

Burglars in the House!
Traditional Medicinal Knowledge, Beyond Intellectual Property

By
Andrew Muma

Research Project submitted to the University of Nairobi in partial fulfillment of
the degree of Master of Laws, 2004/2005
(Under the Intellectual Property Law Programme)

Supervisor:
Dr Ben Sihanya

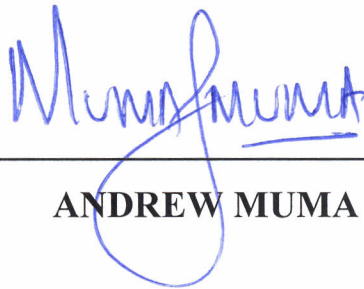
June 2005

**UNIVERSITY OF NAIROBI
LIBRARY**

DECLARATION

I **ANDREW MUMA**, do hereby declare that this is my original work and that it has not been submitted and is not currently being submitted for a degree in any other university.

SIGNED _____



ANDREW MUMA

This Research Project is submitted for examination with my approval as the university supervisor.

SIGNED _____



DR. BEN SIHANYA

PREAMBLE

In the beginning

Let there be light and there was light,
Let there be water and there was water,
Let there be sky and there was sky,
Let there be dry ground and there was dry ground,

Let the land produce vegetation seed bearing plants and trees,
and it was so.
Let the land produce living creatures each creature according to its kind,
and it was so.

And in his own image and likeness, MAN

Unto you I give the vegetation,
Unto you I give the plants and trees,
Unto you I give the living creatures,

Work the land and get food,
Work the land and get medicine,
Work the land and stay alive,

But be your brother's keeper,

I am not my brother's keeper,
This is mine, I made this.
I am not my brother's keeper
This is mine, I thought of this.

My brother the burglar,
Burglars in the house.

Dedication

To Luke and Leah, Caroline and Evans, James, John and
Wycliffe

Acknowledgements

If ever there was intellect,

If ever there was patience,

If ever there was invaluable advice,

If ever there was support,

It was here,

To Dr. Ben Sihanya.

To Prof. Patricia Kameri- Mbote.

To Ochieng, Onyango, Kibet and Ohaga Advocates.

To Peres Kariuki of the National Museums of Kenya - KENRIK

To Mbeva Joseph, Paul Chege, and Atsali Stanley of KIPi

To Carol Nyaga, Peter Njeru and Tim Liko of Sichangi and Company Advocates

To Luke Muma, Leah Muma, James Muma and Invogue Wear.

I say **“THANK YOU”**.

Acronyms

CBD	: Convention on Biological Diversity
FAO	: Food and Agriculture Organisation of the United Nations
GIs	: Geographical Indications
IGC	: Inter Governmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore.
IP	: Intellectual Property.
IPR	: Intellectual Property Rights.
IPP	: Intellectual Property Protection.
NGO	: Non Governmental Organisation.
OAU	: Organisation of African Unity.
PBRs	: Plant Breeders' Rights.
TK	: Traditional Knowledge.
TM	: Traditional Medicine.
TMK	: Traditional Medicinal Knowledge.
TRIPS	: Trade Related Aspects of Intellectual Property Rights.
UDHR	: Universal Declaration on Human Rights.
UNESCO	: United Nations Educational Scientific and Cultural Organisation.
UNEP	: United Nations Environment Programme.
UPOV	: Union Internationale pour la Protection des Obtentions Vegetale (International Union for the Protection of New Varieties of Plants).
WIPO	: World Intellectual Property Organisation.
WTO	: World Trade Organization.

Table of Cases

Dolan vs City of Tigard, 512 U.S. 374 384 (1994).

Lucas vs South Carolina Coastal Council, 505 U.S. 1003,1044 (1992).

Wheaton vs Peters 33 U.S. 590,637 (1834)

Table of Contents

Cover Page	
Declaration	
Dedication	(i)
Acknowledgement	(ii)
Acronyms	(iii)
Table of Cases	(iv)
Table of Statutes	(v)
Table of Contents	(vi)
Preamble	

Proposal	1
----------	---

CHAPTER ONE

IS CULTURE PROPERTY?

1.1	Introduction	7
1.2	Property Rights	8
1.3	Locke's Theory "Propertising Talent"	11
1.4	The Commons as Property	13
1.5	The Politics of Knowledge Protection	15
1.6	Conclusion: is culture property?	18

CHAPTER TWO

SCOPE OF TRADITIONAL KNOWLEDGE

2.1	Introduction	20
2.2	Defining Traditional Knowledge	20
2.3	TMK: an introduction	23
2.4	TMK: and Bioprospecting in Kenya	27
2.5	Medicinal Plant Species in Kenya	29
2.6	Medicinal Plant Species for animal health	37
2.7	Conclusion	39

CHAPTER THREE

PROTECTING TRADITIONAL MEDICINAL KNOWLEDGE AS IP

3.1	Introduction	40
3.2	TMK and IPR in the International fora	41
3.3	TMK and IPR in the National fora	48

CHAPTER FOUR

TOWARDS PROTECTION, COMPENSATION AND COMMUNITY DEVELOPMENT

4.1	Introduction	56
4.2	Inside the box	57
4.3	Outside the box: <i>Sui Generis Regime</i>	62
4.4	Outside the box: <i>Misappropriation Regime</i>	68
	Bibliography	73

PROPOSAL

BURGLARS IN THE HOUSE!

Traditional Medicinal Knowledge; Beyond Intellectual Property

1.1 Research Questions

Is Traditional Medicinal Knowledge Intellectual Property? Protecting Traditional Medicinal Knowledge beyond existing intellectual property law regimes?

1.2 Argument and Background

A lot of law and politics engulf the protection of knowledge systems at the local and international level. The world has seen a move towards a homogeneous protection regime across the globe, highly recognized is protection under intellectual property law regime. Intellectual property law regime can be safely described as the dominant knowledge protection mechanism in the global system and this can be seen from the endorsement, recognition and acceptance of TRIPS established under the auspices of WTO at Marakesh in 1994.

TRIPS though far from being an accepted system of knowledge protection has effectively institutionalized intellectual property protection by creating minimum standards. These standards have created legal niceties (technical problems) in applying intellectual property in its traditional form to knowledge systems like Traditional Medicinal Knowledge that do not meet its requirements.¹ Central in this paper is the economics of knowledge. As the knowledge economy continues to grow, the world has seen a shift in the global economic activity towards knowledge oriented

¹ The Technical problem of fitting indigenous knowledge systems into the parameters of intellectual property rights protection have been subject of extensive scholarship writings see Yano LI "Protection of the ethnobiological knowledge of indigenous peoples" 41 UCLALR 443 1993. Ramani M "Market realities vs indigenous equities" Brooklyn journal of international law 2001 <http://westlaw.com>.

services.² This has seen life science companies approach traditional medicinal knowledge holders for their knowledge on genetic resources and traditional medicines thus placing the said knowledge at the center of economic conflicts. The end result being the rekindling of the old struggles pertaining to ownership, use and distribution of knowledge between Traditional Medicinal knowledge holders and modern day scientists.³ Thomas Greaves rightly stated that;

Traditional cultural knowledge has always been an open treasure box for the unfettered appropriation of items of value to western civilization. While we assiduously protect rights to valuable knowledge amongst ourselves, traditional people have never been accorded similar rights over their cultural knowledge; existing western intellectual property laws support, promote and excuse the wholesale uninvited appropriation of whatever traditional item strikes our fancy or promises profits, with no obligation or expectation to allow the originators of the knowledge a say or a share in the proceeds.⁴

In an attempt to stop the burglars there is need to democratize knowledge and knowledge protection mechanisms. This will enable us appreciate the diversity of knowledge systems thus formulate protection mechanisms which recognize the said differences. Professor Wambembe of the Nigeria Institute of Pharmaceutical Research and Development rightly stated,

² Ryan MP *Knowledge diplomacy: Global Competition and the politics of intellectual property* Washington: The Brookings Institution 1998.

³ Many scholars in this field have considered this difficulty Refer to Blakeney M “Bioprospecting and the protection of traditional medical knowledge of indigenous peoples: An Australian perspective” 19 EIPR 6 298-303 1997, Drohos P, *The Philosophy of Intellectual Property* Dartmouth : Aldershot 1996. Kuruk P “Protecting folklore under modern intellectual property regimes” 48 AMULR 769 1999. and www.wipo.org.

⁴ Greaves T. ed 1994. *Intellectual Property Rights for Indigenous Peoples: A Sourcebook*. Society for applied anthropology Oklahoma City, USA.

We have had Traditional Knowledge for hundreds of years ...there were clear customary laws regarding the right to use the knowledge there were no problems in the past why are there problems now?⁵

This research project seeks to use law as an instrument of power and as a tool of legitimizing, differentiating and empowering democratization of knowledge⁶. I seek to investigate whether the current intellectual property law regimes adequately protect traditional medicinal knowledge and if not is it possible to go beyond intellectual property in a bid to democratize knowledge.

Traditional knowledge has been elaborated to comprise,

...all objects, sites and knowledge the nature and use of which has been transmitted from generation to generation, which is regarded as pertaining to a particular people or its territory. The heritage of an indigenous people include objects, knowledge, literary or artistic works which may be created in the future based upon its heritage...all kinds of literary or artistic works such as music, dance, song, ceremonies, symbols, designs, narratives and poetry; *all kinds of scientific, agricultural, technical and ecological knowledge including cultigens, medicines and the rational use of flora and fauna*; immovable cultural property such as sacred sites, sites of historical significance, and burials; and documentation of indigenous peoples heritage on film, photograph, videotapes, or audio tapes...⁷

This project paper will lay particular focus on traditional medicinal knowledge.

1.3 Statement of the Problem

⁵ Professor Wambembe Charles; Nigeria Institute for pharmaceutical Research and Development (NIPRD) Abuja Nigeria, article written in 1999.

⁶ Alex Tawada Magaisa, Indigenous peoples, corporate power and the knowledge economy: The law and politics of knowledge protection, Baker and Mackenzie Lecturer in Company and Commercial Law School, University of Nottingham

⁷ Erica – Irene Daes UN Special Rapporteur

Property from the 18th century has been a social device for maintenance of status quo. Edmund Burke argued property stabilized society and prevented political and social turmoil that he believed would result from a class purely meritocratic order.⁸ Property served as a counterweight protecting the class who possessed it against competition from the non propertied people of natural ability and talent. To Burke the French National Assembly dominated by upstart lawyers from the provinces exemplified the risk of disorder and inexperience of an un-propertied leadership.⁹ In contrast, the British Parliament a proper mix of talented commoners and propertied lords, ruled successfully.

Intellectual Property is more egalitarian, limited in duration, obtainable by anyone, and is seen as a reward for the talented upstairs Burke sought to restrain.

Lockean justification is that society rewards labour with property and goods are held in common through a grant from God. God grants a bounty to humanity for its enjoyment but these goods cannot be enjoyed in their natural state, the individual must convert them into private property by exerting labour which labour adds value if in no other way by allowing them to be enjoyed.

⁸ See E Burke, *Reflections on the Revolution in France*. THE WORKS OF EDMUND BURKE 277,324 (George Bell and Sons pub 1905).

⁹ See E. Burke *supra* note 8 at 316.

Borrowing from these arguments it can be rightly stated that modern intellectual property protection laws are based on the notions of real property ownership, the various philosophies justifying real property ownership, well analyzed conceptualizes the philosophical underpinnings of intellectual property. Intellectual property therefore propertizes 'talent' and by doing so borrows heavily from real property ownership. It is this notions based on the statement 'I have made this therefore it is mine' that is not only alien and detrimental to traditional people but also differs from the communal kind of ownership whereby property rights are a means of developing and maintaining group identity rather than furthering individual economic pursuits.

Access to resources of the commons is open to individuals who qualify on the basis of socially defined membership, in land for example the defining characteristics of the commons are that it is held as a Trans generational asset, managed at different levels of social organization, used in function i.e. cultivation, treatment, fishing, biodiversity conservation. Land resources in Africa have been held managed and used primarily as commons. Because of relatively small populations and the nature of the technologies of resources exploitation in use, society was able to at its different levels of organization, to direct the use of resources to the needs of the present, without compromising the ontological demands of the past, and the heritage of future generations and the fact that decision making was always by reference to common

values and principles ensured that a reasonable balance was achieved between resource availability, technology of use and rate of consumptive utilization.¹⁰

This common ownership which has gone beyond land to other forms of property including intellect, need to be contrasted with the laws of property ownership which as I had earlier stated maintain that individuals have a right to private property. This recognition enables the right holder to have total economic exploitation of his proprietary right, thus the purpose of creating intellectual property rights is to enable the individual to benefit not only from the works of his hands and brains (reward creativity) but also to encourage innovation and invention.¹¹ It is against this background that cultural knowledge has been relegated to the back seat and as earlier stated giving rise to a struggle concerning its ownership, use, distribution and access better known as the scramble for knowledge.

Traditional Medicine has become the focus of attention as scientific research communities and their corporate backers return to Mother Nature particularly in remote and unfamiliar terrain inhabited by traditional peoples in search of biological and chemical compounds that can be used to make medicinal drugs.¹² These drugs have ensured huge profits are reaped by the scientists while the traditional knowledge holders loss out financially.

¹⁰ Prof H.W.O Okoth Ogendo, *The Tragic African Commons: A century of Exploration, Suppression and Submersion*.

¹¹ Justine Hughes, *The Philosophy of Intellectual Property*, 77 GEO LJ (281-330) 1986.

To be investigated is the specific fact whether intellectual property law regime adequately protects traditional medicinal knowledge. Better stated, it is not in dispute that the existing intellectual property law regimes, based on notions of real property ownership have over the years unintentionally encouraged and reinforced the process of economic exploitation and cultural erosion of traditional medicinal knowledge. It is time therefore to think beyond intellectual property to protect traditional medicinal knowledge.

1.4 Objectives

From the foregoing the main objectives in this research will be;

First, to identify the kind of traditional medicinal knowledge available in Kenya?

Second, to identify and recommend not only the possible intellectual property protection options for traditional medicinal knowledge holders, more particularly the need to go beyond the existing intellectual property protection regimes.

1.5 Hypothesis

I will pursue the hypothesis that modern intellectual property regimes being inadequate in protecting traditional medicinal knowledge,

¹² Tuhiwai-Smith L. *Decolonising methodologies – Research and indigenous peoples* London : Zed

I look outside the box to find adequate protection options for traditional medicinal knowledge holders beyond intellectual property?

1.6 Literature Review

My key reference points shall be;

To conceptualize issues of culture, property and intellectual property reference is made to;

Honore A.M “Ownership” in (A.G Guest) *Oxford Essays in Jurisprudence* Clarendon Press, 1961.

Kuruk P “Protecting Folklore under Modern Intellectual Property Regimes: A Reappraisals of Tensions between Individual and Communal Rights in Africa and the United States”.⁴⁸ *American University Law Review* 796, 770-803 1999.

Hughes J. The Philosophy of Intellectual Property, 77 *GEO, L.J.* 287 1988.

Ngugi wa Thiong’o *Decolonizing the mind: The politics of language in African literature* London: Currey 1986

Bromley D.W and M. Cernia 1989 “The management of Common Property Natural Resources: Some Conceptual and Operational Fallacies” World Bank Discussion Paper No. 57.

To appreciate Traditional Knowledge and more particularly Traditional Medicinal Knowledge and its existence in Kenya. To evaluate its protection options internationally and locally my guides will be;

Stephen Hansen and Justine Van fleet. *Traditional Knowledge and Intellectual Property: a handbook on issues and options for Traditional Knowledge holders in protecting their Intellectual Property and Maintaining Biological Diversity* ©2003.

by the American Association for the advancement of Science.

Carlos M. Correa. *Traditional Knowledge and Intellectual Property; issues and options surrounding the protection of Traditional Knowledge*. Published by Quaker United Nations Office Geneva, November 2001. <http://www.quno.org>

Mugabe J “Intellectual Property Protection and Traditional Knowledge an exploration in international policy discourse,” WIPO Geneva Switzerland December 1998.

WIPO Intellectual Property Needs and Expectations of Traditional Knowledge Holders, WIPO report on fact finding missions in intellectual property and traditional knowledge (1998-1999)

WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore 1-8 sessions.

Richter M. “Traditional Medicines and Traditional Healers in South Africa,” Aids Law Project Discussion paper, richterm@law.wits.ac.za, 27th November 2003.

Various other texts and articles will be looked at as I attempt to put forward a case for the protection of traditional medicinal knowledge in Kenya and the options available

to protect the same to. Further Guidance and assistance will be sought from Intellectual Property experts Dr. Sihanya, Prof P. Kameri-Mbote and Dr. Adede all intellectual property lecturers at the university of Nairobi who have researched and written extensively on protection of Traditional Knowledge.

A visit to the National Museums of Kenya in Nairobi - Kenya Resource Centre on Indigenous Knowledge (KENRIK) and Kenya Intellectual Property Institute (KIPI) will be inevitable as the organizations house a great deal of traditional knowledge holders because of the quantity of work they have done in identifying and trying to protect traditional knowledge holders.

One fact the literature confirms is that great incompatibilities arise between western knowledge systems and traditional knowledge systems. Intellectual property regime has been molded to protect western knowledge systems, whilst common knowledge remains unprotected. All is not lost for hundreds of years commons have been exploited, suppressed, and subverted but inspite of the damage they have stood the test of time, the commons have survived leaving us with the need to strengthen their legitimacy within and guarantee their status in, positive law alongside other property systems. A strong case is put up for not only taking advantage of the flexibilities within TRIPS more particularly a sui generis legislation for the protection of Traditional Knowledge. But also looking outside the IP box towards protection, compensation and community development which can only be entrenched in systems

outside of IP protection more particularly Misappropriation Act and an International TK protection regime.

Clarity should be achieved in knowing what traditional knowledge is? The kinds of traditional medicinal knowledge in Kenya?, appreciate how other jurisdiction have moved towards protection of the said medicinal knowledge and observe if Kenya can borrow from them in attempting to offer protection to the medicinal knowledge holders.

1.7 Project Design and Methodology

The above mentioned information shall be obtained mostly from books, articles, writings, periodicals in the library, internet searches, oral interviews of medicinal knowledge holders, oral interviews of intellectuals both in the technical and legal fields of traditional knowledge and intellectual property. The research paper shall be divided into four distinct chapters;

In chapter one, a theoretical and conceptual framework for the protection of Traditional Knowledge shall be discussed in detail, best described by Paul Goldstein in one question ‘is Culture Property?’ I shall study what property law is? The philosophical underpinnings of property law, how this philosophy shapes modern intellectual property law regime, and how this borrowing from property law by

intellectual property creates difficulty when trying to offer intellectual property protection to traditional medicinal knowledge. Also to be understood and conceptualized is the philosophical underpinnings of common property ownership and the difficulties the same faces over individual properties.

Chapter two proceeds to give a concise definition and scope of Traditional knowledge further zeroing in on traditional medicinal knowledge and bioprospecting in Kenya and internationally in a bid to identify what the paper seeks to accord intellectual property protection. It specifically sets out various medicines arising from the traditional communities and currently under threat if not recognized and accorded adequate protection.

Chapter Three, deals with protecting traditional medicinal knowledge in both the national and international fora, I attempt a study on how Kenya protects its traditional medicines if it offers any protection and compare with New Zealand and South Africa.

Finally in chapter four I look at the way forward for traditional medicinal knowledge protection in Kenya, the need for *sui generis* legislation, misappropriation legislation and more particularly the need for an international regime on traditional knowledge.

CHAPTER ONE

IS CULTURE PROPERTY?

1.1 Introduction

It is not in doubt that the question whether or not culture is property continues to dominate discussions in various fora world wide. Many property law proponents argue that the law of property is pretty well settled and culture is not a facet of it, as no single individual can put a claim to it. Eliminating culture and not considering it as property puts into focus my fear. Traditional medicinal knowledge being clearly an element of a rich culture of a people cannot therefore be offered intellectual property law protection. This is because intellectual property law borrows heavily from property law as we will observe shortly and in doing so only guarantees protection to that which is individualistic in nature. But the question we still have to grapple with is how true is it to categorize commons as not being property and isn't doing so merely deliberate to allow for their tragic deterioration and destruction.¹ With this politics of knowledge protection at play an avenue needs to be established to ensure culture is protected.

¹ H.W.O Okoth – Ogendo “The Tragic African Commons, A century of expropriation, suppression and subversion”, University Law Journal Volume1 2003 page107. The writer is a professor of Public Law at the University of Nairobi and Fellow of the Kenya National Academy of Sciences

1.2 Property Rights

Property is a generic term for all that a person has dominion over,² the greatest possible interest in a thing which a mature legal system recognizes and as William Blackstone stated

There is nothing which so generally strikes the imagination and engage the affections of mankind as the right of property or that sole and despotic dominion which one man claims and exercises over the external things of the world in total exclusion of the right of any other individual in the universe.³

Property rights are most of the time used as a right of ownership, though the term is not an unequivocal term. It is not in doubt that ownership has something to do with right to use, right to transfer, and right to exclude others from the thing owned.⁴ A.M. Honore has given a particularly lucid account of the full or liberal concept of ownership. Honore maintains that the full notion of ownership is most adequately explicated by reference to the right to possess (exclusive physical control of the thing owned), the right to use (personal enjoyment), the right to manage (decide how and by whom a thing shall be used), the right to income (benefit derived from foregoing

² Stroud's Judicial Dictionary, 5th Edition Vol. 4 at pages 2057.

³ 2 WILLIAM BLACKSTONE COMMENTARIES ON THE LAWS OF ENGLAND 1979 edition see Albert Alschuler Rediscovering Blackstone 145 U.P.A. L. REV.1.3 1996.

⁴ See Dolan vs City of Tigard, 512 U.S. 374 384 (1994). Lucas vs South Carolina Coastal Council, 505 U.S. 1003,1044 (1992).

personal use of a thing and allowing others to use it), the right to capital (power to alienate the thing and consume, waste, modify or destroy), the right to security (immunity from expropriation), the power of transmissibility (the power to devise or bequeath the thing), the absence of term (the indeterminate length of ones ownership), the prohibition of harmful use (duty to forbear from using the thing in certain ways harmful to others), liability to execution (liability to having the thing taken away for repayment of a debt), residuary character (existence of rules governing the reversion of lapsed ownership rights).⁵

Honore is quick to point out that although all of the eleven incidences are necessary for full or liberal ownership as defined by the existing mature legal systems not all of them are a necessary constituent of ownership per se. People can be said to own things in various restricted senses which omit any one or more of the incidences. For example it is possible for one to have the right to management and income of ones house but due to leasing agreements only restricted rights to use, possession and capital.⁶

The incidences above mentioned are the building blocks on which real property ownership is based and the point at which we begin our intellectual property discourse. This is because intellectual property rights as they are molded today are

⁵ A.M Honore, "Ownership" in A.G. Guest Oxford Essays in Jurisprudence Clarendon Press 1961.

⁶ *Supra* Note 4

based on the western notion of property law. Better stated intellectual property law regime is founded on the capitalistic principles of economic monopoly which carve out exclusive rights to an individual natural or legal to exploit particular creations of ingenuity. Knowledge in today's global economic set up has given rise to what has been termed as knowledge economy which is managed in a like manner as the property economy. It is to this end that I find it inevitable to appreciate what property rights entail before I can even begin to answer the question: Is culture property? And more particularly if traditional medicinal knowledge being part of our culture qualifies as property in the knowledge economy.

In justifying property rights in the knowledge economy one seeks to explain why there ought to be any property rights of any sort at all, and why a particular person ought to have a particular property right in a particular thing. Over the years many arguments have arisen as to why some people rather than others should own things. In the property economy, It has been argued that he who had the property first should own the same, popularly known as the first occupancy argument. 'I was here first therefore I should own the place'. Its major deficiency has been its failure to provide answers to the question of why there ought to be any property rights at all.⁷ One cannot just own property by virtue of being the finder, without justifying the said ownership. In addition it cannot assist us much in the intellectual property discourse because it is specifically meant for tangible property. It is due to this deficiency that

⁷ *Supra* Note 4

the labour theory of property acquisition and ownership as described in the property economy is favoured by those trying to justify the existence and need for intellectual property protection in the knowledge economy.

1.3 Locke's Theory; "Propertising Talent"

Locke's theory seems to be the starting point from which modern intellectual property law regime derives its tenets. Locke argued that property was a foundation for an elaborate vision that opposed an absolute and irresponsible monarchy.⁸ He argued that people are entitled to hold as property whatever they produce by their own initiative, intelligence and industry, he further states that everyone has property in his own person: this nobody has a right to but himself. The labor of his body and the work of his hands we may say are property his. "Whenever someone, by his labour changes a thing from its natural state to make it more useful or beneficial to him he has mixed his labour with it and thus joined it to something that is his own. He thereby makes it his property, for it hath his labour, something annexed to it that excludes the common right of other men. For this labour being the unquestionable property of the laborer, no man but he can have a right to what that is once joined to."

Locke adds a final variant by stating that labour puts a distinction between the thing worked on and what is held in common, the distinction is that labour adds something

⁸ J.Locke *Second Treatise of Government* 138-40 in *Two Treaties Of Government* (P Laslett rev ed 1963 3rd edition 1698)

to the thing more than nature had done. The thing labour adds, the difference it makes is the added value. Since things are of no use until appropriated and appropriation in most cases involves labour which would not be undertaken except for the expected benefits. To let others have the benefit of another's pains would be clearly unjust, this is so at least where there is enough as good left in common for others and where one takes no more than one can use. For he leaves as much as another can make use of. Thus we can justify propertising ideas under Locke's approach with three propositions first that the production of ideas require a person's labour; second that these ideas are appropriated from a common which is not significantly devalued by the ideas removal and third that ideas can be made property without breaching the non waste condition.⁹

Locke's theory has its own fallacies; a society that believes ideas come to people like manna from heaven must look somewhere else other than Locke to justify the establishment of intellectual property. The labour theory of property does not work if one subscribes to a pure "eureka" theory of ideas. There is need therefore to determine if society believes that the production of ideas require labour and one might also need to know whether or not regardless of society's belief the production of ideas actually does require labour.¹⁰ Critic aside one clear fact is that in justifying intellectual property ownership Locke's theory is the starting point as modern intellectual property law regime is built on the foundation of "I took the trouble to

⁹ J. Hughes, "The Philosophy of Intellectual Property", 77 GEO L.J. 287 (1988) Excerpts pp 290- 330.

¹⁰ See *Wheaton vs Peters* 33 U.S. 590,637 (1834) " A literary man is as much entitled to to the product of his labour as any other member of society"

make it or discover it, I deserve some reward for my efforts and I earned it by my efforts”.¹¹

It is no wonder that talent has been propertised ever since the 18th century when scholars like Edmund Burke argued that real property ownership stabilized society and prevented social and political turmoil. Property ownership was seen as a device for the maintenance of status quo and served as a counter weight protecting the class who possessed property against competition from the non propertied class with natural talent. Intellectual property was and still seen as a reward to the talented upstairs whom Burke sought to restrain from real property ownership. It is against this background that it can be stated that intellectual property, like real property propertises “talent and commodity” and in doing so, shares in the origin and orientation of all the real forms of property ownership.¹²

1.4 The Commons as Property

Literature has argued and continues to argue that commons are not and cannot be regarded as property systems. They are argued to be mere *terra nullus* or open access resources. Following Locke’s theory, property exists only if it vests exclusive right of use, abuse and disposition in individual since it is the individual who put his labour

¹¹ L.C. Becker *Property Rights Philosophic Foundations* Routledge 1977

¹² E. Burke *Reflections on the Revolution in France* in 2 THE WORKS OF EDMUND BURKE 277 (George Bell and Sons published 1905)

into the property creation as such early property economists thought that property rights over land could not vest in communities whose rules of organization and access to resources were essential inclusive and collective in character and operations. According to Bromley and Cernea the metaphor above stated is not only socially and culturally simplistic, it is historically false and the error most western property theorists make is to assume that property rights must always derive if not directly but ultimately from a sovereign, that communities qua communities do not have a legal persona, that a system according to access on the basis of inclusively cannot at the same time define boundaries of exclusivity and that decision making rules applied by communities demand collective participation by all members.¹³

Many of these assumptions are rooted in inadequate diagnosis and incomplete understanding of the nature of customary law. Bromley and Cernea clarify that the commons are not *res nullius* but rather are *res communist*; they represent not a species of public but of private property for a group. They are not open access systems and if by property is meant a bundle of rights is a specified *res* vested in a verifiable body of entities recognized by a legal system, then the commons were and always have been property. It is therefore a deliberate decision not to recognize their proprietary character thus leading to their destruction and deterioration.¹⁴

¹³ Bromley D.W and M. Cernia 1989 "The Management of Common Property Natural Resources: Some Conceptual and Operational Fallacies" World Bank Discussion Paper No. 57

¹⁴ *Supra* Note 1

1.5 Politics of Knowledge Protection

With the above two divergent view points of property as individualistic and property as commons, an attempt to create a homogeneous regime for the protection of the knowledge across the globe, under the intellectual property law system being undoubtedly the most dominant knowledge protection mechanism in the globe, has created a lot of hurdles. These difficulties have been reinforced by the Agreement on Trade Related Aspects of Intellectual Property (TRIPS) established under the auspices of World Trade Organization (WTO) which creates minimum standards for the protection of Intellectual property. These minimum standards have been adopted from the western notion of intellectual property protection, which as we observed above are but an extension of the western property protection regime¹⁵. It is to this end that the law and politics influencing the protection of knowledge begin to arise. With the current advent of a blanket intellectual property regime under TRIPS conflicts begin to arise especially as the traditional societies receive the wake up call to protect their traditional intellect more particularly traditional medicinal knowledge. It is not in doubt that Traditional medicinal knowledge has generated struggles pertaining to its ownership, use and distribution and as these conflicts continue life sciences companies are entering into partnerships with communities with the end result being taking and owning traditional medicinal knowledge at the expense of the traditional healers, traditional birth attendants and medicine men.

¹⁵ Alex Tawanda Magaisa, "Indigenous peoples, corporate power and the knowledge economy; the law and politics of knowledge economy." Article.

Traditional medicinal knowledge is linked to a particular people, local culture and environment. The knowledge has developed over time and continues to develop, as it is frequently used to sustain the health of the community. It is best described as property of the entire community though administered by the chosen few who have learn the same from one generation to another. It is upon the community to ensure the maintenance of the genetic resources from which the knowledge emanates and it is this knowledge that TRIPS intends to put in pigeon holes of intellectual property protection in order to perpetuate the rights of an individual to benefit from the work of their hands.

This current problematic position dates back to the colonial days when there was an initial encounter between western knowledge systems and indigenous knowledge systems. The WKS assumed a domineering stance and sought to subordinate local systems. Tuhiwai –Smith points out that science has always been hostile to the indigenous ways of knowing.¹⁶ Western science and industry treat the living knowledge of existing local communities as conservative, backward and primitive.¹⁷ According to Gordon the colonial state tried to transfer the responsibility for healing from the rebellious and powerful African healers to European trained

¹⁶ Tuhiwai-Smith L *Decolonising methodologies – Research and indigenous peoples* London Zed Books 1999.

¹⁷ Cunningham A and Andrews B eds *Western Medicine as contested knowledge* Manchester: Manchester University Press 1997.

doctors loyal to imperial authority,¹⁸ the dominant WKS displaced local alternatives and according to Shiva the local knowledge were annihilated through the “politics of disappearance”.¹⁹ Thus leading to the scramble of knowledge more evident in the field of medical knowledge with scientific research community and their corporate backers on one hand and the holders of TMK on the other. It is quite evident that scientists are returning to mother nature foraging into remote and unfamiliar terrain inhabited by traditional people who themselves are too willing to share in their secrets for nothing or tokens.²⁰

Due to these politics, attempts to offer protection for traditional medicinal knowledge under TRIPs has failed as such protection has only led to the unintentional rapid economic exploitation of traditional medicinal knowledge as we shall observe later.

Thomas Greaves states that;

traditional cultural knowledge has always been an open treasure box for the unfettered appropriation of items of value to western civilization, while we assiduously protect rights to valuable knowledge amongst ourselves, traditional people have never been accorded similar rights over their cultural knowledge; existing western intellectual property laws support, promote and excuse the wholesale uninvited appropriation of whatever traditional item strikes our fancy or

¹⁸ Gordon D “A Sword of empire? Medicine and colonialism in Kingwilliams Town, Xhosaland 1856-1891” 60 *African Studies* 2 2001.

¹⁹ Shiva V. *Protect or plunder Understanding intellectual property rights* London ZED Books 2001.

²⁰ *Supra* Note 16 at page 170

promises profits with no obligation or expectation to allow the originators of knowledge a say in their proceeds.²¹

The Maasai community for example is endowed with a rich cultural background from outfits, to foods, to artifacts, ceremonies, ornaments, folklore and more particularly various forms of herbal medicines. It is this richness in culture that has built the term 'safari', a household term worldwide used for the promotion of tourism in Kenya. A safari trip to see wildlife would be incomplete without the sharing in the lifestyle of the Maasai and their culture, in return the Maasai as a community remains impoverished when the tourism sector remains vibrant and one of the leading foreign exchange earners with dozens of foreign support companies.

1.6 Is Culture Property?

From the foregoing we have observed and will continue to do so that culture like any other common property is indeed property even though western knowledge systems assume a domineering stance and subordinate local traditional knowledge. Tuhiwai Smith points out that

Science has always been hostile to traditional ways of knowing, treating it as conservative, backward and primitive. This can well be traced back to the colonial era where the colonialist sought to blossom the western knowledge systems and

²¹ Thomas Greaves 1996, in Brush S. And Stanbinsky D. Eds 1996 p 26.

whilst doing so successfully subjugating local ways of knowing and beliefs more particularly when it came to traditional medicines.²²

The colonialist introduced modern medicine and laws like the Witchcraft Act to ensure a final death blow was given to traditional medicines which they felt was but a physiological game of the mind. With independence came the attempt to recollect what had been lost and what was not considered knowledge and therefore was not accorded protection the most significant being traditional medicines. The different epistemological foundations of traditional medicinal knowledge and other traditional knowledge do not mean they are less deserving of protection than modern knowledge it only means that the protection mechanisms might need to be different. Consequently there is no single protection mechanism that can adequately cover for both types of knowledge economies and once the world realizes this then the move towards protection of traditional knowledge more particularly traditional medicinal knowledge will be given a chance, only then can we talk of a recognition of culture in its own right as property and worthy of protection.²³

²² *Supra* note 15.

²³ Wilder R. "Global harmonization of intellectual property" in Fletcher IU et al (eds) *Foundations and perspectives of international trade law* London: Sweet and Maxwell 2001.

CHAPTER TWO

SCOPE OF TRADITIONAL KNOWLEDGE

2.1 Introduction

There is need to understand the scope of traditional knowledge before we venture into the terrain of offering adequate protection for a facet of it termed as TMK. Protection must be offered to that which exists, is recognized and is of value not only to the traditional people but to the world at large. The chapter therefore highlights the discourse revolving around traditional knowledge and indigenous knowledge, it then zeros in on traditional medicinal knowledge and genetic resources their existence, threats and the need for protection.

2.2 Defining Traditional Knowledge

Traditional knowledge has been defined as that which is held by members of a distinct culture, acquired by means of inquiry peculiar to that culture and concerning the culture itself or the local environment in which it exists.²⁴ It is therefore the totality of all knowledge and practice whether explicit or implicit established on past experience and observation and is usually a collective property of society. Many

²⁴ UNEP/CBD/COP/3/ inf 33 Annex 2. UNEP 1998. Decisions Adopted by the Conference of Parties to the Convention on Biological Diversity at its 4th Meeting. UNEP 1998 implementation of Article 8j and related provisions. UNEP/CBD/COP

members of the society contribute to it over time from one generation to another and as these contributions build up it is modified and enlarged.

Traditional knowledge is dynamic in nature and changes in character as the needs of the people change.²⁵ Take traditional medicines for example, for a long time the traditional communities have protected their genetic resources in one way or another, this protection against degradation of the biodiversity has ensured their continued survival in the field of health as traditional healers still have at their disposal plants and animals as the genetic resources from where they derive their drugs.

Traditional medicines aside traditional knowledge takes the form of literary, artistic and scientific works, performances, inventions, designs, marks, names, symbols like information on the use of biological and other materials for treatment, agriculture, production processes.²⁶ It is codified in some instances yet a greater part of it is not codified such as traditional medicine, which is based on traditional beliefs and norms which are accumulated during century old experiences of trials and errors, successes and failures at the household level and passed to successive generations through oral tradition.²⁷

²⁵ Dr John Mugabe, "Intellectual Property Protection and Traditional Knowledge An Exploration in International Policy Discourse", Paper prepared by African Centre for Technology Studies (ACTS) for the World Intellectual Property Organization (WIPO) Geneva, Switzerland, December 1998.

²⁶ Supra Note 25

²⁷ Carlos M. Correa, "Traditional Knowledge and Intellectual Property, Issues and Options Surrounding the protection of traditional knowledge". A discussion paper published by Quaker United Nations Office Geneva, November 2001. this document is available from <http://www.quno.org>.

Many proponents of protecting traditional knowledge under the existing intellectual property regimes have persistently tried to equate traditional knowledge to indigenous knowledge or tribal knowledge to trivialize the same and show it is only worthy of a domestic kind of protection. To some extent they have succeeded, the world has in many instruments as we shall later observe recognized the importance of indigenous knowledge and encouraged countries to offer protection to the same. With the increasing awareness of the indigenous communities world wide, the need to come together under the umbrella of traditional knowledge to be able to create a legal regime that offers protection and rewards to their various knowledge has become inevitable and as this need gains momentum the preferred term has been traditional knowledge which I shall endeavor to use unless otherwise stated.

Traditional medicinal knowledge falls into context perfectly. They are not peculiar to a particular indigenous community but are shared by various neighboring and non neighboring community healers, who have over the years discovered its benefits as well. Protection of the same has to be looked at from a different perspective and not just from a localized point of view.

In summary therefore I seek to explore that which a people in various Kenyan communities based on experience and adaptation to a local culture and environment have developed over time and continue to develop which medicinal knowledge has for ages sustained the community and ensured the continued survival of communities.

This knowledge does not belong to an individual but is property of the entire community.²⁸

2.3 Traditional Medicinal Knowledge, an Introduction

The knowledge and use of specific plants for medicinal purposes stands out as a very important component of traditional knowledge. Over the past decade or so biotechnology, pharmaceutical and human health care industries have increased their interest in naturally occurring products as their source of new biochemical compounds for drugs, chemical and agro based products.²⁹ The decade has indeed witnessed a resurgence of interest in traditional knowledge and medicines which interest is being stimulated by the importance of traditional medicinal knowledge as a lead in new product development. Sarah Lairds argues that out of 119 drugs developed from higher plants and on the world market as at 1993 74% were discovered from a pool of traditional herbal medicines.³⁰ In 1990, Posey estimated that the annual world market for medicines discovered from traditional people amounted to USD 43 Billion.³¹ Considering the granary of biodiversity in the world

²⁸ Stephen Hansen and John Van Fleet, "Traditional Knowledge and Intellectual Property", American Association for the Advancement of Science (AAAS), Washington DC 2003.

²⁹ Reid *et al* 1993.

³⁰ Sarah Lairds *et al* 1994, See also K Ten Kate and S Lairds *The Commercial use of biodiversity access to genetic resources and benefit sharing*, Earth Scan, London, 1999.

³¹ Posey D.A and Dutfield G *Beyond intellectual property: Towards traditional resource rights for indigenous peoples and local communities*, International Development Research Centre, Ottawa, 1996. See also Posey D. 1991 "Intellectual Property Rights for Native Peoples: Challenges to Science,

over is in the developing countries it can be argued that the developing countries and their traditional people have contributed considerably to the global drug industry.

With the rapidly growing herbal remedial market the interest in traditional medicine and genetic resources especially within the developing countries has been rekindled. With this revival, plant genetic resources are becoming exploited at an alarming rate and the rapid globalization of intellectual property rights regime has only led to increasingly rampant biopiracy and bioprospecting. It is also evident that herbalist routinely give plant samples without payment changing hands or any explanation on rights and benefits. It has become too easy for traditional people to be exploited and shunted aside from transactions involving the resources that they need for survival.

An international company that collects information and plants from traditional people, when asked the benefit the people will derive or the country is likely to reply “a portion of the costs of the expeditions is donated to the locals, we have purchased boats and bicycles for local transport, and we bring together native healers and physicians”. It is not in doubt that this company may have obtained many patents from this activity but no tangible benefit has gone to the community or towards conservation.³²

Business and International Law”. Paper prepared for the International Symposium on Property Rights, Biotechnology and Genetic Resources, Nairobi Kenya.

³² Prof J. Mwangi, Dr Grace Thoithi, Prof Kibwage, Faculty of Pharmacy, University of Nairobi. “Conservation of Medicinal Plants: Benefit Sharing”, 2003 paper presented at the Stakeholders workshop on the sustainable, safe and effective use of medicinal plants in Eastern Africa 24-27 November 2003, Arusha, Tanzania. Organised by IDRC, ESARO, NMK, ITM and NCRL. Funded by USAID.

Taking a practical example is the case of *Cyclosporin A*, a 1969 case in which a researcher from Novartis, Switzerland, went to Norway on holiday with his wife. He brought back soil samples for analysis in his company's lab of which one sample contained fungus *Tolypocladium inflatum* grams which produces *Cyclosporin A* which is used by patients that have gone through organ transplants and used to manufacture patented *scandimium* and *scandimium noeral*. These drugs are currently expensive and out of the reach of over 1800 patients in Norway who need the drug.³³ Meaning as much as they contributed to the patented idea they are destined to buy that which is their own from another individual who owns the patent and to buy the same expensively. This can best be described as a clear case of useful milk from micro cows. A handful of soil no need for more! Why should they cry foul.

The neem tree (*Azadirachta indica*) is found widely in most parts of India. It forms the central part of the Indian communities' culture and heritage and is used by the community for a vast range of purposes such as in medicines, toiletries, insecticides, fertilizers, and in agriculture.³⁴

From 1970 the neem tree began to attract the attention of the US and global markets. In 1971 a US timber importer noted the properties of the neem tree and began

³³ Supra Note 32.

³⁴ Vandana Shiva and Radha Holla "Intellectual piracy and the neem tree" the *Ecologist* vol 23, no. 6 Nov /Dec 1993, pages 223-227.

importing it. Following testing for pesticide products and subsequent approval the importer sold the patent for the pesticide to the company Grace and Company³⁵. The patenting and marketing by Grace of products based on neem derived substances led to debate on the appropriation of the intellectual property of the Indian Communities. The argument being that collective community knowledge of Indian societies should not have been patented by Grace. The extraction and preparation of active substances from neem is a traditional innovation based on millennia of collective knowledge and practice and should not be viewed as novel, non-obvious and innovative and therefore amenable to patenting. The neem was a clear case of prior art and cannot be novel.

Patent claims on various processes and products of the neem that are built on the vast culture and intellectual heritage of the Indian people, reflect a total devaluation of the country's intellectual heritage and an arrogance based on the assumption of superiority of western sciences.³⁶ The specifics are more complicated than stated above, the case studies world wide are much more vast than is stated above, but one major concern is that western corporations will continue to adopt, incorporate, build upon or directly claim traditional medicinal knowledge without acknowledgment or compensation for communities that develop the knowledge.

³⁵ Vandana Shiva, Afsar Jafri, Gitanjali Bedi and Radha Holla Bhar, *The Enclosure and recovery of the commons: biodiversity, indigenous knowledge and intellectual property rights*. Research Foundation for Science, Technology and Ecology, New Delhi, India, 1997 pp 35-36.

³⁶ *Ibid*, pp. 35-36.

2.4 Traditional Medicine and Bioprospecting in Kenya

Kenya is endowed with a wide range of biodiversity attributed to the characteristically rich altitude of the country, rainfall and temperature variations. The country has about 34,863 described species accounting for approximately 2.5% of the world's total described species which include 23,375 animal species and 7,500 plant species.³⁷ The Food and Agriculture Organisation in 1989, described Kenyans biodiversity cover to be as follows; 6,900 square km cover of broad leaved closed canopy, 2,500 square km of coniferous forest and 1650 square kilometers of bamboo, a total of 11,050 square kms or some 2% of the country.³⁸ The indigenous and rural communities in Kenya have been the primary custodians of agricultural, medical and industrial biodiversity for several millennia. In traditional medicines, indigenous plant species form the basis for health care delivery services for our ever growing population which find modern medicines inadequate, expensive or just not readily available.

Indigenous Kenyan people have nurtured and or developed much of the material within their traditional land and waters. Knowledge of the use of plants, animals and microbial has been acquired and is continuing to accumulate wherever they are free to

³⁷ UNEP 1992, Biodiversity Country Studies: Synthesis Report April 1992. See also Stuart S.N and R.J Adams, 1990. Biodiversity in SubSaharan Africa and its Islands: Conservation, Management and Use. International Union for the Conservation of Nature (IUCN), Gland, Switzerland.

³⁸ Sayer, J.A, C.S. Harcourt, N.M Collins (eds) 1992. The conservation atlas on Tropical Forests Africa. International Union for the Conservation of Nature (IUCN) Simon and Schuster, Newyork, London, Toronto, Sydney and Singapore

determine their own destinies.³⁹ There is increasing evidence that Kenya's natural forests, habitats for valuable flora and fauna and microbial species are diminishing. Increasing demands for timber, settlement areas, and medicinal products from *Prunus Africana* and *Aloe Secundiflora* act as incentives to over-extraction of these species from the wild. These activities destroy habitats that support valuable medicinal plants and sustain the health of significant proportion of the rural population.

This loss of traditional knowledge is also attributed to culturally insensitive modernization and elitism trends as many educated Africans view traditional healers and birth attendants at least publicly as the incarnation of a shameful legacy of paganism, barbarism and black magic.⁴⁰ All this aside, a large population in Kenya elites included like other developing countries rely on traditional medicine. For example, The World Health Organization estimates that traditional birth attendants assist up to 95% of all rural births and 70% of urban births in developing countries.

Kenya upon colonization adopted modern medicine because of the predominantly white ruling elite and white settlers. Upon independence the African government continued on the same footing by dedicating enormous resources to development of modern medicine infrastructure being maternity homes, hospitals, health centers, clinics and health colleges but all this has remained inadequate and not capable of

³⁹ The Rural Advancement Foundation International (RAFI), 1994. Conserving Indigenous Knowledge, integrating two systems of innovation (UNDP).

⁴⁰ Good, C.M. 1987. Ethno medical systems in Africa: Patterns of Traditional Medicine in Rural and Urban Kenya. New York: Guilford Press.

providing health care coverage to most people. Evidently therefore to most of the Kenyan population traditional medicine has remained more accessible, cheaper and efficacious thus offering greater benefits to current healthcare systems and having great potential in the development of a cost effective appropriate health care in the country if only it was accorded recognition and protection.⁴¹ That leaves us with one important question what are the types of medicinal plant species in Kenya worthy of intellectual property protection.

2.5 Medicinal Plant species in Kenya

As stated earlier the traditional medicine subsector in Kenya constitutes an important socio economic activity ensuring human and animal primary health care and a means of livelihood for many including local farmers, herbal collectors, vendors and traditional medical practitioners. It is due to this popularity that the need to create enabling policy and legislative environment has been growing. To do this, there is need to identify medicinal and aromatic plants and evaluate the actual and potential contribution they make to improve people's health and nutritional status, livelihoods and ultimately the country's economy to warrant intellectual property protection.⁴² It is evident that Kenya like other developing countries is losing a lot of its medicinal

⁴¹ Dr Doris Mutta, KARI, "Mainstreaming TK in National Development in Kenya", Paper presented at a stakeholders workshop on the sustainable safe and effective use of medicinal plants in Eastern Africa, Arusha, Tanzania, 2003.

⁴² Titus Mukiyama (UON) and Festus Murithi (KARI), "Effective Integration of Biodiversity Resources and Management as a Tool for Promoting Rural Agricultural Reform", KARI/UON Project.

knowledge molded locally to multinational companies who in return are patenting the same and reselling the patented drugs to Kenyans at exorbitantly expensive prices. This is a trend that must be reversed. We must know what is ours and must ensure it remains so. We must endeavor to keep a record of what is originating from the intellect of the Kenyan people and what has been preserved by the Kenyan people. I attempt to identify a few of the said knowledge under threat. The list is far from being comprehensive but indicates we have something in store we can call traditional medicinal knowledge that warrants protection.

Prunus Africana

Prunus Africanas in Kenya is found in most highland forest areas like Mt Kenya, Aberdare Ranges, Timboroa Forest, Cherangani Hills, Chyulu Hills, Taita Hills, Mt. Elgon, Kakamega and Nandi Forests. It has various traditional uses both human and veterinary purposes based on the use of the bark infusions. In the Aberdare ranges it is now noticeable that most *prunus africana* trees are being debarked meaning the species is under threat a threat posed by biopiracy by multinational companies which have to harvest the same in bulk.

Kenya unlike the other major world producers of *Prunus Africana* has not passed any national legislation with specific reference to *P. Africana* even though there has been an increase in demand for the tree since 1980's. Since the trees bark extract was

found to be useful for the effective treatment of prostate problems. The active ingredient is *Benign Prostatic Hyperplasia* (BPH) which has various uses once extracted.

Around 1986 there was a presidential ban on the exploitation of indigenous trees *prunus africanas* being one of them, but the hopes of protecting this tree was soon dashed when it became evident that the ban was merely on paper. Harvesting of the same still continued without any efforts being made to stop the harvest by the law enforcers. Political goodwill was indeed lacking and the export of the bark continued leaving the bark collectors who are also the traditional knowledge holders poor and unable to fight for what is theirs.⁴³

The sole licensed export traders like Jonathan Leakey Limited wasted no time to make profits. Jonathan Leakey Limited in a bid to utilize the medicinal knowledge it feels is underutilized, exports the bark to Groupe Fourniere in France and in 1997-1998 alone the company exported upto 400 tonnes per year of the bark earning US\$ 2 per kg (or US\$ 2000 per tonne) whilst paying the local collectors and traditional knowledge holder a petty US\$ 0.40 per kg.

The market and demand for *prunus africanas* cannot be understated with the increase in ageing western and American male populations who suffer from prostate

⁴³ *Supra* note 42

problems, with the herbal therapy treatment vis a vis surgery, with advertisements of *P. Africana* based products, with recognition of Traditional Medical Practitioners especially in Africa's urban settings, it is evident that the need for *prunus africana* extracts is likely to continue and with this demand comes the increase in wild harvesting (debarking) as already evident in Rift Valley and Aberdare forests in Kenya. With nothing trickling down to the traditional knowledge holders, unless a kind of protection geared towards community development and protection is offered the knowledge holders are likely to continue watching and supporting the burglars rip them off.⁴⁴

The Aloes

The *Aloe* is another plant with very impressive genetic resources. It is an ancient plant popular in herbal human and livestock medicine. It is known to treat more than one hundred medical disorders including arthritis, gout, acne, cuts, headaches, high-blood pressure, hairloss, rheumatism and burns. It is also used in the production of soaps, lotions, moisturizing creams, shampoos and conditioners. It is popular as a health drink to boost the immune system and has recently been used in human testing as a treatment for cancer and HIV. The important ingredient for the local people is the

⁴⁴ Biotechnology Lecture by Kent Ndozie at the University of Nairobi, Faculty of laws, Masters Students 2005.

aloe sap which has been administered by traditional healers to the growing population of consumers for treatment of malaria, backache and stomach problems.⁴⁵

The species of commercial values are *A. secundifolia*, *A. turkanensis*, *A. scabrifolia*

A. secundifolia is harvested extensively from the wild for export and its degradation is almost complete in northern arid areas of Laikipia. It is a species under threat.

A. turkanensis is found in north end of Lake Baringo northwards through west Pokot and Turkana districts of Kenya and into Karamajong in Northern Uganda.

A. scabrifolia is widespread in open Acacia thicket predominantly in Laikipia, Meru and Samburu districts in Kenya.⁴⁶

The harvest of the said *aloe* plant species has been illegal in Kenya since the 1986 presidential decree. In addition the placement of *Aloe species* under the International Convention for the Protection of Endangered Species (CITES) has made it mandatory for importing countries to have specific import letters before they can import the same from a country like Kenya but in spite of all this the illegal exploitation has nevertheless continued.⁴⁷

The illegal trade in Kenya is quite well structured, for the production of a litre of sap one is needed to harvest almost 80kgs of leaves. This is evidently a high number of

⁴⁵ *Supra* Note 42

⁴⁶ *Supra* Note 42

⁴⁷ CITES appendix one.

leaves and commercial harvesting of the *aloe* and automatically leads to a serious destruction of biodiversity. Price wise by the time the sap reaches the exporter the price range per litre is only Kshs 14 to 80. One can imagine how many litres one would need to get a decent monetary return and in extension how many kilos of leaves a harvester will need to harvest. It is therefore evident that monetary returns to the local communities is very minimal whilst the world trade runs to billions as the sap is sold to pharmaceutical companies, cosmetic companies and raw product exporters.⁴⁸

Due to the ban in Kenya the export activities are usually camouflaged and misrepresented.⁴⁹

Centella Asiatica

Centella Asiatica is another popular plant in Kenya especially for the treatment of syphilis. It is administered by many herbalist and counts as part of traditional knowledge worthy of protection. It is available mostly in damp grasslands, riverbanks, swamps and lakes and is found all over Kenya.

⁴⁸ *Supra* Note 42

⁴⁹ Kenya has vast areas where diverse aloes grow naturally. KEFRI is working on Aloe propagation and has nurseries in Muguga stations, Centre for Insect Physiology and Ecology (ICIPE) is involved in its bioprospecting and commercial development . Other organizations involved include Conservation of Resources through Enterprise (CORE) and African Institute of Scientific Research and Development (AISRED), an NGO in Kajiado district.

Centella Asiatica has also been used as a traditional herbal medicine in Asiatic countries for hundreds of years to treat ailments like headaches, asthma, leprosy, insanity, ulcers, eczemas and wound healing. Its main commercial application is reliant on its wound healing effectiveness and it is this traditional knowledge that pharmaceutical companies have improved, formulated, patented and marketed. A product *Madecassol* is found in over 50 countries and is used mainly for anti wrinkle, antiaging, slimming agents, diuresis and in plastic surgery.⁵⁰

It is because of the use by the pharmaceutical companies in the western world that unconfirmed information reports that it has been heavily exported from Kenya to European pharmaceutical laboratories for manufacture of drugs. In 1992 alone, 65 tones of *C. asiatica* dried leaves were exported from Kenya to an unknown destination in Europe. There is no information on whether middlemen or other players were involved.

The plant having originated from Asia is still so unknown amongst the various Kenyan communities in spite of its hot prospect for commercial development therefore there is need for immediate precaution and evaluation.

Ocimum Kilimandscharicum

⁵⁰ *Supra* Note 42

The vapor of its boiled leaves is inhaled as a cure for coughs and colds. It is popular and available in Kakamega forest where the International Centre for Insect Physiology and Ecology (ICIPE) is currently using it to produce an essential oil which has been formulated into the aroma therapeutic product NATURUB sold in grocery stores in Kenya. This product helps to alleviate colds, flu, muscular aches and relief from insect bites. It is also planted in some homes to repel mosquitoes. It is indeed a plant of high economic value. But the question remains and persists the use of this product a product of traditional intellect of the people in Kakamega even if it is not exported the local use should be geared towards helping those whose knowledge has now been developed to Naturub.⁵¹

Myrsine Africana

Myrsine Africana is traditionally used to treat stomach aches, worms, and gonorrhea. It is also used as a purgative. Among the Kipsigis and the Maasai, a preparation from the fruit is given to women after birth in order to clean the uterus. It is also used as an antibiotic application after circumcision. It is mostly found in protected areas such as

⁵¹ This is a plant of high economic potential can be planted around homes to repel mosquitos, its potential for production of balm ointment has not yet even been considered it is obtained from wood chip of 50 year old camphor trees.

national parks, forests and game reserves probably an indicator that it has already been wiped out from the non reserved wild.⁵²

The fruit in Samburu is sold in sacks by herbal dealers operating in market places and to herbal clinics and the ease at which a multinational company can access the same if they wanted to is amazing. The readiness of the herbalist to explain its use, preparation and benefits to a stranger at a small fee upon purchase calls for the need to protect traditional knowledge holders. The level of poverty has made them quite vulnerable and ease of misappropriation is quite evident.

Traditional medicinal plants for humans are many, quite a number are not documented and zealously guarded by the herbalist who are now realizing the need to derive benefits from the said traditional knowledge. The list is not exhaustive but a clear indication to the fact that traditional medicine exists as communal knowledge mostly and need to be accorded protection. The plant genetic resources also offer medicine to the animals and the traditional knowledge holders owe the good health of their livestock to various plants which knowledge sooner or later might slip off their hands without any tangible returns to carry home.

2.5 Medicinal Plants for animal health

⁵² *Supra* Note 42

The role of traditional plant species in the prevention and treatment of animals in Kenya cannot be understated. Over 90% of communities living in dry land areas of Eastern Africa depend on medicinal plants to treat their livestock. Since livestock contribute more than 80% of the communities livelihood disease can be a major threat in livestock keeping areas. This is a knowledge that must be made available to most livestock keepers in the country whilst protecting the intellectual property of the community from which it was derived.

The Intermediate Technology Development Group (ITOG) East Africa, has floated the Ethnoveterinary medicine work which is based on community based animal health care approach. It recognizes the need to protect, conserve and commercialize medicinal plants for livestock. Infact the move is to integrate Ethnoveterinary medicine into conventional animal healthcare and influence government to recognize medicinal plants as an alternative animal healthcare system and livelihood.⁵³ And whilst doing so not forgetting the need to improve the livelihoods of communities from which these animal treatments were derived from. This can only be done with a comprehensive legal structure that caters from protection of communal medicinal knowledge both for humans and animals. For along time even to date animal treatment has not been given much priority but with the improvement of agriculture being top in the governments list of priorities and in a bid to jumpstart an already

⁵³ Jacob Wanyama and Isabella Masinde, ITDG-EA Nairobi, "Use of Medicinal Plants for Animal Healthcare Current Trends and Future Opportunities". Intermediate Technology Developments Group – Eastern Africa (ITDG-EA) Nairobi, Kenya. Presented in the stakeholders workshop on the sustainable, safe and effective use of medicinal plants in Eastern Africa, Arusha 2003.

crippled economy promoting the use of medicinal plants for animal healthcare is inevitable and without proper policy and legal guidelines this will be done without consultation or benefits to those from whom such medicinal knowledge arose. A scenario which must be avoided.

2.7 Conclusion

Even though there is no comprehensive statistics available and no records kept on traditional medicinal knowledge we have observed above and noted that the traditional medicine subsector in Kenya constitutes an important socio-economic activity, ensuring human and animal healthcare and a means of livelihood for many local farmers, herbal collectors, vendors and traditional medicinal practitioners.

This sector is based on traditional knowledge of the Kenyan people and can be expanded to provide sustained contributions to development and poverty alleviation in particular if well supported by government and policy. Indeed the sub sector is ready for exploitation after many years of neglect, and the tools exist in new thinking, innovation, use of appropriate technologies and proper policy and protection measures that ensure protection, compensation, rewards and community development.

CHAPTER THREE

PROTECTION OF TRADITIONAL MEDICINAL KNOWLEDGE AS INTELLECTUAL PROPERTY

3.1 Introduction

Protection of Traditional Knowledge more particularly within Intellectual Property has always oscillated between two extremes. One extreme advocates for the extension of intellectual property protection already existing to cover traditional knowledge even including patenting of that knowledge, whilst the other calls for the promotion of a *status quo* where such knowledge is treated as a public good. It has been argued that extending intellectual property to traditional knowledge will promote technological innovation, facilitate dissemination and development of such knowledge, generate incentives for traditional people and ensure fair and equitable share of benefits arising from the use of that knowledge and genetic resources.

The fear of extending intellectual property protection to traditional knowledge is that such a move would in fact destroy the social basis for generating and managing the knowledge. I have observed in Chapter One that traditional medicinal knowledge is communal and if protected under the existing intellectual property law regime it would be privatized such privatization will deny future generations and industry access to such knowledge.

Intellectual property law being established and enforced on the basis of western capitalistic models raises legitimate concerns to traditional people who feel such capitalistic approaches cannot assist them at all. These concerns have led to various discussions on the international arena which must be examined in a bid to understand how best traditional medicinal knowledge can be offered intellectual property protection. Also to be observed will be the domestic arena, how specific countries have dealt with the issue of protection of traditional medicinal knowledge. The intention being to map out a clear path Kenya should take in its attempt to offer adequate protection to traditional medicinal knowledge. It is important to note that even though we have drawn a contrast, most international instruments make use of the terms traditional knowledge and indigenous knowledge interchangeably.

3.2 TK and IPR in the International fora

Traditional Knowledge protection at the global level can be traced from the Draft Declaration on the Rights of Indigenous Peoples which provides at Article 25 that “indigenous peoples are entitled to the recognition of the full ownership, control and protection of their cultural and intellectual property. They have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations, including human and other genetic resources, seeds medicines,

knowledge of the properties of flora and fauna, oral traditions, literatures, designs and visual and performing arts.”⁵⁴

Article 8 (j) of the Convention on Biological Diversity encourages countries subject to national legislation “to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovation and practices”.⁵⁵ The Universal Declaration of Human Rights at Article 27 provides that “Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits. Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary and artistic production of which he is the author.”⁵⁶ The international Covenant on Economic, Social and Cultural Rights provides at Article 15 that “the states parties to the present covenant recognizes the right of everyone to take part in cultural life, to enjoy the benefits of scientific progress and its

⁵⁴ Draft Declaration on Indigenous Rights at Article 29.

⁵⁵ Convention on Biological Diversity (CBD) at article 8(j)

⁵⁶ Universal Declaration of Human Rights (UDHR) (1948) at Article 27

applications, 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”.⁵⁷

It is quite evident therefore that the importance of traditional knowledge, medicinal or otherwise has been brought to the forefront and the need to protect the same is well documented. Erica Irene Daes UN Special Rapporteur who undertook a study of indigenous people’s culture and heritage, emphasizes that there is a close interdependence in indigenous societies between land, environment and heritage. Daes suggests that to indigenous people’s cultural property, intellectual property, and biological resources are all components of their collective heritage. She states “Indigenous peoples do not view their heritage in terms of property at all, that is something which has an owner and is used for the purpose of extracting economic benefits, but in terms of community and individual responsibility. ...medicinal knowledge carries with it certain responsibilities to show respect to and maintain a reciprocal relationship with the human beings, animals, plants, and places with which the ...medicine is connected. For indigenous peoples, heritage is a bundle of relationships rather than a bundle of economic right”.⁵⁸ But this notion is now changing as much as traditional medicine might have been a bundle of relationships to the traditional people in the recent past, the piracy and use of the same to achieve economic gain by western

⁵⁷ International Covenant on Economic, Social and Cultural Rights (ICESCR) at Article 15

⁵⁸ UN Economic and Social Council, Study on “the Protection of the cultural and intellectual property of the indigenous peoples”, by Erica Irene Daes, special Rapporteur of the Sub- Commission on Prevention of Discrimination and Protection of Minorities and Chairperson of the Working Group on Indigenous Populations. 1994

multinationals through patenting has made the traditional healer realise that there exists in their intellect a bundle of economic rights which must accrue to them.

In 1994 the United Nations released the final report on Human Rights and Environment and as an appendix to this report, a draft declaration on the Right to the Environment included provisions relevant to the protection of traditional knowledge. Paragraph 14 states “indigenous people have the right to control their lands, territories and natural resources and to maintain their traditional way of life this includes the right to security in the enjoyment of their means of subsistence ...indigenous people have the right to protection against any action or course of conduct that may result in the destruction or degradation of their territories including land, air, water, sea, ice, wildlife and other resources.”⁵⁹

The importance of the traditional people was indeed headed towards the Glass ceiling and the question was no longer recognition but enforcement of such recognition and rights to enable them break the glass ceiling. The 1992 United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, giving rise to the Rio Declaration, Agenda 21 and the Statement of Forest Principles echoed the same concerns, at chapter 26 of Agenda 21 the recognition and strengthening of the role of indigenous people and their communities was evident and more particularly at Section 26.3 (iii) it is stated that “Governments should in full partnerships with indigenous people

⁵⁹ UN Commission on Human Rights, Sub Commission on Prevention of Discrimination and Protection of Minorities, Human Rights and the Environment, Final report by Mrs Fatma Zohra Ksentini, Special Rapporteur. E/CN.4/Sub.2/1994/9, 6th July 1994.

and their communities recognize indigenous peoples values, traditional knowledge and resource management practices with a view to promoting environmentally sound and sustainable development”. The Rio Declaration further states at Principle 22 that “Indigenous people and their communities, and other local communities, have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in achievement of sustainable development”.⁶⁰

Traditional medicinal knowledge relies heavily on a rich biodiversity. Without the plant and animal genetic resources it would be impossible to derive the medicines. It is because of this importance that traditional practices geared towards sustainable development cannot be taken for granted; they must be supported and protected because protection centered on the traditional healers and the communities cannot be molded to take the shape of intellectual property protection this will not be good enough. There is need for a wholesome approach that protects the biodiversity as well as the traditional medicinal knowledge holders.

Great importance is attached to the negotiation and adoption of the Agreement on Trade Related aspects of Intellectual Property Rights (TRIPS), as part of the Uruguay round in

⁶⁰ A useful survey of these developments is provided in Johanna Sutherland, “Representations of indigenous peoples’ knowledge and practice in modern international law and politics”, *Australian Journal of Human Rights*, Vol 2. No. 1 Dec 1995, pp 39-57.

1994. Which in the view of traditional knowledge holders was the greatest blow to its protection. It added a new dimension to the debate on intellectual property rights in the traditional knowledge arena.

The TRIPS agreement sets minimum standards for countries to follow in protecting intellectual property. In Article 1 it provides flexibility in the implementation of the agreement by providing that “members may but shall not be obliged to, implement in their domestic law more extensive protection than is required by the agreement, provided that such protection does not contravene the provisions of the agreement. It has been argued that this provision can be invoked to protect traditional knowledge by enacting a legislation to do so. The fear is that the legislation has to be guided by TRIPS and any such variance would warrant its unenforcement and non recognition. But still it is important to note that legislation recognizing the creativity of local communities may be enacted without violating TRIPS.⁶¹

The patent requirements of new, involve an inventive step and capable of industrial application locks out traditional knowledge since by its very nature traditional knowledge has certain limitations: traditional knowledge does not meet the criteria of novelty and originality as established by internationally adopted standards. It is difficult if not impossible or inconvenient to identify the individual creators/inventors of traditional knowledge thus removing possibility of communal benefit. The limited duration

⁶¹ Trade Related aspects of Intellectual Property Rights (TRIPS), as part of the Uruguay round 1994

protection may pose problems for traditional cultural aspects of property rights. It is also difficult to quantify traditional knowledge; moreover being by its very nature, knowledge in the public domain, traditional knowledge is virtually beyond any possibility of being privately appropriated.

TRIPS Article 27.3 (b) has generated controversy as it is clear that the article makes an artificial distinction between plants, animals and microorganisms and between essential biological and microbiological processes for making plants and animals and therefore allowing for patenting of life forms which will lead to appropriation of traditional medicinal plants by individual private and foreign interests. What TRIPS has achieved therefore is the weakening access to and control over genetic and biological resources by locals and by doing so has opened a Pandora's box for foreign multinationals to lay claims on what is already in the knowledge of the locals by simple laboratory improvement.⁶²

It is not in doubt that the world has realized the importance of protecting traditional knowledge but protection under intellectual property should not be ruled out but should be treated with a lot of caution especially as regards traditional medicinal knowledge.

World Intellectual Property Office (WIPO) jointly with the United Nations Educational, Social and Cultural Organisation (UNESCO) in response to this need by individual

⁶² Gurdial S.N *Legal and Practical Perspectives on Sui Generis Option* April 1999.

countries has developed model provisions for National Laws for the protection of expressions of folklore against illicit exploitation and other prejudicial actions. It has also established an intergovernmental committee on Intellectual Property and Traditional Knowledge, Genetic Resources and Folklore, which was established in the year 2000. This committee has so far held 8 sessions from the year 2000 the latest being held in June 2005.⁶³ The committees work still remains a forest of ideas and experiences in protecting traditional knowledge and it is yet to map out a clear way forward for the protection of traditional knowledge internationally. Countries around the world have therefore moved in their own ways to try and protect their traditional medicinal knowledge. Unfortunately Kenya so far has very little experience if any to share as regards the protection of traditional medicinal knowledge, having amended its laws to be TRIPS compliant it has done no more, local knowledge cannot be protected under patents as provided by our Industrial Property Act of 2000. And worst hit is medicinal knowledge. Maybe a look at other countries will open Kenya's eyes to the wide level of protection available for its traditional medicinal knowledge especially within TRIPS.

3.3 TK and IPR in the National Fora

Most Developing countries having discovered that the international communities especially from the west are happy with the current arrangement of trying to fit all knowledge within the ambits of intellectual property and as they wait up for the western

⁶³ Information obtained from Kenya Intellectual Property Institute, Nairobi Kenya.

world to decide which way for a regime beyond intellectual property more particularly, international document for the protection of traditional knowledge. Have decided to make do with what they have. New Zealand, South Africa, India, Costa Rica share great experiences in implementing laws to govern the protection of traditional knowledge more particularly the traditional medicinal knowledge.

3.3.1 New Zealand

New Zealand has a wealth of traditional knowledge and the knowledge holders in this region appear to be in broad agreement that their beliefs, knowledge systems, art and other forms of cultural expressions form part of an integrated whole. Whilst in neighboring Australia the term indigenous cultural and intellectual property rights has been suggested to describe all the available Traditional Knowledge.⁶⁴ In New Zealand all the said knowledge is referred to as the Maori claim rights which are more specifically know as Taonga (all treasures or treasured possessions)⁶⁵ in the Treaty of Waitangi.

The treaty of waitangi was signed in 1840 by representatives of the British Crown and the Maori people and specifically provides for the full exclusive undisturbed possession by Maori of all their treasures or treasured possessions. The Maori believe that the New

⁶⁴ T. Janke, "Our Culture Our Future", draft discussion paper prepared for the Australian Institute of Aboriginal and Torres Strait Islander Studies and Commission, 1997.

Mc. Donald, "Protecting Indigenous Intellectual Property", Australian Copyright Council, Sydney 1997.

⁶⁵ M. Solomon, "Understanding Indigenous Cultural and Intellectual Property Rights". "Maori Cultural and Intellectual Property Claim" WAI 262. "Papers presented at conference on environmental risk management Auckland, Newzeland, June 1998".

Zealand government has not honored all treaty obligations which led to the establishment of the Waitangi tribunal in 1975. The tribunal was established to hear claims under the treaty and to enforce the wordings of the treaty. It is important to note that whilst the tribunals' findings are not binding upon the New Zealand government, they have proven to be effective in influencing political and judicial change in support of Maori rights.⁶⁶

The Maori are now for example working closely with the Cancer Genetics Research Team at the Univeristy of Otago, Dunedin in New Zealand to find a cure for familial gastric cancer. The Maori families have entered into legal partnership with the research team to identify the relevant mutant gene, develop a test to identify carriers and screen, counsel and treat family members. The 12,000 Maori involved in this project have provided the team with relevant genealogical and medical information and have established a trust, the Kimihauora Trust.⁶⁷ Any patent right under this trust will be jointly owned and any resultant financial benefits would go towards further research. The Kimihauora Trust receives extensive support and assistance from the New Zealand Health Research Council.

New Zealand laws require the principles of the treaty Waitangi to be recognized and given effect. The understanding of the treaty is continually evolving as judgments of the courts and the Waitangi tribunal are consolidated. The judgments have also continued to

⁶⁶ http://www.govt.nz/nz_info/treaty

⁶⁷ Intellectual Property needs and expectations of traditional knowledge holders, WIPO Fact finding mission on intellectual property and Traditional Knowledge (1998-1999)

clarify the principles which include protection of the Maori interests, recognition of rangatiranga/tribal authority, and the crown right to govern.

The Law on Biodiversity of Costa Rica does not deal specifically with a sui generis system of protection, but like New Zealand establishes certain general criteria and calls upon local communities to establish a mechanism for protection which will be recognised.

Kenya can borrow a lot from Newzealand. Even though it will not be possible to enter into a similar treaty arrangement with the government but the coming together of traditional medicinal knowledge holders under one trust name or a society brings out the communal unity needed to fight for better protection policies. The society and or the trust rules and regulations might not be binding on government but it will not be lone cry either. It will as the case in Newzealand not only influence government decisions but will also influence political and judicial thinking as well. There is need for the locals like the Maasai herbalists to have a forum, trust or welfare to air out their grievances, to trust with their medicinal knowledge, to turn to for benefit sharing, to vet benefit sharing agreements on their behalf and to offer constant education to members on the changing trends of traditional knowledge protection.

3.3.2 South Africa

In South Africa traditional medicine and traditional healers have been recognized to form part of a greater and broader field of study termed as ethno medicine.⁶⁸ The need to fuse modern medicine with herbal medicine is being felt now more than ever before. This has brought to the forefront the need to protect two distinct groups of people those that are divine diagnosticians and more so the healers or herbalist.

It is not in doubt that the traditional healers are widely recognized in South Africa as it is estimated that 80% of the population makes use of traditional medicine. The population ratio of traditional healers to the population is 1:500 whilst that of medical doctors is 1:40,000.⁶⁹ It is clear that the traditional healers play an influential role in the lives of the South African people. It is for this reason that South African government has embarked on drafting the Traditional Health Practitioners Bill⁷⁰ and has also established a province wide traditional healer's council with an umbrella Traditional Healers Organization (THO) being the biggest traditional healer umbrella organization in South Africa with over 69,000 traditional healers in South Africa.

Also established is a South African Traditional Medical Unit which has strong links with a number of departments at the university of Cape Town, its activities include registration

⁶⁸ "Planning for cost effective traditional medicines in the new century"— a discussion paper WHO centre for health development. Accessible: http://www.who.or.jp/tm/research/bkg/3_definitions.html

⁶⁹ Traditional Medicine Strategy 2002-2005. World Health Organisation WHO/EDM/TRM/2002 Geneva, p.7. see also Crouch R. Elliot R Lemmens T. and Charland L *Complementary/alternative Health Care and HIV/AIDS: Legal, Ethical and Policy Issues in Regulation Canadian HIV/AIDS Legal Network*, 2001.

⁷⁰ As published in Government Gazette No. 24704, Vol 454 on 11th April 2003. Notice 979 of 2003.

of provisional patents and research into various medicinal plants. To facilitate joint ventures between researchers and traditional knowledge holders, a Traditional Medicines Database (TRAMED) was established in the year 2000, this was done in consultation with various traditional healer groups and the initiative supports the South African Drug Policy, which emphasizes the rational and safe use of medicines, including traditional medicines.⁷¹

As I had mentioned earlier the proposed Traditional Health Practitioners Bill 2003, aims to provide for establishment of the Interim Health Practitioners Council of the Republic of South Africa which will be mandated to provide for a regulatory framework to ensure the efficacy, safety and quality of traditional health care services, to provide for control over the registration training practice of traditional health practitioners and to provide for matters incidental thereto and to register people as healers.

The Bill also establishes the National Reference Centre for African Traditional Medicines' (NRCATM)⁷² with mandate to regulate and control African traditional medicines, promote research and development with a bias on issues of standardization and authentication of products from plant extracts using WHO guidelines, protect indigenous knowledge and trade promotion through patents and other intellectual property rights, propagate and cultivate medicinal plants in way that promotes

⁷¹ See www.mrc.as.za/traditionalmedicines/highlights.htm T Felhaber and I. Mayeng, *South African Primary Health Care Handbook- Combining Western and Traditional Practices*, CapeTown 1999.

⁷² Section 44 (1) (g) (i)

sustainability and trade, advance the contribution of African traditional medicines to the health and well being of the people in the region.⁷³

To move towards equality in the field of medicine thus practice ethno-medicine it is inevitable to do away with unfair discrimination on the traditional medicines and this can only be so done if efforts are put to improve safety standards, efficacy and professionalism.⁷⁴

South Africa like New Zealand is positively making bold steps forward worth emulating but has adopted a *sui generis* approach an experience shared by Guatemala (Cultural Heritage Protection National La, 1998), Philippines (Indigenous Rights Act of 1997), Samoa (Village Fono Act of 1990). What cuts across the said legislations is the protection of knowledge developed by local people, giving holders right to consent to access and use of their knowledge, for intended commercial use a contractual agreement is entered into providing for and equitable share of benefits failure to which they provide for injunctions, seizure and criminal sanctions.

Kenya needs to borrow from these experiences. Recognition of the healers and subsequent support and protection of their knowledge is inevitable, as a country we have to make choices there is need to protect our traditional healers who have over the years

⁷³ Erica Irene Daes: Protection of the Heritage of Indigenous People, Office of the commission for Human Rights, Rapporteur of the Sub-Commission on Prevention of Discrimination and Protection of Minorities and Chairperson of the Working Group on Indigenous Populations.

⁷⁴ Marlise Richter, "Traditional Medicines and Traditional Healers in South Africa", Discussion paper prepared for the Treatment Action Campaign and AIDS Law Project 27th November 2003.

administered their traditional herbs and continue to do so. As Kenya moves towards ethno medicine especially with the establishment of the inter-ministerial committee on traditional knowledge comprising the ministries of health, planning and trade. The task ahead is not easy but with some effort there is hope that protection and benefit sharing will be guaranteed to the Kenyan traditional healers. The world might not be there yet in trying to accord sufficient protection but lets use what we have, taking advantage of the flexibilities accorded by TRIPS but still fighting to ensure community development and protection via going beyond intellectual property as I will observe shortly.

CHAPTER FOUR

TOWARDS PROTECTION, COMPENSATION AND COMMUNITY DEVELOPMENT IN KENYA

4.1 Introduction

The protection of traditional medicinal knowledge in Kenya as in the world over continues to be a hotly contested field. The many players in the field from the herbalist to the non governmental organizations and the communities themselves continue to cry foul in what they have viewed as an inadequate system of protecting traditional knowledge under TRIPS.⁷⁶ The lack of interest by the developed countries to put in place an alternative international protection regime outside the TRIPS and Intellectual Property to govern traditional knowledge is now evident as they continue to push for complete compliance to the requirement that all countries parties to the TRIPS agreement must make their domestic laws TRIPS compliant. Third world countries like Kenya have been forced to change their intellectual property laws and by doing so have concentrated on protection of foreign patented knowledge which most of them have their origins in the third world.

Trying to protect traditional medicinal knowledge using existing modes of intellectual property protection is a fallacy but since it is all that is available both internationally and locally and since there is need to try and fit traditional medicinal

⁷⁶ Barsh Russel, "Who steals indigenous knowledge?" New York University and First Peoples World wide Newyork 2001.

knowledge into the modern intellectual property box at least for now, there is need to understand how far we can go in trying to do so. I have observed earlier efforts made by South Africa and New Zealand to protect traditional medicinal knowledge within the minimum standards set up by TRIPS and in doing so there is no harm looking at wider avenues available within intellectual property.

4.1 Inside the box

The possibility of applying existing modes of intellectual property protection to different components of traditional knowledge has been extensively explored. For traditional herbal medicines some of the said knowledge may be protected under patents. The patent system can be used for protection of technical solutions that are industrially applicable and universally novel and involve an inventive step, patents can be taken out for products isolated, synthesized or developed genetic structures, microorganism, plants and animals existing in nature provided they meet the conditions applicable. However most of the traditional medicinal knowledge is not contemporary and has been used for over long periods, the novelty and or inventive step requirements of patents protection may be difficult to meet.⁷⁷

It would be easier to comply with a more flexible novelty requirement such as that for plant variety protection. New Plant products, cultivators and varieties of all

⁷⁷ Carlos Correa, Issues and options surrounding the protection of traditional knowledge, a discussion paper, The Quaker United Nations Office (QUNO) Geneva, November 2001.

species of plants may be protected under plant breeders' rights (PBR's). PBR's which vest monopoly in the developers of new varieties of plants to at least recover their investment in breeding. The Convention on the Union for the Protection of New Varieties of Plants (UPOV) has harmonized plant breeders' rights and extended it to developing countries. UPOV provides intellectual property protection to plant varieties that are distinct, novel, uniform, and stable. PBR's share in conditions similar to patenting even though novelty and distinctness are interpreted leniently. They are useful to countries that do not wish to extend patenting to plant varieties and living organisms which are the granary for traditional medicinal knowledge and cannot therefore be patented as this will reduce on their use. On the other hand countries have developed their own *sui generis* plant variety protection regimes to cover traditional innovations; Zambia has cited the Convention on Biological Diversity (CBD) in developing its plant variety protection mechanism and states that any final legislation must recognize and reward indigenous innovations. Indian's Plant Variety Protection Act of 2001 declares "that the rights of the farmer are superior to those of the breeder", whilst the Plant Varieties Protection Act of Bangladesh 1998 states that "the varieties must have immediate, direct and substantial benefit to the people of Bangladesh and protect both the community and the farmers rights." ⁷⁸ These examples demonstrate that options other than UPOV

⁷⁸ Beyond UPOV: Examples of developing countries preparing non UPOV *sui generis* plant variety protection schemes with compliance with TRIPS, GRAIN (Genetic Resources Action International) July 1999. www.grain.org/publications/nonupov-en.cfm.

can be established to effectively address the needs of traditional medicinal knowledge holders.

Some valuable Traditional Knowledge may be kept secret, While there is excessive attention being placed on patents and their restrictive nature against the protection of traditional knowledge, trade secrets have not been equally exploited by national institutions and local peoples to protect their knowledge. It is therefore crucial that national legislations be enlarged to contain specific measures that would enable traditional communities apply trade secrets to protect their knowledge and innovations. Such measures may include explicit articulation of traditional knowledge as subject matter for protection through trade secrets. For example applications of plants for therapeutic purposes. Trade secrets are protected under article 39 of the Agreement on Trade Related Aspects of Intellectual Property (TRIPS). Traditional knowledge maintained within the community could be considered a trade secret provided it has not diffused to the public it remains enforceable. The undisclosed knowledge is protected through secrecy and access agreement which may culminate to either damages in cases of breach of confidence or payment of royalties in case of contractual agreements (licenses). The major hindrance in this regard is the need for the person in control of this information to take deliberate acts aimed at protecting as a secret the relevant information. Traditional communities must take reasonable efforts to maintain the secrecy of such

knowledge failure to which it cannot be applicable to traditional medicinal knowledge.

Geographical indications have also been sighted as an important protection measure for traditional knowledge since its definition in article 22.1 of TRIPS and article 2 of the Lisbon Agreement for the Protection of Appellations of Origin and their International Registration of 1958, goes beyond geographical connotations into human and natural factors generated by quality and reputation which are mostly as a result of traditional standard techniques within a community.

Whatever the intellectual property right protection chosen for traditional medicinal knowledge inside the box, there arises a serious obstacle other than the politics of trying to fit the communal knowledge into a regime meant for individual ownership as earlier observed the title holders individual and communities alike may experience high cost implications in the acquisition, maintenance and enforcement of such rights.

The administrative and judicial procedures are often too long and costly. The availability of such protection for traditional knowledge may therefore be of little or of no real value to those who claim rights in traditional medicinal knowledge. It is in light of these facts briefly stated above that there is need to look outside the box especially in Kenya. Our traditional medicinal knowledge cannot be protected under

the existing Intellectual Property Regime more specifically, Patent and Plant Variety Protection, trade secrets amongst others.

Kenya's efforts or lack of it, to protect traditional medicinal knowledge dates back to the Medical Practitioners and Dentists Ordinance of 1929 which made reference to traditional medicine. It conceived the same as "systems of therapeutics according to native method". An important regulatory arrangement was the requirement that practitioners must be registered and licensed. It is worth noting that exempted from this provision were the practitioners of traditional suggesting the lack of faith in the institutions of traditional medicine and/or its future.

The Witchcraft Act Chapter 62 of 1962 specifically criminalised the practice of traditional medicine and discredited its practitioners. Independent Kenya therefore found a struggling and marginalized institution of traditional medicine. It was not until the 1970s when it became officially accepted that the contribution of traditional medicine to health delivery arrangements was positive, at least potentially.

In 1979-1983 a Development Plan was drafted this plan led to the introduction of administrative regulation of traditional medicine practitioners in the 1970s and accepted the same was not illegal. This was further strengthened in the 1994 Health Policy Framework which sought to encourage traditional medicine and improve the welfare of the practitioners. In the recent past the move to amalgamate traditional

work hand in hand to ensure there is a move towards protection, compensation and community development.

The Kenyan constitution is the supreme law of the land what the people of Kenya want, their vision and aspirations should be found in the constitution. more or less an equivalent of the Treaty of Waitangi in New Zealand. Traditional knowledge protection must be a fundamental right enshrined in the constitution zealously guarded by the government and the judiciary. The draft Kenyan constitution provides that” the state shall support and promote the appropriate application of modern and traditional medical practices; support, promote and protect indigenous knowledge and the intellectual property rights of the people of Kenya”⁸⁰ but this is yet to become law our current constitution has no such provision but should it be enacted it would go a long way in creating recognition for traditional medicinal knowledge.

The constitution of the Philippines of 1987 states at section 17 that “the state shall recognize respect and protect the right of the indigenous cultural communities to preserve and develop their cultures, traditions and institutions.”⁸¹ Section 46 of Thailand’s constitution states that “persons so assembling as to be a traditional community shall have the right to conserve or restore their customs, local knowledge, arts, or good culture of their community and of the nation and participate in the

⁸⁰ Kenya Gazette Supplement No. 63 22nd August 2002 drafted and published by the Attorney-General Pursuant to Section 27 of the Constitution of Kenya Review Act Chapter 3A of the Laws of Kenya.

⁸¹ The Constitution of the Philippines 1987 Section 17 Article XIV.

management, maintenance, preservation and exploitation of natural resources and the environment in a balanced fashion and persistently as provided by law". The constitution of Ecuador of 1998 "recognizes collective intellectual property rights on communities' ancestral knowledge". Pursuant to which the intellectual property Law No. 83 of 1989 establishes a *sui generis* system of collective intellectual rights of indigenous and local communities.

According to the constitution of the Federative Republic of Brazil, "the Indians shall be accorded recognition of their social organization, customs, languages and traditions and the original rights in the lands that they occupy by tradition". The constitution of the Republic of Venezuela of 1999 at article 124 states that, "the collective intellectual property of indigenous knowledge, technology and innovations is guaranteed and protected, any work on genetic resources and the knowledge associated therewith shall be for the collective good. The registration of patents in those resources and ancestral knowledge is prohibited".

Evidently clear is the need to have the Kenyan Constitution specifically recognising the intellectual resource of the Kenyan traditional communities, it is not enough to argue traditional intellectual property protection from the point of view of a fundamental human right to own property. It is time Kenya like the countries above gave traditional knowledge the highest possible protection in the land.

With the constitutional recognition flows the need to have a *sui generis regime(s)*⁸² on various facets of traditional knowledge, of concern in this paper is the *sui generis* regime on traditional medicine. South Africa as observed in chapter three extensively has shown the way but it is not the only one. Thailand has also developed an interesting *sui generis* regime on traditional medicine the Thai Traditional Medicinal Intelligence Act, which Act stipulates that the Ministry of Public Health has the authority to declare a certain formulae of traditional Thai medicine, national formulae thereby making it a criminal offence to use the said formulae for commercial purposes, research and development. Use of the said formulae is subject to getting prerequisite permission from the government.

The law also provides for the measures aimed at the conservation and sustainable use of the medicinal plants. It creates the Institute of Thai Traditional Medicine and Thai Traditional Knowledge Development Fund. The regulations have permitted the registration of over 700 licensed local manufacturers producing traditional medicine. The list of countries with legislation on traditional medicinal knowledge is increasing by the day highlighting the need to move and have an international regime for traditional knowledge protection.

The Organization of Africa's Unity (OAU) has adopted Africa Model Legislation for the Protection of the Right of Local Communities, Farmers, and Breeders and for the

⁸² Dutfield G. "Can the TRIPS agreement protect Biological and Cultural Diversity? Biopolicy International article No. 19, ACTS Press, Nairobi 1997.

Regulation of Access to Biological resources. The model legislation which member countries are expected to implement recognizes that customary practices of local communities derive from a *priori* duties and responsibilities to past and future generations of both human and other species. This model was meant to be a guide to countries seeking to introduce *sui generis* legislations.

When talking of such legislations it is important for countries to look at the mode of regime they would like to adopt. The single regime is a comprehensive regime covering all aspects of traditional knowledge whilst a multiple regime contains well defined components of traditional knowledge for example expressions of folklore, plant genetic resources for food and agriculture and traditional medicines.

Although the *sui generis* approach has received a lot of attention in the literature it is important to note that very little progress has been made in terms of implementing this kind of protection. It has also come with many fallacies as mostly what it does is that it poses many complex practical and conceptual issues like; what is the definition of subject matter? What are the requirements for protection? To what extent can rights be conferred? Who are the title holders? What are the modes of acquisition? What would be the duration of protection? How would such rights conferred be enforced? It is no wonder that very few countries have adopted *sui generis* legislation

as their solution to protecting traditional knowledge more particularly traditional medicines.⁸³

The intergovernmental committee on intellectual property and genetic resources, traditional knowledge and folklore in its third session stated the elements of a *sui generis* system to be policy objective of the protection? Subject matter? Criteria of protection? Who owns the rights? What are the rights? How are the rights acquired? How to administer and enforce the rights and how are the rights lost? Thus coming with it the need for documentation of the rights.

The availability of rights is one thing and the enforcement of such rights is another. It is useless to put in place classic state of the art legislation on protecting traditional medicinal knowledge when the enforcement mechanism are weak the need to study enforcement mechanism both criminal and civil depends on the capacity to identify infringements and bear the costs of administrative and judicial procedures. Enforcement problems may indeed be very substantial and often insurmountable for most traditional communities and decision makers should be careful to balance the benefits derived from traditional knowledge to the cost of establishing a legal system for the protection of traditional knowledge.

⁸³ The crucible II Group “Seeding Solutions. Options for national laws governing access to and control over genetic resources”, vol 2, IDRC-IPGRI, Rome 2001.

Nothing indeed prevents states from establishing *sui generis* systems whether based on intellectual property rights or not at the domestic level but such a regime is only implementable at the national level and cannot be claimed and enforced in third countries. In many cases appropriation is by foreign companies who eventually obtain intellectual property protection abroad and as such the existence of a national system of protection leaves many biopiracy problems unresolved. This leaves us with no option but to look further beyond Intellectual Property in a bid to prevent misappropriation of traditional medicinal knowledge, which regime would not require the establishment of any form of monopolization that could contradict communities' practices and values but would instead create a legal framework to prevent use of knowledge or products acquired in violation to rules on the access to genetic resources and associated knowledge, or customary law; more particularly ensure full information about new products, priority access by the providing countries, share in financial and other benefits derived from the commercial exploitation of accessed materials, deposit of specimen, transfer to third parties only after authorization and involvement of local scientist to address these concerns and many more the misappropriation regime is inevitable.⁸⁴

4.3 Outside the box: the Misappropriation Regime

⁸⁴ See Caillaux Zazzali and Ruiz Muller, 1998; Ten Kate and Laird 1999; Barber, Glowkar and La Vina 2001.

Kenya being a country of limited resources thus having more than half its population living below the poverty line it needs to offer its traditional knowledge holders more than just *sui generis* option. There is need to specifically legislate against misappropriation of traditional medicinal knowledge which regime will include the documentation of traditional medicinal knowledge.

By documentation of the traditional medicinal knowledge the country puts everyone foreigners and citizens alike, on notice that the appropriation of the specific enumerated knowledge constitutes an infringement. There is need for Kenya to start by documenting its traditional medicinal knowledge the same way India did. India has put in place navigable computerized database of documented traditional knowledge relating to the use of medicinal and other plants, known as Traditional Knowledge Digital Library (TKDL). This has not only enabled patent offices worldwide to search and examine any prior art. But has ensured that which is for the Indian people remain so and its use must be accounted for.

This initiative is spearheaded by the department of Indian Systems of Medicine and Homeopathy. Kenya need to borrow a leaf from the Indian Government as this is but the best way to begin on the road to implementing an appropriation regime. The regime aiming to avoid monopolization of traditional knowledge should be based on the recognition of a right and to require compensation for the use of traditional medicinal knowledge when acquired without the consent of the knowledge holders.

The would be users of the knowledge would be specifically required to obtain and document the obtained free and informed consent of the traditional knowledge holders allowing them a share in the ownership, control, use and benefit. And indicating the benefit sharing flowing down to the knowledge holders in comparison.

The objectives of such a regime would be to prevent the misappropriation of genetic resources, traditional knowledge and folklore, to ensure prior informed consent and equitable sharing of benefits arising from the use of genetic resource and traditional knowledge, to ensure that these benefits are harnessed for the benefit of traditional knowledge holders and custodians, to ensure conservation and sustainable use of biodiversity, protect and reward innovations and creative works derived from traditional knowledge and expressions of folklore, establishing Institutional mechanism for capacity building, awareness building, networking and exchange of information, promotion of documentation and codification of traditional knowledge and expressions of folklore, transfer of technology, national focal points, and follow up body.

Evidently the misappropriation regime would be a high breed regime covering all areas of traditional knowledge protection. It would be best described as the comb where all the other *sui generis* legislations like a Traditional Medicinal Knowledge legislation fit in the *sui generis* legislation should be supplementary to it.

Over and above the misappropriation regime implementation there is need for a mother international instrument on intellectual property in relation to genetic resources and on the protection of traditional knowledge and folklore. This would reaffirm and recognize, national Sovereignty over genetic resources role of state in preservation and protection of traditional knowledge and expression of folklore, economic rights of traditional knowledge holders, role of customary law and protocols in the protection of traditional knowledge and expressions, complementary nature of defensive and positive measures relating to protection of genetic resources, traditional knowledge and expressions of folklore.

This would in addition ensure, National Treatment and mutual recognition of national legislation, right of states to take measures to ban patenting of life forms, compliance with access and benefit sharing laws of the country of origin of genetic resources to ensure implementation of prior informed consent and equitable benefit sharing, introducing disclosure requirements in patent laws as well as evidence of compliance with national access and benefit sharing laws of the country of origin of genetic resources, standard contractual agreements are followed, enforcement and dispute settlement.

This will facilitate Transboundary dealings in traditional knowledge and genetic resources.

Whilst the misappropriation regime is adequate nationally it needs to be supported by an international misappropriation regime but due to the reluctant nature of the developed world to accept such international legislation there is need for the third world to join hands in the negotiating table and put up their case, only then will we realize the success of our national *sui generis* and misappropriation regimes.

Bibliography

Alex Tawada Magaisa, "Indigenous peoples, corporate power and the knowledge economy: The law and politics of knowledge protection", Baker and Mackenzie Lecturer in Company and Commercial Law School, University of Nottingham

Barsh Russel, "Who steals indigenous knowledge?" New York University and First Peoples World wide Newyork 2001.

Bromley D.W and M. Cernia 1989 "The Management of Common Property Natural Resources: Some Conceptual and Operational Fallacies" World Bank Discussion Paper No. 57

Blakeney M "Bioprospecting and the protection of traditional medical knowledge of indigenous peoples: An Australian perspective" 19 EIPR 6 298-303 1997,

Becker L.C *Property Rights Philosophic Foundations* Routledge 1977

Burke E, *Reflections on the Revolution in France*. THE WORKS OF EDMUND BURKE 277,324 (George Bell and Sons pub 1905).

Cunningham A and Andrews B eds *Western Medicine as contested knowledge* Manchester: Manchester University Press 1997.

Carlos M. Correa, "Traditional Knowledge and Intellectual Property, Issues and Options Surrounding the protection of traditional knowledge". A discussion paper published by Quaker United Nations Office Geneva, November 2001. this document is available from <http://www.quno.org>.

Correa Carlos, "Options for the implementation of Farmers' Rights at National Level", South Centre, Geneva, 2000b

Correa Carlos, "Insitu conservation and intellectual property rights" Stephen Brush (ed), *Genes in the Field: On-Farm Conservation of Crop Diversity*, IPGRI/IDRC/Lewis Publishers, 2000

Correa Carlos, "Protection of traditional systems of medicine, patenting and promotion of medicinal plants", paper prepared for WHO, Geneva, 2000

Drohos Peter, "indigeneous knowledge and the duties of intellectual property owners", *Intellectual property journal*, 11, August 1997.

Drohos P, *The Philosophy of Intellectual Property* Dartmouth : Aldershot 1996.

Dutfield Graham, “Rights Resources and Responses” cultural and spiritual values of biodiversity, UNEP, 1999

Dutfield Graham, *Intellectual property rights, trade and biodiversity*, Earthscan, London, 2000

Dutfield Graham, “the public and private domains. Intellectual property rights in traditional knowledge”, 2000

Doris Mutta, KARI, “Mainstreaming TK in National Development in Kenya”, Paper presented at a stakeholders workshop on the sustainable safe and effective use of medicinal plants in Eastern Africa, Arusha, Tanzania, 2003.

Ekpere J.A, The OAU Model Law, Organisation of African Unity: Scientific, Technical and Research Commission, Lagos, 2000.

Gurdial S.N *Legal and Practical Perspectives on Sui Generis Option* April 1999.

Good, C.M. 1987. Ethno medical systems in Africa: Patterns of Traditional Medicine in Rural and Urban Kenya. New York: Guilford Press.

Gordon D “A Sword of empire? Medicine and colonialism in Kingwilliams Town, Xhosaland 1856-1891” 60 African Studies 2 2001.

Greaves Thomas, Intellectual Property Rights for Indigenous People: A Sourcebook, society for applied anthropology; Oklahoma City 1994.

Honore A.M “Ownership” in A.G. Guest Oxford Essays in Jurisprudence Clarendon Press 1961.

Hughes J, the Philosophy of Intellectual Property, 77 GEO LJ (281-330) 1986.

Hansen Steven and Justin Van Fleet, *Traditional Knowledge and Intellectual Property: a handbook on issues and options for traditional knowledge holders in protecting their intellectual property and maintaining biodiversity*, AAAS, Washington, DC, July 2003.

India Government, “protection of biodiversity and traditional knowledge, the Indian experience”. WT/CTE/W/156, 14th July 2000.

International Development Research Centre(IDRC) and United States Agency for International Development (USAID), Stakeholders Workshop on the Sustainable

Safe and Effective Use of Medicinal Plants in Eastern Africa, Arusha, Tanzania, November 2003

T. Janke, “Our Culture Our Future”, draft discussion paper prepared for the Australian Institute of Aboriginal and Torres Strait Islander Studies and Commission, 1997.

Kuruk Paul, “Protecting Folklore Under Modern Intellectual Property Regimes: A Reappraisal of the Tensions Between Individual and Communal Rights in Africa and the United States”, 48 American University Law Review , 1999 www.wipo.org.

Kuanpoth Jakkrit, “Legal Protection of Traditional Knowledge: the case of Thai Traditional Medicine”, paper presented at the ASEAN workshop on the TRIPS Agreement and Traditional Medicine, WHO, Jarkarta, 15th February 2001.

Louwaars Niels and Engels Jan, “Intellectual property rights: patents or sui generic systems?”, in Conny Almenkindersand Walter De Boef, (ed), Encouraging Diversity – The Conservation and Development of Plant Genetic Resources.

Locke J. *Second Treatise of Government* 138-40 in TWO TREATIES OF GOVERNMENT (P Laslett revised edition 1963 3rd edition 1698)

Mc. Donald, “Protecting Indigenous Intellectual Property”, Australian Copyright Council, Sydney 1997.

Mukiama Titus and Murithii Festus, KARI/UON Kenya Agricultural Research Institute and University of Nairobi Project on “Effective Integration of Biodiversity Resources and Management as a Tool for promoting Rural Agriculture Reform”.

M. Solomon, “Understanding Indigenous Cultural and Intellectual Property Rights”. “Maori Cultural and Intellectual Property Claim” WAI 262. “Papers presented at conference on environmental risk management Auckland, Newzeland, June 1998”. http://www.govt.nz/nz_info/treaty

Mugabe John Dr, “Intellectual Property Protection and Traditional Knowledge An Exploration in International Policy Discourse ”, Paper prepared by African Centre for Technology Studies (ACTS) for the World Intellectual Property Organization (WIPO) Geneva, Switzerland, December 1998.

Okoth–Ogendo H.W.O “The Tragic African Commons, A century of expropriation, suppression and subversion”, University Law Journal Volume1

2003 page107. The writer is a professor of Public Law at the University of Nairobi and Fellow of the Kenya National Academy of Sciences

Oviedo Gonzalo, Gonzales Aimee and Maffi Luisa, “The importance of and Ways to conserve and Protect Traditional Ecological Knowledge”, paper presented at the UNCTAD Expert meeting on Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices, 30th October 2000.

Posey D.A and Dutfield G *Beyond intellectual property: Towards traditional resource rights for indigeneous peoples and local communities*, International Development Research Centre, Ottawa, 1996. See also Posey D. 1991 “Intellectual Property Rights for Native Peoples: Challenges to Science, Business and International Law”. Paper prepared for the International Symposium on Property Rights, Biotechnology and Genetic Resources, Nairobi Kenya.

Prof J. Mwangi, Dr Grace Thoithi, Prof Kibwage, Faculty of Pharmacy, University of Nairobi. “Conservation of Medicinal Plants: Benefit Sharing”, 2003 paper presented at the Stakeholders workshop on the sustainable, safe and effective use of medicinal plants in Eastern Africa 24-27 November 2003, Arusha, Tanzania. Organised by IDRC, ESARO, NMK, ITM and NCRL. Funded by USAID.

Richter Marlise, “Traditional Medicines and Traditional Healers in South Africa”, Discussion paper prepared for the Treatment Action Campaign and AIDS Law project November 2003

Ramani M “Market realities versus indigenous equities” Brooklyn journal of international law 2001 <http://westlaw.com>.

Ryan M.P *Knowledge diplomacy: Global Competition and the politics of intellectual property* Washington: The Brookings Institution 1998.

Sayer, J.A, C.S. Harcourt, N.M Collins (eds) 1992. *The conservation atlas on Tropical Forests Africa*. International Union for the Conservation of Nature (IUCN) Simon and Schuster, New York, London, Toronto, Sydney and Singapore

Shiva V. *Protect or plunder Understanding intellectual property rights* London ZED Books 2001.

Shiva Vandana, Jafri Afsar, Bedi Gitanjali and Bhar Radha Holla, *The Enclosures and Recovery of the Commons, Research Foundation for Science, Technology and Ecology*, New Delhi, 1997.

Stroud's Judicial Dictionary, 5th Edition Vol. 4 at pages 2057.

Ten Kate and S Lairds *The Commercial use of biodiversity access to genetic resources and benefit sharing*, Earth Scan, London, 1999.

Tuhiwai-Smith L. *Decolonising methodologies – Research and indigenous peoples* London : Zed Books 1999.

UN Economic and Social Council, Study on “the Protection of the cultural and intellectual property of the indigenous peoples”, by Erica Irene Daes, special Rapporteur of the Sub- Commission on Prevention of Discrimination and Protection of Minorities and Chairperson of the Working Group on Indigenous Populations. 1994

UN Commission on Human Rights, Sub Commission on Prevention of Discrimination and Protection of Minorities, Human Rights and the Environment, Final report by Mrs Fatma Zohra Ksentini, Special Rapporteur. E/CN.4/Sub.2/1994/9, 6th July 1994.

UNEP/CBD/COP/3/ inf 33 Annex 2. UNEP 1998. Decisions Adopted by the Conference of Parties to the Convention on Biological Diversity at its 4th Meeting. UNEP 1998 implementation of Article 8j and related provisions. UNEP/CBD/COP

UNEP 1992, Biodiversity Country Studies: Synthesis Report April 1992. See also Stuart S.N and R.J Adams, 1990. Biodiversity in SubSaharan Africa and its Islands: Conservation, Management and Use. International Union for the Conservation of Nature (IUCN), Gland, Switzerland.

Vandana Shiva and Radha Holla “ *Intellectual piracy and the neem tree*” the *Ecologist* vol 23, no. 6 Nov /Dec 1993, pages 223-227.

Vandana Shiva, Afsar Jafri, Gitanjali Bedi and Radha Holla Bhar, *The Enclosure and recovery of the commons: biodiversity, indigenous knowledge and intellectual property rights*. Research Foundation for Science, Technology and Ecology, New Delhi, India, 1997 pp 35-36.

Wambembe Charles Prof; Nigeria Institute for pharmaceutical Research and Development (NIPRD) Abuja Nigeria, article written in 1999.

WHO, *Strategy for Traditional Medicine 2000-2003*, Geneva, 2000.

UNIVERSITY OF NAIROBI
LIBRARY

WIPO, "Matters Concerning Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore", August 2000

WIPO, Intellectual Property Needs and Expectations of Traditional Knowledge Holders, WIPO Report on Fact Finding Missions on Intellectual Property and Traditional Knowledge (1998-1999).

WIPO, *Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore* 1st to 8th sessions in Geneva between 10th December 2001 and 6th June 2005.

Wilder R. "Global harmonization of intellectual property" in Fletcher IU et al (eds) *Foundations and perspectives of international trade law* London: Sweet and Maxwell 2001.

2 WILLIAM BLACKSTONE COMMENTARIES ON THE LAWS OF ENGLAND 1979 edition see Albert Alschuler *Rediscovering Blackstone* 145 U.P.A. L. REV.1.3 1996.

Yano LI "Protection of the ethnobiological knowledge of indigenous peoples" 41 UCLALR 443 1993.