD and Multilateral Environmental Negotiations' available at http://www.tebtebba.org accessed on 8 September 2017.

[328] Anuradha op cit note 323 at 45.

[329] Tauli-Corpuz op cit note 94 at 38.

[330] Meyer op cit note 4 at 42; Morgera & Tsioumani op cit note 313 at 5-7; Deacon op cit note 81 at 3.

of the Parties (COP4),[331] to implement the commitments under Article 8(j) and to enhance the role and involvement of indigenous and local communities in the achievement of the objectives of the Convention.

(g) The Nagoya Protocol

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their utilisation is a legally binding instrument adopted at the tenth meeting of the Conference of the Parties on 29 October 2010, in Nagoya, Japan after six years of negotiation. It provides an international framework for implementing the third objective of the CBD, which is 'the fair and equitable sharing of benefits derived from the utilisation of genetic resources.'[332] Arguably, in an effort to remove ambiguity in the CBD's provisions, it seeks to promote an 'integrative interpretation and coherent implementation' of the CBD.[333] It only applies to genetic resources within the scope of Article 15 of the CBD and associated TK by regulating access to such knowledge through a contractualisation and propertisation framework.[334]

Moreover, it creates additional obligations for parties to the CBD. For example, it requires states to take appropriate legislative, administrative, or policy measures to ensure benefits arising out of the use of TK associated with genetic resources are shared fairly and equitably and on mutually agreed terms with TK holders'.[335] Additionally, it provides that access to genetic resources and associated TK is subject to the PIC or approval and involvement of indigenous and local communities, in accordance with national law[336] effectively recognising the resources rights of indigenous and local communities.[337] As such, the Protocol becomes a pivotal instrument and a critical step forward against biopiracy[338] and misappropriation of knowledge. But there is concern regarding the extent to which the 'voices of indigenous peoples are sufficiently and accurately

[331] Working group on Article 8(j) available at https://www.cbd.int/convention/wg8j.shtml accessed on 24 July 2017.
[332] Article 1, Convention on Biological Diversity (CBD), 31 *ILM*, 1992.
[333] Morgera & Tsioumani op cit note 313 at 12-13.
[334] Ibid. See also Vermeylen op cit note 318 at 190; Savaresi op cit note 17 at 37.
[335] Article 5(1), Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable sharing of Benefits arising from their Utilization to the Convention on Biological Diversity, Nagoya, 29 October 2010 (hereinafter 'Nagoya Protocol').
[336] Ibid, Articles 7 & 12(1).
[337] Morgera & Tsioumani op cit note 313 at 14.
[338] Caroline Ncube, Tobias Schonwetter, Jeremy de Beer & Chidi Oguamanam 'Intellectual Property Rights and Innovation: Assessing Regional Integration in Africa (ARIA VIII)' (2017) Working Paper 5 at 23-24.

represented in the final text of the Nagoya Protocol.'[339] For instance, there is clear vagueness when the Protocol states that parties should not restrict 'the customary use and exchange of genetic resources and associated traditional knowledge within and among communities.'[340] This is because with state sovereignty over natural resources the prior rights of TEK holders' are overruled and if they exist, they are only legitimate within the legal and political contours of the state.[341] Effectually, this may undermine and limit the extent to which customary laws and TJS as advocated for in this study can be used in the protection of TEK.

While the Protocol is pivotal in protecting TEK, determining how access to TEK can and should be regulated in practice remains a difficult issue with many unresolved questions.[342] First, it is difficult to define who is an indigenous and local community.[343] Second, it is hard to identify who 'owns' biodiversity and TEK especially where it is shared.[344] Third, prevalent conflicts are bound to arise between national interests and indigenous peoples' assertion of their right to have control over their resources. Four, it is hard to determine who has the authority to FPIC on behalf of TEK holders'.[345] Moreover, there are varying standards and criteria used by governments and indigenous peoples and local communities when it comes to FPIC. Whereas governments, corporations, or researchers may claim they obtained FPIC from the communities, the latter always claim otherwise. Five, the potential of benefit-sharing schemes to create conflicts and divisions between and within communities is high especially if benefits are couched in monetary terms.[346]

Being an international agreement, the Nagoya Protocol needs to be implemented at the domestic level for it to work as intended. For instance, the African Union (AU) member states have adopted Strategic Guidelines for the Coordinated Implementation of the Nagoya Protocol and supplementary Practical Guidelines for the Coordinated Implementation of the Nagoya

[339] Vermeylen op cit note 318 at 187.
[340] Article 12(1), Nagoya Protocol.
[341] Vermeylen op cit note 318 at 188.
[342] Bram De Jonge 'Towards a Fair and Equitable ABS Regime: Is Nagoya Leading us in the Right Direction?' (2013) 9(2) *Law, Environment and Development Journal*, 243-255 at 250.
[343] See AU Commission, 'African Union Practical Guidelines for the Coordinated Implementation of the Nagoya Protocol in Africa' (2015) African Union, Addis Ababa, at 17.
[344] Ibid. See also Tauli-Corpuz op cit note 94 at 37.
[345] AU op cit note 343 at 17.
[346] Ibid at 7. See also Tauli-Corpuz op cit note 94 at 37.

Protocol in the African region.[347] Kenya is a signatory to the Nagoya Protocol and has taken steps to implement it.

(h) The International Undertaking on Plant Genetic Resources for Food and Agriculture (1983)

The Undertaking is a legally non-binding document adopted in 1983 by the member states of the Intergovernmental Food and Agriculture Organization (FAO) Commission on Genetic Resources. Its objective was to ensure that plant genetic resources (PGR) of economic and/or social interest, particularly for agriculture, would be explored, preserved, evaluated and made available for plant breeding and scientific purposes' based on the principle of common heritage of mankind.[348] However, many developing countries were opposed to free availability of PGRs necessitating amendments to the Undertaking to *inter alia* endorse the concept of famers' rights (that arise from the past, present and future contributions of farmers in conserving, improving, and making PGR available)[349] and confer on states the sovereign right over their genetic resources.[350] FAO's Resolution 4/1989 (on Agreed Interpretation of the International Undertaking) and Resolution 5/1989 (on Farmers' Rights) were aimed at achieving a balance between plant breeders rights and farmers rights on one hand, and the rights of developing and developed countries on the other.[351] Effectively, the recognition of farmers' rights offered farmers a basis for sharing in the benefits derived from germplasm which they had developed and conserved over the years[352] using their TEK (as explained in chapter one, the knowledge of animals and plants falls within TEK).

(i) International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGR) (2001)

The provisions of this treaty buttresses those of the CBD and is thus relevant to TEK as it emphasises the conservation and sustainable use of PGR for food and agriculture and the fair and

[347] Deacon op cit note 81 at 4. AU op cit note 343 at 29.
[348] Article 1(1), FAO, Resolution 8/83 adopted 23 November 1983.
[349] FAO, Resolution 5/1989 adopted on 29 November 1989.
[350] FAO, Resolution 3/1991 adopted on 25 November 1991.
[351] Available at http://www.fao.org/nr/cgrfa/cgrfa-about/cgrfa-history/en/ accessed on 24 September 2017.
[352] Lois Muraguri, Richard Boardi & Moni Wekesa 'IPRs, Agriculture and Food Security' in Moni Wekesa *et al* (eds) *Intellectual Property Rights in Kenya* (2009) at 49.

equitable sharing of the benefits arising out of their use.[353] It is the first legally binding instrument that endorses farmers' rights and their enormous contributions in the conservation and development of PGR.[354] It requires member states to take measures to protect and promote farmers' rights[355] including the protection of TK relevant to PGR for food and agriculture[356] and their right to participate in making decisions on matters related to the conservation and sustainable use of PGR for food and agriculture.[357] State parties' are urged to promote *in situ* conservation of wild crop relatives and wild plants for food production, including in protected areas, by supporting, *inter alia*, the efforts of indigenous and local communities.[358] Farmers' rights to save, use, exchange and sell farm-saved seed/propagating material, are also recognised and protected by the law.[359] However, the Treaty has been criticised for not offering 'an alternative to a predominantly intellectual-property-oriented approach to plant genetic resources for food and agriculture and related traditional knowledge, as well as for failing adequately to secure the protection of farmers' rights.'[360] The treaty is relevant to the study since TK relevant for food and agriculture falls within the meaning of TEK as explained in chapter one.

(j) Paris Agreement

Although this agreement was concluded within the ambit of the United Nations Framework Convention on Climate Change (UNFCCC), where climate change is acknowledged as a common concern of humankind, the UNFCC is the only 'Rio Convention' that does not mention TK.[361] However, the COP provides that when taking action to address climate change, state parties must respect, promote and consider their respective obligations on indigenous peoples and local communities[362] especially because they possess vast knowledge of previous variations in climate and weather and have developed mitigation and adaptation strategies for dealing with such

[353] Article 1(1), International Treaty on Plant Genetic Resources for Food and Agriculture adopted by the Thirty-First Session of the Conference of the Food and Agriculture Organization of the United Nations on 3 November 2001.
[354] Ibid, Article 9(1).
[355] Ibid, Article 9(2).
[356] Ibid, Article 9(2)(a).
[357] Ibid, Article 9(2)(c).
[358] Ibid, Article 5(1)(d).
[359] Ibid, Article 9(3).
[360] Savaresi op cit note 17 at 40.
[361] Savaresi op cit note 17 at 33.
[362] UNFCCC, Conference of Parties, Adoption of the Paris Agreement, Draft Decision, Twenty-first session, Paris, 30 November to 11 December 2015, FCCC/CP/2015/L.9/Rev.1.

variations.[363] Consequently, parties to the UNFCC are working on an indigenous peoples and local communities' platform for the exchange of experiences and sharing of best practices on mitigation and adaptation.[364] The Paris Agreement also makes reference to human rights and the rights of indigenous peoples and local communities in the Preamble, which is viewed as an 'opening to greater cross-fertilization and institutional cooperation between these two regimes.'[365] Moreover, states agree to strengthen the knowledge, technologies, practices and efforts of local communities and indigenous peoples in addressing and responding to climate change.[366] There is also an acknowledgement that adaptation actions should take into consideration and be 'based on and guided by the best available science and, as appropriate traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate.'[367] As illustrated in chapter two, such climate-related TK is part of TEK and plays an important role in developing mitigation and adaptation strategies when dealing with climatic variations.

(k) UN Convention to Combat Desertification[368]

The Convention urges contracting parties to protect, promote and use relevant traditional and local technology, knowledge, know-how and practices;[369] make inventories of such technology, knowledge, know-how and practices and their potential uses with the participation of local populations, and disseminate such information, where appropriate;[370] and to facilitate its adaptation, wide use and integration with modern technology where appropriate.[371] In particular, it calls for the protection of indigenous traditional knowledge, technologies and practices that would help accomplish, *inter alia*, early warning and advance planning for periods of adverse climatic variation in a form suited for practical application by users at all levels.[372] It also seeks to

[363] FAO, 'FAO and Traditional Knowledge: the Linkages with Sustainability, Food Security and Climate Change Impacts' (2009) at 4-5.
[364] Savaresi op cit note 17 at 33.
[365] Ibid at 35.
[366] UNFCCC op cit note 362.
[367] Ibid, Article 7(5).
[368] Convention to Combat Desertification in Countries Experiencing Serious Drought and/ or Desertification, particularly in Africa, adopted in 14 October 1994, 1954 U.N.T.S.3 (1994), entered into force 14 October 1994.
[369] Article 18(2).
[370] Article 18(2)(a).
[371] Article 18(2)(d).
[372] Article 16 (g).

combat desertification and mitigate the effects of drought through research activities that 'protect, integrate, enhance and validate traditional and local knowledge, know-how' and ensuring that the 'owners of that knowledge will directly benefit on an equitable basis and on mutually agreed terms from any commercial utilization of it or from any technological development derived from that knowledge.'[373] Essentially, this Convention seems to acknowledge the usefulness of climate-related TEK in curbing desertification and mitigating the effects of drought.

(l) Revised African Convention on Conservation of Nature and Natural Resources[374]

The objectives of this Convention are to: enhance environmental protection; foster conservation and sustainable use of natural resources; and harmonise and coordinate policies in these fields with a view to achieving ecologically rational, economically sound and socially acceptable development policies and programmes.[375] In achieving these objectives, a fundamental obligation of States is to adopt and implement all measures necessary by *inter alia* paying 'due regard to ethical and traditional values.'[376] It urges State parties to take legislative and other measures to ensure that 'traditional rights and intellectual property rights of local communities including farmers' rights are respected.'[377] While the recognition of traditional rights and farmers' rights is vital to the protection of TEK as explained in chapter three, the Convention seems to equate TK to IP rights yet as explained in chapter one they are epistemologically, technically and ideologically different. This may limit the extent to which this Convention can be used to protect TEK.

Most importantly, states are to ensure access to 'indigenous knowledge' and its use subject to prior informed consent and 'to specific regulations recognizing their rights to, and appropriate *economic value of, such knowledge*.'[378] Moreover, it requires States to ensure active participation of local communities in the process of planning and management of natural resources with a view to creating local incentives for conservation and sustainable use of resources.[379] A major pitfall with the law here is the assumption that all TK has economic value, and that holders' of TK will

[373] Article 17(c).
[374] Adopted by the 2nd Ordinary Session of the Assembly of the Union in Maputo, Mozambique on 11th July 2003.
[375] Article II.
[376] Article IV.
[377] Article XVII (1).
[378] Article XVII (2).
[379] Article XVII (3).

be interested in gaining economically. As explained in chapter one, the objective of TK holders in seeking protection of their knowledge is not necessarily for economic benefits. So far the Convention has been ratified by sixteen countries.

(m)Treaty for the Establishment of the East African Community[380]

One of the objectives of the Treaty is the protection of natural resources and promotion of their sustainable utilisation within Partner States.[381] Partner states agree to cooperate and agree in environmental management[382] and *inter alia* 'adopt community environmental management programmes'[383] and 'adopt common policies for conservation of biodiversity and common regulations for access to, management and equitable utilisation of genetic resources.'[384] Although the Treaty does not explicitly mention TK, it alludes to indigenous science and technologies.[385] It is not clear why the Treaty chooses to use the phrase 'indigenous science and technologies' and not TK. Perhaps the use of the phrase is meant to 'modernise' TK so that it can fit within the fundamental policy of the Treaty which is achieving economic development. But as Mazzocchi and others opine, there is a risk of distorting TK systems in trying to proximate, analyse and validate them using a scientific criteria[386] as this may suggest that those systems are unscientific (which is not true), and in need of a 'scientific' clothe (and which is likely to leave out TK holders' worldviews).

Be that as it may, the Treaty also seeks to promote close co-operation amongst Partner States in culture and sports, with respect to: the promotion of cultural activities, including the fine arts, literature, music, the performing arts and other artistic creations, and the conservation, safeguarding and development of the cultural heritage of the Partner States including, historical

[380] As amended on 14th December, 2006 and 20th August, 2007.
[381] Article 5(3)(c). See also Article 111(2).
[382] Article 112(1).
[383] Article 112(2)(l).
[384] Article 112(2)(n).
[385] Article 103(3) (c).
[386] See generally Fulvio Mazzocchi 'Western science and traditional knowledge: despite their variations, different forms of knowledge can learn from each other' (2006) 7(5) *European Molecular Biology Organization* 463-466. See also Andre Lalonde 'African Indigenous Knowledge and its Relevance to Sustainable Development' in Julian T Inglis (eds.) *Traditional Knowledge: Concepts and Cases* (1993) at 57.

materials and antiquities.[387] This provision might be helpful in protecting and promoting cultural expressions which are vital in the generation and transmission of TK as explained in chapter two.

4.6 THE ROLES OF KEY ENVIRONMENTAL INSTITUTIONS

This part discusses the roles of the institutions established under the CBD and the work done by FAO which is relevant to TEK holders.

4.6.1 The Conference of the Parties (COP) under the CBD

The effectiveness of the CBD hinges largely on the willingness and ability of state parties' to perform their duties. As such, the CBD establishes the Conference of the Parties (COP) to be the supreme decision-making body to keep its implementation under review[388] and assist parties' to carry out their obligations. The COP has thus evolved into a prolific norm-creating body across all areas covered by the CBD.[389] For example, COP decisions have 'gradually explored rights-based dimensions of biodiversity policy making'[390] an aspect that the CBD is unclear on. In the ensuing part, two working groups established by the COP are discussed.

4.6.2 Ad Hoc Open-ended Inter-sessional Working Group on Article 8(j)

This Working Group was established by COP-4 to provide advice relating to the implementation of Article 8(j) and related provisions.[391] Its work programme was subsequently adopted by COP-5 in Nairobi[392] and one of the main objective of the work programme is to ensure the full and effective participation of indigenous groups at all stages and levels of implementation of Article 8(j).[393] In this regard, the *Akwé:Kon* guidelines have been developed to provide a collaborative framework for the full involvement of indigenous and local communities in the assessment of cultural, environmental and social impact of proposed developments on sacred sites, lands and waters they have traditionally occupied. They also offer guidance on how to take into account TK, innovations and practices as part of the impact-assessment processes and promote the use of

[387] Article 119(c).
[388] Article 23(4), Convention on Biological Diversity (CBD), 31 *ILM*, 1992.
[389] Morgera & Tsioumani op cit note 313 at 4.
[390] Ibid at 18.
[391] COP Decision IV/9, 1, U.N.Doc. UNEP/CBD/COP/4/20, Annex 1 (1998).
[392] Programme of Work on the Implementation of Article 8(j) and Related Provisions of the Convention on Biological Diversity, Annex to COP Decision V/16, U.N. Doc. UNEP/CBD/COP/5/23 (2000) (hereinafter 'Programme of Work').
[393] Ibid at 143.

appropriate technologies. They are relevant to this study in so far as they recognise the use of 'customary methods' in the decision-making process for any development proposal.[394] They however do not recognise the role of 'customary methods' in protecting TEK.

A study and survey of status and trends of TK has also been initiated to explore the possibility of developing technical guidelines for recording and documenting TK, and to analyse the potential threats posed by documentation to the rights of TK holders.[395] Some of the guidelines to be developed relate to the respect, preservation, and maintenance of TK; efforts to strengthen the use of TK; the establishment of national incentive schemes for indigenous peoples to preserve and maintain their TK and for the application of such TK; and the facilitation of repatriation of TK information.[396] With respect to fair access and benefit sharing, the work programme seeks to develop guidelines to ensure the utilisation of TK is done with the consent of TK holders and that they get equitable benefits out of the utilisation.[397]

The COP has also adopted a text on 'elements of a code of ethical conduct' designed to provide guidance to state Parties in building their codes of ethical conduct for research, access to, use, exchange and management of TK in line with their obligations under Article 8(j).[398] The code 'establishes a new paradigm for researchers and others working with indigenous and local communities and /or on their lands and waters.'[399] It incorporates human rights aspects under the rubric of TK protection in various ways. First, it recognises the 'integral connection of indigenous and local communities to their sacred sites, culturally significant sites and lands and waters traditionally occupied or used by them and associated traditional knowledge, and that their cultures, lands and waters are interrelated.'[400] This approach is lauded given the close and inalienable linkage between TEK, TEK holders' and their lands and territories.[401] Second, it seeks to ensure that activities/interactions do not lead to their removal by force or coercion and without

[394] CBD Secretariat, *Akwé: Kon* guidelines (2004).
[395] COP Decision VIII/5BI, 5, U.N. Doc. UNEP/CBD/COP/8/31 (June 15, 2006).
[396] Programme of Work, at 145-146.
[397] Programme of Work, at 144.
[398] The *Tkarihwaieri* Code of Ethical Conduct on Respect for the Cultural and Intellectual Heritage of Indigenous and Local Communities Relevant to the Conservation and Sustainable Use of Biological Diversity, Annex to COP Decision X/42, at 3, U.N. Doc. UNEP/CBD/COP/DEC/X/42 (Oct. 29, 2010).
[399] *Tkarihwaieri* Code op cit note 398.
[400] Ibid, para 17.
[401] Kuei-Jung op cit note 33 at 101.

their consent from their traditionally occupied or used lands and territories.[402] Indigenous and local communities must be adequately informed in advance, about the nature, scope and purpose of proposed activities/interactions occurring on their territories that may involve the use of their TEK or impact their territories.[403] Moreover, the said activities/interactions must be carried out with the prior informed consent and/or approval and involvement of indigenous and local communities.[404] Third, it acknowledges that TK and traditional resources are collectively held and entail other interests and obligations.[405] Fourth, their right to claim benefit-sharing is protected.[406] Whereas the incorporation of a human rights approach for TK protection by the COP could further the legal status of TK holders and safeguard TK from undesirable activities,[407] there is also doubt as to whether the COP offers the 'vehicle for further clarification of indigenous and local communities' rights.'[408]

Conflicts caused by activities/interactions are to be avoided but if this is not possible, national and culturally appropriate conflict resolution mechanisms should be put in place to resolve disputes and grievances[409] besides it recognises that societal structure/s including elders and women play a paramount role in cultural dissemination should be respected, including the right to pass on their knowledge in accordance with their traditions and customs.[410] It is, however, not explicit on the role of traditional structures in protecting TEK.

The COP has also adopted a decision on biodiversity and climate change urged for the integration of 'knowledge, technologies, practices and efforts of indigenous peoples and local communities related to addressing and responding to climate change and impacts on the biodiversity.'[411]

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[402] *Tkarihwaieri* Code op cit note 398, para 19.
[403] Ibid, para 10.
[404] Ibid, para 11.
[405] Ibid, paras 13 & 18.
[406] Ibid, para 14.
[407] Kuei-Jung op cit note 33 at 103.
[408] Birnie *et al* op cit note 38 at 628.
[409] *Tkarihwaieri* Code op cit note 398, paras 24 & 27.
[410] Ibid, para 21.
[411] Convention on Biodiversity, *Decisions Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Thirteenth Meeting*, Cancun, Mexico, 4-17 December 2016, U.N. Doc. CBD/COP/DEC/XIII/4.

4.6.3 Ad-hoc Open-ended Working Group on Access and Benefit Sharing

This Working Group seeks to establish an international regime on access and benefit sharing (ABS)[412] in fulfillment of the CBD objective of ensuring fair and equitable sharing of benefits arising out of the utilisation of biodiversity resources. It has been the forum for negotiating the Nagoya Protocol and the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilisation.

The Bonn Guidelines adopted by the COP in 2002 are meant to assist Parties, Governments and other stakeholders in developing overall ABS strategies, and in identifying the steps involved in the process of obtaining access to genetic resources and benefit-sharing. The Guidelines apply not only to genetic resources but also to traditional knowledge, innovations, and practices.[413] It requires TK users to 'respect customs, traditions, values, and customary practices of indigenous and local communities'[414] while urging national competent authorities to provide a mechanism for the effective participation of all stakeholders including indigenous and local communities.[415] Contracting parties are to ensure there are measures meant to encourage the disclosure of the country of origin of the genetic resources and of the origin of traditional knowledge, innovations and practices of indigenous and local communities in applications for IP rights.[416] This is a positive measure if taken by states in curbing the failures of Article 27(3)(b) of TRIPS in protecting TEK.

Where genetic resources and TK are being accessed, the prior informed consent and the approval and involvement of TK holders should be obtained in accordance with their traditional practices, national access policies, and subject to domestic laws.[417] The Bonn Guidelines sets out an indicative list of typical mutually agreed terms (MAT) before accessing genetic resources and TK as required by the CBD. [418] MAT should include terms such as the type and quantity of genetic resources, and the geographical/ecological area of activity;[419] any limitations on the possible use

[412] Article 15, Convention on Biological Diversity (CBD), 31 *ILM*, 1992.
[413] Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization, Annex to COP Decision VI/24A, at 263, U.N. Doc. UNEP/CBD/COP/6/20, at 9.
[414] Ibid, Article 16(b)(ii).
[415] Ibid, Article 14(g).
[416] Ibid, Article 16(d)(ii).
[417] Ibid, Article 31.
[418] Article 15 (5) and (7), Convention on Biological Diversity (CBD), 31 *ILM*, 1992.
[419] Article 44(a), Bonn Guidelines.

of the material;[420] recognition of the sovereign rights of the country of origin;[421] whether the genetic resources can be transferred to third parties and conditions to be imposed in such cases;[422] treatment of confidential information;[423] whether relevant TK has been respected, preserved and maintained, and whether the customary use of biological resources in accordance with traditional practices has been protected and encouraged;[424] and provisions regarding the sharing of benefits arising from the commercial and other utilisation of genetic resources and their derivatives and products.[425] MAT also provide an indicative list of both monetary and non-monetary benefits.[426] Traditional structures as advocated for in this study might play a useful role as fora for assessing whether some of these terms can or have been met before accessing TK.

While the Bonn Guidelines have contributed greatly in implementing the ABS objective of the CBD and in curbing unauthorised and uncompensated activities of bioprospectors, they are criticised for not being legally binding. [427] Their voluntary nature is also seen as giving contracting parties much discretion in managing access to TEK without undertaking real international obligations.[428] However, the soft law character and non-binding nature of most of TK instruments does not 'prevent them from providing useful reference for national TK legislation.'[429]

4.6.4 FAO

FAO is a United Nations (UN) agency that pursues global food security, sustainable natural resources management and poverty alleviation.[430] Therefore, it deals with indigenous peoples' rights (who as pointed out in chapter one also happen to be holders' of TEK). It is precisely for this reason that it is one of the specialised agencies charged with the responsibility of observing and implementing the United Nations Declaration on the Rights of Indigenous Peoples.[431] FAO recognises that whereas many indigenous peoples are economically poor and live in remote,

[420] Ibid, Article 44(b).
[421] Ibid, Article 44(c).
[422] Ibid, Article 44(f).
[423] Ibid, Article 44(h).
[424] Ibid, Article 44(g).
[425] Ibid, Article 44(i).
[426] Ibid, Article 46 and Appendix II to the Guidelines.
[427] Kuei-Jung op cit note 33 at 95-96.
[428] Ibid at 97.
[429] Ibid at 116.
[430] FAO op cit note 34 at 8.
[431] Article 41, United Nations Declaration on the Rights of Indigenous Peoples.

marginal and risk-prone rural environments, they have developed knowledge systems, technologies and institutions for the sustainable management of local biodiversity.[432] Moreover, it recognises that respect for indigenous knowledge, cultures and traditional practices of indigenous peoples contributes to sustainable and equitable development[433] and can bring novel solutions to food insecurity.[434]

FAO has also provided a forum for norm setting. For example, on 3 November 2001, in an intergovernmental conference sponsored by FAO, the text of a legally binding international agreement on plant genetic resources, the ITPGR was adopted. Besides FAO has also helped in the development of several non-binding instruments including the International Undertaking on Plant Genetic Resources for Food and Agriculture and FAO Resolution 5/89 (mentioned earlier) which endorsed the concept of farmers' rights.[435]

4.7 PROTECTION OF TEK IN ENVIRONMENTAL FRAMEWORKS IN KENYA

This part discusses the environmental frameworks in Kenya while assessing the extent to which those framework protect TEK.

(a) Constitution of Kenya 2010

The transformative 2010 Constitution guarantees a number of environmental rights that are germane to TEK and TEK holders. For instance, it guarantees the right to property to every person either individually or in association with others,[436] the right to a clean and healthy environment,[437] and provides mechanisms for enforcing environmental rights[438] though in courts. It also imposes numerous environmental obligations on the state to wit: to ensure the sustainable exploitation, utilisation, management and conservation of the environment and natural resources, and the equitable sharing of the accruing benefits;[439] to 'protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities;'[440] encourage

[432] FAO op cit note 34 at 7.
[433] Ibid at 3.
[434] Ibid at 9.
[435] Resolution No. 5/89 adopted by FAO Conference, 25th Session, Rome, 11–20 November 1989.
[436] Article 40(1), Constitution of Kenya 2010.
[437] Article 42.
[438] Article 70.
[439] Article 69(1) (a).
[440] Article 69(1) (c).

public participation in the management, protection and conservation of the environment;[441] 'protect genetic resources and biological diversity';[442] establish systems of environmental impact assessment, audit and monitoring of the environment;[443] eliminate processes and activities that are likely to endanger the environment;[444] and utilise the environment and natural resources for the benefit of the people of Kenya.[445] However, as noted in chapter one, without true intercultural dialogue between customary and state laws, customary laws and traditional institutions cannot be used effectively to yield optimal results for TEK holders.

(b) The Forest Policy

One of the objective of the policy is to 'enhance management of forest resources for conservation of soil, water biodiversity and environmental stability'[446] suggesting that protection of TEK could aid in meeting this objective. Most importantly, the implementation of the policy is to be guided *inter alia* by the principles of sustainable forest management;[447] public participation of various groups including communities in planning, implementation and decision making processes;[448] and use and protection of indigenous knowledge and IPRs embodied in forest biodiversity and genetic resources.[449] Moreover, it recognises the role of communities in the sustainable management of indigenous forests[450] and seeks to strengthen community forestry associations (discussed later in this chapter). The government also seeks to develop mechanisms to link forest research findings to users, and encourage private sector participation, and the incorporation of indigenous knowledge systems.[451] It also requires the development and implementation of strategies for forest resource conflict resolution and management.[452] One of the strategies for forest resource conflict resolution and management is TJS as suggested in this study thus making the policy a critical tool in the protection of TEK using TJS.

[441] Article 69(1) (d).
[442] Article 69(1) (e).
[443] Article 69(1) (f).
[444] Article 69(1) (g).
[445] Article 69(1) (h).
[446] Republic of Kenya, *Forest Policy* (2014) at para 3.2 (f).
[447] Ibid, para 3.3(c).
[448] Ibid, para 3.3 (e).
[449] Ibid, para 3.3 (k).
[450] Ibid, para 4.1.
[451] Ibid, para 6.2.
[452] Ibid, para 8.2.

(c) The National Environment Policy (2013)

This is the overarching policy on all environmental matters in Kenya. It enumerates numerous challenges bedeviling the sector including loss of biodiversity, poor environmental governance, climate change and poverty, amongst others.[453] Implementation of the policy is guided by principles such as public participation, subsidiarity (decentralisation and devolution of authority and responsibilities to the lowest level possible), benefit sharing and community empowerment in decision-making and in the implementation of such decisions.[454] This suggests that it acknowledges the role of local and culturally-based structures in environmental governance such as TJS.

It also requires the involvement and empowerment of communities in the management of forest ecosystems,[455] fresh water and wetland ecosystems,[456] coastal and marine ecosystems,[457] mountain ecosystems,[458] arid and semi-arid land (ASAL) ecosystems,[459] land,[460] soil conservation,[461] wildlife resources[462] and in mitigating and adapting to climate change.[463]

With regard to biodiversity, it requires the government to regulate and encourage sustainable utilisation and bioprospecting of biological resources in accordance with international law. Moreover, it requires the development of mechanisms to ensure that the benefits arising from access to genetic resources, TK and technology are shared equitably with communities living in areas where the genetic material originated.[464] It also recognises the need for integrating TK in environmental planning and management[465] and the need to document, disseminate and encourage the use of indigenous knowledge in environmental protection and conservation.[466] Whereas the policy is silent on the protection of TEK using TJS structures as suggested in this study, it requires

[453] Republic of Kenya, *National Environment Policy* (2013) at para 2.4.
[454] Ibid, para 3.2.
[455] Ibid, para 4.1.3.
[456] Ibid, para 4.2.2.
[457] Ibid, para 4.3.2.
[458] Ibid, para 4.4.2.
[459] Ibid, para 4.5.3.
[460] Ibid, para 4.6.2.
[461] Ibid, para 4.7.2.
[462] Ibid, para 4.10.
[463] Ibid, para 5.10.4.
[464] Ibid, para 4.9.2.
[465] Ibid, para 7.1.1.
[466] Ibid, para 7.2.1.

the government to ensure environmental compliance by *inter alia* establishing indigenous conflict resolution mechanisms,[467] which proves that traditional institutional structures have a role to play in environmental protection. Further, while these conflict resolution mechanisms are yet to be operationalised, various sectoral environmental laws[468] have established them as fora for conflict resolution as discussed below.

(d) Sessional Paper No.3 of 2009 on National Land Policy

The policy seeks to secure the land rights of indigenous of indigenous communities including hunters and gatherers. It notes that some of the policies and laws that have been in existence have deprived many Kenyans of 'access to land and the disruption of indigenous culture and conservation systems'[469] as illustrated earlier with the *Ogiek* and *Endorois cases*. For example, communities have lost access to their territories after their gazettement as forests or national reserves or excision and allocation to individuals and institutions, who subsequently obtain titles to the land.[470] It recognises TK related to land-based resources (which is described in this study as TEK) as a critical resource and thus urges the government to ensure its formal recognition and 'provide the infrastructure for its development and use'[471] illustrating (just like most of the other policies) that it mainly facilitates access to and exploitation of TK rather than the protection.[472] The focus on access and exploitation of TK can perhaps be explained by the fact that before 2016 Kenya did not have a comprehensive law on protection of TK.[473] However, it recognises and protects the rights of resources dependent communities like the Ogiek and urges the government to facilitate 'their access, co-management and derivation of benefits from the resources.'[474]

[467] Ibid, para 9.3.1.
[468] See the Forest Conservation and Management Act (No. 34 of 2016), the Wildlife Conservation and Management Act (No. 47 of 2013) and the Water Act (No. 43 of 2016).
[469] Republic of Kenya, *Sessional paper no. 3 of 2009 on National Land Policy* (2009) at para 31.
[470] Ibid, para 198.
[471] Ibid, para 96(g).
[472] See Fredrick Otswang'o 'Protecting Traditional Knowledge and Associated Genetic Resources in Kenya: What A Community Needs To Know' (2011) *Institute of Economic Affairs* at 1-8. See also Ben Sihanya 'Traditional knowledge, traditional cultural expressions and intellectual property rights management in Kenya' (2016) *Law Society of Kenya Journal* 12(2) 1-38 at 6.
[473] Sihanya op cit note 472 at 37. See also 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 440.
[474] Republic of Kenya, *Sessional paper no. 3 of 2009 on National Land Policy* (2009) at para 96(j).

However, the policy does not recognise traditional institutions through which such access, co-management and benefit sharing is to be realised, as suggested in this study.

(e) The National Wildlife Conservation and Management Policy (2017)

Under the Policy, indigenous knowledge and cultural practices are identified as one of the cross-cutting issues impacting wildlife conservation and management. It notes that communities living with wildlife have local knowledge and cultural practices that exhibit values, beliefs and norms necessary for wildlife conservation and management.[475] 'Indigenous' and 'local' knowledge necessary for wildlife conservation and management is part of TEK as explained in chapter one. For example, in a study conducted among the Samburu, Ocholla, Mireri & Muoria found out that the community has several facets of indigenous knowledge among Samburu community that supports their harmonious living with wildlife which can be an important tool in biodiversity conservation in the area.[476] However, the Policy notes that cultural dilution and transformation is a threat to wildlife and their habitats[477] and thus recommends the promotion of a positive cultural relationship between people and wildlife, through 'incorporation of indigenous and local knowledge systems and the negotiation of a social contract with communities living with wildlife to provide space for wildlife.'[478] While this is a positive step towards the protection of TK relevant to wildlife conservation, TJS might play a useful role in such negotiations with communities. The policy also seeks to ensure that the results of research and development, 'including traditional knowledge, and the benefits arising from the commercial and other utilisation of wildlife resources are shared in a fair and equitable way, which benefits local and national stakeholders.'[479]

(f) Environmental Management and Co-ordination Act (EMCA)[480]

EMCA is the overarching law on environmental matters in Kenya. It establishes the National Environment Management Authority (NEMA) to exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of Government in

[475] Republic of Kenya, *The National Wildlife Conservation and Management Policy* (2017) at para 3.8.5.1.
[476] Gordon Ocholla, Caleb Mireri & Paul Muoria 'Application of Indigenous Knowledge Systems in Wildlife Management: A Case Study of the Samburu Pastoral Community in Kenya' (2016) 6 *International Journal of Applied Science and Technology* at 72-80.
[477] Republic of Kenya, *The National Wildlife Conservation and Management Policy* (2017) at para 2.1.
[478] Ibid, para 3.8.5.2.
[479] Ibid, para 3.8.7.2.
[480] Act No. 8 of 1999.

the implementation of all policies relating to the environment.[481] NEMA has the sole responsibility for implementing all environmental policies in Kenya including the CBD and the Nagoya Protocol.[482] It is also empowered to 'enter into association with other bodies or organisations within or outside Kenya' in furtherance of its objectives.[483] NEMA liaises with Competent National Authorities or lead agencies in regulating ABS in Kenya. Technically, lead agencies are designated to perform various responsibilities such as granting PIC, research licence, pass, letter of affiliation or export permit to users of genetic resources (GR). The lead agencies are also responsible for negotiating mutually agreed terms (MAT), material transfer agreements (MTA) and benefit sharing agreements with users of GR; representing providers at local or national level; and serving as checkpoints in monitoring compliance with ABS requirements during post-access permit procedures. A provider of genetic resources is any person(s) or entity in custody of GR that provides genetic resources and/or associated knowledge within the Kenyan territory including public or private land owners, resource managers, county government, local community and individual TK holders. It is the obligation of the genetic resource providers to negotiate MAT and grant PIC with the user prior to access to genetic resource and/or associated traditional knowledge. The user is required to acquire PIC from the provider and apply for an access permit from NEMA before access to genetic resources.

EMCA requires the Cabinet Secretary on the advice of NEMA to 'protect indigenous property rights of local communities in respect of biological diversity'[484] and to issue guidelines on 'integrating traditional knowledge for the conservation of biological diversity with mainstream scientific knowledge.'[485] The Cabinet Secretary on the advice of NEMA can also issue guidelines and prescribe measures for the 'recognition, protection and enhancement of indigenous knowledge and associated practices in the conservation of the environment and natural resources'[486] and for the 'protection of indigenous knowledge of biodiversity and genetic resources of communities.'[487] Certainly, the law is quite clear on the need for TEK protection although it does not come out clearly on how TEK is to be protected.

[481] Ibid, s 9 (1).
[482] Ibid, s 9(2) (f) and (g).
[483] Ibid, s 11(d).
[484] Ibid, s 50(f).
[485] Ibid, s 51(f).
[486] Ibid, s 53(2)(f).
[487] Ibid, s 53(2)(g).

EMCA operationationalises the constitutional provisions on environmental impact assessments. One of the projects that requires an environmental impact assessment study report are projects located in indigenous forests including those outside of gazetted forests.[488] Most probably this is because of the risks of losing critical biodiversity and destroying the homes of hunter-gatherer communities like the Ogiek and their TEK.

Ironically, the law confers on the Cabinet Secretary the discretion to declare the traditional interests of local communities customarily resident within or around a lake Basin, wetland, coastal zone or river basin or forest to be protected interests.[489] NEMA in consultation with relevant lead agencies and stakeholders must issue guidelines and prescribe measures for co-management of such areas while taking into account the interests of the local communities resident therein.[490] It is not evident how communities will effectively participate in such co-management when their laws and institutions continue to suffer subjugation and subordination as explained in chapter one.

The Environmental Management and Co-Ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations under the Act regulate access to genetic resources only. They neither regulate access to TEK nor recognise the role of communities in the protection and management of TEK. Access to genetic resources under the Regulations is subject to a permit,[491] evidence of prior informed consent from interested persons and relevant lead agencies, and a research clearance certificate from the National Council for Science and Technology.[492] As submitted in chapter three, ideally it is TEK holders who should grant prior informed consent. But due to state sovereignty over natural resources, state agencies have to give consent which is likely to lead to increased misappropriation of communities' knowledge. It appears from the Regulations that the holder of the access permit has the right to enjoy the joint ownership of relevant IPRs arising out of access to genetic resources.[493] Such IPRs could be those based on TEK held by local communities and as such part of their cultural identity.

[488] Ibid, Second Schedule to the Act.
[489] Ibid, s 43(1).
[490] Ibid, s 43(2).
[491] Regulation 9(1), Environmental Management and Co-Ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006.
[492] Ibid, Regulation 9(2).
[493] Ibid, Regulations 20(3)(j) and 20(4)(l).

(g) Forest Conservation and Management Act[494]

Forests are classified as public, community or private forests.[495] Community forests include 'forests on land that is lawfully held, managed or used by specific communities as community forests' and 'forests on ancestral lands and lands traditionally occupied by hunter-gatherer communities.'[496] Community forests are vested in the community, subject to any rights of user which have been granted to any other person by this Act or other written law.[497] But the Cabinet Secretary may, by notice in the Gazette, declare any community or private forest, which in the opinion of the Kenya Forest Service is mismanaged or neglected, to be a provisional forest.[498] A forest is declared a provisional forest where it is an important catchment area or a source of water springs; is rich in biodiversity and contains rare, threatened or endangered species; is of cultural or scientific significance; or supports an important industry and is a source of livelihood for the surrounding forest communities; and the forest owner has failed to comply with a notice of the Director General of the Service to improve the forest.[499]

It recognises the role of 'forest communities' who are defined as a group of persons who have a traditional association with a forest for the purposes of livelihood, culture or religion.[500] A member of a forest community may, together with other members or persons resident in the same area, register a community forest association (CFA)[501] and apply to the Service for permission to participate in the conservation and management of a public forest.[502] Once granted permission, the CFA shall, amongst other things, protect, conserve and manage the forest or part of the forest in accordance with an approved 'management agreement';[503] formulate and implement sustainable forest programmes consistent with the traditional forest user rights of the forest community;[504] and protect sacred groves and protected trees.[505] Some of the forest user rights that the management

[494] Act No. 34 of 2016.
[495] Ibid, s 30(1).
[496] Ibid, s 30(3).
[497] Ibid, s 32(1).
[498] Ibid, s 35(1).
[499] Ibid, s 35(2).
[500] Ibid, s 2.
[501] Ibid, s 48(1).
[502] Ibid, s 48(2).
[503] Ibid, s 49(1)(a).
[504] Ibid, s 49(1)(b).
[505] Ibid, s 49(1)(c).

agreement confers on a CFA include collection of medicinal herbs, harvesting of honey and harvesting of timber or fuel wood.[506] Already several CFAs have been set up in the Mau Forest, Arabuko-Sokoke forest ecosystem, Mt. Kenya, Mt. Elgon and Kakamega Forests.[507] Whereas one of the guiding principles of the Act is the 'protection of indigenous knowledge and intellectual property rights of forests resources'[508] the law lacks any other provision on TK or on how TK is to be protected. The creation of CFAs under the law is a positive step towards having traditional structures in environmental protection save that they are operationalised within a state-centric, top-down approach which might limit their usefulness.[509] Since CFAs are not modelled around an indigenous group, they may not apply local customary laws, beliefs and practices in environmental governance and as such their establishment might lead to the loss of *de facto* institutions that forest communities had before the enactment of the Act and which have not been formally registered.

(h) Water Act[510]

The Water Act provides for the regulation, management and development of water resources, water and sewerage services. It establishes water resource users associations (WRUAs) as associations of water resource users at the sub-basin level.[511] WRUAs are community-based associations for collaborative management of water resources and resolution of conflicts concerning the use of water resources.[512] For a WRUA to be considered for registration by the Water Resources Regulatory Authority, it should be legally registered, have a constitution conducive to collaborative management of the water resources of a particular resource and seek to promote public participation, conflict mitigation, gender mainstreaming and environmental sustainability.[513] Just like the CFAs, WRUAs demonstrate that what is suggested in this study is

[506] Ibid, s 49(2).
[507] C.K. Koech, P.O. Ongugo, M.T.E. Mbuvi & J.O. Maua 'Community Forest Associations in Kenya: challenges and Opportunities' Kenya Forestry Research Institute (2009) at 3.
[508] Ibid, s 4(e).
[509] Koech *et al* op cit note 507 at 1-8. See also FDP Situma 'Forestry Law and the Environment' in C.O. Okidi, P. Kameri-Mbote & Migai Akech (eds.) *Environmental Governance in Kenya-Implementing the Framework Law* (2008) at 250.
[510] Act No. 43 of 2016.
[511] Ibid, s 29(1).
[512] Ibid, s 29(2). See also Republic of Kenya, *The National Water Resources Management Strategy* (NWRMS) (2006-2008) at 7; Schedule to the Water (Plan of Transfer of Water Services) Rules, 2005.
[513] Rule 10(1), Water Resources Management Rules, 2007.

feasible and most apt because it would permit for the full application of customary laws of communities in TEK protection.

(i) Wildlife Conservation and Management Act[514]

The Act provides for the protection, conservation, sustainable use and management of wildlife in Kenya. It defines the general principles that are to guide its implementation yet protection of TK is not one of those principles. However, some of the principles can be helpful in TEK protection. For instance, it requires wildlife conservation and management to be devolved wherever possible and appropriate to those owners and managers of land where wildlife occurs;[515] and entail effective public participation.[516] Pursuant to these principles, the law allows communities, landowners, groups of landowners and existing representative organisations to establish community wildlife associations and register them under the appropriate law.[517] These associations are to facilitate conflict resolution and cooperative management of wildlife within a specified geographic region or sub-region.[518] If well operationalised, taking into account the worldviews and cultural practices of communities, the associations can be an excellent forum for the protection of wildlife related knowledge as suggested in this study.

Moreover, the law requires that wherever any person is desirous of undertaking bio-prospecting involving any wildlife resources, he may apply to the National Land Commission for a permit.[519] In reviewing that application, the Commission must ensure that the interests of the community 'whose traditional uses of the wildlife resources' and 'knowledge of or discoveries about the wildlife resource' that is to be used for the proposed bio-prospecting are protected.[520] It is however not clear how the Commission will protect the interests of the communities.

4.8 CONCLUSION

Clearly, the discussions in chapters three and four illustrate that there is no single legal framework or institution at the international, regional or national level that can ensure adequate protection of

[514] Act No. 47 of 2013.
[515] Ibid, s 4(a).
[516] Ibid, s 4(b).
[517] Ibid, s 40(1).
[518] Ibid, s 40(2).
[519] Ibid, s 22(2).
[520] Ibid, s 22(3)(b).

TEK and guarantee fair and equitable access to it.[521] Savaresi rightly observes that the treatment of TK is laden with complexities that makes international law deal with TK in a 'largely fragmentary fashion' with little systemic understanding of state obligations.[522] Most of the IP, environmental and human rights laws and institutions that have so far been discussed in chapters three and four are bedeviled by the ideological, epistemic, methodological and technical difficulties highlighted in chapter one, making them largely inadequate in the protection of TEK. This justifies the focus of this study in seeking to study the traditional institutional structures that communities have and that can be used in the protection of TEK such as TJS.

As demonstrated in this chapter, international environmental law frameworks suffer numerous shortcomings. The protection of TEK is not an end in and of itself, but is limited to instances when such protection is relevant and compatible with, the achievement of environmental objectives.[523] Moreover, environmental law frameworks lack a consistent approach to the prevention of misuse and misappropriation of TEK as it seems to promote access and use of that knowledge. For instance, the contractual arrangements created under the Nagoya Protocol may not address the inherent power imbalances between TEK holders and users of TEK and as a result those arrangements might not be fair.[524] And as shown in chapter three, establishment of TEK databases has its own unique challenges. Relatedly, there are no specific remedies for TEK-holders in the event of misappropriation of their knowledge. For example, they have excessively made deference to municipal law and timidly addressed the rights of TEK holders.

Unlike the environmental law frameworks, human rights instruments seek the protection of TK as an end in and of itself.[525] However, and as noted in chapter one, there are limits in using a human rights framework to protect TK. Moreover, and as Savaresi notes, only states that have ratified human rights treaties that protect the right to culture may be said to have specific obligations over TEK.[526]

[521] Kuei-Jung op cit note 33 at 114.
[522] Savaresi op cit note 17 at 34.
[523] Ibid at 41.
[524] Ibid at 41.
[525] Ibid at 42.
[526] Ibid.

CHAPTER FIVE

A TRADITIONAL JUSTICE SYSTEMS APPROACH OF PROTECTING AND FOSTERING ACCESS TO TRADITIONAL ECOLOGICAL KNOWLEDGE

5.1 INTRODUCTION

This chapter advances a TJS approach to protecting TEK and facilitating access and benefit sharing. As explained in chapter one, the study relied on three case studies-Meru, Mijikenda and Ogiek. As a research method, case studies have the potential to highlight various contexts within which particular topics can be discussed.[527] Case studies can also be used 'to explore a topic where there has been little prior knowledge or understanding'[528] as in this case where the role of TJS in protecting TEK has not been explored before. Data derived from the three case studies exposed how TJS can be used to protect TEK and foster access and benefit sharing. As a method, the case studies offered a good approach in discussing the research questions, and in particular a better understanding of the nature of TJS; the role of TJS in the protection of, and access to TEK; the objectives of protecting TEK; the extent to which TEK is protected within IP and environmental frameworks; and how an appropriate legal and institutional framework based on Westra's tripartite fabric can be developed for the protection of TEK in Kenya.

The first case study relates to the *kaya* forests, the sacred forests of the Mijikenda, a Bantu-speaking people consisting of nine sub-communities namely: the *Chonyi, Digo, Duruma, Giriama, Jibana, Kambe, Kauma, Rabai* and *Ribe* who are closely related linguistically and culturally.[529] The name Mijikenda is a Swahili derivative from the expression *midzi chenda* (nine homes) referring to the nine constituent sub-communities. According to historians, the Mijikenda people may have migrated into the coastal area in the 16th century or earlier from a northern homeland known as Singwaya or Shungwaya.[530] When they migrated into Kenya, they settled in fortified hilltop villages known as *kaya* (meaning a settlement, village or home) as they were at risk of

[527] Robert K. Yin *Case study research: design and methods* (2003), 1-17.
[528] Matthew David & Carole Sutton, *Social Research: The Basics*, SAGE Publications (2004), 135.
[529] Paul Ongugo, Doris Mutta, Mohamed Pakia & Peter Munyi 'Protecting Traditional Health Knowledge in Kenya: The role of customary laws and practices' (2012), International Institute for Environment and Development, 4.
[530] James de V. AZZen & Jim Allen 'Shungwaya, the Mijikenda, and the Traditions' (1983) 16(3) *The International Journal of African Historical Studies*, 455-485 at 455.

attack from other communities.[531] Each Mijikenda sub-community has its own *kaya*, which is a political institution and a settlement with a closely-knit society controlled by a council of elders, the *kambi* or *ngambi*.[532] According to Celia Nyamweru, each *kaya* has its own history, committee of elders, and set of environmental and socio-cultural circumstances; but there are common themes traceable amongst them.[533] Currently, there are about 60 *kaya* forests, covering an area of about 4,000 acres and representing 'some of the few patches of undisturbed vegetation in an increasingly densely-populated landscape.'[534] Today, the Mijikenda people are found in Kilifi, Kwale and Mombasa counties. There are however no *kayas* in Mombasa County. Kwale County is home to the Digo and Duruma sub-communities while Kilifi County has the other 7 Mijikenda sub-communities. The study focused on Kilifi County since it has some of the best managed *kayas* and there is strong adherence to cultural traditions. Moreover, most of the Kilifi *kayas* are on the World heritage listing whereas in Kwale it is only the Duruma *kayas* that are listed.

The second case study discusses the *njuri ncheke*[535] institution which is the supreme decision-making body among the Meru people. It was established by a person called Kaura wa Bechau to ensure the Meru people live in harmony. The term *njuri ncheke* means the narrow jury to which only a few are chosen. *Njuri ncheke* members are mature men believed to be almost faultless and people of high moral standing.[536] Before the colonial era, becoming a *njuri ncheke* elder was very prestigious as it was the highest social rank a traditional Meru man could aspire towards.[537]

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[531] Celia Nyamweru 'Sacred Groves and Environmental Conservation' (1998) *The 1998 Frank P. Pistor Faculty Lecture*, 1-27 at 9.

[532] Ongugo *et al* op cit note 3 at 4.

[533] Celia Nyamweru, Report on Socio-Cultural Research carried out in Kwale and Kilifi Districts of Kenyan: unpublished manuscript, at 12 (a copy in the researcher's file).

[534] Nyamweru (1998) op cit note 5 at 15.

[535] The term '*njuri njeke'* is also used to refer to the Ameru traditional elders. However, the accurate term according to Ameru people is *'njuri ncheke*.'

[536] See also Charles Wanyoro, Secrets of Njuri Ncheke shrine revealed to youths of integrity available at https://www.nation.co.ke/news/politics/--Secrets-of-Njuri-Ncheke-/1064-2143012-bh208dz/index.html accessed on 24/05/2018.

[537] Denis Dibondo, Njuri Ncheke used to solve Meru disputes, now they trade curses and court cases available at https://www.the-star.co.ke/news/2017/09/18/njuri-ncheke-used-to-solve-meru-disputes-now-they-trade-curses-and_c1625447 accessed on 24/05/2018.

The *njuri ncheke* govern the Meru people in the counties of Meru and Tharaka-Nithi[538] and their headquarters are at Nchiru at the foot of Nchuura Hill. The dome-shaped building built in the early 1960s is a shrine managed by the National Museums of Kenya (NMK) and is the elders' symbol of authority; and the place where serious disputes (including family, boundary and clan issues) are settled. Traditional dances, prayers and other rituals are conducted at the shrine. Therefore, elders encourage the preservation of the site as it is of cultural and spiritual importance. Those who are not elders are not allowed to enter the shrine, and doing so attracts a fine of a bull.[539]

The third case study was from the Ogiek, a hunter gatherer community that claims the Mau Forest Complex and Mount Elgon Forests as their cradle. They believe that they were born in forests and their identity stems from the socio-cultural value they place on the territories where they put their beehives and hunt. They are organised along the clan system and each clan has an elder (*pooyon*) who represents the clan and acts as a mediator between the clan and the greater council of elders.[540] The council of elders has members drawn from each clan. However, during the data collection, it was evident that the council of elders has been weakened by constant eviction of the community from the Mau forest by government, and assimilation into the wider Kalenjin groups.[541] Before the gazettement of the Mau forest in 1974, as a national forest and a critical water catchment area, the Ogiek would go as far as Lake Nakuru to get honey and salt licks. The gazettement was done without consultation and has denied them access to the forest to practice their traditional activities like hunting and gathering, or conduct rituals and prayers. This has contributed to destruction of the forest and relevant TEK.

At some point, the chapter makes references to TK or IK as some respondents could not distinguish the difference between TK and TEK. However, their views are still useful to this study since TEK is a subset of TK.

5.2 DISCUSSION/ANALYSIS OF FINDINGS

The following four (4) themes and subthemes were identified from the thematic analysis of data from the three (3) case studies. The first theme, conception of TEK examines the following subthemes: nature of TEK, traditional custodianship over TEK, the objectives of TEK protection,

[538] Interview with a *njuri ncheke* elder at the Nchiru Shrine on 23/05/2018.
[539] Interview with a njuri ncheke elder, at the Nchiru shrine on 23/05/2018.
[540] Ogiek Bio-cultural Protocol: Safeguarding Rights and Managing Resources to Improve Livelihoods (2nd edition, 2015) at 9.
[541] Ogiek Bio-cultural Protocol op cit note 14 at 12.

and the protectable and non-protectable components of TEK. The second theme discusses the measures/mechanisms that are being used to protect TEK. It discusses TJS as a principal approach being used in the case studies. It then looks at protection and safeguarding measures being used in the case studies, and how they rely on TJS. Theme three assesses the adequacy of the IP and environmental regimes in TEK protection and is interwoven into theme one and two. The fourth theme discusses the role of TJS in protecting and facilitating access to TEK and is also interlinked with theme one and two. The results and data analysis are clustered around these four intricately related themes and subthemes which emerged from the case studies.

5.2.1 Conception of TEK

5.2.1.1 The nature of TEK

The findings from the field show the existence of TEK in the 3 case studies. As discussed in chapter one and two, TEK is holistic, integrated and includes spiritual, socio-cultural, technological aspects and traditional management systems in line with the classification by Berkes *et al*.[542] The spiritual aspects include the prayers, rituals, ceremonies, taboos and belief systems. It was evident from the three case studies that the spiritual aspects of TEK are highly secretive such that even elders are reluctant to disclose them. In the Mijikenda case study, some spiritual knowledge is only accessed by the senior most elders.[543] In the three case studies, there are ceremonies, rituals and prayers that are conducted in the shrines (*kaya, Nchiru* and Mau forest) for rain control. Jopela explains that such rain control rituals are important to the community as they 'control rain and thus harvest, health, and fortune.'[544] Likewise, Nyamweru explained that among the Mijikenda prayers and rituals 'accompanied people's daily and seasonal lives, often related to their subsistence maintaining activities, whether hunting, herding or cultivating.'[545]

The Mijikenda case study illustrates how taboos are being used to regulate who can access the forests, when, how and for what reasons. For instance, it is a taboo to enter into a *kaya* without permission; bring flames into the *kaya*; fence in the *kaya* village; and cut trees in the *kaya* without the consent of the elders (some trees are held sacred and are believed to be the abode or shelter of

[542] Fikret Berkes, Carl Folke & Madhav Gadgil 'Traditioinal Ecological Knowledge, Biodiversity, Resilience and Sustainability' available at *http://www.ces.iisc.ernet.in/biodiversity/pubs/mg/pdfs/mg138.pdf,* accessed on 20 April 2016.

[543] Meeting with Giriama elders and community members on 24/04/2018.

[544] Albino Pereira de Jesus Jopela 'Traditional custodianship: A useful framework for Heritage Management in Southern Africa? (2011) 13:2-3 *Conservation and Management of Archaeological Sites* 103-122 at 108.

[545] Interview with Celia Nyamweru via phone and email exchanges between 13/04/2018 to 04/06/2018.

ancestral spirits and also shelters the secret objects of the community and cannot be harvested).[546] Jopela buttresses this view when he explains that 'in most African communities, the ancestral spirits are believed to be alive in the forests, special trees, caves, and water bodies' and it is for this reason that the *kaya* forests are perceived as shrines.[547] Moreover, firewood in the *kaya* forest is collected only to be used in the *kaya* and the species collected must not have thorns. Women are allowed to collect dry firewood on the periphery of the village for domestic use in limited amounts (enough to carry with their arms without use of a rope)[548] but after harvesting wood, they must use the same paths on their return. Additionally, witchcraft or sorcery or violence or shedding blood is forbidden in the *kaya* forests as they are destructive and anti-social activities. Menstruating women are also not allowed access to certain areas in the *kayas* as it is believed that they can become sterile or have continuous bleeding. However, if someone accidentally cuts himself in the *kayas* and starts bleeding, he/she needs cleansing. The role of taboos in conservation of *kaya* forests and the associated TEK, is affirmed by Adongo who opines that while many forests in Kenya underwent degradation, *kaya* forests have remained 'the best conserved forests' owing to their sacredness and significance to the Mijikenda community.'[549]

The technological elements of TEK includes the names of plants, their specific uses, the techniques of planting, shifting cultivation, weeding, harvesting, the tools used, grazing strategies, management of sick animals *et cetera*.[550] In their study, Kafu & Simwelo, show that shifting cultivation, which was widely practiced in Africa, was a form of forest conservation since 'as people moved from place to place to avoid dangers, disease-ridden areas and to conduct both arable and pastoral farming' they allowed vegetation to regenerate.[551] Among the Ogiek, technological TEK includes knowledge relevant to the honey culture that enables them identify the honey-making and brooding season for bees; different types of honey (color and taste) depending on

[546] A meeting with *kaya* elders on 22/04/2018.
[547] Jopela op cit note 26 at 107.
[548] National Museums of Kenya (NMK), 'A 5 Year Management Strategy and Plan for the Conservation of the Sacred Mijikenda Kaya Forests' 2008–2012, at 14.
[549] Christin Adongo 'From sacred grove to cultural site: the role of socio-economic dynamics in the conservation of *Kaya Mudzi Muvya*, Kenya' (2016) 86(1) *Journal des africanistes* available at https://journals.openedition.org/africanistes/4980 accessed on 20/08/2018.
[550] Interview with Celia Nyamweru.
[551] Patrick A. Kafu & Genevieve N. Simwelo 'Forest conservation in Kenya: Lessons from the African Traditional/Indigenous Education' (2015) 5(8) *Developing Country Studies* 140-144 at 141.

different seasons and the type of bee forage.[552] By following birds that are capable of sensing honey in the forest, experienced gatherers are able to know where to harvest wild honey.[553] In a study by Jiri *et al*, the 'singing, nesting and chirping of certain birds' is also identified as a form of IK system that is useful in forecasting the onset of the rains in southern Africa.[554]

Communities have deep knowledge and understanding of territories that they use in the conservation of sacred ecosystems.[555] The Ogiek have knowledge about seasons and how to categorise, characterise, define and delineate various ecological zones, that helps them know where to farm, hunt, put beehives, keep livestock or harvest trees.[556] Such TK is accumulated through long observation of weather conditions and climatic patterns across the entire Mau Forest Complex and the adjoining Lake Nakuru plains.[557] Before colonialism, it was common for the Ogiek to move from the area around Lake Nakuru to the plains during rainy season and in the forest during dry season.[558] Jiri *et al* explain that 'farmers use tree phenology, animal behavior, wind circulation, cloud cover and other social indicators to predict rains and season quality'[559] so that they can know when the rainy season will start, make preparations and decide on what to grow.

The socio-cultural aspects are the social institutions for social organisation, coordination, conflict resolution, co-operation, rule-making and enforcement. The existence of TJS as illustrated later in this chapter, is evidence of this aspects of TEK in the three case studies. In the three case studies, elders played a key role in conflict resolution, rule-making, and enforcement of those rules. One of the TEK experts interviewed explained that the 'social elements of TEK, often relate to gender and age distinctions, for example, having women's crops and men's crops; division of labour and cooperative activities such as working groups.'[560] Oguamanam supports this finding while describing the inclusive and participatory nature of TK production and access. He notes that,

[552] Interview with an author and Ogiek activist on 10/05/2018.
[553] A meeting with Ogiek elders on 11/05/2018.
[554] Obert Jiri, Paramu Mafongoya & Pauline Chivenge 'The use of indigenous knowledge systems to predict seasonal quality for climate change adaptation in Zimbabwe' (2016) 8(5) *Journal of Agricultural Science* 156-172 at 161.
[555] See ICCA documents obtained from CANCO (file with the author).
[556] A meeting with Ogiek elders on 11/05/2018.
[557] Interview with an author and Ogiek activist on 10/05/2018.
[558] Interview with an author and Ogiek activist on 10/05/2018.
[559] Jiri *et al* op cit note 36 at 160.
[560] Interview with Celia Nyamweru.

> 'all members of the community are marked by gender (men or women, even children) or by descendency or ancestry; the living and the dead (i.e. ancestors); the born and unborn; the animate and inanimate; spirit and body have culturally prescribed roles and symbolisms.'[561]

The concept of traditional custodianship over TEK, discussed below, succinctly buttresses Oguamanam's postulation of the inclusive and transgenerational dimensions of TEK holding, in that those who hold TEK are regarded merely as custodians holding it for past, present and future generations.

5.2.1.2 Traditional custodianship over TEK

From the three case studies, it was apparent that TEK is 'held' by different entities (a community, a clan or family or an individual) and at different levels, on behalf of the community. In all the case studies, TEK is primarily held by elders on behalf of the community. This notion of 'holding' is different from the legalistic conceptions of ownership, as it is grounded and defined by the culture and 'living traditions' (that are constantly redefined and changed by society) of a community.[562] It is akin to the structural framework advanced by Okoth Ogendo for property holding in the African commons, where property is held at the community; clan and lineage and family levels.[563] The holders of TEK (be they elders, clan, family or individuals) are neither 'owners' in the legal sense, nor trustees (because under trusteeship, a trustee is vested with legal ownership), but traditional custodians. Indeed, the Ogiek describe themselves as the 'custodians' of their 'traditional knowledge, norms, practices and innovations' in their Bio-Cultural Protocol.[564] Similarly, a respondent opined that a genuine elder is one who is 'a custodian and is answerable to the ancestral order, that is customary laws and governance systems.'[565] An IP expert explained that in the case of TK, the 'community in question are the custodians of the knowledge and not the owners.'[566] Likewise, the *Njuri ncheke* was described as the 'custodian of the knowledge, culture

[561] Chidi Oguamanam 'Wandering footloose: Traditional knowledge and the "Public Domain" revisited' (2018) *Journal of World Intellectual Property* 1-20 at 9.
[562] Jopela op cit note 26 at 108.
[563] HWO Okoth Ogendo 'The tragic African commons: A century of expropriation, suppression and subversion' (2003) *University of Nairobi Law Journal* 107-117. See also Natural Justice 'Imagining a traditional knowledge commons; A community approach to sharing traditional knowledge for non-commercial research' IDLO, 2009 at 7.
[564] Ogiek Bio-cultural Protocol op cit note 14 at 19.
[565] Interview with the General Coordinator of ABN at Thika on 29/05/18.
[566] Interview with a research fellow at CIPIT on 28/06/2018.

and traditions of the Ameru people'[567] a position that is corroborated by Kamwaria *et al* in their study where they find that 'Njuri Ncheke is a major custodian of tradition and cultural values of the Ameru.'[568] Since the custodians are not owners of TEK, the IP regime should not be used in protecting TEK as it might confer exclusive rights thus offending traditional custodianship. An appropriate regime for TEK protection must respect the custodial paradigm within which TEK is held. In this chapter, providers or holders of TEK are described as 'custodians', and the form of holding as 'custodianship'. However, some of the literature cited still uses the term 'ownership' in describing the nature of TEK holding by communities, and such description should be construed accordingly as referring to custodianship.

Traditional custodians are people with the primary responsibility for regulating access, use and control of resources (including TEK) in accordance with customary laws (including rites and taboos) and enforcing them.[569] This resonates with Brendan Tobin's definition of a custodian as 'those communities, peoples, individuals and other entities, which according to customary laws and other practices, maintain, use and develop the traditional knowledge.'[570] The rights of custodianship are considered inalienable, and the custody is not transferrable either as a gift, or through a commercial transaction[571] as is the case with legal ownership. Indeed, efforts to protect TEK are not necessarily aimed at securing economic returns, but protection of TEK holders' cultural identity, self-determination rights and historic claims to sovereignty which are inalienable.[572] But the fact that TEK is inalienable does not mean that as custodians, communities do not have a right to benefit from the use of their TEK, collectively or individually. Moreover,

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[567] A workshop held in Meru town on 23/05/2018. See also interview with the spiritual leader of *Njuri Ncheke*, a scholar on the Ameru people and a lecturer at Kenyatta University on 04/06/2018.

[568] Alex Kamwaria, Rukahu Mugwe, John Kamau, Anne Githaiga, Peter Guantai, Kasoo Makin & Charles Choti 'Recognising and strengthening the role of the Njuri Ncheke in Devolved Governance in Meru County, Kenya' (2015) 2(12) *Journal of Education Policy and Entrepreneurial Research (JEPER)* 42-47 at 43.

[569] Jopela op cit note 26 at 107. See also Brendan Tobin 'Now you see it now you don't-The rise and fall of customary law in the IGC' 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), 192-215 at 204.

[570] Tobin op cit note 51 at 204.

[571] Jopela op cit note 26 at 108. 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.

[572] Chidi Oguamanam 'Tiered or Differentiated Approach to Traditional Knowledge and Traditional Cultural Expressions: The evolution of a concept' (2018) *CIGI Papers No. 185* 1-16 at 13. See also Ruth Okediji 'Traditional Knowledge and the Public Domain' (2018) *CIGI Papers No. 176* 1-16 at 4.

the custodianship over TEK, means that custodial rights can be a basis for granting or rejecting the grant of IP rights, as will be illustrated later.

TEK held at the communal level includes rituals/ceremonies conducted by initiated elders for various purposes including: prayers for rain in time of drought or famine; the cleansing of land; prayers of thanksgiving and blessing of the harvest; prayers for the good health of the communities; prayers for peace; and divination and healing for individual members of the community.[573] In their work, Nyamweru & Kimaru confirm that such ceremonies are still being carried out, in the Mijikenda case study.[574] However, in the Mijikenda case study, some TEK (highly secretive TEK on certain rituals) is only held by the senior elders called *vaya*.[575] Such TEK is not shared with non-Mijikenda, and breaking this rule attracts heavy sanctions. There is TEK that is common to everyone in the community such as TK about planting and rainy seasons; and on herbs that can treat common ailments or aid in digestion.[576] In the Ogiek case study, women are custodians of TK on trees/herbs that can prevent miscarriages and treat children's illnesses.[577]

TEK is also held at the clan or family level. For instance, TK relating to spiritual healing among the Mijikenda, is at times viewed as clan property, and is selectively inherited either before or after the life of a practising healer.[578] Access to such knowledge is spiritually guided, for example, a selected heir falls sick until he takes up the practice.[579] Among the Ogiek, there are clans that are entrusted with TEK touching on land, leadership, medicine, hunting, gathering, beekeeping, farming *et cetera*.[580] Likewise, among the Meru, the *Mbura, Kitherini, Gaankina, and Rurii* clans are regarded as the custodians of the sacred sites on behalf of the whole community.[581]

Specialised or technical knowledge (such as medicinal and ritualistic knowledge) is held by certain individuals. In the Mijikenda case study, 'special knowledge on the use of specific plants

[573] NMK op cit note 30 at 13.
[574] Celia Nyamweru & Elias Kimaru 'The contribution of ecotourism to the conservation of natural sacred sites: A case study from coastal Kenya' (2008) *JSRNC* 2(3) 327-350 at 328.
[575] A meeting with *kaya* elders on 22/04/2018.
[576] Interview with the General Coordinator of ABN at Thika on 29/05/18. See also Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018.
[577] A workshop with the Ogiek community and Kiptunga community forest association (CFA) members on 09/05/2018 and 10/05/2018.
[578] Ongugo *et al* op cit note 3 at 13.
[579] Ongugo *et al* op cit note 3 at 14.
[580] Interview with an Ogiek activist on 10/05/2018.
[581] Interview with the General Coordinator of ABN at Thika on 29/05/18.

and carving of *vigango*-memorial statues erected in tombs, is individual knowledge and it is their prerogative to share.'[582] Similarly, among the Meru and Ogiek, specialised TK, especially one touching on medicine and performance of secret rituals, is held by certain individuals.[583] Kafu & Simwelo fortify this finding in their work on African traditional education, where they found that 'specialized aspects of this education system like medicine, witchcraft, etc were restricted to identified communities and/or individuals.'[584] Acquisition of specialised TK is either through apprenticeship, payment or divination.[585] In the Mijikenda case study, transmission of healing knowledge is complex and is determined by the *kambi* through a rating process that assesses the personal conduct and motive of the applicant.[586] Alternatively, an individual healer could select a family member or friend as a helper, and the latter would ultimately access the knowledge upon payment of a predetermined token (*kadzama*) by the apprentice.[587]

5.2.1.3 Protectable and non-protectable components of TEK

The technological components of TEK including indigenous seeds and plant varieties; the names of plants; genetic characteristics of plants; specific uses of plants and animal breeds; the techniques of planting, weeding, harvesting, hunting, gathering, herding; the tools used *et cetera* might be protectable using IP.[588] Some IP tools, such as collective marks, certification marks, farmers' rights, and geographical indications (GIs), could be used to offer some form of protection to these technological aspects as discussed in chapter three and four. For instance, farmers' rights can be used to protect the techniques of planting, weeding, harvesting; indigenous seeds and plant varieties; while GIs and collective marks can be used to protect indigenous food crops from certain communities, names of plants and animal breeds. A challenge with the IP system, however, is that it can neither offer protection to TEK with its holistic nature nor can it capture the custodial paradigm of TEK holding.

[582] Interview with *kaya* elders on 22/04/2018. See also Interview with an ethnobotanist and research scientist at NMK-KENRIK between 13/04/2018 to 23/04/2018.
[583] A workshop with elders in Meru on 23/05/2018. See also a workshop with Ogiek elders on 10/05/2018.
[584] Kafu & Simwelo op cit note 33 at 141.
[585] A workshop with elders in Meru on 23/05/2018. See also a workshop with Ogiek elders on 10/05/2018.
[586] Ongugo *et al* op cit note 3 at 14.
[587] Ongugo *et al* op cit note 3 at 14.
[588] Interview with an ethnobotanist and research scientist at NMK-KENRIK between 13/04/2018 to 23/04/2018.

However, spiritual knowledge (especially if it is regarded sacred and secret) is not easily shared by its custodians, hence difficult to protect using IP.[589] The sharing of sacred and secret TEK (where possible) is at the prerogative of the holder,[590] suggesting that it might be difficult to protect it. From the Mijikenda case study, some ritualistic TEK is 'not shared with non-Mijikenda and those that break this rule are heavily sanctioned.'[591] Muller shores up this claim noting that when TK is 'unique, maintained by a single individual or for some reason has not escaped very confined communal contexts, control and restrictions are difficult (and extremely costly) to put into practice.'[592]

One respondent, an IP expert, also noted that transboundary and widely shared TK is difficult to protect, but the law ought to recognise those sharing it as custodians.[593] Likewise, Muller opines that widely shared and publicly accessible TK according to IP, 'cannot be strictly protected though certain limitations could be imposed on its use.'[594] Other IP scholars concur that widely shared/diffused/publicly available TEK might not be easily protectable within the IP realm.[595]

Additionally, sacred natural sites and TEK holders' territories are not protected within IP law, yet they offer the spatial context within which TEK is generated, practiced and transmitted. As discussed, later in this chapter, sacred natural sites and territories, are at best safeguarded as aspects of heritage. However, the TJS approach advocated for in this study, is able to protect and safeguard, the territories of TEK holders, and the tangible and intangible manifestations of TEK and TEK systems.

[589] Chisa & Hoskins op cit note 53 at 3.

[590] Interview with an ethnobotanist and research scientist at NMK-KENRIK between 13/04/2018 to 23/04/2018. See also interview with an environmental scientist working with the Coastal Forest Conservation Unit (CFCU) at Kilifi on 25/04/2018.

[591] A workshop with *kaya* elders on 24/04/2018.

[592] 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 132.

[593] Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018.

[594] Muller op cit note 74 at 130.

[595] Tobin op cit note 51 at 204. See also Chidi Oguamanam op cit note 54 at 7.

5.2.1.4 Objectives of TEK protection

Communities protect TEK because it is integral to livelihoods and survival from a spiritual, socio-cultural and ecological perspective.[596] For instance, TEK about medicinal plants, rain ritual control, and spiritual healing, is vital to the health and wellbeing of communities, hence the need for its protection. It has multiple values explaining why it is held by traditional custodians on behalf of the community, and is not alienable, as it is an aspect of their sovereignty and self-determination.[597] As evidenced by customary laws, TEK is integral to the cultural identity of its holders, and is an expression of their self-determination.[598] For example, the Ogiek's cultural identity is inextricably connected to their culture of hunting and gathering in the Mau Forest. Kafu and Simwelo note that forest conservation is a cultural activity and that 'without considering cultural attachment to forest management forest conservation efforts are bound to fail.'[599] TEK is also protected because of its role in conservation of sacred natural sites which continue to exist courtesy of TEK,[600] as illustrated by the Mijikenda case study. The best approach of protecting the multiple values of TEK to its holders' and their sovereignty and self-determination rights, is by placing direct responsibility over TEK on the custodians and custodial institutions (such as TJS), since its survival is contingent upon cultural traditions and contemporary needs of the stakeholders.[601]

5.3.2 Measures/mechanisms used in protecting and safeguarding TEK

Analysis of data from the three case studies, indicates that there are different approaches/measures being used to protect and safeguard TEK. These measures can be grouped broadly into: TJS approaches; protection measures and safeguarding measures. Chapter one clarified the differences between 'protection' and 'safeguarding' and the varied forms and approaches taken by each. This part begins with a discussion highlighting the features of TJS and how it is being used in the three case studies to protect TEK.

[596] Interview with the General Coordinator of ABN at Thika on 29/05/18.
[597] Oguamanam op cit note 43 at 2.
[598] Tobin op cit note 51 at 204. See also Oguamanam op cit note 43 at 11.
[599] Kafu & Simwelo op cit note 33 at 142.
[600] Adongo op cit note 31.
[601] Jopela op cit note 26 at 110.

5.3.2.1 TJS

In the three case studies, and in the discussion with civil society actors, government officers, and TEK and IP experts, TJS stands out as a common framework that communities are using in TEK protection. Government agencies and civil society actors are also relying on TJS in their work of protecting and preserving TEK, as illustrated in this study.

(a) Nature of TJS, and manifestation in the case studies

TJS are part of the customary governance or legal systems of TEK holders. According to Borrows, these legal regimes are largely described as customary laws, but are however much broader than merely custom and may include tribal statute, sacred and declaratory law.[602] Similarly, UNDRIP refers to laws, customs and traditions of indigenous peoples, which is wider than mere customary law.[603] The term 'customary law' in this study is used in the wider context. The study uses the term TJS in this broad and encompassing context, as the laws, customs, traditions, and institutions or structures (such as council of elders) that exist among communities.

In all the three case studies, there exist TJS that govern access, use and management of resources. Government agencies (such as NMK) and civil society actors (e.g. ICE, Natural Justice and ABN) recognise the existence of TJS in their work, as demonstrated below. For instance, The Kenya Forest Service (KFS) in its manual on forming and registering community forest associations (CFAs), acknowledges that 'most communities have social structures that offer excellent opportunities for entering into the community.'[604] Khisa & Hoskins reinforce this position when they observe that 'indigenous communities possess institutional structures and mechanisms to implement and enforce their laws.'[605]

TJS have remained resilient and still enjoy popular support, as evidenced by their continued use in settlement of disputes, governance of resources, assigning rights to resource, determining political leadership and maintenance of law and order,[606] thus making them appropriate regulatory

[602] Borrows J *Canada's Indigenous Constitution*, University of Toronto Press (2010), 12.
[603] Articles 11(2) and 27 of the United Nations Declaration on the Rights of Indigenous Peoples adopted by the United Nations General Assembly in its Resolution A/RES/61/295 of 13 September 2007. See also Tobin op cit note 51 at 208.
[604] Kenya Forest Service 'Manual on forming and registering Community Forest Associations (CFAs)' (2009) at 9.
[605] Chisa & Hoskins op cit note 53 at 4.
[606] Jopela op cit note 26 at 111. See Stelios Michalopoulos & Elias Papaioannou 'Pre-colonial ethnic institutions and contemporary African development' (2013) 81 *Econometrica* 113-152 at 115.

frameworks. One respondent described the '*kaya* elders as a social-political epicentre of the Mijikenda people that is resorted to even by local politicians for blessings before venturing into politics.'[607] A study conducted on the Mijikenda, confirms that 'respect for the indigenous institutions remains strong' in the community.[608] Likewise, in the Meru and Mijikenda case studies, it is commonplace for those vying for political positions to seek the endorsement of the *njuri ncheke* elders.[609] Similarly, the continued reliance on TJS in developing community Biocultural protocols, in granting free prior informed consent (PIC) (in the Ogiek case study), and in inventorying (in the Meru case study), as discussed below, also attests to their resilience and legitimacy in society. Carolyn Logan explains the popular legitimacy of TJS as emanating from their 'proximity and intimate familiarity with their communities' which makes them 'more effective in adjudicating disputes, allocating land, and advocating for their constituents than many MPs, local councillors, and state institutions.'[610] They are legitimate also because they function according to cultural norms and rules which people are deeply familiar with, thus facilitating both access and (non-electoral) accountability,[611] especially where formal state institutions have had limited access.

In all the case studies, TJS are comprised of respected people who are knowledgeable about the knowledge, culture, traditions and community values. One respondent explained that 'elders are ecoliterate' and through a 'communion with nature, understand it, and are able to interpret it.'[612] They also understand 'how trees behave and bees move'[613] and 'know when it is apt to conduct traditional ceremonies such as prayers to call for rain and cleanse forests.'[614] Kamwaria *et al* found that the members of the *Njuri ncheke* were 'carefully selected and comprised mature,

[607] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.
[608] Nyamweru & Kimaru op cit note 56 at 328.
[609] A workshop with *njuri ncheke* elders on 23/05/2018. See also a workshop with *kaya* elders on 24/04/2018.
[610] Carolyn Logan 'The roots of resilience: Exploring popular support for African traditional authorities' (2013) 112(448) *African Affairs* 353-376 at 358.
[611] Logan op cit note 92 at 358; Judith Kamoto, Graham Clarkson, Peter Dorward, Derek Shepherd 'Doing more harm than good? Community based natural resource management and the neglect of local institutions in policy development' (2013) 35 *Land Use Policy,* 293– 301 at 293. See Heidi Wittmer, Felix Rauschmayer & Bernd Klauer 'How to select instruments for the resolution of environmental conflicts?' (2006) 23 *Land Use Policy*, 1–9 at 4.
[612] Interview with the General Coordinator of ABN at Thika on 29/05/18.
[613] Ibid.
[614] NMK op cit note 30 at 68.

composed, respected and incorruptible elders of the community'[615] justifying why TJS would be useful in regulating TEK.

TJS promote cultural unity and identity. The *kaya* elders and forests, are still a significant unifying factor for the Mijikenda people, since the *kaya* forests that they manage is their 'cultural and traditional home' that 'serves to remind them and future generations of how they migrated from Shungwaya to that place.'[616] Nyamweru & Kameru explain that 'today, many Mijikenda still see the *kaya* forests as important symbols of cultural identity.'[617] Likewise, the *Njuri ncheke* is a symbol of unity among the Ameru people, and is often consulted widely in governance matters.[618] Kamwaria *et al* explains that *Njuri ncheke* is a 'symbol of culture and unity of the Meru people…' that also handles matters related to 'religious values, economic system, and political unity of the Ameru.'[619]

TJS are also a form of government. For instance, the *kaya* elders were described as 'a form of government with laws, executing arm and adjudicating arm.'[620] Amongst the Ogiek, the council of elders and traditional leaders are recognised as part of their 'traditional governance system' and the representatives of the community at the local and national level.[621] Similarly, the *njuri ncheke* elders were described as the 'overseers of execution or implementation of rules.'[622] According to a study by Kamwaria *et al* the 'Njuri ncheke made and executed community laws, listened to and settled disputes, and passed on indigenous knowledge and rites across the generations.'[623] In their study, Jiri *et al* show that 'indigenous knowledge on forecast tends to be more accessible given that elders, who are predominantly custodians of this knowledge command respect in their communities and their stock of personal experience is considered to be valuable.'[624]

As mentioned earlier, TJS are a traditional custodial institution that are being used in the three case studies to regulate access to and use of natural resources (including associated TEK).

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[615] Kamwaria *et al* op cit note 50 at 43.
[616] A workshop with *kaya* elders on 22/04/2018.
[617] Nyamweru & Kimaru op cit note 56 at 328.
[618] Interview with a *njuri ncheke* elder on 04/06/2018.
[619] Kamwaria *et al* op cit note 50 at 43.
[620] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.
[621] Ogiek Bio-cultural Protocol op cit note 14 at 15.
[622] Interview with the spiritual leader of *njuri ncheke*, a scholar on the Ameru people and a lecturer at Kenyatta University on 04/06/2018.
[623] Kamwaria *et al* op cit note 50 at 43.
[624] Jiri *et al* op cit note 36 at 160.

As custodial institutions, TJS aim at 'the continuous use and preservation of the place, its values, and its surrounding environment, including the preservation of its symbolic and cosmological significance.'[625] They also hold the 'traditions, ethical values, social customs, belief systems, religious ceremonies as well as traditional knowledge…'[626] they are therefore firmly anchored in the worldviews of local communities. Governance of the *kaya* and the *nchiru shrine* is through customary laws or rules that are enforced by elders using traditional sanctions to censor misuse of resources.[627] In the Meru case study, one respondent explained that it is the 'elders who enforce rules on TEK protection and share agro-biodiversity knowledge in terms of what seeds to grow in different spaces.'[628] One study explains that the *Njuri ncheke* have been 'instrumental in promoting environmental conservation practices that were used by earlier generations' and have also 'championed the conservation of trees and water catchment areas.'[629] In the Mijikenda case study, 'the *kambi* controls access to resources such as medicinal plants, sacred *kaya* areas, and rare species; traditional knowledge and agricultural activities' and 'are the ones who allocate those resources to clans and individuals.'[630] Infringement of customary rules attracts a customary fine (*kadzama*) which the miscreant is obliged to pay to avoid spiritual retribution.[631] Nyamweru supports this position when she points out that it is the 'elders who decree how the *kaya* forest is used, which trees can be cut and why, what herbal and ritual plants can be gathered, and how close cultivation could be done in the forest edge.'[632] Adongo notes that the continued existence of the *kaya* forests is reinforced by the 'unseen powerful charms and rituals associated with sacred groves'[633] which are part of TEK, and which are not protected by IP regimes. Likewise, a respondent pointed out that courtesy of the work of elders, in the conservation of the *kaya* forests, the forests are home to over 50% of Kenya's rare species of trees and shrubs.[634]

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[625] Jopela op cit note 26 at 107.
[626] Jopela op cit note 26 at 107.
[627] Kafu & Simwelo op cit note 33 at 142.
[628] Interview with a research coordinator at the Institute of Culture and Ecology, at Thika on 05/06/2018.
See also interview with the spiritual leader of *njuri ncheke*, a scholar on the Ameru people and a lecturer at Kenyatta University on 04/06/2018.
[629] Kamwaria *et al* op cit note 50 at 45.
[630] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.
[631] National Museums of Kenya (NMK), Nomination Dossier For Inscription On The World Heritage List The Sacred Mijikenda Kaya Forests, 2008, at 14.
[632] Nyamweru (1998) op cit note 5 at 11.
[633] Adongo op cit note 31.
[634] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.

Traditional ceremonies, rituals, prayers and legends play a critical role in the protection of TEK especially those mitigating disasters such as drought, famine, disease or bad omen to the community.[635] According to the Executive Director of ABN, 'cultural rituals for example the rites of passage in most communities provide a system of transmitting and guarding TK' since 'as one goes through the rites of passage, there is knowledge that is passed on to initiates.'[636] Additionally, traditional songs, dances, riddles and legends have a role in the protection of TK. For instance, among the Meru, legends are used to pass on rules against cutting trees, fishing, hunting or cultivating in the sacred sites, thus ensuring that sacred natural sites are protected and preserved.[637] There are legends about the ability of sacred sites to self-protect themselves 'from destruction by reacting and attacking any person who interfered with them by venturing into or doing anything forbidden at the sites.'[638]

Scholars have documented the role of customary law and institutions in TK governance to include: the identification of TEK; ascertainment of beneficiaries; definition of custodianship; the nature of community custodianship over TK; the rights and responsibilities associated with custody, access rights, protection of customary use, means of dissemination and preservation of knowledge; and the customary mode of defining modalities of PIC, benefit sharing mechanisms, dispute settlement, and sanctions for infringement of customary law.[639] The role of customary law (and TJS for that matter) in the 'regulation of traditional knowledge is vital to the protection of cultural integrity and the realisation by Indigenous peoples and local communities of their rights to decide their own development paths and to exercise their human rights to self-determination.'[640]

As will be shown later in this chapter, TJS are being relied upon in the protection of TEK by government agencies and civil society actors. For instance, ABN and ICE are relying on traditional institutions (especially elders, oral narratives and legends) to restore and revive lost ecosystems and in creating ecocultural maps and calendars in Meru.[641] After the restoration of

[635] Nyamweru (1998) op cit note 5 at 11.
[636] Interview with the General Coordinator of ABN at Thika on 29/05/18.
[637] Institute for Culture and Ecology (ICE) 'Documentation of traditional and ecological laws of Tharaka' undated report, 14 available at https://www.icekenya.org/publications/ accessed on 20/06/2018.
[638] Institute for Culture and Ecology (ICE) 'Documentation of traditional and ecological laws of Tharaka' undated report, 14 available at https://www.icekenya.org/publications/ accessed on 20/06/2018.
[639] Tobin op cit note 51 at 204. See also Chisa & Hoskins op cit note 53 at 4.
[640] Tobin op cit note 51 at 209.
[641] Interview with the General Coordinator of ABN at Thika on 29/05/18. See interview with a research coordinator at the Institute of Culture and Ecology, at Thika on 05/06/2018.

ecosystems, elders carry out rituals around sacred sites to retain their sacredness. TJS are also used in the development of community bio-cultural protocols and in granting consent to access communities' resources.[642] For instance, the Ogiek Bio-Cultural Protocol requires access to TEK to be done with the PIC of elders. [643] It also requires the Council of Elders to supervise the drawing of maps of all Ogiek territories. TJS are also relied on in the gazettement of sacred natural sites, listing of World Heritage Sites and in mapping TEK holders' territories. RECONCILE is also relying on elders in mapping community land for purposes of registration.[644]

Studies show that TJS still dominate the resolution of local and environmental disputes which are characterised with high degrees of societal and ecological complexity.[645] Their role in managing local conflict is 'one of the most effective predictors of popular support' and the 'most highly valued function that they serve in the eyes of their communities.'[646] The Ogiek Bio-Cultural protocol recognises the role of the council of elders in handling all disputes touching on: access to land and other resources; inheritance of properties; and family set up.[647] Similarly, the *kaya* elders are the first port of call wherever there are disputes (including land, family and political) in the community. [648] The researcher attended a customary court session at *Mwembe Marunga* in Rabai where the elders sat listening to disputes touching on land, adultery, witchcraft, marital and family disputes every Monday and Wednesday. Likewise, *njuri ncheke* is one of the few indigenous judicial systems recognised by the Kenyan government in dealing with an array of disputes including inheritance, property, theft, witchcraft cases, and boundary disputes in the community.[649] For example, the *njuri ncheke* elders assisted in the management of the Tharaka and Tigania boundary dispute.[650]

Njuri ncheke elders also play a key role in maintaining law and order, social cohesion, discipline, dignity, and respect for the community.[651] Moreover, one of the objectives of *njuri ncheke* is the maintenance of law and order by promoting peace and unity among the Ameru

[642] A meeting with the director of Natural Justice in Kenya on 10/07/2018.
[643] Ogiek Bio-cultural Protocol op cit note 14 at 18.
[644] Interview with the executive director of Resource Conflict Institute (RECONCILE) on 11/05/2018.
[645] Wittmer *et al* op cit note 93 at 1. See Logan op cit note 92 at 360.
[646] Logan op cit note 92 at 370.
[647] Ogiek Bio-cultural Protocol op cit note 14 at 16.
[648] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.
[649] Chief Julius Kiriga op cit note 47. See also Kamwaria *et al* op cit note 50 at 43.
[650] Interview with Mzee Bonface Karitho, *njuri ncheke* elder, at the Nchiru Shrine on 23/05/2018.
[651] A workshop with *njuri ncheke* elders on 23/05/2018.

people.[652] Studies by Carolyn Logan and Ellis *et al* affirm that the traditional authority system plays a significant and effective role in matters of social cohesion and maintenance of law and order.[653]

5.3.2.2 Safeguarding measures

Some of the safeguarding measures in the case studies include gazettement, UNESCO listing, recognition of TEK holders (as explained below), cultural mapping, inventorying and compensation.

(i) Gazettement

Gazettement of sacred sites as protected areas or national monuments is a measure aimed at safeguarding TEK. The Executive Director of the Community Action for Nature Conservation (CANCO) explained that TEK can be protected by creating protected areas, for example to protect certain animal species such as the geckos and lizards, among the Tharaka people, because they use their skins to make traditional drums and hence perpetuate their traditions.[654] Both the *kaya* forests and the headquarters of the *njuri ncheke* at *Nchiru* (*Nchiru* shrine) have been gazetted as national monuments by NMK. The Mau forest, and some of the *kayas* namely Kambe, Ribe, Jibana and Chonyi have been gazetted as forest reserves under the management of the KFS. In the Mijikenda case study, demarcation, surveying, and mapping is done with the assistance of elders and other community members who assist in defining and demarcating the *kaya* boundaries, before final gazettement as national monuments.[655] Thereafter, the Coastal Forest Conservation Unit (CFCU) pays for the erection of signboards announcing the protected status of the area.[656] One respondent in the Mijikenda case study noted that gazettement does not confer ownership of *kayas* on NMK 'it only offers legal recognition and supports the work of the elders in protection of the *kayas*.'[657] Moreover, gazettement does not allow NMK to harvest resources from *kayas*. However, Ongugo *et al* argue that gazettement of *kaya* forests meant that management was to be co-shared between

[652] A workshop with *njuri ncheke* elders on 23/05/2018.
[653] Logan op cit note 92 at 358; F. Ellis, M. Kutengule & A. Nyasulu 'Livelihoods and rural poverty reduction in Malawi' (2003) *World Development* 31 (9), 1495–1510 at 1506.
[654] Interview with the Executive Director of CANCO, at Nairobi on 08/05/2018.
[655] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.
[656] Interview with Celia Nyamweru.
[657] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.

communities and NMK, and thus weakened the role of the traditional rules.[658] However, unlike in the Ogiek case study (where the Ogiek have been evicted from the Mau forest by the Government), the *kaya* elders still play a key role in the management of the forests and related TEK. This was confirmed by a KFS officer in Kilifi, who noted that the kaya elders have the primary responsibility over the forests.[659]

Gazettement has however not curbed the loss of TEK holders' territories. In fact, it has been argued that historically, gazettement of sacred natural sites facilitates the 'exclusion of local communities while guaranteeing access to the colonisers.'[660] This is illustrated by the continuous eviction and dispossession of the Ogiek people from the Mau forest by the government as it is a critical forest reserve and water catchment area.[661] Eviction of Ogiek's from the forest has dispersed them in different parts of the Rift Valley, thus undermining their cultural integrity, survival and self-determination rights. It has also denied them the right to continue managing the forest effectively using their traditional management structures. This explains the state of destruction of the Mau forest in comparison to the *kaya* forests, where elders play a primary role in conservation.

(ii) Listing TEK holders' sacred natural sites as World Heritage Sites

Recently, some of the *kaya* forests (Mudzimwiru, Mudzimuvya and Bomu-Fimboni; Fungo, Kambe, Kauma, Ribe, Kinondo and Jibana) have been listed as World Heritage Sites and are under the management of NMK and the stewardship of United Nations Educational, Scientific and Cultural Organisation (UNESCO). One respondent explained that the listing on World Heritage Site is a prestigious recognition globally that avails funding opportunities for supporting *kaya* management.[662] This is because listing allows the global community to pool resources for *kayas* due to the global value of the sites. It also helps NMK deal with *kaya* forests as a cultural conservation landscape and use that as a milestone when fundraising. Additionally, with listing, a

[658] Ongugo *et al* op cit note 3 at 17.
[659] Interview with a Kenya Forest Service officer, at Kilifi on 24/04/2018.
[660] Shadrack Chirikure *et al* 'Unfulfilled promises? Heritage management and community participation at some of Africa's cultural heritage sites' (2010) 16(1-2) *International Journal of Heritage Studies* 30-44 at 31.
[661] See *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017.
[662] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.

government makes certain commitments that are important for long-term conservation of *kayas*.[663] Whereas there are negative impacts that world heritage listing has on TEK holders and their sites, as highlighted in chapter four, the *kaya* elders still play a key role in the management of the forests and related TEK.[664] As pointed elsewhere in this chapter, the existence of the *kaya* forests has been attributed to the work of elders in conservation, and not gazettement as a forest reserve, national monument or listing as a world heritage site. This view is affirmed by Jopela who observes that 'formal heritage management systems on their own are incapable of ensuring the effective and sustainable management of immovable heritage, or any other place of cultural significance.'[665] In the context of TEK, formal measures aimed at safeguarding TEK, such as listing and gazettement, are not capable of ensuring the holistic and sustainable protection of TEK and related systems. A sustainable and holistic model of protecting TEK, can only be achieved through traditional custodial frameworks such as TJS as advocated in this study.

(iii) Recognition of TEK holders rights and their sacred natural sites

There are efforts that are taking place in the three case studies aimed at the recognition of TEK holders' work in conservation, and their sacred sites. Recognition of TK holders and indigenous peoples in general in 'publications, audio and visual media materials, official campaigns, and other means, can serve an important goal in the re-evaluation of TK and social inclusion processes.'[666] Similarly, Chirikure *et al* note that one way through which African communities can regain power over their heritage and resources is 'through the agitation for recognition of traditional custodial rights and their return to host communities.'[667] In the Mijikenda case study, there is a program run by NMK in collaboration with UNESCO and the State Department of Culture aimed at recognising the intangible cultural heritage (ICH) in the *kayas* and the recognition of secondary *kayas* which are in need of urgent protection from extinction.[668] CFCU sensitises young people on the cultural and ecological value of *kaya* forests (through essay competitions, visits to schools, and field trips); strengthens traditional institutions; supports elders in fencing some *kaya* forests; and recruits

[663] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.
[664] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018. See Interview with a Kenya Forest Service officer, at Kilifi on 24/04/2018.
[665] Jopela op cit note 26 at 109.
[666] Muller op cit note 74 at 130.
[667] Chirikure *et al* op cit note 142 at 32.
[668] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.

guards to monitor the *kaya* forest and report any infraction of regulations to the elders.[669] The African Court on human and peoples' rights has also recognised the rights to culture, property and religion of the Ogiek including the right to hunt and gather within the Mau forest.[670] In the Meru case study, it emerged that the Kenyan judiciary and the Meru County government have recognised the role of the *njuri ncheke* in dispute resolution, and judicial officers are referring matters to the *njuri ncheke* for resolution so as to reduce the backlog of cases in courts. [671]

Civil society actors are also involved in the work of recognising TEK holders, their TEK and sacred sites. The Trust for Indigenous Culture and Health (TICAH) has a program on TK and culture where it is using TJS (like the *kaya* and Ogiek elders) to document the TK, rituals and traditions of communities.[672] RECONCILE, is working on securing access and sustainable use of resources by integrating the voices of communities in natural resources management. It is pushing for the registration of communities and their land rights by relying on traditional narratives from elders in identifying the territories of communities.[673] ICE is working with communities to harness their TEK so as to enhance communities' livelihoods and sustainable development. ICE has been working with the council of elders including the *njuri ncheke* to access TEK.[674] ICE and ABN are also working on a multiple evidence base (MEB) approach to bring about harmony between TEK and scientific knowledge systems[675] since both systems can 'generate different manifestations of valid and useful knowledge which should be jointly analysed' to enhance ecosystem governance.[676]

Additionally, through funding from UNDP-GEF Small Grants Programme, Kenya is in the process of domesticating the international indigenous community conserved territories and areas

[669] Nyamweru (1998) op cit note 5 at 23.

[670] See *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017.

[671] Interview with a chief and *njuri ncheke* elder at Meru Central, on 23/05/2018. See also Kamwaria *et al* op cit note 50 at 42-47.

[672] Interview with a Project Officer at TICAH in Nairobi on 25/04/2018.

[673] Interview with the executive director of Resource Conflict Institute (RECONCILE) on 11/05/2018.

[674] Interview with a research coordinator at the Institute of Culture and Ecology, at Thika on 05/06/2018.

[675] Interview with a research coordinator at the Institute of Culture and Ecology, at Thika on 05/06/2018. Stockholm Resilience Report 'Reviving indigenous and local knowledge for restoration of degraded ecosystems in Kenya: A contribution to the piloting of multiple evidence base approach' (2016) at 16.

[676] Gathuru Mburu, 'Eco-cultural maps and calendars: Tools for mobilization of local knowledge and connecting diverse knowledge systems' ICE, 2015 available at *https://www.cbd.int/financial/micro/4-2a-eco-cultural-mapping.pdf* accessed on 10/09/2018.

(ICCAs) discourse. ICCAs are 'natural and/or modified ecosystems containing significant biodiversity values and ecological services, voluntarily conserved by (sedentary and mobile) indigenous and local communities, *through customary laws or other effective means*'(emphasis added).[677] ICCAs rely on TJS structures as explained above, as they possess effective institutional arrangements (decision-making structures, relations, rules, local culture)[678] that are relevant to conservation of TEK but they are also built on TEK. Examples of ICCAs in Kenya include community forests and *kaya* forests. The attributes of ICCAs are: a community (that is well defined and in close and profound relation with defined territory); decisions (the community is the major player in decision-making and management of the site or species); and conservation (decisions made by the community lead to the conservation of the habitats, species, genetic diversity, cultural values in the area).[679] Recognition of ICCAs is a step in the right direction in the recognition of the role of TJS in the protection of TEK.

(iv) Cultural mapping

Eco-cultural mapping is another strategy that is being used to protect TEK, TEK holders' rights and their territories. It is a participatory process where communities draw eco-cultural maps and calendars of the past and present showing the different statuses in the health of their ecosystems in the two temporal phases relying on TEK.[680] It helps communities 'reveal the deep geography, the cultural vision and meaning of their territory' and to envision the desired future state of their ecosystems and actions needed to take to realise it.[681] Elders and community members determine the aspects that are to appear on the maps and calendars. ICE has done eco-cultural mapping for Kathita River, a key water source for the Meru community in Tharaka and Meru. ICE sought to protect TEK by supporting communities in,

> 'mobilizing, distilling, experimenting, validating, presenting and revitalize their own knowledge and experiences related to ecosystem governance on their own terms, by zooming in on agro-biodiversity, food and culture.'[682]

[677] ICCA file with author.
[678] A presentation by Dr. Grazia Borrini-Feyerabend on 'A glance at ICCAs as a global phenomenon…' delivered in June 2013 in Nairobi (file with the author).
[679] Available at https://www.iccaconsortium.org/index.php/discover/ accessed on 10/09/2018.
[680] Interview with a research coordinator at the Institute of Culture and Ecology, at Thika on 05/06/2018.
[681] Mburu op cit note 158.
[682] Mburu op cit note 158.

The eco-cultural mapping of the river ecosystem was done through a process that involved representative custodians from four clans- *Mbura; Kitherini; Gaankina; and Rurii*, government agencies, and non-governmental organisations (NGOs). Eco-cultural mapping mobilises and validates TEK, in order to secure local heritage and promote customary sustainable practices in management of resources.[683] After the eco-cultural mapping, NMK has started the process of gazetting the sacred sites on Kathita River.[684] This shows that with good collaboration, government agencies and other actors can benefit from TJS in their conservation efforts.

ICE has helped in the formation of 2 conservation groups in the River Kathita ecosystem to act as the 'voice of Kathita River' and promote conservation and restoration of indigenous seeds. ICE is also teaming up with elders and local community to conserve Ntugi hill, a forested hill that has a sacred site called *ciamuria*.[685]

(v) Funding option/compensatory funds

According to the *kaya* elders they still 'live in poverty despite their wealth of knowledge'[686] suggesting they need incentives to continue with their conservation work. Some of the activities like 'cleaning the *kaya*' (weeding); and performance of certain ceremonies require financial resources.[687] In 2017, NMK in collaboration with the National Commission for UNESCO, launched a program to reward *kaya* elders doing exemplary conservation work with prize money and beehives.[688] Each *kaya* prepares a budget, constitution, opens an account and is registered as a cultural group. Additionally, NMK with support from WWF, is carrying out capacity building for *kaya* elders and supporting them in their conservation work.[689] The elders praised NMK for its support for their work.[690] The IP experts agreed that there is need to incentive TEK holders to continue the conservation work.[691] Such interventions, according to Chirikure *et al*, are 'a

[683] Mburu op cit note 158.
[684] Interview with a research coordinator at the Institute of Culture and Ecology, at Thika on 05/06/2018.
[685] Interview with a research coordinator at the Institute of Culture and Ecology, at Thika on 05/06/2018.
[686] A meeting with *kaya* elders at Kaloleni 22/04/2018.
[687] A meeting with *kaya* elders at Ribe on 23/04/2018.
[688] A meeting with *kaya* elders at Kaloleni 22/04/2018.
[689] Interview with an environmental scientist working with the CFCU at Kilifi on 25/04/2018.
[690] A meeting with *kaya* elders at Kaloleni 22/04/2018. See also meeting with *kaya* elders on 24/04/2018.
[691] Interview with a law lecturer at the University of Nairobi and a TK and IP scholar, at Nairobi on 07/06/2018. See also interview with a senior Patent Examiner at KIPI, at Nairobi on 11/06/2018.

sustainable way of managing heritage resources as communities see their value and hence a rationale for protecting them.'[692]

(vi) Inventorying

KENRIK is safeguarding TK through inventorying. Inventorying safeguards TEK by harnessing, transmitting and using it to improve the livelihoods of communities.[693] A senior scientist at KENRIK explained that they do not 'protect' IK but rather they safeguard it since 'it is futile to protect indigenous knowledge as the holders of the knowledge are passing.'[694] In view of the nature of TEK, this comment supports and resonates well with the TJS approach which seeks to safeguard the continued production, transmission, use and fair access to TEK while protecting it for future generations.

Harnessing of IK is done through audio, photo, video and script forms. Before harnessing IK, KENRIK seeks PIC from elders and customary leadership.[695] Most of the IK harnessed by KENRIK is 'common' knowledge at community level (indigenous plant varieties and seeds, food preservation methods, food crops, food ways) as opposed to specialised knowledge mostly held by individuals, and it is at the latter's prerogative to share.[696] As such, it is the elders who authorise the IK to be gathered, and what can be done with that knowledge.[697] This underscores the role that TJS can play in regulating access to TEK.

ABN is inventorying TEK using videos so as to capture its 'experiential' or 'living' aspects because 'people connect with TK when they see, feel, listen and observe body movements and signs.'[698] Using TJS, TICAH is also inventorying the knowledge, rituals and traditions of different communities (including the Mijikenda and Ogiek) to ensure that their wisdom is available to future generations.[699] ABN is working closely with elders to document sacred natural sites and territories, and customary governance systems of communities by developing eco-cultural (seasonal)

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[692] Chirikure *et al* op cit note 142 at 32.
[693] Interview with an ethnobotanist and research scientist at NMK-KENRIK between 13/04/2018 to 23/04/2018. See also interview with a senior research scientist at NMK-KENRIK, at Nairobi on 11/04/2018.
[694] Interview with an ethnobotanist and research scientist at NMK-KENRIK between 13/04/2018 to 23/04/2018.
[695] Interview with an ethnobotanist and research scientist at NMK-KENRIK between 13/04/2018 to 23/04/2018.
[696] Ibid.
[697] Ibid.
[698] Interview with the General Coordinator of ABN at Thika on 29/05/18.
[699] Interview with a Project Officer at TICAH in Nairobi on 25/04/2018.

calendars and maps which are used in reviving or restoring missing aspects of ecosystems.[700] ABN is also relying on elders to carry out rituals around sacred sites to retain their sacredness; enforce rules on protection; and also share agro-biodiversity knowledge in terms of what seeds can grow in different spaces.[701]

As a safeguarding measure, inventorying helps in archiving TK for posterity or transmit it back to empower more members of the community with the same knowledge or skill.[702] It also helps in establishing who has custodianship rights, because once knowledge is inventoried (and published) it belongs to the community that provided it but unrecorded TK is subject to claims.[703] Moreover, each piece of knowledge collected has a date, GPS reading, location, name of person providing, contact address etc. This means that even after hundreds of years you can trace the source or 'owner' that is the person or community that provided the TK.[704]

Inventorying faces some challenges. First, inventorying might not capture the sacred and secretive aspects of TEK,[705] which communities are reluctant to share with outsiders.[706] Second, documentation might 'kill' TK which is a 'living knowledge' that exists in a 'social totality', embedded in social relations and spirituality, and is therefore 'more than a resource or source of information'.[707] Kafu and Simwelo explain that African traditional education was practical and, 'learners were exposed to a wide range of learning experiences, observations, listening to, touching, tasting and smelling.'[708] It is best understood by experiencing it, by participating in the songs, dances, oral narrations, ceremonies and sacred rituals.[709] Documentation turns TK into a

[700] Roger Chennels *et al* 'Submission to the African Commission: A call for legal recognition of sacred natural sites and territories, and their customary governance systems' (2015) at 1.
[701] Interview with the General Coordinator of ABN at Thika on 29/05/18.
[702] Interview with an ethnobotanist and research scientist at NMK-KENRIK between 13/04/2018 to 23/04/2018.
[703] Interview with a senior research scientist at NMK-KENRIK, at Nairobi on 11/04/2018.
[704] Interview with an ethnobotanist and research scientist at NMK-KENRIK between 13/04/2018 to 23/04/2018.
[705] Interview with a law lecturer at the University of Nairobi and a TK and IP scholar, at Nairobi on 07/06/2018. See also Interview with the Executive Director of CANCO, at Nairobi on 08/05/2018.
[706] A meeting with *kaya* elders at Kaloleni 22/04/2018. See also a workshop with *njuri ncheke* elders on 23/05/2018.
[707] Interview with a law lecturer at the University of Nairobi and a TK and IP scholar, at Nairobi on 07/06/2018. See also Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018. See also 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 382.
[708] Kafu & Simwelo op cit note 33 at 142.
[709] Interview with the General Coordinator of ABN at Thika on 29/05/18.

discrete, static and quantifiable category, it 'ceases being knowledge but information.'[710] 'While knowledge is living and intergenerational, information is not.'[711] However, some opine that while certain aspects of TK might be 'killed', documentation does not stop the evolution of TK as TK practitioners will continue using TK.[712] Third, what is inventoried or documented at times tends to be regarded as the authority even if it is wrong or inaccurate.[713] Fourth, documentation raises concerns over what can be recorded? Who does the documentation? Who owns documented TK? Who can access the documented TK and at what level?[714] Fifth, 'some communities may fear that inventorying may point others to where their TEK is.'[715] Increased awareness of what is inventoried is a key pitfall of safeguarding, since as Andanda correctly avers, promoting and safeguarding TK 'may unintentionally place TK in the public domain' and thus allow others to use it against the wishes of TK holders.[716]

5.3.2.3 IP protection measures

The protection measures being used to protect TEK include the use of collective marks, TK databases and registers, the right to be asked for PIC, and community biocultural protocols.

(a) Collective marks

KIPI is using collective marks to protect TK. For example, collective marks have been used by the Turkana Bio Aloe Organisation (Tubae) in registering the 'Echuhuka' as a collective mark on 25/09/2006. Another collective mark registered in Kenya is that for Maasai/Masai on 25/08/2010 by the Maasai Community Trust, to guarantee that the products are an authentic product of the Maasai/Masai people.[717] Although the two collective marks are not directly related to TEK, they show attempts to use the IP regime to protect aspects of TEK holders' culture and knowledge.

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[710] Ibid. See also 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 382.

[711] Ibid.

[712] Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018.

[713] Interview with the General Coordinator of ABN at Thika on 29/05/18.

[714] Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018.

[715] Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018.

[716] 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.

[717] Interview with a senior Patent Examiner at KIPI, at Nairobi on 11/06/2018.

(b) The right to be asked for PIC

As explained in chapter 3 and 4, article 8(j) of the Convention on Biological Diversity and the Nagoya Protocol, requires that the PIC of TEK holders be obtained before accessing their TEK. PIC is 'a critical condition which needs to be met as a pre-requisite for accessing and using TK for any purpose.'[718] PIC is a common mechanism being used in the protection of TEK in the case studies. For example, in the development of community protocols, Natural Justice indicated that it seeks the PIC of the concerned community.[719] The Ogiek Bio-Cultural Protocol states that the Ogiek have the 'right to give prior informed consent on utilization of all resources in our territories *through our established governance structure*' (emphasis added).[720] The 'established governance structure' refers to the TJS advocated in this study, and their role is to 'dictate any negotiation and communication with outsiders.'[721] There are studies that fortify the role of TJS in providing a 'common ground for the negotiation and performance of power and influence in relationships between individuals and groups'.[722] In the protocol, the Ogiek demand that 'all state actors shall not be allowed to enter into any agreement with individuals/companies on behalf of the community without the knowledge and permission from the community leadership.'[723] For non-state actors, they 'shall only be allowed to carry out any project on our ancestral lands and territories with approval of community leaders with clear MOU signed.'[724] Under the Samburu protocol, also developed with assistance from Natural Justice, PIC must be obtained from the elders before the implementation of any activities on their land or relating to their land, indigenous livestock and/or traditional knowledge.[725] Reliance on TJS in granting PIC demonstrates that TJS are useful in protecting and regulating access to TEK.

ABN is also promoting PIC in line with article 8(j) in documenting and reviving the sacred natural sites and territories of TEK holders by relying and consulting with the traditional custodians of those sites.[726] A respondent explained that 'before development projects are

[718] Muller op cit note 74 at 123.
[719] A meeting with the director of Natural Justice in Kenya on 10/07/2018.
[720] Ogiek Bio-cultural Protocol op cit note 14 at 14.
[721] Ogiek Bio-cultural Protocol op cit note 14 at 14.
[722] See Kamoto *et al* op cit note 93 at 293; Logan op cit note 92 at 353-376.
[723] Ogiek Bio-cultural Protocol op cit note 14 at 14.
[724] Ogiek Bio-cultural Protocol op cit note 14 at 14-15.
[725] The Samburu Community Protocol about the Samburu Livestock Breeds and their rights to their indigenous livestock genetic resources and role in global biodiversity management, at 7-8.
[726] Interview with the General Coordinator of ABN at Thika on 29/05/18.

undertaken or any other action affecting TEK holders' territories and resources, their PIC should be sought' and its 'grant should be in accordance with the principle of self-determination, that is according to the way communities understand development but not because a company or government wants a certain development project.'[727] As suggested in chapter four, the use of TJS can ensure that the grant of PIC is in accordance with the principle of self-determination. As noted in chapter four, access to genetic resources and/or associated TK in Kenya is subject to, among other things, evidence of PIC from providers of genetic resources (who include TEK holders) and a permit from the National Environmental Management Authority (NEMA).[728] Additionally, providers of genetic resources have the right to negotiate mutually agreed terms (MAT) with the user. An official at NEMA dealing with ABS matters explained that NEMA relies and consults 'customary law and institutions as they are a basis of protection and determine how communities use resources.'[729] Effectively, this authenticates the study's proposition that TJS can play a role, not only in TEK protection, but also in facilitating access to TEK.

A senior patent examiner noted that introduction of the disclosure of origin and PIC requirement as a criterion for patentability, through amendments to Article 29 of TRIPS, could be an effective way of protecting TK.[730] He submitted that this could act as evidence that 'TK was derived from communities and ensure they get a percentage of benefits from their TK.'[731] Andanda buttresses this view when she rightly affirms that such amendments would 'force patent applicants to double-check prior art'; provide avenues for claims of benefit sharing or joint ownership; and 'provide a legally binding mechanism to force patent applicants to show that the resources/knowledge they used as the basis for the invention was acquired with the consent of the individual or group concerned.' [732]

Although Kenya has not included disclosure of origin and PIC requirement as a criteria for patentability, a number of African countries have included this criterion in their IP laws as an effective way of protecting TK. For example, in Namibia, TK, 'which originated at a date prior to

[727] Interview with the General Coordinator of ABN, at Thika on 29/05/18.
[728] Regulation 9(2), Environmental Management and Co-Ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations.
[729] Interview with a Legal Officer NEMA, at Nairobi on 06/06/2018.
[730] Interview with a senior Patent Examiner at KIPI, at Nairobi on 11/06/2018.
[731] Interview with a senior Patent Examiner at KIPI, at Nairobi on 11/06/2018.
[732] Andanda op cit note 198 at 554.

the priority date of the relevant invention' forms part of prior art.[733] In Botswana, the Industrial Property Act has far reaching consequences since it renders any 'patents, trade marks, industrial designs or plant variety certificates that are granted, irrespective of any rights of [TK] under the Act' unenforceable against third parties 'until the written consent of the local community owning the [TK] is obtained'.[734] In South Africa, the South African Patent Act (Amendment Act 20 of 2005) has also incorporated the PIC requirement by requiring applicants for patent registration to disclose 'whether or not the invention for which protection is claimed is based on or derived from an indigenous biological resource, genetic resource, or traditional knowledge or use'.[735] The Act has also empowered the registrar to demand proof of applicants' title or authority to make use of such resources.[736] In essence, it is possible to have a collaborative approach between the TJS and IP frameworks to bridge the current gap between protection and safeguarding measures in the sense that TEK holders (through TJS) can withhold their FPIC in order to safeguard their rights, and grant of IP rights can also be withheld by the relevant authorities if there is non-disclosure of origin or proof of PIC is missing. This collaboration will require IP regimes to recognise the existence and role of TJS in TEK governance, and hopefully the collaboration could ultimately lead to a paradigm shift in IP law, where existence of custodial rights could be a basis for granting or rejecting the grant of IP rights

(c) TK databases and registers

As discussed in chapter three, TEK databases and registers offer a defensive form of TEK protection by documenting TEK and making it accessible to patent examination offices. This is being done by IP agencies like KECOBO and KIPI.

The law provides for the protection of TK through establishment of registers at county and national levels.[737] KECOBO is mandated to act as the national repository for TK in Kenya.[738] The TK and Genetic Resources (GR) Unit at KIPI seeks to *inter alia*, promote documentation and preservation of TK; provide a means for patent search procedures and identification of prior art; identify individual and communities entitled to sharing benefits and exclusive rights on accessed

[733] S12 (1) (c), Industrial Property Act No. 1 of 2012 (Laws of Namibia).
[734] S 127(1), Industrial Property Act No. 8 of 2010 (Laws of Botswana).
[735] Ss 30(3A) and 30(3B), Patents Amendment Act (No. 20 of 2005) (Laws of South Africa).
[736] S 30(3A), Patents Amendment Act (No. 20 of 2005) (Laws of South Africa).
[737] The Protection of Traditional Knowledge and Cultural Expressions Act, 2016.
[738] The Protection of Traditional Knowledge and Cultural Expressions Act, 2016.

TK and GR; and provide a means for recording the existence of TK over which positive rights have been recognised. The Unit is also identifying and creating databases for alleged and proven cases of biopiracy of TK and associated GRs including the misappropriation of the Boran cattle genes and extremophiles from Lake Bogoria; and databases for alleged 'pirated' TK-based products, processes and services like *kikoi*, *kiondo*, Akala shoes, Maasai Barefoot Technology and *mursik*.[739]

Creating databases is advantageous as it: archives TEK for posterity; allows for commercialisation of TEK; establishes those with custodianship rights by identifying individuals and communities entitled to benefits and exclusive rights; and provides a means for patent search procedures and identification of prior art which helps in rejecting bad patents.[740]

However, establishment of TEK databases and registries, in so far as it documents TEK, is bound to suffer from the pitfalls that attend inventorying. A major challenge with databases and registers is that they tend to 'systematize TK under certain pre-established criteria and provide an informational platform which is often alien to indigenous peoples and communities-in content and process.'[741] A respondent observed that the 'creation of such registers can only be legitimate if the traditions of TEK holders are respected.'[742] Another limitation with databases is that the 'databases may be protected but not the information itself.'[743] Moreover, IP agencies seem to assume that communities want their TEK and TEK systems documented, yet not all communities are interested in their TEK being documented (especially the sacred and secretive aspects of TEK).[744] Lastly, there are different agencies with the mandate to document TK, and their efforts are not well harmonised and coordinated.

(d) Biocultural community protocols on access and benefit sharing (ABS)

Biocultural community protocols are provided for under Article 12 of the Nagoya Protocol. They are being used to provide a *sui generis* system for TEK protection.[745] Such protocols are

[739] Interview with a senior Patent Examiner at KIPI, at Nairobi on 11/06/2018.
[740] Interview with a senior research scientist at NMK-KENRIK, at Nairobi on 11/04/2018. See also Oguamanam op cit note 43 at 11.
[741] Muller op cit note 74 at 123.
[742] Interview with the General Coordinator of ABN, at Thika on 29/05/18.
[743] Andanda op cit note 198 at 553.
[744] Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018.
[745] Interview with the director of Natural Justice in Kenya on 10/07/2018.

increasingly used to describe the 'rights of indigenous peoples and local communities over their lands, resources and cultural heritage and the parameters, elements and modalities for seeking access to and use of genetic resources and traditional knowledge.'[746] They set out clear terms and conditions (including PIC principles) to government, researchers or entrepreneurs upon which their resources and TK may be accessed and utilised,[747] thus providing an important framework for the recognition of self-determination and cultural rights. In their Protocol, the Ogiek acknowledge that it is,

> 'a tool to safeguard our community's rights as well as traditional knowledge and resources by providing clear terms and conditions to regulate access to our assets as well as sharing benefits that accrue from any development of these assets.'[748]

A respondent indicated that development of biocultural protocols requires community participation,[749] which is attained by relying on cultural institutions like elders in identifying the TK, beneficiaries of TK, and determining the terms and conditions of access.[750] Tobin affirms this by stating that protocols are developed through culturally rooted, participatory decision-making processes within the communities and are based on communities' customary norms, values, and laws and are 'an important step in the exercise of rights to self-determination.'[751] Clearly, without TJS, it would be difficult to develop biocultural protocols, as it is the former that determines the TEK, beneficiaries, who can access TEK and under what conditions.

5.3.3 Adequacy of the IP regime in protecting and facilitating access to TEK

The IP system can be helpful in protecting aspects of TK though not satisfactorily.[752] For example, collective marks can be used by communities to protect their unique creations and guarantee the authenticity of their products, e.g. their indigenous seeds, planting and harvesting systems, plant varieties and animal breeds. Similarly, the patent system, can be used to protect TK by including disclosure of origin as a criteria for patentability in patent applications, as discussed earlier through the proposed amendments to Article 29 of TRIPS.[753] However, a respondent noted that the Act

[746] Tobin op cit note 51 at 207-208.
[747] Muller op cit note 74 at 130.
[748] Ogiek Bio-cultural Protocol op cit note 14 at 1.
[749] A meeting with the director of Natural Justice in Kenya on 10/07/2018.
[750] A meeting with the director of Natural Justice in Kenya on 10/07/2018.
[751] Tobin op cit note 51 at 208.
[752] Interview with a senior Patent Examiner at KIPI, at Nairobi on 11/06/2018.
[753] Interview with a senior Patent Examiner at KIPI, at Nairobi on 11/06/2018.

adopts a rights-based approach towards TK protection which is akin to the IP system, and as such 'there is nothing traditional about control and access of TEK.[754] The administrative structure which vests responsibility over TK at national, county and community levels is vague and quite cumbersome.[755]

There was unanimity amongst most IP and TK researchers that the IP framework is inadequate in protecting TK due to its nature. They opined that the 'lenses we use to protect TK are Eurocentric/western where TK is not considered at par with conventional knowledge.'[756] Scholars such as Birnhack and Oguamanam who opine that IP law evolved and reflects a Eurocentric philosophical mindset about the creative and inventive processes maintain a similar view.[757] According to Birnhack the 'IP history was told from the colonizers' perspective.'[758] Along the same vein, the IP and TK researchers interviewed, noted that the IP framework was not developed with TK in mind, since Africans did not participate in the formulation and development of IP frameworks.[759] Consequently, the worldviews of Africans about property (such as cultural practices and religious beliefs) and TK were not incorporated in IP frameworks, making them unsuitable in TEK protection.[760] Conversely, the IP system has been used to misappropriate and destroy TK and TK systems.[761] For instance, one respondent noted that 'a lot of patents are granted to multinational corporations on the basis of TEK, and is therefore unlikely that IP law will be changed in any way that threatens this power dynamic.'[762]

As pointed earlier, in this chapter, and in chapter two, TEK is holistic as it has socio-cultural, ecological and spiritual aspects that cannot be adequately protected within IP. Most TEK holders 'conceptualise their relationships to their TK as involving not only rights to its use but also biospiritual virtues guiding its use and responsibilities to the communities and ecosystems in which

[754] Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018.
[755] Interview with a law lecturer at the University of Nairobi and a TK and IP scholar, at Nairobi on 07/06/2018. See also interview with a patent expert and lecturer at Strathmore University, at Nairobi on 18/04/2018.
[756] Interview with a senior research scientist at NMK-KENRIK, at Nairobi on 11/04/2018. See also Interview with a research fellow at CIPIT on 28/06/2018.
[757] Oguamanam op cit note 43 at 5. See also Michael Birnhack 'Colonial Intellectual Property' in Irene Calboli & Maria Lilla' Montagnani (eds.), *Handbook on Intellectual Property Research* (Oxford University Press, 2019 Forthcoming) available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3160947 accessed on 01/09/2018.
[758] Michael Birnhack op cit note 239.
[759] Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018.
[760] Interview with a senior Patent Examiner at KIPI, at Nairobi on 11/06/2018.
[761] Interview with a senior Patent Examiner at KIPI, at Nairobi on 11/06/2018.
[762] Interview with a research fellow at CIPIT on 28/06/2018.

it is used.'[763] According to Chisa and Hoskins, the socio-cultural and spiritual context are essential in the 'continued existence and development' of TEK.[764] Oguamanam rightly explains that the cultural and spiritual essences of TK are 'often conveyed in restricted rituals, practices and performances constituting aspects of meaning making within exclusive cultural membership.'[765] The socio-cultural and spiritual context of TEK, makes TEK 'a community heritage' that cannot be 'bought or sold.'[766] Relatedly, and due to the holistic and multidisciplinary nature of TEK, protection measures ought to be 'interdisciplinary cutting across different fields such as law, medicine, anthropology *et cetera*; and comprising various actors and issues, which the IP framework cannot protect.'[767] Customary law approaches to TEK protection such as TJS, have the potential to mesh all these fields, actors and issues; and ensure the protection of TEK within its socio-cultural and spiritual milieu.

Moreover, customary law, which plays a key role in TEK protection, as explained above, is not adequately harnessed in the IP framework. According to one respondent, customary law and conventional IP law are,

> 'diametrically opposed in their conception of property and attendant rights, explaining the difficulty in bringing TK within mainstream IP discourse in spite of the recent efforts of indigenous groups and WIPO's IGC.'[768]

It was further explained that whereas 'IP rights are individual rights, TK rights are communal' and TK holders are 'custodians of the knowledge and not the owners.'[769] As noted earlier, the TJS approach advanced in this study, is anchored on customary law, and as such it recognises the central role of customary law in TEK protection.

Again, the territorial aspects that are vital in the development of, and protection of TEK are not protected within the IP regime.[770] For instance, the Ogiek community live 'under the threat

[763] Natural Justice 'Imagining a traditional knowledge commons; A community approach to sharing traditional knowledge for non-commercial research' IDLO, 2009 at 9.
[764] Chisa & Hoskins op cit note 53 at 3.
[765] Chidi Oguamanam op cit note 54 at 9.
[766] Chisa & Hoskins op cit note 53 at 3-4.
[767] Interview with a research fellow at CIPIT on 28/06/2018.
[768] Interview with a research fellow at CIPIT on 28/06/2018.
[769] Interview with a research fellow at CIPIT on 28/06/2018.
[770] See the *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017.

of being dispossessed of their territories and related resources by the state and private actors'[771] which is a threat to the protection of TEK. Similarly, the grabbing of the buffer zones surrounding some *kaya* forests was cited as a challenge to the protection of TEK.[772] The *kaya* forests are also under threat from nearby mining operations,[773] and have been described as a,

> 'contested terrain, located at the convergence of the interests of Kenyans and foreigners, rural people and city dwellers, men and women, the youth and the elders, conservationists and entrepreneurs, civil society and the state, farmers and tourists, and Christians, Muslims and the practitioners of indigenous religions.'[774]

The failure of IP law to protect the territorial rights of TEK holders' undermines their self-determination rights, and creates the need to search for alternative approaches anchored on customary law such as TJS, in securing those rights.

5.3.4 Adequacy of the existing environmental frameworks in protecting TEK

As observed in chapter four, environmental laws recognise the rights of TEK holders, and the role of TEK in conservation. However, from the fieldwork it has emerged that 'current environmental frameworks have largely disregarded customary or traditional methods of environmental protection.'[775] It was observed that there is 'need for government to work with communities and harness TK for conservation and stop assuming they don't have knowledge.'[776] However, as pointed out earlier, civil society, recognise the wealth of knowledge held by communities, and are relying on communities and their TK in conservation efforts.

Some aspects of TEK, for instance, spiritual beliefs and taboos are still viewed as unscientific, and have not been incorporated in formal conservation efforts.[777] It was however explained that such spiritual beliefs are not random, but have a scientific basis,[778] and should be incorporated into formal conservation efforts. Government agencies can draw from the work of

[771] Interview with an Ogiek activist and human rights advocate, at Nakuru on 10/05/2018.
[772] Interview with an environmental scientist working with the Coastal Forest Conservation Unit (CFCU) at Kilifi on 25/04/2018.
[773] From an unpublished file shared by Professor Celia Nyamweru titled 'From kaya elders to kaya conservation and development groups; the evolving institutional base for forest conservation in coastal Kenya' at 4.
[774] Nyamweru (1998) op cit note 5 at 4.
[775] Interview with a research coordinator at the Institute of Culture and Ecology, at Thika on 05/06/2018.
[776] Interview with a research coordinator at the Institute of Culture and Ecology, at Thika on 05/06/2018.
[777] Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018.
[778] Interview with an IP expert, scholar and former Director KECOBO on 14/06/2018.

organisations such as ICE and ABN that are using a MEB approach which recognises that both the scientific and TEK systems have valid and useful knowledge.

Environmental and land laws in Kenya have failed to secure the territorial and resource rights of the Ogiek people. As a result, they have lost their land rights to other groups, and part of their territory has been gazetted as a forest reserve.[779] Whereas current environmental laws recognise community participation in conservation they,

> 'do not go as far as recognising and supporting the rights and responsibilities of communities to govern and protect their Sacred Natural Sites and Territories on their own terms, according to their customary governance systems.'[780]

In the Ogiek case study, the formation of CFAs 'only allows a community to associate with a forest and does not allow the Ogiek to manage the forest themselves.'[781] Moreover, the inclusion of non-Ogiek people in CFAs, has undermined the use of customary governance systems in conservation, and contributed to loss of biodiversity and TEK.[782]

Additionally, the recent decision by the African Court on human and peoples' rights was criticised since whereas it does recognise the rights of Ogiek to access and live within the forest, it fails to deal with the problematic question of restitution of Ogiek land rights in the areas already allocated to non-Ogiek members.[783] In the case, the Ogiek through the African Commission on Human and Peoples' rights had sought *inter alia*, the remedy of restitution so as to recover their ancestral land through delimitation, demarcation and titling process. However, the Court failed to rule on the reparations sought, reserving it for a separate decision.[784] The decision therefore fails to address the plight of the Ogiek people, in so far as the restitution of their ancestral land rights is concerned, which is detrimental to the protection of TEK. A TJS approach to the protection of

[779] A workshop with Ogiek elders and Kiptunga CFA on 09/05/2018 and 10/05/2018.

[780] Adam Hussein Adam 'Recognising Sacred Natural Sites and Territories in Kenya: An Analysis of how the Kenyan Constitution, National and International Laws can Support the Recognition of Sacred Natural Sites and their Community Governance Systems' (2012) Institute for Culture and Ecology (Kenya), African Biodiversity Network & the Gaia Foundation at 10.

[781] Interview with an author and Ogiek activist on 10/05/2018. See also a workshop with the Ogiek community and Kiptunga CFA members on 09/05/2018 and 10/05/2018.

[782] A workshop with the Ogiek community and Kiptunga CFA members on 09/05/2018 and 10/05/2018.

[783] Interview with an Ogiek activist and human rights advocate, at Nakuru on 10/05/2018.

[784] *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017, 66-67.

TEK, protects TEK, TEK holders' territorial and self-determination rights using their customary governance systems.

There are numerous sectoral agencies whose mandate has a bearing on TEK in Kenya. For instance, National Commission for Science, Technology and Innovation (NACOSTI), county governments, universities, KFS, NEMA, Kenya Wildlife Service (KWS), NMK and NGOs. The focus of these institutions is on documentation of TK, and as mentioned earlier, their efforts are not well coordinated, thus complicating TK protection.

5.3 THE ROLE OF TJS IN PROTECTING AND FACILITATING ACCESS TO TEK

As illustrated earlier in this chapter, TJS plays a central role in the protection of TEK and should be used in that respect. By embedding Westra's tripartite framework, TJS are capable of protecting and safeguarding TEK, the territories of TEK holders, and the tangible and intangible manifestations of their TEK and related systems, and providing a convergence point for both approaches as illustrated below, unlike the IP regime.

Although the great potential of TJS, as an authentically decentralised and community-based management system, is not contested, there has been a tendency to suffocate and delegitimise traditional management systems over the last century across most of Africa.[785] This suffocation has been blamed on the 'disruption caused by the African colonial experience; the hegemony of the rigid post-independence state-based heritage policies and management systems; changes in the wider economic, social, and cultural circumstances under which traditional systems operate; specific historical developments such as past and present land reforms, migrations, tourism and more recently globalisation.'[786] However, Jopela maintains that while formal heritage management systems were being imposed on local communities, 'traditional custodianship systems neither disappeared nor remained static' rather 'they shifted so as to remain relevant alongside the new models.'[787] In her study, Logan found that traditional authorities still enjoy 'a widespread popular legitimacy that undergirds the institution's resilience' and thus have an 'essential role to play in local governance.'[788] The three case studies have also shown that communities have, and are using TJS to protect TEK and regulate access to it. It has emerged that

[785]Oguamanam op cit note 43 at 5. See also Jopela op cit note 26 at 110.
[786] Jopela op cit note 26 at 110.
[787] Jopela op cit note 26 at 110-111.
[788] Logan op cit note 92 at 355.

TJS are culturally appropriate institutions that are respected and highly revered. A study by Kamwaria *et al* finds that *Njuri ncheke* are equipped with a wealth of knowledge which enables them to play a crucial role in the 'devolved government, especially in regard to conflict resolution, environmental conservation, education and development, among other roles.'[789]

One IP expert noted that TK 'goes to the core of indigenous people and local communities' identity and right to self-determination' and 'any protection measure should be built around the existing traditional structures.'[790] 'Failure to do so could be detrimental to the development of TK as it is dynamic and thrives well within the boundaries of customary law.'[791] Khisa & Hopkins suggest that an effective and appropriate regulatory framework for the protection of TK would be by 'strengthening governance and indigenous legal systems at local level' and implementing a 'locally designed protection framework based on customary laws of communities.'[792] According to Tobin, 'effective and culturally appropriate protection of traditional knowledge rights cannot be secured without due respect and recognition of Indigenous peoples and local communities' laws and legal traditions.'[793] The use of IP law to protect TEK contributes to the subjugation of indigenous laws and customs, and to overcome such subjugation, Tobin suggests the need for a deep form of legal pluralism based upon recognition and enforcement of extensive rights to self-determination, land, resources and culture.[794] Additionally, Kamoto *et al* opine that 'customary institutional structures which are often flexible, socially negotiable and hence, more practical, should not be viewed and treated as being inferior to statutory institutional structures but should be worked with in order to build systems of accountability.'[795] Since most communities have TJS, optimal benefits can be achieved by using a TJS approach to TEK protection rather than the IP regime. A TJS approach is able to engender a deep form of legal pluralism in TEK protection, and embed Westra's tripartite framework of self-determination, cultural and ecological integrity; and build systems of accountability in TEK governance, especially in regulating access to the knowledge.

[789] Kamwaria *et al* op cit note 50 at 42.
[790] Interview with a research fellow at CIPIT on 28/06/2018.
[791] Interview with a research fellow at CIPIT on 28/06/2018.
[792] Chisa & Hoskins op cit note 53 at 11.
[793] Tobin op cit note 51 at 193.
[794] Tobin op cit note 51 at 206.
[795] Kamoto *et al* op cit note 93 at 300.

The three case studies show that TJS are essential in the protection of the territories of TEK holders. The protection of those territories is essential to TEK due to the interconnectedness between TEK, TEK holders and nature. A respondent noted that using TJS in the management of sacred sites underscores the principle of self-determination which requires *inter alia* that communities have the right to be consulted before developments take place in their territories.[796] Protection of the *kaya* forests and river Kathita using TJS, demonstrates the interdependence between TEK, its holders and nature, which is as a result of an indigenous cosmology that is about 'the co-evolution of spiritual, natural and human worlds.'[797] In the Mijikenda case study, the *kaya* forest (symbolising nature) is essential to the *kaya* and its continued existence, and hence the well-being of the community.[798] Ongugo *et al*, in their study also found that there is an intertwined network of interdependence among the Mijikenda, the *kaya* forests, language, knowledge and culture.[799] Jopela justifies the role of TJS in this respect, arguing that traditional custodial institutions (like TJS) promote 'sustainability in terms of conservation and protection of the values that make archaeological sites significant to communities'.[800] Larcom *et al* acknowledge that local institutions continue to play an important role in controlling access to land and forests resources in Africa.[801] Kamoto *et al* have argued that 'limited consideration of existing local institutions in CBNRM [community based natural resource management] policy can create more harm than good and far greater emphasis needs to be given to address this within policy development.'[802] Nyamweru, writing on the *kaya* forests, notes that 'the continued survival of the groves demonstrates the contribution of local management and indigenous knowledge systems to environmental conservation'[803] illustrating that indeed TJS, as a local management institution has a role to play, not only in protecting the territories of TEK holders, but also their TEK. The IP regime is unable to protect the territorial rights of TEK holders.

[796] Interview with the General Coordinator of ABN at Thika on 29/05/18.
[797] See chapter one of this study.
[798] A meeting with *kaya* elders on 22/04/2018.
[799] Ongugo *et al* op cit note 3.
[800] Jopela op cit note 26 at 114.
[801] S. Larcom, T. van Gevelt & A. Zabala 'Precolonial institutions and deforestation in Africa' (2016) 51 *Land Use Policy* 150-161 at 151.
[802] Kamoto *et al* op cit note 93 at 299.
[803] Celia Nyamweru 'Sacred groves of Africa' in Bron Taylor (ed) *The Encyclopedia of Religion and Nature* (2008) 1451-1455 at 1455.

The indigenous cosmology within which TEK is held, and its enigmatic nature, suggests that the IP regime is unfit for purposes of TEK protection.[804] For instance, the Mijikenda case study shows, that TEK protection entails cultural aspects (like traditional ceremonies), spiritual aspects (where protection is not only physical but supernatural traditions and prayers are done to thwart bad omen and pray for good omen like rain and good health)[805] and ecological/biological (where there are rules on access to, use and control of a resource). Consequently, the protection of TEK requires an approach that can capture the indigenous cosmology, and the socio-cultural and spiritual context of TEK.[806] IP is unable to offer such an approach, since as pointed earlier, it has largely excluded the worldviews of TEK holders, their knowledge and knowledge systems. However, TJS was suggested by some IP experts as holding the potential to protect the holistic context of TEK,[807] as it can effectively embed Westra's tripartite framework into the protection of TEK and other natural resources. The recognition of TEK holders' territories as ICCAs, national monuments, and as world heritage sites, confirms that indeed TJS have a huge role to play in TEK protection.

Relatedly, the discussions with the civil society actors (ICE and ABN) have shown that TJS can play a key role in the revival and restoration of lost or destroyed ecosystems, and food crops; which allows the continuous use, production and transmission of TEK. As custodians of customary laws and knowledge, TJS can thus be relied on in reviving or restoring lost TEK.

As illustrated in the three case studies, TJS can play a crucial mediating role in governing access to TEK, and benefit-sharing frameworks since as Kamoto *et al* opine, they have the 'potential to mediate external interventions into local contexts, and articulate between local and extra-local social and political processes.'[808] This is so because they are 'decision-making levels designed to respond to issues regarding allocation, use and management of resources'[809] including TEK on the basis of scale, need, function and process. Moreover, they are able to play this role because they are custodial institutions and can thus be used to: identify TEK; ascertain

[804] Chidi Oguamanam op cit note 54 at 15.

[805] From an unpublished file shared by Professor Celia Nyamweru titled 'Questioning the dominant narrative: 'traditions', conservation and development of the kaya forests of coastal Kenya' at 3. See also Jopela op cit note 26 at 108.

[806] Chisa & Hoskins op cit note 53 at 3.

[807] Interview with a research fellow at CIPIT on 28/06/2018.

[808] Kamoto *et al* op cit note 93 at 294.

[809] Ogendo op cit note 45 at 108.

beneficiaries; define the nature of community custodianship; the rights and responsibilities associated with custody, access rights, protect customary use, means of dissemination and preservation of knowledge; and the customary mode of defining modalities of PIC, benefit sharing mechanisms, dispute settlement, and sanctions for infringement of customary law.[810]

Additionally, reliance on TJS in the development of community bio-cultural protocols, the grant of PIC, and in inventorying TEK and sacred natural sites; suggests that TJS can play a role in determining who can access TEK, what type of TEK, how TEK is to be gathered and stored, and under what terms and conditions. This confirms that the IP and TJS frameworks can collaborate to yield a more effective form of TEK protection, and bridge the current protection gap. As earlier mentioned, the inclusion of the PIC and disclosure of origin requirements in some African countries before granting IP rights, illustrates that such a collaboration is indeed possible.

Using TJS, to regulate access to TEK, supports and conforms to the principle of self-determination[811] by providing an equitable access and benefit sharing framework that is anchored on customary laws and that abhors unregulated access to TEK. Moreover, this might limit the commodification of TEK as all benefit sharing agreements will have to be anchored on the customary laws of the relevant community.

The three case studies also demonstrate that TJS are culturally appropriate institutions that are able to protect TEK and the cultural identity of communities, within an indigenous cosmology, unlike the IP system. The constant and continuous eviction of the Ogiek from their territories has disconnected them from their territories, weakened their cultural integrity, and their traditional structures, and occasioned loss of their TEK.[812] Jopela explains that the 'identity of present and past societies is often closely associated with specific locations and structures in the landscape.'[813] Therefore, the protection of TEK has to be culturally rooted, if it is to safeguard the cultural identity of TEK holders. The IP system is unable to neither protect the territories of TEK holders nor their cultural identity.

The existence of TJS in a community, as custodial institutions, can help reduce contestation over 'ownership' and management of resources and TEK, between different actors. For instance, in the Mijikenda case study, the government has recognised the *kaya* elders as the custodians and

[810] Tobin op cit note 51 at 204. See also Chisa & Hoskins op cit note 53 at 4.
[811] Interview with the executive director of Resource Conflict Institute (RECONCILE) on 11/05/2018.
[812] A workshop with the Ogiek community and Kiptunga CFA members on 09/05/2018 and 10/05/2018.
[813] Jopela op cit note 26 at 104.

managers of the *kayas*. Likewise, in the Meru case study, the government recognises the sacred sites of the community, and their role in conflict resolution. This resonates with the findings of a study on heritage management by Chirikure *et al* where they established that contestation between the traditional custodians and the legal (scientific) custodians, over claims of ownership of heritage sites, reduces where traditional custodial rights exist.[814]

Unlike the IP tools, TJS are holistic thus providing a socio-cultural and spiritual context, that is essential in the 'continued existence and development' of TEK.[815] This shows that TJS is not only able to protect TEK, it also safeguards TEK, and allows for its continued use and transmission in a cultural context. It provides a convergence point of both the protection and safeguarding camps, since it can regulate who accesses and uses TEK; while also promoting continued use and transmission of TEK in accordance with the objectives of its holders.

Studies have also shown that TJS are being relied upon by communities for 'information, guidance, help and support and gain most from developing social capital.'[816] They can provide knowledge and capacity for implementing policy initiatives and 'in the presence of weak state capacity' they may 'fill in the void created by the limited penetration of national institutions.'[817] TJS can fill the void created by the inadequacy, deficiency and unsuitability of the IP regime in protecting TEK.

Although, studies have recognised the role of customary law in protecting TK,[818] those studies have not addressed the question of how to implement and execute those laws in protecting TEK. As discussed in this study, TJS as an executive and adjudicatory arm under customary governance systems can be used in enforcing customary laws and ensure effective protection of TEK. Unlike other models that have been proposed, including TK commons, TK databases and registers, that seek to place TK into commons, a TJS approach offers a truly traditional commons and gives effect to customary law which is the normative framework governing the generation, use and transmission of TK.

Some of the challenges that may undermine the role of TJS in protecting TEK include leadership wrangles which creates factions among elders, each claiming to be the legitimate elders;

[814] Chirikure *et al* op cit note 142 at 39.
[815] Chisa & Hoskins op cit note 53 at 3.
[816] Kamoto *et al* op cit note 93 at 300.
[817] Michalopoulos & Papaioannou op cit note 88 at 117.
[818] Oguamanam op cit note 43 at 1-20. See also Chisa & Hoskins op cit note 53 at 1-15.

cultural erosion; loss of indigenous territories to pave way for developmental projects; and the influence of modern education and religions which has contributed to the loss of traditional beliefs and values. For example, *kaya* elders lamented that they are despised, and live in constant threat of attack and being labelled witchdoctors and at times killed by the community. *Kaya*s in Kwale have since lost the traditional touch due to Islam in that: there are no rules on shoes before getting to *kaya*s (even in *kaya Kinondo*); traditional prayers are often altered to align them with Islamic religion; and the traditional Mijikenda clothing has been abandoned in favour of the *kanzu* (long white robe).[819] However, as the study shows, there are efforts being undertaken by government and civil society actors to promote and reinforce TJS due to their vital role in governance.

5.4 CONCLUSION

This chapter has illustrated how communities in the three case studies are using TJS in protecting their TEK. Moreover, the chapter has established that whereas safeguarding measures may engender the identification, documentation, transmission, revitalisation and promotion of TEK, and ensure its continued existence and viability, they do not offer protection in the legal sense. Protection measures, on their part, are inadequate since they are (among other things) unable to protect the holistic nature of TEK. However, the fact that TJS are on one hand, being used by communities to protect and assert their cultural, self-determination and resource rights; and on the other hand, being relied in granting PIC before documenting TEK and in developing biocultural protocols, shows that TJS can provide a point of convergence between the IP and TJS frameworks. Additionally, TJS are able to interface safeguarding and protection measures in TEK protection.

Whereas a TJS approach is apt in providing a convergence point between the two frameworks, there are a number of limitations with this approach. First, the continued loss of traditional institutions, cultural values, and TEK holders' lands and territories, rising urbanisation, leadership wrangles among elders, and the influence of modern education and religions have weakened traditional governance structures. There is a correlation between existence of TEK and TJS, and hence where TJS have been completely eroded, TEK may also have been lost. Second, a TJS approach might not be helpful in affording protection to TEK that is widely shared, or TEK that is already in the 'public domain'. In relation to shared TEK, resort to other strategies such as

[819] A workshop with *kaya* elders on 24/04/2018.

the use of the IP system could be more appropriate. Third, the plurality of customs and traditional institutions among communities suggests that there cannot be a 'one-size-fits-all' traditional approach to TEK protection, and the study does not purport to make such a prescription. As noted in chapter 1, a bottom-up approach that is truly intercultural to TEK protection requires drawing from each community's local contexts, and is an area that would require further research on how local institutions could interface with municipal and international institutions. Fourth, the success of a TJS approach in protecting TEK is also largely dependent on political goodwill and support from the state. For instance, where there is weak protection of collective rights such as the rights to culture, property and self-determination, traditional institutions are less efficacious in governance. These challenges suggest that a TJS approach needs to be used in collaboration with the IP regime, and not in isolation to ensure effective protection of TEK.

As the case studies have shown, some NGOs are already using TJS and collaborating with TEK holders in protecting TEK with great success. Such experiences illustrate that effective collaboration can equally be built between the IP and TJS frameworks in protecting TEK. The case studies show that TJS are being used in granting PIC and in developing Biocultural protocols to govern access to TEK. Additionally, having PIC and disclosure of origin as a criterion for patentability, would benefit TEK holders since community leaders (who are part of the TJS) could be involved in the decision-making processes and institutions under the IP regime and vice versa. Consequently, such a collaboration can bridge the protection gap as TEK holders can withhold their PIC so as to safeguard their rights, while the grant of IP rights over TEK could also be withheld by relevant authorities, if there is non-disclosure of origin or proof of PIC is missing. Such an approach is in consonance with the expectations of TEK holders, who expect that they be engaged more through genuine consultations before they grant access to their knowledge and resources. Moreover, a TJS approach can be helpful to the IP or any other strategy that may be employed by TEK holders in seeking appropriate remedies, as it can help resolve issues touching on the identification of the custodians and potential beneficiaries. Finally, the dominance of state institutions, current IP laws and institutions, suggests that the TJS approach may not operate in isolation. For instance, in case of unauthorised access or misappropriation of TEK by third parties, TJS may at times require the support of existing IP structures.

CHAPTER SIX

CONCLUSION

6.1 INTRODUCTION

Generally, the protection of TEK, and development of effective and appropriate frameworks for its protection have for a long time eluded policy makers at the global, regional and national levels. The current global efforts within WIPO's IGC are a testament to this. Prevailing IP laws, environmental and human rights frameworks, institutions that are mandated to protect TEK, and existing literature have not examined the role of traditional institutions in the protection of TEK. Moreover, TEK protection discourses tend to evoke historical, ideological, political, epistemological and methodological conundrums that produce cultural-hierarchical dichotomies between western and non-western worldviews, where IP is privileged and regarded as scientific while TEK is rubbished as being unscientific, mystical and irrational. Since TEK does not fit neatly within the IP framework, it has not received adequate protection within that regime. It is for this reason that this thesis sought to investigate the appropriateness of TJS as *sui generis* frameworks in the protection of TEK in Kenya. This chapter presents the overall conclusions and recommendations of the study.

6.2 OVERALL CONCLUSIONS

This section presents a summary of the key findings and overall conclusions of the thesis under the following themes:

(a) Vesting the obligation to protect TEK on custodial institutions

TEK holders view themselves as custodians of TEK rather than its owners. The custodial nature of TEK holding, creates rights as well as obligations on the custodians. Most TEK holders 'conceptualize their relationships to their TK as involving not only rights to its use but also biospiritual virtues guiding its use and responsibilities and obligations to the communities and ecosystems in which it is used.'[1] Therefore, the protection of TEK cannot simply be a matter of conferring IP-like rights to custodians since that could divest custodial rights over TEK from the reciprocal responsibilities, and be detrimental to the biocultural framework of indigenous and local

[1] Natural Justice 'Imagining a traditional knowledge commons; A community approach to sharing traditional knowledge for non-commercial research' IDLO, 2009 at 9.

communities (ILCs) and their integrity as they now exist.[2] As such, the obligation to protect TEK ought to be vested on custodial institutions (TJS) that are able to protect the custodial rights and enforce responsibilities that communities have over TEK. The existence of these custodial rights and responsibilities is the very reason why prior informed consent (PIC) and other forms of consultations are required before accessing TEK holders' territories and other resources, and as proposed in this thesis, it could be the basis for granting or rejecting the grant of IP rights.

(b) Holistic nature and value of TEK

The study has established that TEK is holistic and entails spiritual, socio-cultural, technological and traditional management systems dimensions that are not protected by the IP regime. Similarly, it has ecological, cultural, economic value, and is integral to the clamor for self-determination rights by TEK holders. Due to the focus of the IP regime, on the material aspects of TEK, it tends to disregard the holistic nature and value of TEK, yet the latter constitutes the bio-spiritual and bio-cultural context within which TEK is held. The thesis has shown how the IP regime has continually and consistently sought to vilify the bio-spiritual and bio-cultural contexts of TEK as witchcraft or sorcery, in spite of their role in the generation, transmission and preservation of TEK. Withal, a TJS framework is able to take into account the holistic nature and multiple values of TEK to its holders, and the integral links they have with the knowledge.

(c) Appropriateness of the IP frameworks in TEK protection

The study has established that the IP regime is largely inadequate in protecting TEK for a number of reasons. First, IP regime is unable to protect the holistic nature of TEK, as described above. Secondly, there is little regard in IP law for customary law, the normative framework governing access to, use and control of TEK. IP law has essentially failed to take into account the fact that local and indigenous communities 'had their own means of protecting their IP.'[3] Third, the territorial and self-determination rights of TEK holders, which are vital for the sustenance of TEK, are not adequately protected within the IP regime. Fourth, the historical evolution, origins,

[2] Ibid.

[3] George S. Shemdoe & Loy Mhando 'National Policies and Legal Frameworks Governing Traditional Knowledge and Effective Intellectual Property Systems in Southern and Eastern Africa: The Case of Traditional Healers in Tanzania' (2012) *African Technology Policy Studies Network Working Paper Series* at 8.

objectives, and ideology behind the IP regime are largely incongruent to the worldviews, concerns and interests of TEK holders.

There are, however, certain aspects of TEK that can still be protected using the IP regime. For instance, and as discussed in chapters 3 and 4, IP tools, such as collective marks, certification marks, farmers' rights, and geographical indications (GIs), can be used to offer some form of protection to the technological aspects as TEK. Be that as it may, the IP regime alone cannot ensure effective protection of TEK, and as such a collaborative approach, between the IP and the TJS frameworks, could lead to the recognition and utilisation of TJS in the protection of TEK.

(d) Appropriateness of the environmental and human rights regimes in TEK protection

Although TJS can positively contribute to effective natural resources governance, they have not been properly integrated in natural resources management strategies. For instance, in forest conservation, the design and composition of community forest associations (CFAs) in practice, has ignored existing traditional governance structures, and do not therefore benefit from TEK holders' contribution to environmental governance. The neglect of traditional governance structures in natural resources management,[4] is part of the wider government policy since colonial times of subordinating indigenous institutions, epistemes, belief systems, economic and political ideologies. However, and due to *inter alia*, the limited impact of formal institutions in rural areas,[5] TJS have remained resilient, and communities are still using them in governance. For example, some non-governmental organisations (NGOs) working with communities, are relying on TJS to protect TEK and restoring lost ecosystems.

Within the human rights frameworks, there is increased recognition of the role of TJS, and their contribution to good governance.[6] Nonetheless, the protection of collective rights of TEK holders (rights to culture, property, religion and self-determination) in Kenya remains weak due to State's failure to implement the recommendations and decisions of human rights bodies. Weak protection of collective rights poses a threat to TEK protection and to TJS, as the latter are likely to be rendered less effective in governance.

[4] Paul Ongugo, Doris Mutta, Mohamed Pakia & Peter Munyi 'Protecting Traditional Health Knowledge in Kenya: The role of customary laws and practices' (2012) International Institute for Environment and Development, 11.

[5] See Chapter 5. See also Stelios Michalopoulos and Elias Papaioannou 'Pre-colonial ethnic institutions and contemporary African development' (2013) 81 *Econometrica* 113-152 at 115.

[6] See chapter 4.

(e) TJS as an approach for protecting TEK

Owing to the challenges of the formal protection systems, there is need to un-earth indigenous protection systems, assess and use them as they provide valuable insights in designing effective approaches to TEK protection. The study has established the existence of TJS amongst the case study communities that are being used in the protection of TEK. In the Mijikenda and the Meru case studies, TJS have emerged as principal mechanisms for the effective protection of TEK. TJS are playing a key role in protecting TEK by regulating access to TEK, designing bio-cultural protocols, grant of PIC, restoration of lost knowledge and ecosystems, and in asserting the self-determination rights of TEK holders.[7] They are also being used in conflict resolution, maintenance of law and order, and in governing access to, use and control of other resources. Unlike, the IP frameworks, TJS are based on customary laws and practices, and are therefore able to integrate and reflect the concerns, beliefs, values and worldviews of TEK holders. The thesis shows that there is a correlation between existence of TEK and TJS such that where TJS have been destroyed, TEK is also likely to have been lost and *vice versa*, as demonstrated by the Ogiek case study. Additionally, the findings show that TJS can offer holistic protection, and protect components of TEK that are not protectable within the IP regime such as sacred and secret TEK, thus help fill the gap created by IP frameworks.

(f) Role of TJS in bridging the 'protection gap' and reconciling protection and safeguarding measures

The study shows that the discourse on TEK protection generates cultural-hierarchical dichotomies between a western-liberal ideology and an indigenous worldview, thus creating a huge divide between the two worldviews and a protection gap. To close this gap, diverse approaches to TEK protection have been explored with differing levels of success. From the case studies in this thesis, there are two main approaches to TEK protection-safeguarding and protection measures. Safeguarding measures are largely provided for within human rights and environmental frameworks and mainly seek to identify, document, transmit, revitalise and promote TEK use to ensure its continued existence and viability. They, however, risk placing TEK unintentionally in the public domain, hence the need for protection in the legal sense.[8] A major pitfall of protection

[7] See chapter 5.

[8] 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.

measures is that whereas they may be useful in protecting certain aspects of TEK, creating IP-like rights over TEK faces numerous technical and ideological difficulties.[9] For instance, the narrow focus of IP law on material interests, collective and transgenerational nature of TEK holding, difficulty of identifying a creator(s) of TEK, and the Eurocentric orientation of IP, makes IP law inappropriate in protecting TEK.

The use of TJS by communities under study to protect and assert their cultural, self-determination and resource rights (by preventing unauthorised access and use, providing an environment for the continued use, transmission and revitalisation of TEK); and in the grant of PIC before documenting TEK and developing biocultural protocols, shows that TJS are the point of convergence of safeguarding and protection approaches, and can be used to bridge the existing gap in TEK protection.[10] However, owing to some of the challenges that TJS are facing,[11] a TJS approach needs to be used in collaboration with the IP regime for it to yield effective protection of TEK.[12] The findings show that it is possible to involve TJS in the decision-making processes and institutions under the IP regime and vice versa. For example, the inclusion of the PIC and disclosure of origin requirements before granting IP rights in some jurisdictions, shows that it is indeed possible to design such a collaborative framework. Apart from closing the protection gap, the collaboration will be beneficial to both the TEK holders and IP regime, and is a step towards striking a balance between TEK protection and access to TEK since TEK holders can withhold their PIC (through TJS) so as to safeguard their rights, while the grant of IP rights over TEK could also be withheld by relevant authorities if there is non-disclosure of origin or proof of PIC is missing. The findings also show that this collaboration demands the recognition of TJS and their role in TEK governance within IP law, and is thus part of helpful intercultural dialogue between the two frameworks.

6.3 RECOMMENDATIONS

One of the focal points of this thesis has been to make recommendations on how to develop an appropriate legal and institutional framework for the protection of TEK in Kenya based on

[9] See discussion in chapter 1.
[10] See chapters 1 and 5.
[11] See chapter 5.
[12] See conclusion in chapter 5.

Westra's tripartite framework. In the ensuing part, the thesis makes recommendations that are critical in the design of such a framework.

1. The framework must be holistic and embed Westra's tripartite framework

The study has shown that the protection of TEK requires a framework that is respectful of TEK holders' cosmovisions. Unlike the IP framework that focuses narrowly on material interests, and does little to 'strengthen TK systems'[13] a holistic framework 'should not only focus on protecting rights to TK but also rights to associated bio-genetic resources, landscapes, cultural values and customary laws, all of which are vital for sustaining TK.'[14] Such a framework must be anchored on TJS as they are able to avail protection to the cultural, ecological and self-determination rights of TEK holders.

A TJS framework for TEK protection that is embedded in the tripartite prerequisites should comprise the following components. First, the framework must be anchored on customary laws for it to be apt in protecting the cultural rights of TEK holders. Anchoring the TJS framework on customary laws, does not suggest that we do away with the IP regime but instead the thesis advocates for a collaborative arrangement between TJS and the IP regime. As mentioned earlier, this collaboration is useful in bridging the current protection gap, and effective in securing TEK holders' collective rights.

Second, due to the holistic nature of TEK, the framework must ensure ecological protection, and TJS ought to be used in regulating access to, use and control of natural resources. The thesis has shown the success of TJS not only in conservation, but also in restoring and reviving lost TEK and ecosystems. Reliance on TJS ensures that lands, territories and resources of TEK holders are protected and preserved as illustrated by the Mijikenda case study.

Third, the framework must allow communities to assert their right to self-determination. Reliance on TJS strengthens and promotes the self-determination rights of TEK holders, as they are able to use their own institutions to exercise control and determine who can access and use their resources. Moreover, reliance on TJS in granting PIC, developing community bio-cultural protocols, in conflict resolution, maintenance of law and order, and in the implementation of

[13] IIED Interim Report 'Protecting Community Rights over Traditional Knowledge: Implications of Customary Laws and Practices' (2005-2006] available at http://pubs.iied.org/G01253/ accessed on 6 April 2016.
[14] Ibid.

devolved structures in Kenya, further confirms that a TJS framework can be used to secure TEK holders right to self-determination.

2. Strengthening TJS in TEK protection and natural resources management

Since current efforts towards TEK protection have largely ignored the fact that communities have their own institutions for protecting their knowledge,[15] there is need to recognise the existence and role of TJS among communities, strengthen, and rely on them in TEK governance. This requires the legal recognition of the powers and functions of traditional authorities in the protection, conservation, management and use of TEK and related resources. That way, the authority and legitimacy of TJS will be enhanced[16] in view of rising urbanisation, erosion of social networks, and economic and political developments that are quickly undermining them.

There is also need to rely on TJS and engage TEK custodians in the TK and IP law reform since such efforts have often been led by natural scientists and IP experts with limited understanding and appreciation of the holistic nature of TEK and the worldviews of indigenous peoples.[17] This will require the collaboration of the TJS and IP frameworks as suggested in this thesis. To avoid what happened during the formulation of current IP frameworks, where TEK holders' did not participate and their worldviews were not reflected in those frameworks, the IGC must pursue a more trustworthy collaborative approach vide genuine and constructive engagement with TEK holders through their locally legitimate institutions (TJS). IP practitioners, policy makers and scholars should not assume that TJS are non-existent amongst communities or that they play no role in TEK governance, before conducting empirical research studies. Instead, they ought to realise that the proposed approach permits for an intercultural encounter where the IP and TJS frameworks are able to engage, thus allowing TEK holders to define for themselves their own power and status vis-à-vis others. Moreover, rather than frame TK issue as a trade or IP issue only, the proposed collaborative framework expects the IGC process to pursue a multidisciplinary approach in view of the holistic nature of TEK. Therefore, the process must draw from human rights and environmental law frameworks and any other discipline that helps explain TK holders' worldviews.

[15] Shemdoe *et al* op cit note 3 at 8.
[16] Jane Anderson *Indigenous/Traditional Knowledge & Intellectual Property* (2010) at 33.
[17] Ongugo *et al* op cit note 4 at 1.

3. Recognition of TEK holders as custodians of TEK in law and policy

There is need for IP laws and policies to be reviewed so as to recognise and reflect the fact that TEK holders are custodians of TEK, vested with responsibilities towards the knowledge, nature and past and future generations, on whose behalf they hold TEK. This calls for a paradigm shift in the IP regime; so that apart from ownership, custodial rights can be a basis for granting or rejecting the grant of IP rights. Such recognition is important as it can help determine the TEK, legitimate beneficiaries, and curb unauthorised access and use of TEK without the PIC of the custodians of TEK. Ultimately, this could lead to a reduction in applications for IP rights over TEK.

4. Review of the Protection of Traditional Knowledge and Cultural Expressions Act

As the principal law dealing with TK in Kenya, this law requires major review and amendments to align it with the framework advanced in this study. Currently, the law is not designed with a TEK holders' outlook towards their knowledge and genetic resources, but has largely transplanted existing IP concepts and doctrines to the TEK context. The law must seek to protect TEK within the holistic framework, where cultural, ecological and self-determination rights of TEK holders are respected and protected. Moreover, the ambiguities surrounding the question of custodianship of TK needs to be reviewed as suggested in this thesis. Additionally, the Act must be reviewed to recognise the role of customary laws and traditional institutions in the protection and promotion of TEK.

5. Rethinking conventional natural resources management frameworks

Current efforts in Kenya to enhance environmental governance by incorporating community participation and collaboration, for instance, through community forest associations (CFAs) and water resource users associations (WRUAs), are a welcome move. However, current conservation efforts have largely failed to integrate existing traditional governance structures, and do not benefit from TEK holders' contribution to environmental governance. There is, therefore, a need to rethink and re-orient conventional management strategies, integrate TEK and engage traditional governance structures for effective environmental governance. In addition, formal managers must be open to learn about TEK and TEK holders' perspectives, and recognise that TEK is a source of

insights that can 'synergistically with science or on its own, enhance our understanding of the natural world.'[18]

6. Bridging the gap between protection and safeguarding measures using TJS

A TJS framework offers a convergence point for protection and safeguarding measures, and if used in collaboration with the IP framework, it can be the basis for granting or denying IP rights as mentioned earlier. In addition, a collaboration of the two frameworks would require community leaders (that are part of the TJS) to be involved in the decision-making processes and institutions under the IP regime and *vice versa*. Using TJS in granting PIC before granting IP rights, or insistency on disclosure of origin by relevant IP institutions will also aid in striking the balance between protection of TEK and facilitating fair access to TEK. Recognition of such a collaboration in law and policy also means that both the applicants for IP rights and IP institutions will be forced to double-check prior art. Additionally, the proposed collaboration could ensure TEK holders get benefits from their TEK since IP institutions and the applicants for IP rights will be sure that they are dealing with the legitimate holders of TEK. However, collaboration between IP and TJS frameworks requires the IP regimes to recognise the existence and role of TJS in TEK governance.

7. Political goodwill and recognition of TEK holders' collective rights

The success of the proposed collaborative approach will require political goodwill, and strong protection of the collective rights of TEK holders. As such, effective protection of TEK using TJS will require states to respect, promote and protect collective rights to culture, property and self-determination, since where protection of those rights is weak, TJS are likely to be less efficacious in governance. As shown in chapter 4, apart from setting up a taskforce to study and implement the Endorois decision, Kenya has failed to implement the recommendations of the African Commission on Human and Peoples rights in relation to the Endorois, an indigenous community.[19] There is fear that the African Court's decision regarding the Ogiek might meet the same fate,[20] where another taskforce has been set up to study and implement the decision.[21] Kenya must

[18] Natalie Ban *et al*, 'Incorporate Indigenous perspectives for impactful research and effective management' (2018) 2 *Nature Ecology & Evolution* 1680-1683. See also Ongugo *et al* op cit note 4 at 23.

[19] *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v. Kenya*, Communication No. 276/2003, 25 November 2009.

[20] *African Commission on Human and Peoples' Rights v Republic of Kenya*, Application No. 006/2012, Judgment 26 May 2017.

[21] Gazette Notice No. 11215 of 25 October 2018.

demonstrate goodwill by fulfilling its commitment in protecting collective rights of TEK holders by implementing the recommendations and decisions of human rights bodies.

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ANNEXES

1. Informal Interview questions (English version)

The potential participants for this research will be drawn from community leaders, community members, civil society organization members, researchers in TEK and traditional governance structures, government officials and other individuals knowledgeable about traditional ecological knowledge. The questions that each category will be asked are as follows:

A: Community leaders

1) Is there knowledge about the environment that is used by the community in the conservation and protection of the environment? Explain and give examples.
2) How is knowledge about the environment held in your community? Who owns it?
3) What measures has the community put in place to protect environmental knowledge?
4) What are the objectives of protecting traditional ecological knowledge in your community?
5) Do traditional institutions (e.g. *kaya or njuri njeke* council of elders where relevant) in your community play any role in the protection of environmental knowledge?
6) Explain the role of customary law and practices in environmental conservation?
7) Is there anything else you would like to say about the protection of ecological knowledge?

B: Community members

1) Is there knowledge about the environment that is used by your community in the conservation and protection of the environment? Explain and give examples.
2) How is knowledge about the environment held in your community?
3) What measures has the community put up to protect environmental knowledge?
4) What are the objectives of protecting traditional ecological knowledge in your community?
5) What is the role of traditional institutions in your community? E.g *kaya* or *njuri njeke* council of elders where relevant.
6) What role can traditional institutional structures play in the protection of and access to ecological knowledge?
7) Explain the role of customary law and practices in environmental conservation in your community?

C: Government officials

1) What hampers the protection of TEK within the prevailing intellectual property frameworks?
2) What hampers the protection of TEK within the existing environmental frameworks?
3) Are there existing measures that communities have put up to protect ecological knowledge being harnessed by relevant government agencies in conservation efforts? Explain.
4) If not, is the government willing to work with communities to ensure that the measures are included in the current conservation efforts?
5) What role can traditional institutional structures play in the protection of and access to TEK?

6) How can myths about ecological knowledge be discarded to ensure the incorporation of that knowledge in conservation efforts?
7) How can an appropriate legal and institutional framework that integrates the cultural, ecological and self-determination (or Westra's tripartite) fabric be developed for the protection of TEK in Kenya?
8) Is there anything else you would like to say about the protection of ecological knowledge?

D: Researchers in TEK, individuals knowledgeable about TEK and TJS, and civil society organizations dealing with conservation in the areas under study

1) Are the prevailing intellectual property frameworks adequate in the protection of TEK?
2) To what extent is TEK protected within the prevailing intellectual property (IP) and environmental dispute resolution frameworks?
3) What hampers the protection of TEK within the prevailing intellectual property frameworks?
4) What hampers the protection of TEK within the existing environmental frameworks?
5) What role can traditional institutional structures play in the protection of and access to TEK?
6) In your view, what is the most appropriate way of protecting ecological knowledge?
7) How are communities coping with loss of ecological knowledge and biodiversity as a result of urbanisation and modernisation?
8) How can an appropriate legal and institutional framework that integrates the cultural, ecological and self-determination (or Westra's tripartite) fabric be developed for the protection of TEK in Kenya?
9) Is there anything else you would like to say about the protection of ecological knowledge?

2. Informal Interview questions (Swahili version)

Washiriki wenye uwezo wa utafiti huu watachukuliwa kutoka kwa viongozi wa jamii, wanajamii, wanachama wa shirika la kiraia, watafiti katika TEK na miundo ya utawala wa jadi, viongozi wa serikali na watu wengine wanaofahamu kuhusu ujuzi wa jadi wa kiikolojia. Maswali ambayo kila jamii itaulizwa ni yafuatayo:

A: Wazee wa Jamii

1. Je! Kuna ujuzi kuhusu mazingira ambao hutumiwa na jamii katika hifadhi na ulinzi wa mazingira? Eleza na kutoa mifano.
2. Je, ujuzi wa ki-mazingira unahifadhiwa vipi katika jamii yako? Ni nani anayemiliki?
3. Ni hatua gani ambazo jamii imeweka ili kulinda ujuzi wa ki-mazingira?
4. Madhumuni ya kulinda ujuzi wa mazingira katika jamii yako ni nini?
5. Je, taasisi za jadi (kwa mfano wazee wa *kaya* au *njuri njeke*) katika jamii yako huwa na jukumu lipi katika kulinda ujuzi wa ki-mazingira?
6. Eleza jukumu la sheria-desturi na mienendo katika uhifadhi wa mazingira?
7. Je, kuna kitu kingine chochote ambacho ungependa kusema kuhusu ulinzi wa maarifa ya kiikolojia?

B: Wanajamii

1. Je! Kuna ujuzi kuhusu mazingira ambayo hutumiwa na jamii yako katika uhifadhi na ulinzi wa mazingira? Eleza na kutoa mifano.
2. Je, ujuzi juu ya mazingira unahifadhiwa vipi katika jamii yako?
3. Je, ni hatua zipi ambazo jamii imeweka kulinda maarifa ya ki-mazingira?
4. Madhumuni ya kulinda ujuzi wa mazingira katika jamii yako ni nini?
5. Jukumu la taasisi za jadi katika jamii yako ni gani? Kwa mfano *kaya* au *njuri njeke*, baraza la wazee ambapo panapofaa.
6. Je, miundo ya taasisi ya jadi inaweza kufanya kazi ipi katika ulinzi wa ujuzi wa mazingira?
7. Eleza jukumu la sheria na desturi za jadi katika uhifadhi wa mazingira katika jamii yako?

C: **Maafisa wa serikali**

1. Ni nini kinachozuia ulinzi wa ujuzi wa mazingira ndani ya mifumo ya mali ya kimaarifa?
2. Ni nini kinachozuia ulinzi wa TEK ndani ya mifumo ya mazingira iliyopo?
3. Je, hatua zilizopo ambazo jamii zimeweka ili kulinda maarifa ya kiikolojia zimetiliwa mkazo na idara husika ya serikali katika jitihada za uhifadhi? Eleza.
4. Ikiwa sio, serikali ina nia ya kuhusisha jamii husika katika kuhakikisha kwamba hatua hizi zinajumuishwa katika jitihada za uhifadhi za sasa?
5. Je, miundo ya taasisi ya jadi inaweza kufanya kazi ipi katika ulinzi wa ujuzi wa mazingira?
6. Je, miiko za kiikolojia zinaweza kuachwaje ili kuhakikisha kuingizwa kwa ujuzi huo katika jitihada za hifadhi?
7. Mfumo mwafaka wa kisheria unaoweza kukutanisha maswala ya kitamaduni, kiekolojia na uamuzi binafsi katika utunzi wa ujuzi wa mazingira, unaweza jengwa aje hapa nchini Kenya?
8. Je! Kuna kitu kingine chochote ungependa kusema kuhusu ulinzi wa maarifa ya kiikolojia?

D: Watafiti na wasomi kuhusu ujuzi wa kijamii kuhusu mazingira na mashirika ya kiraia yanayohusiana na utafiti wa uhifadhi

1. Je, mifumo ya mali ya kimaarifa iliyopo yatosha katika ulinzi wa ujuzi wa mazingira?
2. Je, ujuzi wa mazingira umelindwa kwa kiwango kipi katika mifumo ya mali ya kimaarifa na mifumo ya mazingira?
3. Ni nini kinachozuia ulinzi wa ujuzi wa mazingira ndani ya mifumo ya mali ya kimaarifa?
4. Ni nini kinachozuia ulinzi wa TEK ndani ya mifumo ya mazingira iliyopo?
5. Je, miundo ya taasisi ya jadi inaweza kufanya kazi ipi katika ulinzi wa ujuzi wa mazingira?
6. Kwa mtazamo wako, ni njia gani inayofaa zaidi katika kulinda ujuzi wa mazingira?
7. Je, jamii zinakabiliana vipi na kupotea kwa ujuzi wa ki-mazingira na viumbe hai kwa sababu ya ustawi wa miji na miendendo za kisasa?
8. Mfumo mwafaka wa kisheria unaoweza kukutanisha maswala ya kitamaduni, kiekolojia na uamuzi binafsi katika utunzi wa ujuzi wa mazingira, unaweza jengwa aje hapa nchini Kenya?

9. Je, kuna kitu kingine chochote ambacho ungependa kusema kuhusu ulinzi wa maarifa ya kiikolojia?