INTELLECTUAL PROPERTY IN PLANT GENETIC RESOURCES: THE IMPLEMENTATION OF ARTICLE 11(3) (B) OF THE CONSTITUTION OF KENYA.

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DECLARATION

I **Pauline Kanyaa Mbuthu** do hereby declare that the work presented is my original work, and has not been submitted for a degree in any other university

Signed ……..

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This thesis has been submitted for examination with my approval as the university supervisor.

Signed……

Prof. Patricia Kameri-Mbote

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LIST OF ABBREVIATIONS

UPOV	-	INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES
CBD	-	CONVENTION BIOLOGICAL DIVERSITY
PGRS	-	PLANT GENETIC RESOURCES
KARI	-	KENYA AGRICULTURAL RESEARCH INSTITUTE
WIPO	-	WORLD INTELLECTUAL PROPERTY ORGANISATION
FAO	-	FOOD AND AGRICULTURE ORGANISATIONS
CGIAR	-	CONSULTATIVE GROUP OF AGRICULTURAL INTERNATIONAL RESEARCH
ABS		ACCESS AND BENEFIT SHARING
DUS	-	DISTINCT, UNIFORM AND STABLE
NDUS	-	NEW, DISTINCT, UNIFORM AND STABLE
FAO	-	FOOD AND AGRICULTURAL ORGANISATION
IPR	-	INTELLECTUAL PROPERTY RIGHTS
ITPGRFA	-	INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE
AU	-	AFRICAN UNION
PVP	-	PLANT VARIETY PROTECTION
TRIPS	-	TRADE RELATED INTELLECTUAL PROPERTY RIGHTS
PBRP	-	PLANT BREEDERS' RIGHT PROCLAMATION NO. 481/2006.284 OF ETHIOPIA

TABLE OF STATUTES

Constitution of the Republic of Kenya

Seeds and Plant Varieties Act, Cap 326

Plant Protection Act (Cap. 324),

The copyright act

The industrial property Act

The state corporations act

Grass Fires Act (Cap). 327)

Suppression of Noxious Weeds Act (Cap. 325).

Environmental Management Act

Plant Breeders' Right Proclamation No. 481/2006.284 of Ethiopia

Plant variety protection and farmer's rights act

Plant Variety act

INTERNATIONAL TREATIES

Convention for Biological Diversity

Agreement on Trade Related Aspects of Intellectual Property Rights

The International Convention for Protection of New Varieties of Plants.

The AU Model Legislation For The Protection Of The Rights Of Local Communities, Farmers And Breeders And For The Regulation Of Access To Biological Resources

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Abstract

The aim of this research is to interrogate the sufficiency of protection given to plant varieties in Kenya particularly in view of the need to have equitable exchanges of material as envisioned in the Constitution of Kenya. While the doctrine of sovereignty of states is a cornerstone of international relations , the developed world which is technologically advanced but diversity poor has prevailed upon the under developed southern hemisphere which is diversity rich to enter in agreements and treaties that are disadvantageous to the south. Such arrangements allow the north to access the assets of the south without corresponding benefits to the south.

The Trade Related Aspects of Intellectual Property (TRIPS), is the most comprehensive international agreement on intellectual property and is a minimum standards regime with inbuilt flexibilities which allowing member countries to adopt their regimes to their needs.

Countries such as the United States of America have adopted a dual protection system that allows both patenting of plants as well as plant breeders rights which ensure the maximum commercial benefits are harnessed particularly due to the protection afforded under TRIPS . Perhaps nations such as Kenya ought to take the same direction to ensure that sanctions afforded under TRIPS can be applied to cases of Bio piracy and bio prospecting.

The Constitution of Kenya 2010 has recognised the rights of the Kenyan people to their intellectual property and further has placed an obligation on parliament to legislate to create appropriate mechanisms for protection within 5 years from the promulgation date. The Seeds and Plant Varieties Act was amended in the year

2012. This research shall examine whether the obligation has been met or more needs to be done and propose appropriate way forward.

Chapter 1 Introduction

1.11 Introduction

The free exchange of genetic resources is vital to food security and satisfaction of nutritional needs and conserving biodiversity in the world. The genetic resources have long been viewed as the common heritage of all humankind, which resulted in domestication of non-indigenous food crops such as sweet potato in Kenya.[1] In Kenya, biodiversity is secured by organisations such as KARI and plant breeders and farmers who actively select and develop plant varieties both formally and informally.

1.2 Background to the Problem

Food is integral to the survival of humans and the discovery of farming and the resulting stable supplies of food fundamentally changed the health and survival of prehistoric man.

Plant breeding may be defined as the systematic and deliberate selection of specific desirable traits in order to create offspring whose desired traits are more enhanced than the parents are.[2]Informal plant breeding as carried out by farmers has existed since the agrarian revolution and formal modern plant breeding began in the 19th century and intensified in the 20th century. The Plant

[1] Paarlburg R L, Politics Of Precaution Genetically Modified Food In Developing Countries, IFPRI Food Policy Statement no.35(2001) www.ageconsearch.umn.edu accessed 30/11/2012

[2] Hargen H. M. The Right to Food, the Right to Benefit from Science and the Trips Agreement, Food and Human Rights in Development Vol. I Legal Institutional Dimensions And Selected Topics (2005) Intensia p. 426

genetic resources were previously available to all without restrictions as the common heritage of man.[3] To date, farmers in Kenya carry out informal plant breeding.[4]

With the investments of funds and time in developing new varieties came the need to protect the results of the breeding this was done by way of plant breeders' rights.[5]

The thinking stemming from the belief that biological materials were the common heritage of all humankind held that plant genetic resources should not be protected by way of patents rather a unique system was to be developed.

The International Union for the Protection of New Varieties of Plants (hereinafter-UPOV) was established in 1961 through the Paris Convention and revised in 1972, 1978, 1991[6] and it provides a test on newness, distinctiveness, uniformity and stability (NDUS) for a variety to qualify for protection.
This landscape was permanently changed when the United States of America allowed the patenting of biological material in 1980.[7]

In recent years, there have been several instances of the developing world loosing valuable resources to the more technologically advanced countries and

3 Gulait C., The "Tragedy Of The Commons" In Plant Genetic Resources: The Need For A New International Regime Centred Around An International Biotechnology Patent Office, Yale Human Rights And Development Journal vol. IV(2001)p.64

4 Sikinyi E O., Kenya Seed Sector Baseline Study. (2010) www.afsta.org 2.6.13

5 Hargen, (note.2) p.427

6 International Convention for the Protection of New Varieties of Plants.

7 U.S. Supreme Court. Diamond V. Chakrabarty, 447 U.S. 303 (1980).

only realising[8] what has been lost when patent rights are exercised to their detriment amid accusations of bio piracy.

Due to such experiences, the flow of plant genetic resources diminished severely, the international community developed conventions to govern the exchange of plant genetic resources between the nations, and thus the Convention on Biological Diversity was established in 1992.[9]

The Constitution of Kenya in Article 11 recognises culture as the foundation of the nation and as the cumulative civilization of the Kenyan people and nation and includes science and indigenous technologies and intellectual property rights of the people of Kenya within the scope of elements of culture that are recognised. [10]

The constitution goes further and states in Article 11(3) (b) that:
"Parliament shall enact legislation to,Recognise and protect the ownership of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by the communities of Kenya".

However, The Constitution gives the discretion to Parliament to develop the appropriate legislation by which this aspiration can be achieved. It is therefore necessary to examine the existing framework under which Plant varieties are protected to understand whether it is adequate to satisfy the requirements of Article 11(3) (b).

[8] Lacey M., Washday miracle? Kenya wants profit share, the New York times Published: Tuesday, February 21, 2006, www.nytimes.com accessed 2/11/2012

[9] Convention for Biological Diversity 1992

[10] The Constitution of the Republic of Kenya, (2010) Government printers.

1.3 Statement of the Problem

In order to satisfy the Constitutional requirement that the people of Kenya benefit from the country's biological diversity, Parliament is required to enact legislation that will recognise and protect the ownership of indigenous seed and plant varieties, their genetic and diverse characteristics and their use by the communities of Kenya.

Currently plant varieties and seeds are protected through the Seeds and Plant Varieties Act as amended in 2012. The 2012 amendments suggest that the country is ready to join UPOV 1991, which offers stronger protection for plant varieties. The protection granted under UPOV is for plant breeders, no provisions are made for Native, and indigenous plant varieties that have not been developed by any breeder and fall under the commons of the people of Kenya nor of farmer bred and selected varieties that are usually saved and exchanged informally by the farmers. This inability to cater for two important areas of plant genetic resources by the international protection regime as domesticated by the Seeds and Varieties Act means that the materials are classified as being in the public domain and the farmer cannot enjoy the fruits of their efforts in breeding.Further, the provisions for access and benefit sharing as proposed under CBD and Nagoya Protocol have not been fully capitalized in Kenya.[11]

If Kenya does not create specific legislation to protect and recognise ownership of native plant varieties and seeds and farmer bred varieties, to work alongside the Seeds and Plant Varieties Act, the loss of indigenous plant and seed biodiversity will continue unchecked and communities will not benefit from the resources they have helped to create. This will further be a wasted opportunity to alleviate poverty in the farmer communities as such varieties if properly protected can be commercialized and certified seed availed through the formal

[11] Lacey (Note.8)

marketing channels therefore improving both the quality of the seed planted and earning income for the farmers from sale of certified seed.

1.4 Theoretical Framework

Arguments for intellectual property rights have generally taken one of three forms Personality theory, Utilitarian Theory and the Labour theory.[12]

Personality theorists such as Hegel maintain that individuals have moral claims to their own talents and character traits and experiences. Control over physical and intellectual objects is essential for self-actualization.[13] Property rights are important in that by controlling and manipulating objects, both tangible and intangible; our will takes form in the world. Individuals may use their physical and intellectual property rights and secondly, in some cases, our personality becomes fused with object thus moral claims to control feelings, character traits, and experiences may be expanded to intangible works.

The Second school of thought argues that the justifications for intellectual property rights are incentive-based and utilitarian.[14] It is argued that the prerequisite for promoting the creation of valuable intellectual works is granting rights of ownership to authors and inventors. Without such incentives, authors and inventors might not be motivated to produce intellectual property. Thus control is granted to authors and inventors of intellectual property, because granting such control provides incentives necessary for social progress and by protection like copyright, patent and trade secrets, an optimal amount of innovation is produced, and a corresponding optimal amount of social utility.

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[12] Moore, Adam and Himma, Ken, "Intellectual Property", *The Stanford Encyclopaedia of Philosophy* (2012) Edward N. Zalta (ed), plato.stanford.edu/archives/ intellectual-property/last accessed 5/10/213

14Hegel, G.W.F., 1821, *Elements of the Philosophy of Right*, Allen Wood (ed.), Cambridge: Cambridge University Press, 1991

[14] Oppenheim, C., "An Approach to Evaluation of the American Patent System," *Journal of the Patent and Trademark Office Society*1951, p. 560.

In the third School of thought, Locke theorised that the human who laboured on a resource was entitled to claim ownership of that resource. The labour theory of property is a natural law theory that holds that property originally comes about by the exertion of labour upon natural resources.[15] In his *Second Treatise on Government*, Locke expounded his theory which was based on the concept of the mythological social contract and stated that an individual can claim to own one part of the world, despite the fact that God gave the world to all humanity in common because persons own themselves and therefore their own labour. When a person works, that labour enters into the object. Thus, the object becomes the property of that person.[16]

He further stated that each individual, at a minimum, owns himself this being the natural result of each individual's being free and equal in the state of nature. As a result, each must also own his own labour, to deny him his labour would be to make him a slave. One can therefore take items from the common store of goods by mixing one's labour with them: an apple on the tree is of no use to anyone – it must be picked to be eaten – and the picking of that apple makes it one's own.[17] It must despite belonging to the common become private property lest all mankind starve, despite the bounty of the world.
Locke argues that Property as understood within the context of labour of man, could have predated the existence of government, and therefore society can be dedicated to the protection of property.[18]

This theory accommodates the privatisation of rights over natural resources through the labour expended on it. A person who labours upon resources that

[15] Dias, Jurisprudence, 5th ED, (1994) p.81-82

[16] Ibid p. 82

[17] John Locke Two Treatises On Government: A Translation Into Modern English, ISR/Google Books, 2009, page 70 last accessed 5/10/213

[18] Locke Ibid p. 71

are either not owned or held in common has a natural property right to the fruits of his efforts. Locke makes the provision, "that a person may legitimately acquire property rights by making his labour with the resources held in common if only after such acquisition, there is enough and as good left in common for others." It follows that once a person's labour is joined with an unowned object, assuming that individuals exclusively own their body and labour, rights to control are generated. The idea is that there is an expansion of rights whereby we each own our labour and when that labour is mixed with objects in the commons; our rights are expanded to include these goods.

This research will be based on the Labour Property theory as expounded by John Locke. This theory can be applied to the subject matter of this research paper in that the indigenous resources as envisioned in the Constitution ought to be available for all to use and to benefit from. By protecting the seeds and varieties that are the culmination of millennia of contributions by communities to the common knowledge and biodiversity. The effort put in by the farmers may not belong to one individual but under the Lockean theory can be protected as labour has been expended into saving, breeding and selecting indigenous varieties and as such are intellectual property.

1.5 Literature Review

Plant breeders rights are a form of intellectual property vested in innovations of plant varieties, which are protected under the convention Union Of Plant

Varieties[19] Protection. The breeders' rights are granted for varieties that have distinctiveness, uniformity and stability.[20]

The activity of Plant breeding refers to the conscious selection of specific traits in order to create offspring, which enhances qualities better than the original varieties.[21] Both commercial and formal breeders and informal breeders participate in plant breeding[22]

Plant breeder's rights have exemptions where the rights do not apply under article 15 of the UPOV convention.[23] Of particular concern is the breeders' exemption, which allows other researchers to develop other varieties, using a protected variety without any obligation to compensate the owner of the protected variety. This provides a loophole by which varieties are lost without compensation.

Richard Leakey states that the dawn of agriculture occurred about 10000 years ago which along with the hunting of meat contributed to the success of the human species began with the selection and saving of seed and early plant breeding activities.[24]

Ever since plant genetic resources have been part of the global commons[25] (Stavins, 2011) and this concept wa formally adopted during the FAO conference in 1905[26]. This is the argument that all Plant Genetic Resources belong to humanity

[19] www.UPOV.int/text last accessed 5/10/213

[20] Ibid last accessed 5/10/213

[21] Hargen (N 2) p. 427

[22] Sikinyi(N.4)p. 12

[23] www.UPOV.int /text last accessed 5/10/213

[24] Leakey R, The Origin Of Humankind,(1994) basic books, p.59

[25] Robert N. Stavins The Problem of the Commons: Still Unsettled after 100 Years , American Economic Review 101 (2011)page 82

[26] About FAO, www.FAO.org accessed 17 /11/2012

as a universal common heritage (Leakey, 1994)[27]. However, Dr Roht-Arriaza observed that this concept has been denigrated by the trend by commercial seed companies of collecting materials and patenting them, which effectively takes, then out of the global commons.[28]

Sullivan noted that the Convention on Biological Diversity (CBD) was created in the year 1992 for the purpose of providing a structure for sustainable use of the biological diversity and plant genetic resources[29] thus preserving the global commons. The convention was concerned among other things, with the issue of access and benefits sharing however, as illustrated by the case of the Sorcerer II[30], which was widely vilified as a bio piracy expedition, the Convention lacked the mechanisms to enforce its provisions.

The technologically advanced northern hemisphere has been accused by the biodiversity rich southern hemisphere of plundering the south of its biological diversity without any form of compensation or formal agreement for the same. These become inaccessible to the donor country by patents and other means of protection.[31]

The Nagoya Protocol of the CBD was entered into in the year 2010 to attempt and address the perceived shortcomings of the convention it made provisions for access and benefit sharing (ABS).

[27] Hargen, (note 2) p. 427

[28] Roht-Arriaza N, The Biotech Controversy of seeds and shamans; The appropriation of the scientific and technical knowledge of indigenous local communities , 17 Mich J intl. Law , (1996) 919

[29] Shawn N. Sullivan, Future, Plant Physiol. (2004) 10.

[30] www.captainhookawards.org accessed 20/10/2012

[31] www.captainhookawards.org Ibid

Van Den Hark states that the position of the developed world remains that access to PGRs must remain free and available to all[32] but it offers no concrete solutions to address the issue of bio piracy. This problem has continued even after the adoption of the CBD as illustrated by the case of the Sorcerer II expedition, which undertook a large-scale harvest of microbial species from territorial waters around the world and has been vilified as an act of bio piracy.[33]
Within Kenya, such instances of alleged bio piracy have also occurred (Heuer, 2004)[34] one being the appropriation of extremophile bacteria from Lake Bogoria which found commercial use and was profitable for the patent holders.

Schutter concluded that Under UPOV, there is nothing stopping a bio-prospector from acquiring an indigenous variety, taking it to another country and patenting the results of his research and development including biotechnological processes.[35]

The arguments for a sui generis system in Kenya were eloquently put forth by Prof. Kameri-Mbote particularly the point that the global patent system was not suitable for the African context where communal ownership of resources is the norm as opposed to the exclusionary nature of the patent system, hence the need for a sui generis system that takes into account the rights of the community, farmers and breeders. [36]

[32] Van Den Hark A., The use of plant genetic resources in plant breeding; responding to challenges of a changing world : the role of new plant varieties and high quality seed in agriculture(2009)UPOV Publication no. 354(E)p.62 last accessed 5/10/213

[33] Rimmer M., The Sorcerer II expedition: intellectual property and bio discovery, Marquarie Journal Of International and Comparative Law vol.6 147(2009)www.ssrn.com accessed 20/ 11/2012

[34] Heuer Sarah, The Lake Bogoria Extremophile: A Case Study (2004) smheuer@iastate.edu accessed 20/11/2012

[35] Schutter,O, The Right of Everyone to Enjoy the Benefits of Scientific Progress and the Right to Food: From Conflict to Complementarity CRIDHO Working Paper 2011p.13

[36] Patricia Kameri-Mbote, community, farmers' and breeders rights in Africa, UoNLJ (2003)p.120

At the time of making this argument, the issues of protection of indigenous plant genetic resources were not recognised as issues in which every citizen had a stake. These rights, particularly rights of the community and farmers were not recognised in any legal framework.[37]

Prof Sihanya observed that with the promulgation of the Constitution of Kenya in 2010, Intellectual Property rights including rights in indigenous plant genetic resources were recognised as property[38], which vests in the people of Kenya worthy of legislation specifically aimed at protecting them.

The phrase Native plants was described by Norcini as a plant species that has existed in an area for an extended period of time[39] and the amount of period which ought to have lapsed has not been quantified or any standard set. However, in the United States, Florida Statute 58-40.00[40] defined a plant species as being presumed to be native if it existed in the area prior to European contact, which took place about 1500AD.

The same argument can be used for Kenya in declaring any plant that existed prior to European colonization and settlement, which took place in the late 1800s as being native to Kenya.

The agreement on the Trade Related Aspects of Intellectual Property rights is the most recent and most comprehensive international agreement on intellectual property. For the first time it has been recognised that the issue of intellectual property is closely related to trade.[41] The agreement is a minimum standards agreement, which allows the members to enact higher levels of protection if the

[37] Ibid(note47)p.120

[38] Sihanya B Constitutional system: preliminary thoughts, Science and Technology in East Africa, 2010

[39] Norcini Jeffrey G., Native Plants, Publication No.ENH 1045, University of Florida IFAS extension, www.edis.IfaS.uflo.edulast accessed 4.5.2013

[40] Ibid p.1

[41] Preamble, Agreement On Trade Related Aspects Of Intellectual Property Rights

minimum standards set in the agreement are observed.[42] According to Prof. Blakeney,[43] a developing country is probably is most suited by adopting minimum compliance with TRIPS which requires at least some form of sui generis protection for plants although there is the possibility that a number of nations with similar agricultural conditions could combine their markets in some way that encouraged private investment.

The AU Model Legislation For The Protection Of The Rights of Local Communities, Farmers And Breeders And For The Regulation Of Access To Biological Resources is a model law enacted by the African Union in the year 2000. Its stated objectives included to recognise, protect and support the inalienable rights of local communities including farming communities over their biological resources, knowledge and technologies and to recognise and protect the rights of breeders.[44] This model law despite proposing a workable solution for African nations in relation to their biological assets it has not been widely adopted and remains a model law. Prof Kameri-Mbote has previously addressed this issue and has stated that the AU model is a document that African countries ought to borrow from in developing a protection system for their plant genetic resources however at the time of her paper, the new constitution had not been enacted. The Constitution has created a mechanism by which communities can directly participate and manage their affairs while sharing national resources.[45] These recent developments make this is a topic worthy of re-examination.

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[42] Ibid article 1

[43] Blakeney M, Plant Variety Protection, International Agricultural Research, and Exchange of Germplasm: Legal Aspects of Sui Generis and Plant Regimes, Intellectual Property Management in Health and Agricultural Innovation (2007) PIPRA Vol. I P. 411

[44] The Au Model Legislation For The Protection Of The Rights Of Local Communities, Farmers And Breeders And For The Regulation Of Access To Biological Resources (2000) AU

.[45] The Constitution N.10, Chapter 11

The Drahos observed that many farmers in developing counties cultivate minor food crops such as sorghum, millet and indigenous vegetables that enable them to meet their nutritional needs much better than if major commercial food crops such as wheat, rice and maize alone are cultivated.[46] Therefore, Easton Et al observed that there is a legitimate fear that Plant Varity Protection may contribute to a trend whereby traditional diverse agro-ecosystems, containing a wide range of traditional crop varieties, are replaced with monocultures of single agrochemical-dependent varieties, with the result that the range of nutritious foods available in local markets becomes narrower.[47]

Verma in contemplating the right to food and Intellectual Property concluded that Farmers are critical in ensuring food security and biodiversity as they preserve, conserve, and maintain plant genetic resources.[48]

In legislating for the protection of indigenous seeds and varieties, it is necessary to understand the converges as well as rights the points of divergence between the farmers rights and intellectual property rights such understanding of the two concepts is necessary to be able to design and craft legislation that would balance the interests of commercial breeders and those of the farmers and custodians of indigenous seeds and varieties.

1.6 Objectives of the Research

This study seeks to understand the provisions of the various international treaties governing the exchange of genetic resources and whether the current Seeds and Plant Varieties Act has sufficiently provided protection and recognition of

[46] Drahos P, The Relationship Between Intellectual Property Rights (Trips) And Food Security, Queen Mary Intellectual Property Research Institute, (2004) 59P.61

[47] Easton P and Ronald M, Seeds of Life: Women and Agricultural Biodiversity in Africa,(2000) IK notes No. 23 www.IDRC.org last accessed 4.6.2013

[48] Verma S.K , Right To Food And Intellectual Property Rights : Farmers Rights P. 11

plant genetic resources that do not conform to the requirements of the UPOV convention these include farmer selected varieties and indigenous varieties. The study will seek to establish whether the current framework is sufficient to realise the intent of the Constitution and whether there is, need to adopt more aggressive forms of protection and explore means of addressing the constitutional requirement for recognising and protecting the ownership of indigenous seeds and plant varieties.

1.7 Hypotheses

1. The Seeds and Plant Varieties Act does not in its current state satisfy the current constitutional requirements under article 11(3) (b).

2. There is need for specific legislation to recognise and protect plant genetic resources not provided for under the UPOV union.

1.8 Research Questions

1. Should Kenya seek to enact Sui generis protection for their plant varieties particularly indigenous plant varieties to ensure benefits to the communities where the PGRs of such varieties are collected from, in the event of the same being used in other countries?

2. What kind of legislation does Kenya need to enact to satisfy the requirement of article 11(3) (b) of the Constitution?

1.9 Methodology

The research will undertake a desk review. Primary sources will include the Constitution, National Legislation, International treaties and conventions and National policy papers.

The research will rely heavily on Secondary sources of information including the sources listed herein below especially as written in the areas of intellectual property in plant genetic resources, the law and agricultural innovation and farmers' rights and include Textbooks, Articles and publications by various organisations and scholars, Internet sources, Newspaper, and Magazine articles.

1.10 Chapter Break Down

Chapter 1 Introduction

This chapter is an introduction to the research and contains the proposal, hypothesis and the problem to be tackled by this project

Chapter 2 The Implications of the Constitutional obligations on Plant Variety Protection in Kenya.

This chapter Shall seek to understand the implications of the obligation to recognise and protect indigenous seed and varieties on the current legal framework.

Chapter 3 **Intellectual Property and Indigenous Farmer Developed Varieties**

This chapter shall explore the relationship between Intellectual property and Farmers rights if at all the two converge.

Chapter 4 **Comparative Analysis of Native and Indigenous Plant Variety Protection in Different Countries.**

This chapter shall examine how other countries have addressed this challenge and the solutions they have developed and whether they are applicable in Kenya.

Chapter 5 **Findings, Conclusions and Recommendations**

This chapter shall enumerate the results of the research, the gaps identified in the legislation a and possibly propose the way forward.

2.0 THE IMPLICATIONS OF THE CONSTITUTIONAL OBLIGATIONS ON PROTECTION OF INDIGENOUS SEEDS AND PLANT VARIETIES IN KENYA.

2.1 Introduction

Intellectual property creates property rights in a vast and diverse area. These include in art, inventions, processes, pharmaceuticals products as well as biological matter.[49] The rights that are created offer the creator exclusivity in working and benefiting from his invention. Until the Constitution of Kenya 2010 was enacted, there were no provisions to distinguish between intellectual property and other property under the Constitution.[50] Issues touching on Intellectual Property law were dealt with through other Acts such as the Industrial Property

[49] Bentley L And Sherman Intellectual Property Law, 3rd ED, (2009) P. 4

[50] Article 75, Constitution Of Kenya (1963) (Repealed)

Act. Plant varieties and products of biotechnological processes are however not patentable under the Industrial property Act.[51]

Intellectual property rights are now specifically distinguished and protected by the Constitution of Kenya.[52] Therefore, it is positive progress for Kenya to have intellectual property rights enshrined in the Constitution.

In order to understand the implications of the constitutional obligations to enact legislation to recognize and protect the ownership of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by the communities of Kenya, it is necessary to examine the legal framework that exists in Kenya. This will clarify whether the obligation can be satisfied by making amendments on existing law or whether fresh legislation is required. Further it is necessary to also understand what kind of effect legislation may have on the obligations that that Kenya already has under international conventions and treaties.

2.2 Implication of the Constitution on the Legal Framework for Plant Variety Protection

2.2.1 The Seeds and Plant Varieties Act CAP 326

The national legal framework for Plant Variety Protection is set out in the Seeds and Plant Varieties (SPV) Act which domesticate the UPOV plant variety protection system. While this Act was assented to in 1972 and commenced in 1975[53], the provisions for Plant Variety Protection were only enacted in 1994 with the passage of the Seeds and Plant Varieties (Plant Breeder's Rights) Regulations. The system was operational a few years later with the establishment of the Plant Variety Rights Office in KEPHIS in 1997.[54]

[51] Section 26(A) The Industrial Property Act Chapter 509 Laws Of Kenya

[52] The Constitution (n.10)Article 260

[53] The Preamble, Seeds And Varieties Act Cap 326

[54] Legal Notice No. 482/1994, Government Printers

The SPV Act provides for the procedure and guidelines for the release of plant materials for commercialization through the seed certification system which is independent of the plant variety protection system. The two issues are irretrievably connected and the purpose of granting Plant Breeder's Rights is to allow the breeder exclusivity to own the intellectual property and benefit from his labour [55] therefore the provision that seed certification can only be carried out by a certified breeder is a hindrance to a farmer's ability to work and benefit from his invention.

The objective of this Act is indicated in its preamble which is that it is established to confer power to regulate transactions in seeds, including provision for the testing and certification of seeds; for the establishment of an index of names of plant varieties; to empower the imposition of restriction on the introduction of new varieties; to control the importation of seeds; to authorize measures to prevent injurious cross-pollination; to provide for the grant of proprietary rights to persons breeding or discovering and developing new varieties; to establish a national centre for plant genetic resources; to establish a Tribunal to hear appeals and other proceedings; and for connected purposes .

The SPV Act was amended in 2012 and indications from the amendments it is intended to conform to the provisions of 1991version of the UPOV union.

Plant Breeder's Rights are a patent like type of rights used to protect plant varieties, which are granted, by the state to protect the proprietary rights of plant breeders with regard to the breeding and discovery of new plant varieties.[56] The SPV Act provides for the grant of plant breeders rights and circumstances under which the rights can be granted[57] and the period of protection.

[55] Kameri-Mbote Patricia, (n. 36) P.122

[56] Bentley L And Sherman B(n.49) P. 4

[57] Seeds And Varieties Act (n.53) Section 17

The nature of rights granted include the exclusive right to do, and to authorize others to produce reproductive material of the variety for commercial purposes, to commercialize it, to offer it for sale, to export it, to stock it for any of these purposes and to have any or all of their activities performed.[58]

Protection extends not only to the variety but also to the name of the variety and an infringement of the name is an infringement on the rights of the owner as stated under this Act.[59] Infringements on a plant breeders rights is actionable by way of suit seeking relief by way of damages, injunctions, account or otherwise shall be available. This clause is similar to that in the Copyright Act and The Industrial Property Act.[60]

The amendments to Kenya's Seeds and Plant Varieties Act made in 2012 have harmonised the Kenyan Act with the provisions of UPOV 1991 and this may indicate that Kenya intends to join the 1991 version. UPOV 1991 has been criticized as not being responsive to the needs of developing countries and that for many developing countries the ratification has been made compulsory by trade agreements with Organisation for Economic Co-operation and Development OECD .[61]

2.2.1.1 Justification Plant Breeder's Rights

The formal development of a new variety is a lengthy and costly undertaking.[62] When the breeders are allowed to control the commercialisation of the variety they have chance to recoup costs of their plant breeding investment.[63] Therefore,

[58] Seeds And Varieties Act (n.53)Section 20

[59] Ibid Section 21

[60] Copyright Act, Industrial Property Act

[61] Meienberg F, Infringement Of Farmers' Rights 2010/04, Focus, Page 156-158

[62] Hansen S. Issues And Options For Traditional Knowledge Holders In Protecting Their Intellectual Property; Intellectual Property Management In Health And Agricultural Innovation(2007)PIPRA Vol.1 P.1525

[63] Kesan J, The Statutory Tool Box: Plants Intellectual Property Management In Health And Agricultural Innovation(2007)PIPRA Vol.1 P.371

the justifications for Plant Breeders' rights are anchored mainly in the Utilitarian economic theory.

The protection of plant varieties is also justifiable as an incentive to research and breeding and it allows countries to access internationally bred materials, which would not otherwise be available.

The same arguments can be applied to native developed varieties. However, they are not considered as plant varieties rather as landraces which are a primitive form of plant varieties and not protectable.[64]

2.2.1.2 The Test for Grant of Plant Breeder's Rights

The variety must be new, distinct, and uniform and stable (NDUS).[65]A variety is considered new if its propagating material, the whole plant or any harvested material from it has not been sold or offered for sale with the agreement of the owner in Kenya for more than one year before the date of application or outside of Kenya for more than 4 years before the application date. In the case of woody plants, it is for more than 6 years. The owner is expected to have taken all reasonable precautions to ensure that no plant of the new variety or any part of it is sold earlier than the time allowed.

The variety must be distinct from all common known varieties existing at the date of application. The plant variety is required to be uniform there is an expectation that the variety retains its uniformity and stability after repeated propagation. Even after multiple propagations, the variety retains its unique qualities.

[64] Roht-Arriaza, (n.28)p. 919

[65] Seeds And Varieties Act(n. 53) Fourth Schedule Part II, Rule 1(1)

2.2.1.3 National Plant Genetic Resources Centre

An important provision of the SPV Act is the establishment of a national plant genetic resources centre under section 27A of the Act. This is an amendment enacted in 2012. The centre has among others the stated function of protecting the ownership of indigenous seeds and plant varieties, their genetic and diverse characteristics associated indigenous knowledge and its use by the communities of Kenya. This echoes the obligation created by the Constitution however, without further specific legislation, this objective may not be capable of implementation.

According to Prof Sikinyi, the source of most of the planting materials and seed bought, multiplied and marketed by the informal seed sector is unknown these not formally bred materials rather such materials are from the informal and indigenous sources include farm-saved seed, farmer-to-farmer exchange and local markets.[66]

2.2.2 Union for Protection of New Plant Varieties

The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization based in Geneva, Switzerland. UPOV is the French acronym for the "Union Internationale pour la Protection des Obtentions Végétales" which is the name of the organization that established the International Conv0ention (called the UPOV Convention).[67]

There are four revisions of the UPOV Convention, the original Act adopted in 1961 and three revisions in 1972, 1978 and 1991, each of the revisions have progressively increased the strength of protection of breeders' rights.[68]

[66] Sikinyi E O., Kenya Seed Sector Baseline Study. (2010) Www.Afsta.Orglast accessed 2.6.13

[67] www.Upov.Int Accessed 13.7.13

[68] Sikinyi Supra Accessed 13.7.13

To be eligible for protection, all four versions of the UPOV Convention require that a plant variety be new, distinct, uniform and stable (the NDUS criteria).[69]
From these criteria, native varieties and farmer-bred varieties might not qualify for protection, as they would not be able to meet these criteria.

The TRIPS Agreement does not impose any obligation on a WTO member country to join UPOV;[70] it only makes it mandatory for countries to develop a legal regime towards the protection of plant varieties where one way of protection is by developing an effective sui generis system.[71] Because UPOV, which was already in existence when the TRIPS Agreement was adopted, provides a sui generis plant variety protection model, it acted as a ready-made option for many countries endeavouring to develop domestic plant variety protection regimes. Many countries joined UPOV and modelled their domestic plant variety protection regimes as per the UPOV conventions (1978 or 1991).
Both the versions of UPOV recognize narrow farmers' privileges such as the right to only re-use propagating material such as seeds from the harvest of the previous year and freely exchange seeds of the protected plant variety but do not recognize positive rights of the farmers, such as the right to sell the seed, right to protect their varieties or right to share benefits with the breeders as the donors of the germplasm.[72] UPOV does not require the breeder to disclose the source of the materials used to breed the new variety.[73]

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[69] Lesser W, Plant Breeder's Rights: An Introduction, Intellectual Property Management in Health and Agricultural Innovation (2007) PIPRA Vol. I P.383

[70] Ranjan P Recent Developments In India's Plant Variety Protection, Seed Regulation And Linkages With UPOV's Proposed Membership ,The Journal Of World Intellectual Property (2009) Vol. 12, No. 3, Pp. 219–243 P.220 www.Wipo.Int Accessed 13.7.13

[71] TRIPS (N. 41)Article 27 (3)B

[72] Rangnekar D, Tripping In Front Of UPOV: Plant Variety Protection In India Social Action - 48(4) (1998) p: 432-451

[73] Dutffield G, Food, Biological Diversity And Intellectual Property: The Role Of The International Union For The Protection Of New Varieties Of Plants (UPOV) Global Economic Property Issue, Paper Number 9(2011)P.8

Member countries have designated offices to implement plant variety protection (PVP) and charge a fee for variety testing, and well as various other fees, including an annual fee for plant variety protection. In Kenya, this function is carried out by the Kenya Plant Health Inspectorate Service KEPHIS established under The State Corporations Act Laws of Kenya.

Parties may withdraw from UPOV membership at any time: The denunciation takes effect at the end of the calendar year following the year in which the Secretary-General (Art. 39 of UPOV Convention 1991 Act) received the notification.

With the World Trade Organization's Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS), and a growing number of trade agreements obligating developing countries to join UPOV, the pressure for developing countries to join the UPOV Convention is mounting.[74]

UPOV 1991 extends the scope of the breeders' rights beyond anything contemplated in the previous versions. It limits the right of farmers to use seed harvested from protected varieties for private and non-commercial purposes, which is referred to as farmers' privilege.

The State party must take measures to safeguard the legitimate interests of the breeder, which may be interpreted as to ensure that the breeder receives equitable remuneration.[75]

[74] Ibid P.12

[75] Blakeney (n.43) P.383

Anyone using a PVP variety in breeding has to make major changes or else the new variety will not be considered new, but it will be considered an essentially derived variety (EDV), falling to the ownership of the first breeder. The idea, according to UPOV, is to discourage small changes in the variety's characteristic from being passed off as true innovation.

2.2.2.1 The Efficacy of the UPOV in Protecting the Indigenous and Communal Plant Varieties

Industrial countries and South Africa held the talks on the 1991 UPOV Act. The situation and necessities of the global south were not taken into account. Consequently, a protection system was created for the industrialised agricultures of the rich nations, not the poor ones.[76]

A criticism of the UPOV system is that the line between patents and PBRs has been breached while the scope of protection granted by PBRs been made comparable to patents[77] thus granting monopoly rights on intellectual property in disregard to the contributions of farmers in the area of variety development.[78]

Francois Meienberg of the Berne Convention argues that UPOV strengthens breeders' rights, but misses the big picture that must include food security, development and biodiversity. Coherent legislation must always consider how a regulation will affect other areas but UPOV still assumes that "more protection" always has a positive impact on a national economy. This approach ignores overarching objectives for developing countries such as the right to food.[79]

[76] Meienberg F, (n.61) p.157

[77] Rangnekar D, (n.72)P. 432

[78] Cullet P, Plant Variety Protection in Africa: Towards Compliance with the Trips Agreement School Of Oriental and African Studies. Journal Of African Law, 45, 1 (2001), 112

[79] Meienberg (n.61) p.157

A discussion is ongoing between breeders regarding definition and identification of Essentially Derived Varieties (EDV), a concept that was introduced by UPOV91 and narrowed the scope of the breeders' exemption. Important breeding services of farmers, however, have not been taken into consideration by UPOV91.[80]

Farmers, by selection breeding, adapt varieties to local circumstances and changing climates.[81] The scope of essentially derived varieties provisions impact adaptation and the dissemination of these adapted varieties have a direct impact on food security, agricultural biodiversity and sustainable use of genetic resources. Farmers' population varieties, also called landraces, in contrast, are neither uniform nor stable, as they possess a diverse genetic potential, enabling adaptation of their performance to various conditions and development with each generation. Such varieties are also not considered prior art if they are not well documented, and IPRs can be granted to breeders if they render landraces or traditional varieties uniform and stable.[82] As farmers' varieties and landraces tend not to be heterogeneous and possess inherent variability, countries that adhere to or mimic UPOV denying farmers an opportunity of authorial recognition.[83]

That the UPOV system was designed with and for the European plant, breeding community does not automatically make it unsuitable elsewhere. Nevertheless, adaptations to the very different economic, social, agricultural, and environmental conditions of its new members are probably necessary. Interestingly, India, Thailand and Malaysia have PVP systems that are based on the 1978 Act, but diverge from it, such as by conditionally allowing farmers' sale of seed, and by allowing registration of farmers' varieties.[84]

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[80] Blakeney (n.43) I P.411

[81] Association For Plant Breeding For The Benefit Of Society , The UPOV Convention, APBREBES Press Release, Geneva 19 Oct 2011seeds.Iskra.Net/Content/UPOV-Convention Accessed 20.5.13

[82] Kesan (n.63) P.374

[83] Meienberg (n.61) p.158

[84] Dutffield (n.73)p.15

Another alternative to the UPOV system would thus be an international system that is farmer friendly and thus better suited to countries with large numbers of small-scale farmers who also engage in plant breeding.

The African model law discussed above would be such a model, as would the proposed Convention of Farmers and Breeders (COFAB) proposed by India's Gene Campaign.[85]

2.2.2.2 A Comparison of UPOV 1978 and UPOV 1991

Act	UPOV 78	UPOV 91
Protects	Varieties of selected genera as listed	Varieties of all genera and species
Requires	Novelty, Distinctness, uniformity, stability	Novelty, distinctness, uniformity, stability
Disclosure	No	No
Rights	Prevents others from producing commercially	Prevents others from producing or reproducing, conditioning for propagation, offering for sale, selling or other marketing, importing, exporting, stocking for any purposes detailed above
Exemptions	Exemptions for breeding and for farmers to save own seed mandatory	Exemption for breeding except where new variety is essentially derived; optional farmers' exemption and only for use on same farm and subject to a license and/or fee, private use and research

[85] Ibid P.16

Duration of Protection	15 years for most crops(20yrs for grapevines & trees	20 years for most crops (25 years for grapevines and trees)
Double Protection	Protection by both PVP and Patent not allowed	Protection allowed by both patents and PVP.

Source: UPOV1978, 1991,

2.2.3 Agreement on Trade Related Aspects of Intellectual Property (TRIPS)

In 1986 the Uruguay round of GATT negotiations were initiated and they included Trade Related Aspects of Intellectual Property in the agenda.[86] The agreement brought intellectual property rights within a broader framework. The negotiations were concluded in 1993 and became part of the World Trade Organisation agreement signed in 1994.[87] The agreement in Article 27 allows members an option of either providing patent protection for plant varieties or creating sui generis protection or any combination thereof.[88]

In keeping with the minimum standards, the nature of the agreement[89] therefore does not specify what kind of plant variety protection a member ought to have rather it only requires a protection mechanism be in place. Neither UPOV nor TRIPS preclude non-UPOV members from adopting non-UPOV PVP regimes.[90]

Trade Related Intellectual Property Rights (TRIPS)' offers protection in the area of patents, trademarks, industrial design, copyrights and related rights are debatable.[91] This debate is largely due to the different stages of economic development of the member states.

[86] Bentley L, Sherman B, (n.49) P. 7.

[87] Bentley L , Sherman B(n.49) P. 7

[88] TRIPS (n.41) Art. 27(3)(B)

[89] Trips (n.41) Preamble

[90] Dutfield (Note 73) P. 8

[91] Blakeney , (n.43) P.411

TRIPS requires protection for all inventions, products, processes in all fields of technology subject to the tests of novelty, inventiveness and industrial applicability.[92] Under TRIPS, if a country wishes to exclude plant varieties from patent protection, it must provide a sui generis system that is effective for the protection of biodiversity. Plant varieties are to be protected through patents, a sui generis system or both.[93] Members of WTO are not bound by principles of UPOV as long as the system of protection they have chosen to adopt is sufficient for protection of plant varieties.[94]

According to Prof. Blakeney,[95] a developing country is probably is most suited by adopting minimum compliance with TRIPS which requires at least some form of sui generis protection for plants although there is the possibility that a number of nations with similar agricultural conditions could combine their markets in some way that encouraged private investment.

It is interesting to note that the TRIPS Agreement does not refer to the UPOV Convention similar to that of the Berne Convention,[96] the Paris Convention[97],the Rome Convention,[98] and to the Treaty on Intellectual Property in Respect of Integrated Circuits,[99] in Article 3 of the TRIPS Agreement.[100]

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[92] Ibid P.411

[93]TRIPS (n.41) Article 27.3 (B)

[94] Ranjan (n.70) P.220

[95] Blakeney (Note .43)P.411

[96] Berne Convention For The Protection Of Literary And Artistic Works, 9 September 1886, As Last Revised At Paris, 24 July 1971 (Amended 1979),

[97] Paris Convention For The Protection Of Industrial Property, 20 March 1883, As Last Revised At Stockholm, 14 July 1967,

[98] International Convention For The Protection Of Performers, Producers Of Phonograms And Broadcasting Organizations, 26 October 1961,

[99] Treaty On Intellectual Property In Respect Of Integrated Circuits, 26 May 1989,

[100] TRIPS Agreement.

Thus, it is arguable that WTO Members have the discretion to choose their own legal system for the protection of plant varieties if an effective plant protection system that can best serve their local peculiarities and development policies is in place.

2.2.4 The Convention on Biodiversity

The Convention on Biological Diversity (CBD) was created in the year 1992 for providing a structure for sustainable use of the biological diversity and plant genetic resources. The convention was concerned among other things, with the issue of access and benefit sharing.[101]

One of the objectives of the convention is to conserve the biological diversity, using natural resources in a sustainable, fair and equitable sharing of benefits derived from the use of genetic resources. The final objective is especially important for developing countries such as Kenya and encourages access and benefit sharing.[102] The convention further recognises the sovereignty of states over their biological diversity.

In order to ensure that the objectives of the CBD were actually achieved, in the year 2002, the Bonn on access to genetic resources and fair and equitable sharing of the benefits arising out of their utilisation were adopted. The guidelines are bases on the principles of voluntary nature of exchanges, ease of use, practicality, complementarily, evolutionary approach, flexibility and transparency.

The guidelines are complimentary and do not conflict with other treaties that contain provisions on access and benefit sharing such as the FAO International treaty for plant genetic resources for food and agriculture and other WIPO

[101] Convention On Biodiversity

[102] The Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing Of the Benefits Arising Out Of Their Utilisation.

treaties.[103] Most importantly, the guidelines provide that parties ought to designate a national focal point for access and benefit sharing to operate as a clearinghouse for all ABS transactions.[104]

2.2.5 The International Treaty on Plant Genetic Resources For Food and Agriculture (ITPGRFA)

Plant genetic resources were freely exchanged as global community heritage of humankind and this principle was formally embodied in the FAO undertaking on the Plant Genetic Resources for Food and Agriculture undertaking adopted in 1983.[105]

The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) was adopted at the Thirty-first session of the Conference of the Food and Agriculture Organization of the United Nations (FAO) in Rome on the 3rd of November 2001. It entered into force on the 29th of June 2004, and is the first legally binding agreement exclusively pertaining to the management of plant genetic resources for food and agriculture. Its objectives are the conservation and sustainable use of these resources,

The preamble of the treaty acknowledges farmers rights and provides the justification for the existence of farmers rights by stating " that the past, present and future contributions of farmers in all regions of the world, particularly those in centres of origin and diversity, in conserving, improving and making available these resources, is the basis of Farmers' Rights".[106]

It goes further to state that "the rights recognized in this Treaty to save, use, exchange and sell farm-saved seed and other propagating material, and to

[103] Ibid ,Article 10

[104] Ibid ,Article 13, 14, 15

[105] www. Plant Treaty .Org Accessed 13.7.13

[106] Preamble, The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) www. Plant Treaty .Org Accessed 13.7.13

participate in decision-making regarding, and in the fair and equitable sharing of the benefits arising from, the use of plant genetic resources for food and agriculture, are fundamental to the realization of Farmers' Rights, as well as the promotion of Farmers' Rights at national and international levels."

Article 9 of the treaty elaborates farmers' rights and places a duty upon the contracting parties to recognise and protect them

Article 9 - Farmer's Rights

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

9.2 The Contracting Parties agree that the responsibility for realizing Farmer's Rights, as they relate to plant genetic resources for food and agriculture, rests with national governments. In accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to its national legislation, take measures to protect and promote Farmer's Rights, including:

(a) Protection of traditional knowledge relevant to plant genetic resources for food and agriculture;

(b) The right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and

(c) The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.

9.3 Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.

2.2.6 African Union Model Law

Having noted the challenges presented by the UPOV system, few alternative models for plant variety protection exist which Developing countries to work with. One of these is the African Model legislation for the Protection of the Rights of Local communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources[107], which adopts a sui generis regime based on UPOV 1991, but incorporates Farmers' Rights and combines these with some of the access principles of the CBD[108].

The African Union Model Legislation For The Protection Of The Rights Of Local Communities, Farmers And Breeders And For The Regulation Of Access To Biological Resources is a model law enacted by the African Union in the year 2000 with the stated objectives that included to recognise, protect and support the inalienable rights of local communities including farming communities over their biological resources, knowledge and technologies and to recognise and protect the rights of breeders.[109] This model law despite proposing a workable solution for African nations in working their biological assets it has not been widely adopted and remains a model law.

It's objectives are stated as :

To Recognize and protect the inalienable rights of local communities including farming communities over their biological resources,

To recognize and protect the rights of breeders.

[107] Drahos (n.46) p. 59

[108] Drahos (n.46) p. 62

[109] The Au Model Legislation (n.44)

To provide an approximate system of access to biological resources and community knowledge.

To promote appropriate mechanism for a fair and equitable sharing of benefits from biological resources.

2.3 Indigenous Seeds and Varieties Protection in Kenya

Kenya does not have legislation for the following categories Legislation on Farmers' Rights and community rights related to crop genetic resources Legislation on conservation and sustainable use of crop genetic resources Traditional knowledge legislation, Bio-prospecting legislation with access and benefit sharing provisions.[110] Kenya became one of the first developing countries to have PVP legislation when it passed the Seeds and Plant Varieties Act, which entered into force in 1975.

The seeds and plant variety act in section 15 provides protection for domestic varieties by controlling imports of potentially harmful seeds and also controls injurious cross pollination. in sub section 15(1)(a) states that "If it appears to the Service that it is necessary or expedient that he should be able to exercise the powers conferred by this section for the purpose of preventing the importation into Kenya of seeds which, if used as reproductive material in Kenya, will or may cause deterioration of domestic types of varieties of plants by cross-pollination, physical admixture or other means however, the definition of a domestic variety is not provided for and neither is a clarification as to whether this includes indigenous plant varieties.

Further, the provision seems to have been enacted for purposes of phytosanitary rules not for the protection of indigenous varieties. In Kenya, plant variety protection is only provided under the seeds and variety act which is compliant

[110] The laws of Kenya , Government printers

with the UPOV union.[111] The union does not recognise or offer protection for indigenous plant varieties.[112]

The Seed and Plant Varieties Act it has been noted may constitute a threat to indigenous varieties as it tends to promote improved and uniform varieties and neglect of traditional varieties.[113] In Kenya, mainly farmers have conserved most landraces and old cultivars.

The Convention for Biological Diversity country report for Kenya observed that while the Government normally encourages use of improved varieties whenever available in order to ensure sufficiency in food products, there are where farmers feel that the traditional variety is superior to the improved variety, they insist on using it and that local people value indigenous plant diversity.[114]

The National Museums of Kenya (NMK) is at the forefront of conserving and protecting indigenous knowledge and is responsible for ex situ conservation of rare, endangered and endemic species as well as other useful plants that are not targets of the other institutions.[115] The NMK has established The Kenya resource centre for indigenous knowledge (KENRIK). KENRIK is a section within the Centre for Biological Diversity (CBD) department of the Museums of Kenya. It was established in 1995 to document and preserve the endangered and or threatened indigenous knowledge held by different communities in Kenya.[116]

[111] www.UPOV.int

[112] Kesan (n.63)P.375

[113] FAO country report Kenya

[114] NEMA and UNDP (Note 88)

[115] www.National museums of kenya.org

[116]www.National museums of kenya.org

2.4 Constitutional Provisions on Intellectual Property And Indigenous Varieties

The Constitution defines property to include intellectual property as well. [117] The Chief Justice of the Republic of Kenya has already made practice and procedure rules for enforcement of the bill of rights. [118]

Article 40 of the Constitution provides for the right to property in general with article 40(5) specifically providing an obligation to the state to support, promote and protect the intellectual property of the people of Kenya.[119] The Constitution not only requires that the legislation be created to protect plant genetic resources; such legislation must also ensure equitable benefit sharing for the communities.

John Locke theorised that one of the main justifications for Intellectual property is that the labour invested in goods upheld in common results in the privatisation of the goods to enable the labour expended be rewarded.[120] By this argument, farmers and communities who have over generations saved selected, improved and developed new varieties have expended and invested their labour in the plant genetic resources[121] and therefore under Lockean principles, ought to benefit from their labour.

[117] Article 260 The Constitution Of Kenya (2010)

[118] The Constitution of Kenya (Protection of Rights and Fundamental Freedoms) Practice and Procedure Rules 2013. Kenya Gazette Supplement No. 95, 28th June 2013

[119] The Constitution (n.10)Article 40

[120] Dias, (N.16) P.81-82

[121] Roht-Arriaza (note 28)) P. 919

The Article 40(5) provides that the State shall support, promote and protect the intellectual property rights of the people of Kenya.[122] Kenya is an agriculture-based economy with the majority of the farmers being smallholder and subsistence farmers.[123] The farmers are involved in breeding plant varieties. Plant breeding refers to the conscious selection of specific traits in order to create offspring, which enhances qualities better than the original varieties.[124] The western formal plant breeding does not recognise the activities carried out by farmers as legitimate plant breeding and the resulting farmer varieties landraces are often considered primitive.[125]

Further as Prof. Kameri-Mbote argues communal right holdings are viewed as not any one individual's possession rather as part of a habitat.[126] The language of intellectual property does not recognise indigenous and native varieties bred by farmers over time.[127] Informally bred varieties cannot be protected as they may not pass the test of Novelty, distinctness, uniformity and stability[128] nor can a single owner be identified.

With the aim of addressing this oversight, the Constitution contemplated the kind of support, promotion and protection that ought to be accorded by the state in article 11(3) (b) of the Constitution[129] which provides that Parliament shall enact legislation to recognize and protect the ownership of indigenous seeds and plant

[122] The Constitution (n.10)Article 11(3)(B)

[123] www.Kilimo.go.Ke/Index.

[124] Hargen (n.5) p. 427

[125] Roht-Arriaza (note 28)) P. 919

[126] Kameri-Mbote (n.36)P.120

[127] Kameri-Mbote P, Intellectual Property Protection In Africa: An Assessment Of The Status Of Laws , Research And Policy Analysis On Intellectual Property Rights In Kenya

[128] Seeds And Varieties Act (n.53) Schedule 4 Part 2 1. (1)

[129] The Constitution(n.10) Article 11(3)(B)

varieties, their genetic and diverse characteristics and their use by the communities of Kenya.[130]

This created an obligation on the legislature to create appropriate laws to ensure that the state is providing the requisite support, promotion and protection of intellectual property that is sufficient for the indigenous people and communities. It goes further to specifically highlight the area in which legislation is required which is in the area of plant genetic resources and their use by various communities in Kenya. The timeline provided for the implementation of this provision is 5 years from the date of promulgation.[131]

This obligation is emphasized in Article 69(1) (c) and (e) of the Constitution which provides that the state shall protect and enhance intellectual property in, and indigenous knowledge of biodiversity and the genetic resources of the communities and protect genetic resources and biological diversity. These provisions show the state's commitment to ensuring IPRs are upheld.[132]

In legislating for this protection it important to distinguish between plant variety protection and indigenous and community rights. Plant variety protection refers to the formalised intellectual property rights granted as plant breeder's rights (PBRs) which are as Prof Kameri-Mbote argues profit oriented[133]and more suitable for commercial breeders and particularly unsuitable for developing countries with large informal seed sectors.[134] Indigenous and community rights on the other hand, refer to traditional practices and knowledge and the effort to recognize the role of farmers and communities in being custodians of the plant genetic

[130] Ibid, Article 40

[131] The Constitution (n.10)Fifth Schedule As Read With Article 261

[132] Ibid Article 69

[133] Kameri-Mbote (n.36)P.120

[134] UPOV on the War Path Grain, Seedling - June 1999 www.grain.org, accessed 13.06.2013

resources by creating a legal space for farmers to maintain these traditional practices in the face of efforts, by both states and corporations, to enclose this space and occupy it with hybrids, patented varieties and corporate agents while outlawing the traditional practices[135]. Regine Andersen also concludes, "Farmers' rights represent a strategic instrument to create legal space within the legislative contexts in the various countries – to ensure those farmers' practices of maintaining agro-biodiversity can continue".[136]

The provisions of article 11 of the constitution is couched in such a language that it is mandatory for the state to recognize the role of science and indigenous technologies in the development of the nation and to promote the intellectual property rights of the people of Kenya. This is to be achieved by parliament legislating to ensure that communities receive compensation or royalties for the use of their cultures and cultural heritage and recognize and protect the ownership of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by the communities of Kenya.

It is the opinion of this researcher that if the provisions requiring recognition and protection are satisfied by way of legislation that confers Intellectual Property like rights to indigenous seeds and varieties to be held by the state in trust for its people, then the requirement on compensation by way of receipt of royalties shall also be met.

The need to provide this protection for plant varieties and communities is because the Kenyan public have been recognised as owners of their own indigenous knowledge and that they have a right to benefit from their indigenous seeds, and

[135] Kneen, Brewster (2009):Farmers' rights and plant breeders' rights , The Tyranny of Rights , The Ram's Horn P. 70

[136] Andersen R, Realising Farmers' Rights Under the International Treaty on Plant Genetic Resources for Food and agriculture, Summary of Findings from the Farmers' Rights Project, Phase 1 FNI Report 11/2006, The Fridtjof Nansen Institute 2006 p6

plant genetic materials in which the labour of many generations of Kenyans is invested.[137]

The constitution does not specify the form in which the benefits would take and this is again left to the discretion of Parliament to design a suitable benefits mechanism. It is this researcher's opinion that a centralised access and exchange mechanism would harmonise the any economic benefits such as royalties and in view of the fact that the befits belong to all the people of Kenya not just a collection site for instance, the current devolved revenue allocation system could be used to distribute income equitably.

The Constitutional provisions discussed herein form a good legal framework for expanding the protection of intellectual property rights in Kenya beyond the scope contemplated by international treaties and agreements and suits the native varieties, farmers and communities in Kenya.

2.9 Conclusion

From the foregoing discussion, it is clear that the UPOV system is most appropriate for formal commercial plant breeding but is most inappropriate for the objectives set out in article 11(3) (b) of the Constitution. UPOV does not recognise indigenous plant varieties nor does it address the farmers rights at all acceding to UPOV 1991 will not satisfy the spirit and intent of article 11(3) (b) of The Constitution. In legislating there will be need to take into account the obligation under TRIPS and consider the provisions of international conventions such as the CBD and ITPGRFA and the AU Model law in order to enact the most suitable law.

[137] Roht-Arriaza (n.28)919

Chapter 3 Intellectual Property and Indigenous Farmer Varieties

3.1 Introduction

Many farmers in developing counties cultivate minor food crops that enable them to meet their nutritional needs much better than if major commercial food crops such as wheat, rice and maize alone are cultivated.[138] Therefore the legitimate fear that PVP may contribute to a trend whereby traditional diverse agro-ecosystems, containing a wide range of traditional crop varieties, are replaced with monocultures of single agrochemical-dependent varieties, with the result that the range of nutritious foods available in local markets becomes narrower has been expressed.[139] In legislating for the protection of indigenous seeds and varieties, it is necessary to understand the converges as well as the points of divergence between the farmers rights and intellectual property rights. Such understanding of the two concepts is necessary to be able to design and craft legislation that would balance the interests of commercial breeders and those of the farmers and custodians of indigenous seeds and varieties.

Further, the review of the legal framework of plant variety protection in the previous chapter has demonstrated that a gap exists in the protection of

[138] Drahos (Note 46) P.61

[139] Easton (n.47) p. 23

indigenous plant varieties, which fail the test of NDUS. In order to create legislation that would satisfy the constitutional requirement it is necessary to explore avenues by which the protection for commercially bred varieties can exist with a protection regime that is suitable for communally held indigenous varieties.

Prof. Verma argues that farmers are critical in ensuring food security and biodiversity as they preserve, conserve, and maintain plant genetic resources.[140]

The following chapter seeks to understand the role if any of farmers rights in attempting to legislate to fulfil the obligation created by Article 11(3) (b) of the Constitution[141] which provides that Parliament shall enact legislation to recognize and protect the ownership of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by the communities of Kenya,[142] and whether the issue of farmers rights must be taken into account.

Brewster Kneen states that the objective of the concept of Farmers' Rights is to create the legal framework for farmers to continue with their traditional Practices in spite of states and corporations attempting to shut them out of these practices by the use of hybrids and patents and outlawing the traditional practices. Thus, Farmers' Rights are functionally a reactive claim for an exception to the capitalist laws of private property.[143]

Farmer's rights are provided for in Article 9 of the ITPGRFA.[144] They can be categorised as protection of traditional knowledge, equitable benefit sharing and participation in decision processes.[145] The treaty however does not provide

[140] Verma (n.48)P. 1

[141] The Constitution(n.10) Article 11(3)(b)

[142] Ibid, Article 40

[143] Kneen, (n.136)p.5

[144] www.FAO.org accessed 15.8.13

[145] Kameri Mbote (n.36) p. 120

a definition of farmers' rights. The farmers rights project defines farmers rights as consisting of customary rights of farmers to save, use, exchange and sell of farm-saved seeds and propagating material , their rights to be recognised , rewarded and supported for their contribution to the global pool of genetic resources as well as to the development of commercial varieties of plants , and to participate in decision making on issues related to crop genetic resources.[146] The grant of Farmers' rights is critical in providing balance that can halt genetic erosion and ensure food security.[147]

3.2 Defining Farmers Rights

The annex to the International Undertaking on Plant Genetic Resources defines Farmers' Rights as rights arising from the past, present and future contribution of farmers in conserving, improving and making available plant genetic resources, particularly those in the centres of origin or diversity.[148]

The purpose of these rights is stated to ensure full benefits to farmers and to support the continuation of their contributions.

3.2.1 Farmers Rights and Farmers Privilege

Farmer rights in the context of farmers as innovators and custodians of indigenous varieties must be distinguished from the rights of farmers to save, store. It follows therefore that farmers' rights (whatever they may be) are inherent, automatic and arguably inalienable. Thus, theoretically, farmers' rights under the treaty are far stronger than their status as a privilege or exemption in UPOV.

In this context therefore, farmer's rights must be understood to be wider in scope than mere privileges that can be granted and taken away.

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[146] About Farmers' Rights, www.farmerrights.org, accessed 15.8.13

[147] Cullet P Plant Variety Protection in Africa: Towards Compliance with the Trips Agreement School of Oriental and African Studies. Journal of African Law, 45, 1 (2001), p.111

[148] www.FAO.org, accessed 15.8.13

3.2.2 Farmers' Rights and Intellectual Property Rights

The next question is whether farmers' rights are intellectual property rights or, what is the relationship between the two concepts?

Dr Chidi Oguamanam notes that the campaign for farmers' rights was motivated as a counterbalancing response to intellectual property rights in the Plant Genetic Resources arena, particularly Plant Breeders Rights. However, this approach brings to the fore the conceptual confusion which plagues the idea of farmers' rights. He further opines that given its role as a counterweight, it may be tenable to argue that farmers' rights are not intellectual property. However, the issue is not as straight forward as this argument makes it seem to be.[149] The concept of farmers' rights shares some of the underlying logic of intellectual property rights despite the fact that the two concepts seem to be diametrically opposed in terms of the objectives this has resulted in a complex relationship.[150] The preamble to the International Undertaking's provisions on farmers' rights echoes the reward and incentive theory of intellectual property rights.[151] Further it can be argued that the definition of famers also suggests that they arise as a result of the labour expended by farmers in conserving and availing the indigenous plant genetic materials.

[149] Chidi Oguamanam Intellectual Property Rights In Plant Genetic Resources: Farmers' Rights And Food Security Of Indigenous And Local Communities (2006)Drake Journal Of Agricultural Law Vol. 11 P.238

[150] Ibid p.240

[151] ITPGRFA

The need for intellectual property rights is justified as a reward creative or inventive endeavours or labour of the man and that it stimulates further innovation.[152] Similarly, farmers' rights are presented as a mechanism to recognise the contributions of farmers to the generation, improvement and dissemination of Plant Genetic Resources.[153] The Idea of offering rewards for innovation as an incentive to the innovators is one shared by both the intellectual property rights and farmers' rights.

Further, intellectual property and farmers' rights both are intended to control the exploitation or misappropriation of knowledge and its products by ensuring that owners of valuable knowledge are rewarded and not cheated. This agrees with the principles of equity driving the conclusion by Dr Oguamanam that there is a moral obligation to ensure that traditional farmers receive a fair share of the benefits arising from the use of plant genetic resources that they conserve and improve.[154]

The language of rights is yet another common feature of farmers' rights and intellectual property rights. Rights attract correlative duties or obligations on the part of third parties. Persons wishing to exploit materials under intellectual property protection may only use them subject to the interests of rights holders. While intellectual property focuses on the exclusive rights, farmers' rights are focussed on being inclusive by securing rights that make it possible for all to exploit the resources.

Intellectual property rights in their current form of monopolistic rights are not compatible with farmers rights[155] and for this reason there is no global regime

[152] Dias (n.15)82

[153] Kameri Mbote P, (n.36) p. 3.

[154] Chidi Oguamanam, (n.150) P. 289

[155] Verma (n.48)p.12

governing farmers rights such as that governing patents for instance.[156] The ITPGRFA mandates the states to protect and promote farmers rights in their state legislation in accordance to their needs and priorities. This language is echoed in article 11(3) d of the Kenyan Constitution.[157] In Kenya, the rights of farmers to save, use, exchange and sell farm-saved seed were enshrined in the Seeds and Plant Varieties Act. However, the rights of protection, equitable benefit sharing, and participation in decision processes have been largely overlooked. The nature of hybrid plants are such that they are have to be continuously maintained by the breeder and the saved seeds denigrates over the seasons. Therefore, these seeds are not capable of being saved thus defeating farmer rights.[158] Terminator technology refers to a biotechnological process whereby the propagating abilities of the harvest are switched off essentially making the harvest only valuable for food. The seed from the harvest cannot germinate. This method specifically seems to be intended to ensure that farmers cannot save any seed.[159]

3.3 The Subject Matter of Farmers' Rights

The subject matter of farmers' rights include traditional crop varieties, their wild and weedy relatives and the related knowledge and innovations of their custodians.[160] However, that does not mean that individual farmers should become titleholders in the legal sense of the word. The Individualist approach is discouraged particularly if they are linked with exclusive property rights as these defeats the intent of farmers rights by perpetuating the global anti commons.[161]

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[156] Patents Corporation Treaty

[157] Constitution (n.10)article 11(3) (d)

[158] Charnley B Hybrid: The History and Science of Plant Breeding (review) muse.jhu.edu (2012) Volume 53, last accessed 2.4.2013

[159] Farmers rights /www.ban-termnator.org/Volume 53, last accessed 2.6.2013

[160] Verma (n.48)P. 3

[161] Ramana A, farmers rights in India ; a case study, (2006) FNI Report 6/ 2006 P. ix www.fni.no/doc last accessed 15.8.2013

The global anti-commons is the opposite of the concept of global commons and would occur when individual farmers exclude each other from the use of genetic resources, which would be detrimental to their fundamental and customary rights to seeds. Prof. Kameri-Mbote clarifies that in the African context, intellectual property is considered as community property, which is held by the societies, which can be recognised in law.[162] The Constitution indeed recognises communities and the property ties held by communities both in tangible[163] and intangible [164] property. Further, Prof. Kameri-Mbote argues that these rights can be justified as they act as incentives for further innovation and that they fulfil the right to fair compensation. [165]

It is important to note that farmers' rights do not necessarily fit into the traditional intellectual property models, [166] but as with all rights, it is important to identify the scope of farmers' rights. From the definition of farmers' rights used by the farmers rights project[167] and the ITPGRFA the following can be understood to be the subject matter of farmers' rights. They include protection of traditional knowledge , equitable benefit sharing, participation in decision processes and rights to save, use, exchange and sell farm-saved seed.

To illustrate the various aspects of the subject matter of farmers rights and the issues that arise that would be best addressed by a legal framework that includes farmers rights. The case studies have been selected as they relate to indigenous seeds and plant varieties in Kenya.

[162] Kameri Mbote (n.36) p. 120.

[163] The Constitution(n.10) Article 63,

[164] Ibid, Article 260,

[165] Kameri Mbote P, supra p. 125.

[166] Verma (n.48) P. 7

[167] www.farmerrights.org/about farmers' rights last accessed 15.8.13

3.4. Commercializing Indigenous Seeds[168]

Demand for African indigenous vegetables (AIV) has increased due to the increased awareness of their nutritional and medicinal properties. Popular AIV in Kenya have been identified as Leaf Amarathus also known as Terere (*amarathus Species*), Spider plant also known as sageti (*Cleome Gynarda*) and African Nightshade common name Managu (*solunum species*).[169] Quality of food and its nutritional content is very important hence the need to intensify research on such vegetables.[170] Due to the tendency of AIV to have short production cycles, few purchased inputs and high yields with strong nutritional value, research[171] on them will improve food sufficiency and health in Kenya.

AIV seeds are mostly produced from farm saved seeds.[172] This therefore hinders growth and development in the country since it is heavily reliant on these vegetables to ensure food sufficiency. Research in this area also suffers since there is insufficient funding for the crops and they are designated as orphan crops therefore, most research institutions; focus on other species of plants at the expense of African indigenous vegetables.[173]

Okoko Nasambu noted that more than 90% of farmers surveyed used their saved seeds from their own previous crops this was hampered by low quality and a low germination rates.[174] KARI, Asareca and CABI collaborated on a project with

[168] Okoko N et al , promotion of African indigenous vegetables through farmer-led seed enterprises in western Kenya, , (2012) 13th KARI biennial scientific conference proceedings, p.40

[169] Abukutsa et al, Diversity of African Indigenous vegetables with nutrition and economic potential in the lake Victoria region, (2012) 13th KARI biennial scientific conference proceedings, p.100

[170] Access to High Value Markets Indigenous Vegetables, available at www.tegemeo.org/documents last accessed 03.06.2013

[171] www.fao.org

[172] Abukutsa et al (n.170)p.102

[173]Access to High Value Markets Indigenous Vegetables, available at www.tegemeo.org/documents last accessed 03.06.2013

[174] Okoko N et al , (n.169), p.40

farmer groups [175] to assist them in production of commercially viable seeds for AIVs.

The groups, wanted to produce commercial grade seed but were not licensed seed merchants as required by Section 9 of The Seeds and Plant Varieties Act. KARI is not only a public agricultural research institute but it is also a certified seed merchant with a dedicated seed production and sale unit. In order to be able to commercially produce the seed, a series of elaborate agreements were required as there was no legislation for the venture. KARI entered into agreement with Lagrotech Seed Company to assist the farmers in selecting the best varieties and conduct the national performance trials for the seeds.[176] This was necessitated by the statutory requirement that only a licensed seed merchant may enter a variety into the national performance trials, this was followed by further agreements between KARI and 5 farmer groups in which the farmer groups would produce standard commercial seed with the technical support of KARI and there after the seed would be dressed , packaged for market and distributed by KARI on behalf of the farmers and KARI undertook remit the proceeds of sales to the farmer groups .
This project was successful in that the farmers were able to access quality seed and to earn income from the sale of the certified seed to other farmers.

Prof Moni wekesa provides another example where contracts were used to enable farmers in Baringo to exploit the aloe Vera plant and their knowledge of the same[177]

[175] Source document ; Marketing Agreement between KARI and African Indigenous Vegetables Seed Growers(AIV) Katieno Kowe Disabled Group

[176] Source document ,memorandum of understanding between KARI and Lagrotech seed company

[177] Wekesa, Traditional Knowledge- The need for Sui generis System of Intellectual Property Rights Protection, Intellectual Property Rights In Kenya Ed M Wekesa And B Sihanya(2009) Konrad Adenauer Stiftung P. 297

From the foregoing, it would be reasonable to recognise and protect such varieties as observed in the study. This contract seed enterprise model has great potential to make available quality certified seed for orphan crops as the above case study suggests. Due to the gaps in the law to provide for such farmers, it was necessary to use very elaborate arrangements.

Another challenge encountered is the fact that according to the Seeds and Plant Varieties Act, only licensed seed merchants can deal with seed.

3.5 Factors to take into account in legislating specifically to protect indigenous and communally held varieties

A legislation that seeks to protect the rights of farmers must take into account the provisions of international treaties that have attempted to address this issue such as the ITPGRFA and TRIPS. TRIPS Article 27.3 is a non-mandatory exception to patentability that allows the exclusion of plants and animals other than microorganisms, while paragraph (b) raises an obligation for the 'protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof. There is no mention of any pre-existing treaties, such as UPOV for its sui generis framework unlike in other provisions where previous treaties such as the Berne Convention are specifically mentioned and ratified. Therefore, nations are free to enact legislation that suits their circumstances.[178]

3.5.1 Rights to save, use, exchange and sell farm-saved seed

The right to save use exchange and sell farm saved seed is critical to ensuring that farmers enjoy the rights conferred upon them in the constitution however, this right is threatened under conventional intellectual property legislation for instance the Seeds and Plant Varieties Act of Kenya.

[178] Intellectual Property Rights In Plant Varieties, International IPR Agreements Regulating Plant Varieties And Plant Breeders' Rights, FAO Corporate Document Repository , Www.Fao.Org

3.5.2 Protection of Traditional Knowledge

The protection of traditional knowledge in plant genetic resources is a concept that seem to be in conflict with the current legislative framework for plant variety protection in Kenya as earlier noted by Prof. Kameri Mbote, the traditional knowledge is a communal asset[179] , which if brought under the ambit of plant Breeders Rights under UPOV, would become privatised. However as the case study herein below illustrates, traditional knowledge of Plant Genetic Resources has commercial value and there is merit in making provisions in legislation.

3.5.3 Access to Indigenous Varieties

An active access and exchange environment is necessary to ensure a vibrant research and production of new and improved plant varieties. However fears of Bio-piracy, inequitable or no benefit sharing particularly in indigenous seeds and plant varieties, and lack of a clear procedure to carry out access and benefit sharing have resulted in a decline in the availability if these materials[180]. The case study on a request of access to indigenous banana lines in Kenya illustrates the need for legislation that is clear on how to obtain prior informed consent and a designated authority to process such requests.

3.5.4 Farmer Saving

What are referred to as farmers' rights are the actually the farmers and gardeners right to practice and participate in the social custom of selecting, saving, exchanging and replanting seeds from year to year.[181] These practices and responsibilities are not granted by any authority, though they may be honoured by a rural community in recognition of their importance.[182]The right of farmers to

[179] Kameri Mbote P (n.36) p. 120.

[180] Julia Rojahn, Fair Shares or Bio Piracy? Developing Ethical Criteria For The Fair And Equitable Sharing Of Benefits From Crop Genetic Resources (2010) Der Fakultät Für Biologie , Der Eberhard Karls Universität Tübingen

[181] Andersen (n.137)p2

182 Kneen, (n.136)p. 66

save sell and exchange seed from the products of their harvest ought not to be limited. The UPOV 78 allows for this as a privilege of farmers however, the same is severely restricted in UPOV 91. This right allows farmers have greater control over their seed. This reduces the cost of having to purchase seed every season.

3.5.5 Farmer Selected Varieties and Indigenous Varieties

Farmer selected varieties as demonstrated by the case studies herein above, have economic value. The most popular potato variety in Kenya is a farmer's variety, which cannot be ascribed to any individual. For this reason, there ought to be a provision for such in our legislation.

3.6 Approaches in Protecting Farmers Rights and Indigenous Varieties

The stewardship approach refers to the rights that farmers must be granted in order to enable them to continue as stewards and as innovators of agro-biodiversity.[183] The idea is that the legal space required farmers to continue this role must be upheld and that farmers involved in maintaining agro-biodiversity – on behalf of our generation, for the benefit of all humankind – should be recognized and rewarded for their contributions.[184]

3.6.1 ITPGRFA measures and the Stewardship Approach [185]

This approach involves, Protection of farmers' traditional knowledge (article 9.2.a) Equitable sharing of the benefits arising from the use of genetic resources (article 9.2.b) Benefits are to be shared between stewards of plant genetic resources and society at large, partly through the Multilateral System. Benefits should be shared between entire peoples, all stewards of plant genetic resources in agriculture, and society. This in Kenya can be achieved by dispersing the benefits through the

[183] Andersen(supra) p2

[184] Kneen, (Supra) p. 17

[185] Andersen Realising Farmers' Rights Under the International Treaty on Plant Genetic Resources for Food and agriculture Summary of Findings from the Farmers' Rights Project, Phase 1, The Fridtjof Nansen Institute 2006 P 2

devolved government system[186], Participation in relevant decisions at the national level (article 9.2.c)

Participation is important to ensure legal space and rewards for farmers' contributions to the genetic pool. This allows the farmers to continue as custodians and innovators of plant genetic resources, and to establish reward mechanisms for farmers' contributions to the global genetic pool[187] Farmers' customary use of propagation material (saving, sharing, selling) (article 9.3)

3.6.2 Ownership Approach[188]

The ownership approach identified by the farmers' project [189]refers to the right of farmers to be rewarded for products obtained from their fields and used in commercial varieties and/or protected through intellectual property rights. The idea is that such a reward system is necessary to enable equitable sharing of the benefits arising from the use of agro-biodiversity and to establish an incentive structure for continued maintenance of this diversity. Access and benefit sharing legislation and farmers' intellectual property rights are suggested as central instruments.

The goals of the ownership approach are to protect the knowledge against misappropriation and to enable its holders to decide over its use, Equitable sharing of the benefits arising from the use of genetic resources whereby benefits are to be shared between purported 'owners' and 'buyers' [190]of genetic resources upon prior informed consent on mutually agreed terms,

[186] chapter 11 of the constitution of Kenya

[187] Kneen(n.136)p. 67

[188] www.farmersrightst.org

[189] Andersen , Supra p.2

[190] Ibid page 3

Participation in relevant decisions at the national level, Participation is important to ensure adequate legislation on access and intellectual property rights. Farmers' customary use of propagation material that is saving, exchanging and selling.

3.7 Conclusion

From the foregoing, a discussion on protection of indigenous plant varieties cannot be conclusive without addressing farmer's rights, as farmers are the custodians of these varieties. Kneen argues that idea of Farmers' Rights arose as a defence against the increasing dominance of Plant Breeders' Rights (PBR) only after the establishment in 1961 of the International Union for the Protection of New Plant Varieties (UPOV) that Plant Breeders rights.[191]

The World Intellectual Property Organization (WIPO) recognizes that conflicts may exist between the respect for and implementation of current intellectual property systems and other human rights and further explained that this is the result of the nature of Intellectual property which tends to be governed by economic goals when it should be viewed primarily as a social product. In order to serve human well-being, intellectual property systems must respect and conform to human rights and that when systems fail to do so they risk infringing upon the human right to food and health, and to cultural participation and scientific benefits. With this consideration in mind, General Assembly of WIPO adopted The Geneva Declaration on the Future of the World Intellectual Property Organization, which argues that WIPO should "focus more on the needs of developing countries, and to view IP as one of many tools for development—not as an end in itself. [192]

It is also evident that in Kenya, farmers play a crucial role in conserving the indigenous materials as their custodians as well as plant breeding in their own right. These practices must be protected to ensure that the indigenous plant

[191] Kneen(n.136) P. 69

[192] www.WIPO.org last accessed 23.10.13

genetic resources remain available to all communities and that any exchanges are equitable and the benefits are shared.

The goal is to introduce farmers' rights to the indigenous and community developed varieties in balance with plant breeders' rights.

Chapter 4

Comparative Analysis of Native and Indigenous Plant Variety Protection in Different Countries.

4.1 Introduction

This chapter will conduct a comparative analysis of how other countries have handled indigenous plant variety protection, to analyse the factors that influence the kind of protection adopted, and the different methods and approaches of protection adopted whether or not farmers' rights are recognised and protected.

The countries that will be examined in this chapter include India, Ethiopia, and Thailand. These countries were sampled due to the issues that they have faced in seeking the appropriate protection regime for their plant varieties. The various approaches used by the different countries which vary from neighbouring

countries such as Ethiopia, and diversity rich countries in Asia that have taken a proactive approach to protection of indigenous seeds and plant varieties. It is useful to examine the issues and challenges faced by these countries as well as the solutions they were able to come up with. This will be useful to Kenya as it considers its own protection of its indigenous seeds and varieties.

The question of whether to accord to indigenous and native varieties and landraces a form of special protection or to allow them to remain part of the global commons is one many counties in the diversity rich southern hemisphere have been obliged to address.[193] In recognizing that the Constitution has created an obligation for protection of indigenous plant varieties and seeds and the communities' use of the same,[194] and that the TRIPS agreement accords member states the flexibility to develop a plant variety protection mechanism that suit them provided it adheres to the minimum standards set by TRIP[195] it is useful to examine what other countries have put in place.

4.2 Ethiopia

The highest portion of the country's genetic resources essential for food and agriculture are conserved and improved on in small-scale farmer's fields and this shows the key role that is played by farmers and their varieties in the agricultural development of the country.[196]

The Ethiopian National Seed Policy recognizes the farmers' participation in the seed industry for the promotion of sustainable use of local varieties and encourages farmers to share benefits arising from the use of local varieties developed over generations. In Ethiopia, there is a lack of awareness of issues on

[193] Repetto R. Silva, Cavalcanti, M. Implementation of Article 27.3(b): Drafting and Enacting National Legislation Sui Generis Systems, Multilateral Trade Negotiations on Agriculture - A Resource Manual

[194] Constitution (n.10)Article 13(3)(b)

[195] TRIPS (n.41)Article 27(3) b

[196]DoroshP, Rashid S, Food and agriculture in Ethiopia , (2012) IFPRI, ,P. 8

farmers' rights among the public, which limits the effectiveness of these rights despite the fact that a large percentage of crop production depends on farmers' varieties.[197]

Ethiopia is not a member of UPOV[198] and in 2006, the country enacted a protection regime for plant breeders under the legislation named Plant Breeders' Right Proclamation No. 481/2006.284 (hereinafter PBRP).The law is modelled on the AU model law for the protection of the rights of local communities, farmers and breeders, and the regulation of access to biological resources.[199]

The PBRP upholds farmers' rights to save, use, multiply, exchange and sell farm saved seed, and farmers are recognized for their role in conserving and developing genetic diversity.[200]

The objectives of this law were to ensure formal plant breeders were given due recognition and reward for their role in improving agricultural production and productivity and the same time ensure that the farming and pastoral communities of Ethiopia, who have been conserving and continue to conserve plant genetic resources which may be used to develop new plant varieties, continue with their centuries old customary practices of use and exchange of seed.

4.2.1 Requirements Granting Of Plant Breeders' Right under the Plant Breeders Proclamation of 2006.[201]

A grant of plant breeders rights is made if the following conditions are met the plant variety is new, there is no ground, as provided for in this Proclamation, to refuse the grant of plant breeders' right to the applicant, the breeder has proof that he has obtained the genetic resource used to develop the variety in

[197] Feyissa R, Farmers' Rights in Ethiopia: A Case Study Background Study 5, (FNI report 7/2006) Ethio-Organic Seed Action (EOSA) www.the framers rights project p. 13

[198] www.UPOV.int/memebrs

[199] Feyissa (n.198)p.13

[200] Proclamation No. 481/2006 Plant Breeders' Right Proclamation

[201] Ibid Section 14

accordance with the relevant laws on access to genetic resources, plant breeders' rights have not been granted to another person in respect of the variety, there has been no earlier application, that has not been withdrawn or rejected and all fees payable in relation to the granting of plant breeders' right have been paid. Of note is the fact that Ethiopia has adopted an approach in which the requirements include disclosure of the origin of the material.[202]

Further and separate to the provisions for compulsory licensing which are provided for in the PBRP[203] there are provisions made for circumstances where the exercise plant breeders rights may be restricted on the grounds of, public interest, there is unfair competitive practices of holders, the rights adversely affect food security, nutritional or health needs or biological diversity. A high proportion of a protected variety offered for sale is being imported which has adverse effects on the economy, the requirements of the farming community for propagating material of a particular protected variety are not met and it is considered important to promote public interest for socio-economic reasons and for developing indigenous and other technologies.[204]

Considerations of public interest[205] as a factor justifying the grant and exercise of plant breeders' rights is one Kenya ought to consider particularly in view of the fact that Kenya has food insecurity issues comparable to those of Ethiopia[206] and that the economy is still dependent on small-scale farming.[207]

[202] Ibid Section 14 (2-3)

[203] Proclamation No. 481/2006 (n.201)Section8

[204] Ibid Section 7

[205] Constitution(n.10) article 10

[206] DoroshP, Rashid S(n.197)P. 12

[207] www.kilimo.go.ke

Ethiopia has embraced farmers rights based on the principle that local farmers have made enormous contributions and will continue to contribute in the conservation and sustainable use of plant genetic resources that constitute the basis of breeding for food and agricultural production and must be recognised and rewarded.[208]

The Ethiopians have defined farmers' rights in relation to the use of plant varieties and include the right to save, use, exchange and sell farm-saved seed or propagating material of farmers' varieties, to use protected varieties including material obtained from gene banks or plant genetic resource centres to develop farmers' varieties, and to save, use, multiply, exchange and sell farm-saved seed or propagating material of protected varieties provided that such sale of farmers saved seed are not sold as certified seed.[209] This in effect creates a legally recognised and protected market for farmers to save sell and exchange their seed and therefore benefit from the same independent of the formal seed system.[210]

4.3 India

While a number of sub-Saharan African, countries have taken steps towards complying with their TRIPS obligations in the field of plant variety protection, Phillip Cullet observes that there has been little debate in these countries concerning the appropriateness of introducing monopoly rights, such as plant breeders' rights, the introduction of intellectual property rights in agriculture and other fields such as pharmaceuticals, while that debate has been significant in India[211]

[208] Proclamation No. 481/2006(n.201) Section 7

[209] Proclamation No. 481/2006 Section 28

[210] Ibid Section 28

[211] Cullet (n.10) p. 111

experience gained in India can be informative and of relevance to the Kenyan case.[212]

While India is much larger than Kenya, there are common areas of comparison such as and especially, the importance of agriculture as a direct source of food needs for a majority of the population and in terms of employment.[213]

India is a member of WTO[214] and TRIPS hence it is required under article 27(3) b to have a plant variety protection regime. India explored the sui generis option and developed a regime for the protection of plant varieties known as the Protection of Plant Varieties and Farmer's Rights Act (PPVFR).[215]

Sarah Drahos argues that one of the most influential developing country's PVP laws is likely to be India's Protection of Plant Varieties and Farmers' Rights (PPVFR) Act, 2001.[216] The main objectives of the Act include; to stimulate investments for research and development both in the public and the private sectors for the development of new plant varieties by ensuring appropriate returns on such investments, to facilitate the growth of the seed industry in the country through domestic and foreign investment which will ensure the availability of high quality seeds and planting material to Indian farmers, and to recognise the role of farmers as cultivators and conservers and the contribution of traditional, rural and tribal communities.

[212] Ibid p 112

[213] Cullet (n.10)p.112

[214] ww.wto.org accessed 29.8.13

[215] Ranjan (n.181)p.220

[216] Drahos (Note46) P.61

The PPVFR defines a breeder as a person or group of persons or a farmer or group of farmers or any institution which has bred, evolved or developed any variety[217] and farmers may mean any person who cultivates crops by cultivating the land himself or by directly supervises the cultivation of the land, or conserves and preserves, any wild species or traditional varieties or adds value to such wild species or traditional varieties through selection and identification of their useful properties.[218]

The PPVFR attempts to find a balance between the breeder's rights as well as farmers' rights. This is demonstrated by some important definitions in the Act, which include the definition of an essentially derived variety, an extant variety and a farmer's variety.

An essentially derived variety, in respect of a variety includes any predominantly derived from such initial variety, or from a variety that itself is predominantly derived from such initial variety, while retaining the expression of the essential characteristics that results from the genotype or combination of genotypes of such initial variety, is clearly distinguishable from such initial variety and conforms (except for the differences that result from the act of derivation) to such initial variety in the expression of the essential characteristics that result from the genotype or combination of genotype of such initial variety.[219]

While an extent variety means a variety available in India that is notified under section 5 of the Seeds Act, 1966 or farmer's variety or a variety about which here is common knowledge, or any other variety that is in public domain.[220] This is a very wide interpretation, which accommodates both formally bred varieties as well as landraces, indigenous varieties, wild species and farmer-selected varieties.

[217] The Protection of Plant Varieties and Farmers' Rights Act, 2001, No. 53 of 2001 the Gazette of India Extraordinary, Registered No. Dl-33004/2001, section 2

[218] Ibid Section 2(k)

[219] The Protection of Plant Varieties and Farmers' Rights Act (n.218) Section2 (j).

[220]Ibid Section 2 (j)

A farmers' variety means a variety, which has been traditionally cultivated and evolved by the farmers in their fields or is a wild relative or land race or a variety about which the farmers possess the common knowledge.[221]

Variety is a plant grouping except microorganism within a single botanical taxon of the lowest known rank, which can either be defined by the expression of the characteristics resulting from a given genotype of that plant grouping and or distinguished from any other plant grouping by expression of at least one of the said characteristics.[222]

4.3.1 Registration of Varieties and Plant Breeders Rights:

The PPVFR provides that a new variety shall be registered subject to satisfying the requirements of novelty, distinctiveness, uniformity and stability however an extant variety is exempted from this requirement.

4.3.2 Right to Sell Seeds:[223]

A farmer shall be deemed to be entitled to save, use, sow, resow, exchange, share or sell his farm produce including seed of a variety protected under the PPVFR in the same manner as he was entitled before the coming into force of this law, provided that the farmer shall not be entitled to sell branded seed of a protected variety.[224]

Therefore, what may be recognized as a stronger version of Farmers Privilege has been entrenched as a right enforceable in law? This offers farmers protection from litigation by commercial seed companies over unlicensed use by farmers of the products of the harvest. [225]

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[221]Ibid Section 2 ((n.10)l)

[222] The Protection Of Plant Varieties And Farmers' Rights Act(n.218) Section 2 (za)

[223] Ibid section 39 (iv)

[224] Ibid Section 35

[225] Monsanto Canada Inc. v. Schmeiser, [2004] 1 S.C.R. 902, 2004 SCC 34

4.3.3 Permission from Farmers

Breeders must obtain permission from the farmers in order to create Essentially Derived Varieties (EDVs). They cannot do so without the express permission of the farmers.[226]

4.3.4. Access to Information

Further protecting farmers by ensuring access to information, the PPVFR stipulates that if farmers wish to examine documents and papers or receive copies of rules and decisions made by the various authorities, they will be exempt from paying any fees.

4.3.5 Disclosure

Explicit and detailed disclosure in the passport data about the parentage of the new variety is required. If there is non-disclosure in the passport data, the Breeders certificate may be cancelled.

4.3.6. Terminator Technology Forbidden

Breeders must aver that the variety does not contain a Gene Use Restricting Technology (GURT) or terminator technology. This further protects the farmers rights to save sell and exchange products of their harvest.

4.3.7 Protection against Innocent Infringement

Rightly assuming that farmers may unknowingly infringe Breeders' Rights since they will not be used to the new situation, the PPVFR law provides for protection from prosecution for innocent infringement.

4.3.8 Compensation to Farmers

A farmer or farmers' organization can claim compensation if a variety fails to give

[226] Ibid section 43

the expected performance under given conditions. Such a claim may have to be paid by the breeder.

4.3.9 Breeder's Rights.

Breeders' rights are catered for in the PPVFR and are concerned with the more commercialization aspects of working with the owners' rights. These rights are similar to the provisions of UPOV and include the right to produce, sell, market, distribute, import or export a variety.

Various protections have been granted to the breeders by including provisions providing punishments in the form of substantial fine and jail terms for infringement of the rights of the registered breeders.

4.3.10 Disclosure Requirement and Benefit Sharing

The PPVFR makes provisions for disclosure requirement, which puts the breeder under an obligation to disclose the information regarding the use of any genetic material conserved by any tribal or rural families that the breeder may be using in developing the new variety. Failure to disclose such information will result in the rejection of the registration application.[227] A disclosure requirement prohibits misappropriation of the genetic resources, especially of the varieties that have been developed by the farming community.[228]

The benefit-sharing provisions, state that the commercial breeder must share the benefits that will accrue upon the registration of the variety with the farmers or the traditional rural communities who have contributed towards developing the variety. The benefit-sharing provisions ensure that the contributions and

[227] The Protection Of Plant Varieties And Farmers' Rights Act (n.218)section 35

[228] Convention on Biological Diversity

efforts of the farming community in the newly developed varieties do not go unrewarded.

India became one of the first countries in the world to have passed legislation granting rights to both breeders and farmers under the Protection of Plant Varieties and Farmers' Rights Act, 2001(PPVFR).[229] Following this enactment, India indicated its desire to join the UPOV union arguing that the Provisions of the PPVFR satisfy the UPOV requirements. Consequently, India was granted special permission to file application under certain conditions, an instrument of accession to the 1978 UPOV. On 11th June 2002, India submitted a request to join the UPOV union which was examined for conformity by the Consultative Committee which concluded that further clarification was needed concerning the Protection of Plant Varieties and Farmers' Rights Act of India, and its implementing regulations.[230] To date India has not been able to join UPOV.[231]

4.4 Thailand

Thailand is a member of the World Trade Organization and as such is expected to comply with the requirements of the Agreement on Trade Related Aspects of Intellectual Property (TRIPS).[232] Thailand enacted the Plant Varieties Protection (PVPAct), B.E. 2542 (1999) in 1999 at the same time, Thai farmers have practiced saving, reusing and exchange of farm saved seed for a long period. The advent of Intellectual Property Rights therefore posed a challenge to them.[233]

The PVPAct is a combination of UPOV and CBD provisions on the conservation of biodiversity and access benefit sharing.[234]

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[229] Ibid section 38(n.10)

[230] Annual Report Of The Secretary General 2002, plant protection newsletter no. 96 0f Dec 2003 p. 13

[231] www.upov.int

[232] www.wto.org

[233] UPOV: Getting A Free Trips Ride?(1996) www.Grain.Org Last accessed 11.6.2013

[234] Lertdhamtewe P, Effective Plant Variety Protection as Development Policy: A Perspective for Thailand, Thailand Law Journal 2010 Spring Issue 1 p.13

The PVPAct takes as its starting point the fact that Thai farmers are active and important breeders with their own varietal development processes, their own ways of managing knowledge, and their own criteria for selection that include productivity and their own needs for support as the essence of Thai agriculture.[235] PVPAct departs from UPOV but tries to fulfil the country's (n.10) country's crop improvers, rather than catering to few companies. For this reason, its main objectives are to ensure stability of the food system and sustainability of agricultural systems.[236] The PVPAct allows communities, individuals and government organisations to hold farmers rights on genetic resources. Breeders and biotechnologists who exploit communities' genetic resources must give something in return.[237]

The PVPAct makes specific provisions for the protection of Local Domestic Plant Varieties the definition of which is very wide in that it can be any plant variety existing only in a particular locality within the Kingdom or a plant variety not registered as a new plant variety.[238]

Thailand is not a member of UPOV but has never the less designed a system that incorporates the criteria for grant of protection within UPOV[239] that is, distinctness[240] , uniformity[241] and stability[242] as well as incorporated farmers' rights and the principles of the CBD.[243]

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[235] Ibid p 13

[236] UPOV: Getting A Free Trips Ride?(1996) www.grain.org Last accessed 11.6.2013

[237] Lianchamroon Witoon, , "Intellectual Property Rights on Genetic Resources: Case Study of Thailand", paper presented to the Southeast Asian meeting of the Crucible Group, 7-9 May 1996,.

[238] Plant Varieties Protection Act, B.E. 2542 (1999) article 43

[239] Ibid chapter II article 11

[240] Ibid chapter II article 11(1)

[241] Ibid chapter II article 11 (2))

[242] Ibid chapter II article 11(3)

[243] Lertdhamtewe (n.235) p. 13

The Thai law goes as far as to state the formula for sharing benefits in working the rights in a the local domestic plant variety which are shared between persons who conserve or develop the plant variety, and the community as its common revenue and the local government organisation, the farmer's group or the co-operative that makes the agreement.[244]

Thailand has so far signed Free Trade Agreements (FTAs) with Bahrain, China, India, and Australia and is in the process of negotiating with Japan and the U.S.A., its two largest trading partners. The FTAs, especially the proposed Thai-USA version, contained detailed provisions on IPR protection, which may have forced Thailand to adopt stricter IPR protection. In doing so, Thailand would be forced to accede to a number of international agreements, including the UPOV Convention[245] and doing away with its sui generis Legislation. The FTAs were never completed.[246]

4.5 Conclusion

It is clear that UPOV is at variance with the concept of protection for indigenous and farmers rights. As demonstrated by the India case, a country that opts to have sui generis system for farmers and ingenious varieties and wish to join UPOV may find that the UPOV system is not capable of accommodating such an arrangement and that the two are mutually exclusive.

Kenya has failed to enact laws that protect indigenous varieties despite the fact that it has been a leader in articulation the African position against patenting of plant matter at the TRIPS Council [247] as observed by Dr. Rangnekar and that Kenya has been so eloquent and influential in its submissions to the WTO on the reviews on TRIPS article 27.3(b) in recommending two amendments to include

[244] Plant Varieties Protection Act(n.239) section 49

[245]Naboriboon P, Plant Variety Protection In Thailand Tilleke & Gibbins (2007) p.8

[246] Ibid p.8

[247] Rangnekar (n.72) p.9

provisions for the protection of indigenous innovations and traditional knowledge and include traditional farming practices such as the right to save and exchange seeds. This discordance between the rhetoric and actual position ought to be addressed.

Chapter 5

Findings, Conclusions and Recommendations

5.1 Introduction

The purpose of this research was to interrogate the current legislation in Kenya to ascertain whether it satisfied the obligation created by the constitution 2010 to recognise and protect the rights of Kenyans to benefit from of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by the communities of Kenya. The study reviewed the both the domestic and international legal framework for such legislation and examined how if at all, the current legislation is ensuring that the rights are recognised and protected.

5.2 Findings

This research was based on the hypothesis that The Seeds and Plant Varieties Act does not in its current state satisfy the current constitutional requirements for legislation and that There is need for specific legislation to recognise and protect plant genetic resources not provided for under the UPOV union. It was further hypothesized that Sui generis protection of indigenous and farmer developed varieties will give more reality to the intent of article 11(3) (b) of the Constitution.

The findings of the research proved the hypotheses for the following reasons:

5.2.1 States that are desirous of joining UPOV are required to enact laws to protect plant varieties according to the provisions of the convention. Kenya complied with this requirement by making amendments on the seeds and varieties act.[248] Adaptation of the provisions of the convention to national requirements is not flexible and this lack of flexibility was demonstrated by the case of the India's application.

India has adapted a sui generis legislation by enacting a plant variety protection law that respects both farmers' and breeders' rights. A country that opts to have sui generis system for farmers and indigenous varieties

[248] Legal Notice no 484 of 1991

and at the same time wishes to join UPOV may find that the UPOV system is not capable of accommodating such an arrangement and that the two are mutually exclusive.

UPOV strengthens breeders' rights ignores the fact that plant genetic resources are critical to food security, development and biodiversity. Coherent legislation must always consider how a law will interact and affect other laws.

5.2.3 The Seeds and Varieties Act in Kenya is a domestication of the UPOV union. Further, the amendments to the act enacted in the year 2012 indicate a move toward ratification of UPOV 1991 and stricter protection for plant breeders to the detriment of farmers. UPOV does not recognise indigenous plant varieties as the test of new, distinct, uniform and stable (NDUS) is too stringent for indigenous varieties and further, The UPOV system privatises rights and thus concept is not compatible with communally held such as indigenous varieties.

5.2.4 Broadly speaking there are two ways that farmers currently access seeds: through informal, traditional systems where seeds are saved from year to year, exchanged and improved on locally, and the commercial system where industrially bred seeds, which are certified by public authorities, are sold.[249]

Protecting and nurturing those informal, traditional systems of seed saving exchange and improvement carried out by farmers and communities ensures that the indigenous seeds are maintained and remain available.

5.2.5. This research identified the need to harmonise the administration of these rights under one body as opposed to having the same administered by several different bodies such as NEMA, National museums and the National

[249] Sikinyi (N.4)P.4

gene bank and KEPHIS. This would make the process of exchanging materials streamlined and capable of being monitored.

5. 3 Conclusions

While there is space for the commercial seed system to exist alongside traditional seed systems, it is imperative to ensure that the traditional systems are not overwhelmed and rendered void as they are tied to the survival of not only the small-scale farmers and communities but also the survival of the biological and genetic diversity.[250]

Kenya has been held up as a UPOV success story, partly due to the cut flower industry that bloomed after the country joined the Union.[251] According to the UPOV Secretariat, this generates income for two million families however, many of the varieties introduced under UPOV protection are horticultural and ornamental crops produced by commercial growers for export and not food crops produced by farmers and not indigenous varieties. [252]

From the foregoing discussion, it is clear that the UPOV system is most appropriate for formal commercial plant breeding but is most inappropriate for the objectives set out in article 11(3) (b) of the Constitution. UPOV does not recognise indigenous plant varieties nor does it address the farmers rights at all acceding to UPOV 1991 will not satisfy the spirit and intent of article 11(3) (b) of The Constitution.

Kenya has failed to enact laws that protect indigenous varieties despite the fact that it has been a leader in articulation the African position against patenting of

250 Dommen C, Food, intellectual property and UPOV,,(2010) Wold better economics issue 17 P.4-5

251 Leipold and Morgante, The Impact of the Flower Industry on Kenya's Sustainable Development, International Public Policy Review University College London,Vol.7, No 2 (June 2013) P. 8

252 www.UPOV.int

plant matter at the TRIPS Council [253] as observed by Dr. Rangnekar and that Kenya has been so eloquent and influential in its submissions to the WTO on the reviews on TRIPS article 27.3(b) in recommending two amendments to include provisions for the protection of indigenous innovations and traditional knowledge and include traditional farming practices such as the right to save and exchange seeds. This discordance between the rhetoric and actual position ought to be addressed.

A discussion on recognising and protecting the rights of Kenyans to benefit from of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by the communities cannot be conclusively be had without addressing farmer's rights, as farmers are the custodians and often the conservators of these varieties.

If Kenya does not create specific legislation to protect and recognise ownership of native plant varieties and seeds and farmer bred varieties, to work alongside the Seeds and Plant Varieties Act, the loss of indigenous plant and seed biodiversity will continue unchecked and communities will not benefit from the resources they have helped to create.
Further, this will be a wasted opportunity to alleviate poverty in the farmer communities as such varieties if properly managed can be commercialized and certified seed availed through the formal marketing channels thereby improving both the quality of the seed and earning potential for farmers.

The need to recognise and protect the right of Kenyans to benefit and use indigenous plant varieties and seeds and their use by the communities has been acknowledged in the constitution and in order to fulfil this requirement,

[253] Rangnekar D, Geneva Rhetoric, National Reality: The Political Economy Of Introducing Plant Breeders' Rights In Kenya(2013), New Political Economy p.9

parliament must legislate with farmers rights in mind as a recognition of farmers rights as espoused in the ITPGRFA would be sufficient for this purpose.
Legislation ought to as far as reasonably possible be in harmony with the provisions of the Seeds and Plant Varieties Act this will ensure that commercial varieties continue to enjoy their protection while at farmers and communities continue to carry on their role as the custodians of indigenous varieties with protection of the law.

In legislating there will be need to take into account the obligation under TRIPS and consider the provisions of international conventions such as the CBD and ITPGRFA and the AU Model law in order to enact the most suitable law.
The World Intellectual Property Organization (WIPO) recognizes that conflicts may exist between the respect for and implementation of current intellectual property systems and other human rights and it explains "that this is the result of the nature of Intellectual property which tends to be governed by economic goals when it should be viewed primarily as a social product. In order to serve humans' well-being, intellectual property systems must respect and conform to human rights and that when systems fail to do so they risk infringing upon the human right to food and health, and to cultural participation and scientific benefits".[254] With this consideration in mind, General Assembly of WIPO adopted The Geneva Declaration on the Future of the World Intellectual Property Organization, which argues that WIPO should "focus more on the needs of developing countries, and to view IP as one of many tools for development and not as an end in itself". [255]
The goal ought to be to introduce farmers' rights to the indigenous and community developed varieties in balance with breeders' rights.

5.4 Recommendations

[254] www.WIPO.org

[255] www.WIPO.org

It is the author's argument that under the interpretation of TRIPS article 27.7.b, Kenya is already operating a sui generis system that is the UPOV system for plant variety protection. This conclusion was reached despite the fact that TRIPS does not mention UPOV unlike other international conventions, which have been adopted such as the Berne convention.

A Sui generis protection of indigenous and farmer developed varieties will give more reality to the provisions regarding access and benefit sharing (ABS) in the CBD and Nagoya protocol. Such legislation may be enacted to work together with the Seeds and Varieties Act extending protection to varieties that fall outside the scope of the UPOV union. The legislation ought to have less stringent criteria for protection such as that proposed by the FAO that the NDUS test be replaced by criteria of identifiably as basis of granting the indigenous varieties protection.[256]

The concept of recognising public interest[257] as a factor influencing the grant and exercise of plant breeders' rights in Kenya ought to be considered particularly in view of the fact that Kenya has food insecurity issues comparable to those of Ethiopia[258] and that the economy is still dependent on small-scale farming.[259]

Ethiopia has embraced farmers rights based on the principle that local farmers have made enormous contributions and will continue to make in the conservation and sustainable use of plant genetic resources that constitute the basis of

[256] Sui generis system in plant variety protection , www.fao.org last accessed 5.2.14

[257] Constitution (n.10) article 10

[258] DoroshP, Rashid S, Food and agriculture in Ethiopia , IFPRI, 2012,P. 12

[259] www.kilimo.go.ke

breeding for food and agricultural production must be recognised and rewarded.[260] in making such legislation, the stewardship approach proposed by the farmers project which emphasises communal ownership of indigenous varieties and non-privatisation of plant genetic resources thus assuring free access and benefits is adopted by the author of this thesis. Further, the stewardship approach is justifiable within the Lockean theory that ownership can arise because of the labour expended on a natural resource.

This research identified the need to harmonise the administration of these rights under one body as opposed to having the same administered by several different bodies such as NEMA, National museums and the national gene bank and KEPHIS. This would make the process of exchanging materials streamlined and easy. The legislation ought to borrow from countries such as India, Ethiopia and Thailand that have successfully enacted this kind of law.

A central clearinghouse for all the indigenous plant varieties ought to be considered as well. This is acceptable under the AU model law as well as the Bonn guidelines under the CBD. In view of the devolved system of government is would be possible to equitably distribute benefits to the communities through the county governments.

[260]Section 7 Proclamation No. 481/2006 Plant Breeders' Right Proclamation

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