



UNIVERSITY OF NAIROBI

CENTER FOR ADVANCED STUDIES IN ENVIRONMENTAL LAW AND POLICY

**ANALYSIS OF MECHANISMS FOR THE PROTECTION OF TRADITIONAL FOREST
RELATED KNOWLEDGE AND PRACTICES TO ACHIEVE SUSTAINABLE FOREST
MANAGEMENT; A CASE STUDY OF KAYA FORESTS OF KENYA**

BY

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DECLARATION

Students Declaration

This Thesis is my original work and has neither been presented nor is it currently under consideration for the award of a Degree in any other University or institution for higher learning.

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Supervisors' Approval

This Thesis has been submitted for examination with our approval as the university supervisors

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DEDICATION

I wish to dedicate this thesis to my parents who guided me on this path of education and learning; to my brother Martin and sisters Murugi and Wakio who have always encouraged me to pursue my goals and ambitions; to wife Mercy and son Djibril who have been my light and inspiration and to my friends who through their willingness to support me and constant encouragement have seen me to the end of this successful course.

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ABSTRACT

There is a close nexus between biological and cultural diversity. International instruments that recognize this nexus include the Convention on Biological Diversity (1992) and the Convention Concerning the Protection of the Worlds Cultural and Natural Heritage (1972). Traditional forest related knowledge is disappearing leading to forest degradation. Therefore, this study sought to examine methods through which traditional knowledge can be protected to ensure sustainable forest management. The Constitution of Kenya (2010) and Forest Conservation and Management Act (2014) call for the protection of traditional knowledge. The Protection of Traditional Knowledge and Cultural Expression Act (2016) was enacted to provide a framework for the protection and promotion of traditional knowledge and cultural expressions. However, this Act only seeks to protect commercial interests arising from the exploitation of this knowledge but not conservation of natural resources. This study begins to address the knowledge gap by exploring the traditional knowledge of the Mijikenda community relevant to sustainable management of the Kaya forests. The study sought to; identify the traditional knowledge of the Mijikenda community that has contribute to the sustainable management of the Kaya Forests, appraise the effectiveness of the law and policy in protecting the traditional knowledge of the Mijikenda community relevant to sustainably managing of Kaya Forests and To investigate ways of integrating traditional knowledge into modern forest management practices. . Data was collected through questionnaires, key informant interviews and participatory observation. Respondents were drawn from villages adjacent to Kaya Kauma and Kaya Kinondo forests. Data was collected from four (4) focused group discussion comprising 4-12 respondents representing men, women, the elderly and youth. In-depth interviews of 9 key informants drawn from the National Museums of Kenya, Coastal Forest Conservation Unit, Kenya Copyrights Board, Kenya Industrial Property Institute, World Agro-Forestry, Kaya elders, and the Water, Environment & Natural Resources department of Kilifi County, was conducted. Thematic content analysis was used to analyze qualitative data. Quantitative data analysis was analyzed through descriptive statistics presented in charts and tables where necessary. This study has shown that traditional forest knowledge of the Mijikenda community is crucial to the sustainable management of the Kaya forests. Furthermore, the National and County government agencies tasked with the protection of traditional knowledge are not performing their roles. Moreover, government agencies do not work together to achieve this mutual goal. This study has confirmed that traditional knowledge is disappearing. The application of Mijikenda customary laws relating to forest management is not homogenous. In addition, knowledge on medical plants is commercially exploited by herbalists without benefiting the community. Members of the Mijikenda community are protecting their knowledge and customs through transmission to younger generations through instruction, practical lessons and cultural ceremonies. Some knowledge on medicinal plant and divination is kept a secret and is only shared among members of a family or clan. This study recommends the amendment of the law to include a listing system for all types of traditional knowledge and not just forest related the establishment of a central data base recording all the existing traditional forest related knowledge. A multi-stakeholder approach should be adopted in the protection of traditional knowledge. Research should be done on how contracts can be entered between holders of traditional knowledge and knowledge seekers especially knowledge relating to genetic resources and medical plants.

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LIST OF INTERNATIONAL CONVENTIONS

Convention Establishing the World Intellectual Property Organization, 1967

Convention for the Protection of the World Cultural and Natural Heritage, 1975

Convention for the Safeguarding of the Intangible Cultural Heritage, 2003

Convention on Biological Diversity, 1992

Protection of Traditional Knowledge and Cultural Expressions Act, 2016

Swakopmund Protocol on the Protection of Traditional Knowledge and Expression of Folklore,
2007

LIST OF ABBREVIATIONS

CS	Cabinet Secretary
CBD	Convention on Biological Diversity
CFM	Community Forest Management
CFCU	Coastal Forest Conservation Unit
FAO	Food and Agricultural Organization
GDP	Gross Domestic Product
IGC	Inter- Governmental Committee
IK	Indigenous Knowledge
IPRs	Intellectual Property Rights
KFS	Kenya Forest Service
KIPI	Kenya Industrial Property Institute
KECOBO	Kenya Copyrights Board
NEMA	National Environmental Management Authority
NMK	National Museums of Kenya
PFM	Participatory Forest Management
SFM	Sustainable Forest Management
TFRK	Traditional Forest Related Knowledge
TKDR	Traditional Knowledge Digital Repository
TEK	Traditional Ecological Knowledge
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights of the World Trade Organization
UN	United Nations
WIPO	World Intellectual Property Organization

CHAPTER ONE

1.1 Background to the Study

Kenya is endowed with an array of natural resources such as wildlife, minerals, water and forests.¹ Forest ecosystems range from montane rainforests, savannah woodlands, dry forests and coastal forests and mangroves. Forest cover is assessed at 7.2% of the entire land area of the country² which translates to about 40,567.65 km² which is below constitutional requirement of 10%³ of the total land area of the country which is about 58,037.6 km² of the total land areas of Kenya.

According to the Millennium Ecosystem Assessment Report, people receive provisioning, regulating, supporting, and cultural services, from forests.⁴ Forests ecosystems provide all these services essential for life support functions. Some of the provisioning services include food, medicine, and wood fuel which comprise about 80% of all energy used in the country. Regulating services include air purification, ground water recharge, and local climate regulation. Supporting services include carbon sequestration, soil formation and nutrient cycling. Cultural amenities are utilities human beings acquire from ecosystems such as intellectual development, spiritual enrichment, leisure, and aesthetics.⁵ Forests act as sacred sites which provide a sense of cultural and spiritual identity.

Forests contribute up to 3.6% of Kenya's gross domestic product (GDP)⁶. Forests also provide supporting services to other sectors of the economy including; wildlife and tourism, agriculture and food production, water, and energy, that contribute 33% to 39% of the country's GDP.⁷

¹Republic of Kenya; Kenya Forest Service, *National Forest Policy*, 2014, p2, available at <[https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&uact=8&ved=2ahUKEwixp8KtrLPhAhVJYUKHd4XBM4QFjACegQIAhAC&url=http%3A%2F%2Fwww.kenyaforestservice.org%2Fdocument%2FForest%2520Policy%2C%25202014%2520\(Revised%252020-2-2014\).pdf&usq=AOvVaw2sprKAL45hBjvEpP6_9ZW9](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&uact=8&ved=2ahUKEwixp8KtrLPhAhVJYUKHd4XBM4QFjACegQIAhAC&url=http%3A%2F%2Fwww.kenyaforestservice.org%2Fdocument%2FForest%2520Policy%2C%25202014%2520(Revised%252020-2-2014).pdf&usq=AOvVaw2sprKAL45hBjvEpP6_9ZW9)> [accessed on 13/08/2017]

²² Government of Kenya (2019) National strategy for achieving and maintaining over 10% tree cover by 2022,

³ Constitution of Kenya Article 61(1)(b)

⁴ Millennium Ecosystem Assessment, *Ecosystems and Human Well-being: A Framework for Assessment* (Island Press, 2003) p. 26. Available at <<https://www.millenniumassessment.org/en/Condition.html#download>> [accessed on 13/08/2017]

⁵ (n4) p 29

⁶ (n1) p2

⁷ Ibid

Additionally, 75% of Kenya's surface water originates from forests, essential for day to day domestic use and production of hydroelectricity.⁸ Moreover, the right to a clean environment includes access to public components of the environment for both spiritual and cultural purposes.

Despite the recognized importance of Forests in Kenya, forests continue to be degraded. The rate of deforestation is estimated at 5,000 hectares annually.⁹ Kenya's forest resources are facing competing land practices such as human settlement, agriculture, grazing, infrastructure and industrial development . The demand for timber, charcoal and wood fuel as a source of energy, has also contributed to the degradation of forests.¹⁰

Kenyan communities are critical in forest conservation and management. The preferred natural resource management that is community based addresses both environmental and social-economic concerns¹¹. Additionally, decision-making and power and authority over natural resources is devolved to communities.¹² Moreover, the Constitution of Kenya recognizes this role. First, it proclaims the environment as the heritage of the people of Kenya which shall be sustained for the benefit of future generations.¹³ Second, principles of governance such as devolution of power, participation of the people,¹⁴ inclusiveness¹⁵ and sustainable development, putting communities in the driving seat of natural resource management. The Constitution places an obligation upon both the government and individuals to sustainably manage and conserve the environment¹⁶. The government is mandated to inter alia, ensure the sustainable exploitation, utilization, management and conservation of the environment and natural resources,¹⁷ and encourage public participation in the administration, protection and conservation of the

⁸ (n 1) p3

⁹ (n1)

¹⁰ Republic of Kenya, Ministry of Environment, Water And Natural Resources, *National Environmental Policy* (2013) p1 available at <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=11&cad=rja&uact=8&ved=2ahUKEwi4stXQuLPhAhUGJB0KHaRvDwQFjAKegQIBBAC&url=http%3A%2F%2Fwww.environment.go.ke%2Fwp-content%2Fuploads%2F2014%2F01%2FNATIONAL-ENVIRONMENT-POLICY-20131.pdf&usq=AOvVaw2WJGQWJq52kzdzcgv-IYs> [accessed on 21/10/2017]

¹¹ Bavikatte and Bennett ,*Community stewardship: the foundation of biocultural rights*, Journal of Human Rights and the Environment, Vol. 6 No. 1, March 2015,

¹² VO Wasonga (et al) *Community-Based Natural Resource Management* in Washington O. Ochola (et al) *Managing Natural Resources for Development in Africa: A Resource Book* (2010) p.136.

¹³ Constitution of Kenya, Preamble line 4

¹⁴ Article 10(2)(a)

¹⁵ Article 10(2)(b)

¹⁶ Article 69(2)

¹⁷ Article 69(1)(a)

environment.¹⁸ These natural management principles apply in the management of government forests defined as public land.¹⁹In addition, every person should cooperate with the government and state agencies in environmental protection and conservation to ensure ecological sustainable development.²⁰

Public participation is among the national values and principles of governance under Article 10 of the constitution of Kenya. It also applies during management, conservation and protection of the environment.²¹It is a management approach that includes all individuals in decision-making relating to natural resource management which individuals include the government and communities. Among the guiding principles of the Forest Policy, 2014 is public participation which recognizes participatory approaches in forest conservation and protection of indigenous knowledge.²²Additionally for poverty reduction, there has to be forest conservation of the forest-ecosystems, resources and sustainable development.²³ Notably, the Forest Conservation and Management Act 2016, provides for public participation in the management of forests²⁴ through community forest associations.²⁵

Public participation is an enabler of community involvement in natural resource management. As such, community participants are able to use their traditional and customs for the management of the surrounding environment. The close nexus of cultural multiplicity and biological diversity has long been recognized in international law.²⁶ International law is part of Kenyan national law by virtue of Article 2(5) and 2(6) of the Constitution of Kenya. Among soft law instruments, the Rio Declaration on Environment and Development²⁷, principle 22 provides that indigenous peoples, their communities, and other local communities have a vital role in environmental management because of their knowledge and traditional practices. The Declaration calls upon

¹⁸ Article 69(1)(d)

¹⁹ Article 62(1)(g)

²⁰ Article 69(2)

²¹ Article 69(1)(d)

²² (n1) p6

²³ (n11) p11

²⁴ Section 4(b)

²⁵ Section 48(1)(2)

²⁶ Posey D, Culture and Nature-the Inextricable Link in Posey D (ed) *Cultural and Spiritual Values of Biodiversity* (UNEP, 1999) p 1-18

²⁷12/08/1992 , available at <<https://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>> accessed [12/10/2018]

states to recognize and support the identity, culture and interests of indigenous communities to enable their effective participation in sustainable development. Among hard law instruments, the Convention on Biological Diversity (CBD)²⁸ recognizes the role of local communities in biodiversity conservation. First state parties are required to respect, maintain, and preserve knowledge and practices of indigenous communities that symbolize a traditional lifestyle relevant for the preservation and sustainable use of biological diversity.²⁹ Second, states are to advocate for the application of traditional knowledge with the endorsement and participation of the custodians of such knowledge while encouraging equitable sharing of benefits arising from the utilization of these knowledge.³⁰ Lastly state parties are to protect and encourage the customary use of biological resources according to traditional cultural practices compatible with conservation.³¹ However, the convention is only concerned with that type of knowledge relevant for the conservation and sustainable use of biological diversity.

Some of these obligations set by international law have been met through domestic legislation which recognizes the role of culture in the conservation of forests and forest resources. The guiding principles of Forest Conservation and Management Act include protection of indigenous knowledge and intellectual property rights of forests resources.³² The government is required to protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities.³³ The Cabinet Secretary in charge of matters relating to the environment, in collaboration with the National Environmental Management Authority, is required to recommend modes of ensuring the preservation of biological resources in conjunction with guidelines that allow for integration of traditional knowledge for the conservation of biological diversity with mainstream scientific knowledge.³⁴

It is evident that traditional knowledge has both commercial and conservation purposes. For example knowledge on medicinal plants can be commercially exploited for development of pharmaceutical drugs while at the same time, the natural reserve of this medicinal plants will be protected to ensure their continued availability. The Environmental Management and

²⁸ Available at <<https://www.cbd.int/convention/articles/default.shtml?a=cbd-08>> accessed [12/10/2018]

²⁹ Article 8(j)

³⁰ Ibid

³¹ Article 10(c)

³² Section 4(e)

³³ Article 69(1)(c)

³⁴ Section 51(f)

Coordination Act defines traditional knowledge as any such knowledge as may be socially and culturally acquired within or without the context of conventional education by Kenyans³⁵. Additionally, it defines indigenous knowledge as any traditional knowledge of sources, components, capabilities, practices and uses of, and processes of preparation, use and storage of plant and animal species and their genetic resources.³⁶ This definition therefore considers how the knowledge is acquired and used. The Protection of Traditional Knowledge and Cultural Expressions Act,³⁷ defines traditional knowledge as any knowledge originating from an individual, local or traditional community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, embodied in the traditional lifestyle of a community; or contained in the codified knowledge systems passed on from one generation to another including agricultural, environmental or medical knowledge, knowledge associated with genetic resources or other components of biological diversity, and know-how of traditional architecture, construction technologies, designs, marks and indications. This Act focuses on the knowledge acquisition and use, with an emphasis on biological diversity.

Further to the definition provided by law, Nicolas Houde³⁸ attributes six characteristics to traditional knowledge. First as a body of factual specific observations that traditional knowledge holders are capable of generating which consists of the recognition, naming, and classification of discrete components of the environment. Second characteristic is of a management system for sustainable use of local natural resources such as pest management, and resource conservation. Third traditional knowledge is characterized as factual knowledge regarding past and current uses of the environment that is transmitted among generations. For example knowledge of historical patterns of land use, medicinal plants, and cultural sites. The fourth attribute characterizes traditional knowledge as the expression of values and attitudes of respect that guide the interaction between human beings and the environment. The fifth characterization is that of cultural identity. Stories, values, and social relations associated with places contribute to the survival, reproduction, and evolution of cultural identities. For example, the Mijikenda identify with the Kaya forests. The last character that binds all others is that of cosmology which is the

³⁵ Section 2

³⁶ Ibid

³⁷ Act No 33 of 2016 section,2

³⁸Nicolas Houde*The Six Faces of Traditional Ecological Knowledge Challenges and Opportunities for Canadian Co-Management Arrangements*[2007] Ecology and Society, Vol. 12, No. 2 p. 112, 130.

assumptions and beliefs about how things work. It is the worldview that explains the interconnected of nature the principles that regulate human relations and with the environment. Houde likens cosmology to religion, a philosophy or ideology. Berkes, further states that this type of knowledge may be found in all societies no matter how modern they might appear to be and that this kind of knowledge is ever dynamic and is constantly changing as the society changes as old principles get new interpretation and application to suit the changing needs of the society.³⁹

Additionally, the Environment and Land Court is required⁴⁰ to consider the cultural and social principles traditionally applied by any community in Kenya for the management of the environment or natural resources in so far as the same are relevant and are not repugnant to justice and morality or inconsistent with any written law. In the case of *Joseph Letuya & 21 others v Attorney General & 5 others*⁴¹ the court observed that the *Ogiek*, a forest dwelling community, has a unique and central role in the management of the Mau forest on account of its traditional knowledge, innovations and practices as an indigenous community. As a result, the National Land Commission was directed to identify land for the settlement of the community on the degazetted parts Mau forest. The African Court on Human and Peoples rights in the case of *African Commission on Human and Peoples Rights vs Republic of Kenya*⁴² In this case members of the *Ogiek* community filed a suit against the government of Kenya through the African Commission on Human and Peoples rights, on the grounds that the government had violated their rights by forcefully evicting the community from the Mau forest. The Court held that the *Ogiek* are indigenous people who have strong attachments with nature in particular their land and natural environment. And their survival as a hunter and gather community depends on the unhindered access to the Mau forest for their residence and their livelihood. As such the court found that the government of Kenya was in violation of the rights of members of the *Ogiek* community by forcefully evicting them from their ancestral lands and was required to resettle them back to their ancestral lands. To effect this decision by the African Court of Human and People rights the government established a Taskforce on the Implementation of the Decision of

³⁹ Fikret Berkes , *Sacred ecology*, (Routledge 2017)

⁴⁰ Environment Management and Coordination Act Section 3(5)(b)

⁴¹ [2014] eKLR

⁴²Application No 006/2012 <<http://en.african-court.org/images/Cases/Judgment/Application%20006-2012%20African%20Commission%20on%20Human%20and%20Peoples%20Rights%20v.%20the%20Republic%20of%20Kenya..pdf>> accessed 17/11/2019

the African Court On Human And Peoples' Rights Issued Against the Government of Kenya in Respect of the Rights of the Ogiek Community of Mau and Enhancing the Participation of Indigenous Communities in the Sustainable Management of Forests⁴³ whose mandate is to *inter alia* make recommendations on the short term, medium term and long term actions to give effect to the final court orders.

However, the Taskforce to Inquire into Forest Resources Management and Logging Activities in Kenya⁴⁴ observed that the traditional way of life of forest-dwelling communities, in particular the Ogiek (residing in Mt Elgon and Mau Forests Complex) and the Sengwer (residing in the Cherangani Hills), has changed. Their livelihood activities which include livestock grazing and food crop production were found to be incompatible with forest conservation. The taskforce found that these activities compromised the integrity of forest ecosystems and the services they provide, concluding though the Ogiek can be considered as an indigenous community their livelihood practices were inconsistent with suitable forest management.⁴⁵

The Kaya forests are spread out about 200km along the coast of Kenya.⁴⁶ They are densely forested sites, mostly on low hills, ranging from 30 to around 300 hectares. In the center of the forests, there are clearings, the remains of fortified villages, Kayas, of the Mijikenda. The Kayas are seen as the home of ancestors, and are revered as sacred sites. The Kaya structures and the forests surrounding the Kayas have been protected by generations of Mijikenda elders. The Mijikenda are Bantu speakers who live along the Kenya coastal counties of Malindi, Kilifi, Mombasa and Kwale. They comprise of nine sub-groups namely the Giriama, Chonyi, Kauma, Kambe, Ribe, Jibana, Rabai, Digo and Duruma.⁴⁷

The Kaya forests a high conservation value and are a home to many rare endemic flora and fauna. They are sacred natural sites of the Mijikenda community. Sacredness implies setting something apart for it is holy or revered. It is often associated with secrecy and forbidding

⁴³Vide Gazette Notice No. 11215 of 2018, <http://kenyalaw.org/kenya_gazette/gazette/download/Vol.CXX-No_134.pdf> accessed 17/11/2019

⁴⁴ Established Vide Gazette Notice No. 1938 of 26th February 2018

⁴⁵ April 2018 p 40

⁴⁶ Government of Kenya (2008) Nomination Dossier for Inscription on the World Heritage List; The Sacred Mijikenda Kaya Forests p. 14

⁴⁷ Thomas Spear, *The Kaya Complex, A History of the Mijikenda Peoples of the Kenyan Coast to 1900* (Kenya Literature Bureau, 1978) p. 46

access. The main objective of the traditional management of sacred sites is to maintain their separateness or sanctity by controlling access through the use of taboos and other religious practices that regulate conduct and access to those religious sites. Breach of the rules would lead to punishment from the spiritual world. This has proven effective in the preservation of the Kaya forests as this encourages self-restraint among members of the Mijikenda when it came to the use of the forest resources.⁴⁸ Customary laws regarding acceptable and taboo behavior within the Kaya forests relating to physical disturbance of the sites have led to the conservation of the forest.

1.2 Statement of the research problem

The Kaya forests are being degraded even though they are situated within a community that has been applying traditional knowledge in their protection. This is as a result of the decline in knowledge about and respect for traditional values, due to economic, social, cultural, and other changes in society. Factors such as population growth, demand for forest products and mining activities have further contributed to the degradation of these forests. As a result, the size of the forests has decreased due to logging for valuable hardwood timber, agriculture and hotel development and planned settlement schemes.⁴⁹

These factors all contribute to the erosion of Mijikenda culture and conservation practices which need to be protected.⁵⁰ The Constitution provides for the protection of cultural heritage and by extension traditional knowledge through securing intellectual property rights associated with traditional knowledge.⁵¹ To achieve this objective, Parliament is required to enact a legislation that enables communities to receive royalties and compensation for the use of their cultures and cultural heritage and recognizes and protect the ownership of indigenous seeds and plant

⁴⁸Mutta, E. Chagala-Odera, S. Wairungu, S. Nassoro, Traditional Knowledge Systems For Management of Kaya Forests In Coast Region of Kenya Traditional, (Forest-Related Knowledge And Sustainable Forest Management In Africa Volume 23) 288

⁴⁹Matiku, Paul (2010), "The Coastal Forests of Kenya: Forests data, threats, socio-economic issues, values, stakeholders, challenges, strategies, investment and enabling environment" A national synthesis report for the development of the WWF-EARPO Eastern Africa Coastal Forests Eco-region Programme.

⁵⁰Kibet S. and C. Nyamweru Cultural and Biological Heritage at Risk; The Case of the Rabai Kaya Forests in Coastal Kenya

⁵¹ Article 40(5)

varieties of Kenyan communities.⁵² This is addressed by the enactment of the Protection of Traditional Knowledge and Cultural Expression Act, 2016 (the Act).⁵³

However, the protection of traditional knowledge is only from a commercial perspective through the use of intellectual property rights which provide commercial incentives⁵⁴. Intellectual property rights commoditize knowledge and vest ownership of that knowledge in an individual be it a natural or artificial person, therefore, failing to take a holistic approach to traditional knowledge. ⁵⁵Traditional knowledge has a spiritual and cultural significance which has contributed to conservation of biological diversity. Traditional knowledge expresses a world view in which human beings and the natural world, for example forest resources, are interconnected therefore creating an obligation of stewardship.⁵⁶ Intellectual property rights, by focusing only on commercial benefits fail to take into account the stewardship role of traditional knowledge.

Traditional knowledge that is relevant for conservation purposes goes beyond mere registration, recognition or intellectual property.⁵⁷Traditional knowledge encompasses a value system, ethics, religion and most importantly a world view of the interaction between the different components of the environment of which human beings are a components. These moral, ethical and spiritual connotations are what give traditional knowledge an edge when it comes to biodiversity conservation, which are more effective than the command and control measures that are contained in the formal law.

1.3 Research questions

1. What traditional knowledge exists within the Mijikenda community that has contributed to the sustainable management of the Kaya Forests?

⁵² Article 11(3)(a)

⁵³ Act No 33 of 2016

⁵⁴ Graham Dutfield (2003), *Protecting Traditional Knowledge and Folklore, A review of progress in diplomacy and policy formulation,*(*International Centre for Trade and Sustainable Development*) p23

⁵⁵Chidi Oguamanam., *International Law and Indigenous Knowledge: Intellectual Property, Plant Biodiversity, and Traditional Medicine* (Toronto, University of Toronto Press, 2006) p195

⁵⁶Tom Bennett & Kabir Sanjay Bavikatte, 'Community stewardship: the foundation of bio-cultural rights' (2015) *Journal of Human Rights and the Environment*, Vol. 6 No. 1, pp. 13

⁵⁷Daniel J. Gervais *Spiritual but Not Intellectual? The Protection of Sacred Intangible Traditional Knowledge* [2003-2004] 11 *Cardozo J. Int'l & Comp. L.* 467

2. How effective is the law and policy in protecting traditional knowledge of the Mijikenda community for sustainable management of the Kaya forests?
3. How can traditional knowledge be integrated into modern forest management practices?

1.4. Research Objectives

1. To identify the traditional knowledge of the Mijikenda community that has contribute to the sustainable management of the Kaya Forests.
2. To appraise the effectiveness of the law and policy in protecting the traditional knowledge of the Mijikenda community relevant to sustainably managing of Kaya Forests.
3. To investigate ways of integrating traditional knowledge into modern forest management practices.

1.5 Justification of the Study

Forests are an important natural resource that provides all ecosystem services. On 4th June 2018, the Ministry of Environment and Forestry launched a tree planting campaign to plant 360 million tree seedlings every year for the next 5 years to attain the minimum 10% forest cover⁵⁸. Moreover, the state is required to protect and enhance the intellectual property and indigenous knowledge on biodiversity of Kenya communities. Therefore the Ministry of Forestry and environment can learn ways through which the realization of the minimum 10% tree cover and maintenance of the existing forest cover can be achieved through the application of traditional forest related knowledge. This research is also timely because the Protection of Traditional Knowledge and Cultural Expression Act came into force in the year 2016. Therefore, this research will serve as a field test of the contributions of the Act in forest conservation through cultural protection. This research shall be of help to the Mijikenda community by providing them with insight on how they can protect their TFRKP and practices for the benefit of future generations as well as providing them with a avenue through which they can be empowered to know their rights over their forest resources.

⁵⁸ Article 69(1)(b)

1.6 Theoretical Framework

This study is grounded on the theory of ethno-ecology. The main proponent for this theory is Harlod Cockin⁵⁹. This is the study of how traditional groups and human beings in general classify their knowledge of the environment and environmental processes.⁶⁰ This theory is premised on the idea that human beings have for millions of years have molded their environments through their conscious and unconscious activities that it is impossible to separate nature from culture. Traditional knowledge falls into two categories. The first category includes knowledge that is inherited from generation to generation and is shared among members of a community. Such knowledge is transmitted through folk song, rituals and cultural practices of a community. The second category includes knowledge that is gained through the individual experiences through interaction with the environment and in particular forest resources. Using the communal knowledge, an individual can better understand and explain his or her individual experience. In both categories, the interaction between human beings and the environment is influenced by thought and language which determine the world view that an individual or community will have towards the environment or in this case forests. Therefore, the perceptions that human beings will have towards the environment is what determines the interaction between people and trees or animals. This perception in the mind of the individual or a people is then expressed through language for example the names of trees or animals.

Ethno-ecology further postulates that different groups of people or communities perceive the world differently as a result of varying social, historical, cultural, and environmental conditions and experiences. As such culture has a distinct ecological adaptation depending on the geography within which a group of people live in. Therefore, depending on the place, in terms or geography and history, a community develops rules that guide individual members in their interaction with the environment. The rules can be likened to customary laws. The combination of place and laws then results in a belief system, a world view, as stated above. As such, depending on a communities world view be it religious in nature or utilitarian, cultural norms will develop guiding how an individual exploits the environment.

⁵⁹ Nazarea V, *A View from a Point; Ethnoecology as Situated Knowledge* in Nora Haenn & Richard R.Wilk (eds) *The Environment in Anthropology A Reader in Ecology, Culture, and Sustainable Living* (2006)(New York University Press) pg. 34

⁶⁰Brosius Peter J, *Ethnoecology: An Approach to Understanding Traditional Agricultural Knowledge*

In application of this theory to the current study, Mijikenda community perceives the Kaya Forests as sacred natural sites. Furthermore, the forests are perceived as resting place of their ancestors. As such this perception of this space, the forest, is what guides the individual members and the community in interacting with these natural resources. This study shall not focus on the naming and categorization of the different forest components but it shall focus on the norms and behavioral practices that guide the management of forests, and how those norms can be protected and enhanced.

Culture is the foundation of the nation and the cumulative civilization of the Kenya people.⁶¹ The state is required to promote all form of national and cultural expression,⁶² recognize the role of science and indigenous technologies in the development of the nation⁶³ and promote the intellectual property rights of the people of Kenya.⁶⁴ Moreover, Article 44(1) of the constitution guarantees the right to cultural expression. Culture, as evidenced by the Constitution, is building block of the Kenyan society. Additionally the environment is the heritage of the Kenya people. Therefore, traditional knowledge relevant for environmental conservation is a form of cultural expression. It is an adaptive mechanism to the different ecological settings that Kenyan communities live in. The theory of ethno-ecology is relevant to this study as it examines whether or not the law and policy on traditional knowledge enhances the adaptive capability of the communities to the changing environmental conditions. Further, it assists in analyzing the findings of this research.

1.7 Conceptual Framework

The erosion of traditional forest related knowledge and practices can be attributed to factors such as negative attitudes through which customs are viewed as witchcraft, demographic changes caused by rural-urban migration and contact with other cultural groups. In addition, government policy and legislation has relegated traditional forest related knowledge and practices to the periphery as an alternative mode of thinking second to scientific methods and thinking. These

⁶¹ Constitution of Kenya Article 11(1)

⁶² Ibid 11(2)(a)

⁶³ Ibid 11(2)(b)

⁶⁴ Ibid 11(2)(C)

causes are the underlying factors that give rise to direct threats to traditional forest related knowledge.⁶⁵

Direct threats arising from underlying threats lead to the erosion and or disappearance of traditional forest related knowledge. Direct threats include weakened transmission due to the presence of aged practitioners, diminished participation and halted transmission, change in traditional religion and beliefs and change in traditional livelihood practices.⁶⁶

These factors contribute to the breakdown of traditional forest governance system resulting in the loss of tree cover, ineffective and inefficient traditional instructions and over exploitation of forest resources through illegal logging. This study therefore seeks to intervene by advocating for conservation actions in relation to traditional forest related knowledge. These conservation actions include creating awareness through of the importance of traditional forest related knowledge in forest resource management. Capacity building within communities to help them identify ways in which they can protect and propagate their knowledge and customs as communities are in the best position to protect and preserve their own traditional knowledge and practices. As a consequence the underlying threats shall be dealt with as the root cause to the erosion of traditional knowledge will be eliminated and at the same time sustainable forest management shall be realized. The manifestation of sustainable forest management shall be indicated by increase forest cover as illegal and uncontrolled logging shall be checked by the communities living adjacent to the forests and at the same time it shall stimulate economic growth through eco-tourism and ethno-tourism.⁶⁷

⁶⁵ Ruifei Tang and Michael C. Gavin 'A Classification of Threats to Traditional Ecological Knowledge and Conservation Responses' (2016) Vol. 14, No. 1 Conservation & Society, 57 < <https://www.jstor.org/stable/26393228>> accessed 15/11/2018

⁶⁶ Ibid

⁶⁷ UNESCO, Dive into intangible cultural heritage! < <https://ich.unesco.org/en/dive&display=threat#tabs>> accessed 15/11/2018

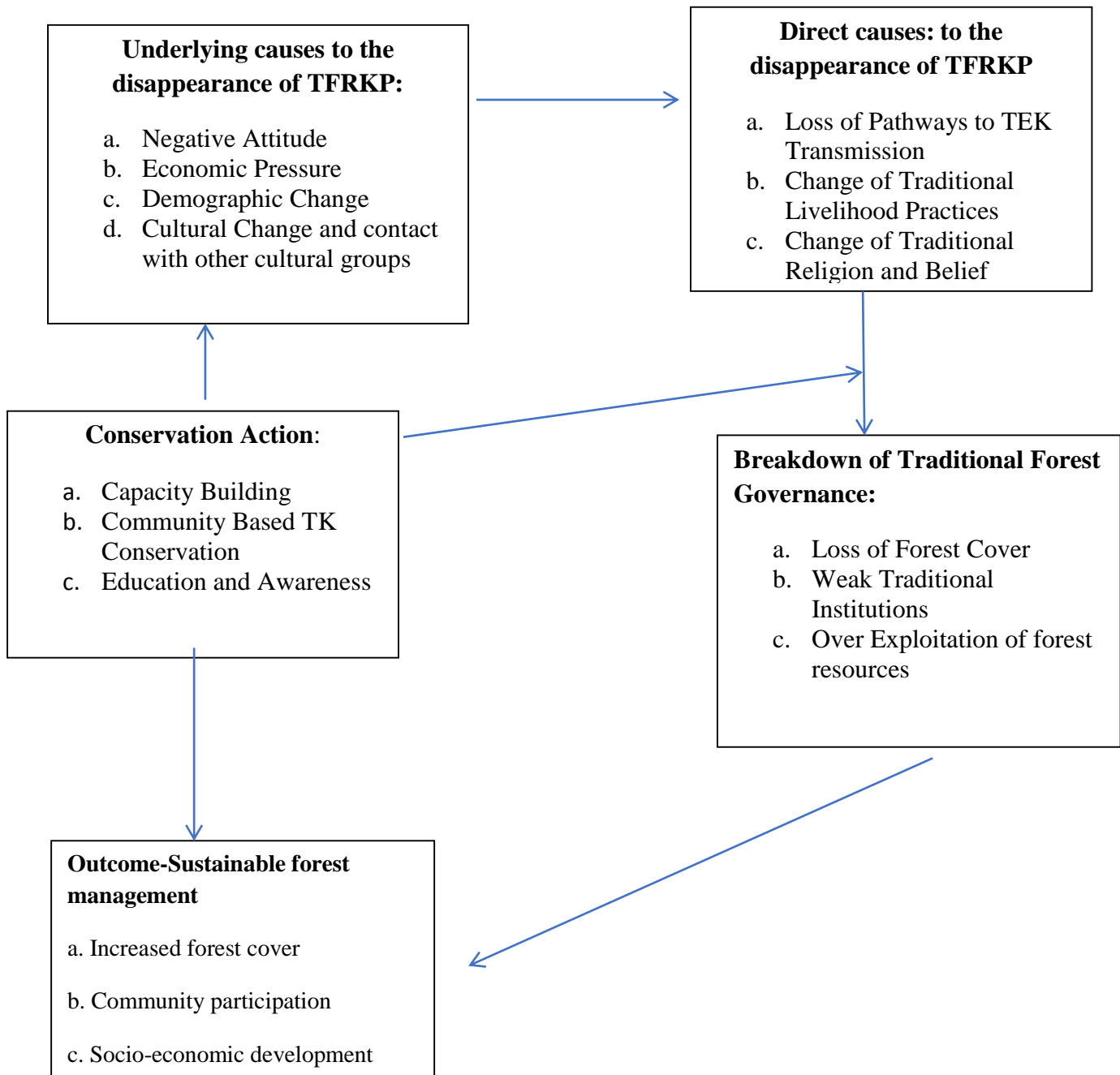


Figure 1: Conceptual framework

1.8 Thesis Structure

Chapter one presents the general introduction to the study and gives context to the research topic, a general idea of the research problem and signposts the background and validates the study. It further gives the conceptual and theoretical framework that guided the study.

Chapter two entails the literature review introducing an examination of forest management practices with an emphasis on sustainable forest management and how traditional knowledge has contributed to its realization. It further discussed traditional forest management and how it has been applied by the Mijikenda community management of the Kaya forest. It also proceeded to discuss the nexus between traditional knowledge and intellectual property rights and reasons as to why intellectual property rights are not suitable for the protection of traditional knowledge and conclude by discussing the research gap this study intends to fill.

Chapter three discusses the research methodology, research design and data collection methods. It also presented the sample size and the sampling methods and concluded with data analysis

Chapter four analyses the findings and results of the study. Data was presented in tables and charts where necessary

Chapter five finally provides the conclusions, recommendations and addressed areas for further research

CHAPTER TWO

Literature Review

2.1 Introduction

This chapter provides a review of various literatures relating to traditional knowledge and forest conservation. It begins with an examination of forest management practices with an emphasis on community based/participatory approaches to forest conservation. It then examines the legal response to protecting traditional knowledge. Lastly, it examines the conservation and sustainable use of the Kaya forests while highlighting some of the factors that have led to the erosion of these practices with the consequent effect of degradation of the Kaya forests. The chapter ends by discussing the gaps that exist in the current literature which the current study intends to fill.

2.2. Forest management

2.2.1 Sustainable Forest management.

.There is no universally agreed upon definition of the term sustainable forest management. Rather it denotes of a management approach to forests that ensure they provide a sound supply of renewable forest reseouces for the present and future generations and maintain the environmental and social services provided by forest.¹ Sustainable forest management aims at reconciling forest conservation with lively hood needs taking into account ecological, social and economic aspects.

2

The function of forests as productive and cultural assets for forest dwelling communities was neglected while the preservation of bio-diversity and wildlife was considered the task of governments, conservation agencies and international environmental organizations.³ Conservation had for a long time been characterized by neglect of human needs and interests to the extent of being labeled as eco-totalitarian. In Africa, conservation had been dominated by an

¹ Muigua Kariuki (et al) Natural Resources and Environmental Justice in Kenya (Glenwood Publishers) p 169

² MirjamA.F, Ros-Tonen, Ton Dietez, & Fred Zaal, *Reconciling Conservation Goals and Livelihood Needs: New Forest Management Perspectives in the 21 Century*. in Mirjam A.F, et al (eds) African Forests Between Nature and Livelihood Resources; Interdisciplinary Studies in Conservation and Forest Management (2006), The Edwin Mellen Press, Ontario Canada. P7

³ Ibid

authoritarian approach. Biodiversity and wildlife were protected in national parks and nature reserves patrolled by uniformed officers and penalties imposed on those who enter without authority. Environmental education and awareness relating to such conservation efforts focused on installing respect for the law. Permission to use forest resources under this strictly protectionist regime could only be acquired from an official government body.

The idea of sustainability as encompassing three aspects of ecological, economic and social considerations has become widely accepted in natural resource management. As such forest resources management would not overlook people's needs and their right to adequate livelihood provision. Sustainable forest management aims at managing and utilizing forests for different ends not just for timber products but also for preservation of nature, wildlife and for traditional uses or protecting the habitat for local people. It is widely accepted that effective forest management is impossible without the active participation of local people. As such forestry management approaches that involve local communities have become widespread. The aim is to provide communities with fuel, food and other forests products to meet basic needs while at the same time conserving the forest resources thus giving an opportunity for the growth and exercise of traditional knowledge on forest management.

Some of the approaches that aim at meeting the objectives of SFM, include community based conservation. According to Situma the legal regime on forestry focused on the central government as the main forest manager with little to no involvement of citizens. The government was the exclusive policy maker, decision maker and implementor without community involvement. As a result communities viewed themselves as having reduced responsibility for the management of forests resulting in a breakdown of a sense of community ownership and control of forests as well as the benefits received from the forest. Government on the other hand lacked the capacity to maintain the quality of forest which had been over exploited. This problem was overcome by incorporating participatory and collaborative management of forest through involvement of communities as key stake holders through community forest management.⁴ This management method aims at conserving biodiversity while providing incentives to local people such as eco-tourism. The focus on this approach is the participation of people in the planning and

⁴ F.D Situma 'Forestry Law and the Environment' in C.O Okidi et al (eds) Environmental Governance in Kenya (2008, East Africa Publishers Limited)

management processes. It is devolution of natural resource management is to local people⁵ Under this rubric of community based conservation is participatory resource management. This approach appears under various headings such as co-management, participatory, collaborative, joint, mixed, and multiparty or roundtable management. It is a management approach that incorporates numerous partners with a variety of roles whose over all aim is environmental conservation, sustainable use of natural resources, and the equitable sharing benefit and responsibilities. This management approach is similar to community based conservation because it is often part of it and shares the same ideals of devolution in natural resource management.⁶

Adaptive or negotiated management is a form of community based management that is applied to socially differentiated communities, involving multiple actors and dynamic ecological and institutional environments. Due to the unpredictability of social and ecological processes, a gradual decision making process on natural resource management based on negotiations, accumulated experiences, social learning and monitoring is adopted. This approach accommodates the views, and competing needs of different stakeholders.

The above mentioned forest management approaches all aim at securing the livelihood of local communities However, these management approaches do not address the preservation of culture hence the need to incorporate bio-cultural approaches in SFM.

Gavin (et al) argues that bio-cultural approaches to conservation can achieve effective and just conservation outcomes while addressing erosion of cultural and biological diversity.⁷ These are approaches to conservation that emphasis on interdependence between biological and cultural diversity. These approaches recognize there exists multiple world views that provide different sets of knowledge and experience thus providing human beings with grater adaptive capability to current and future environmental challenges. Examples include co-management, community-based conservation and protection of bio-cultural heritage. These approaches recognize that culture is dynamic, and that this dynamism shapes resource use and conservation. Therefore, solutions to environmental problems designed for universal application is inappropriate and ineffective for conservation. However, applying bio-cultural approaches to conservation is faced

⁵ Ibid n 2

⁶ Ibid p11

⁷ Gavin (et al) *Defining biocultural approaches to conservation*, (2016)Trends in Ecology & Evolution Vol. 6

with a number of challenges; for example bridging the gap between different world views and limited funding. This work supports the study by demonstrating that forest conservation efforts should consider the cultural heritage of a community with which the forest is situated. Therefore conservation efforts should be guided by the culture of the community within which conservation is taking place.

Following the Rio conference of 1992, participation of all stakeholders in natural resource management took center stage.⁸ Principle 10 of the Rio declaration provides that environmental issues are best handled with the involvement of the concerned citizens at the relevant levels together with access to the relevant information help by public authorities. The concept of participation challenged the centralized management of natural resources by the state. Participatory approaches to forest management emphasizes on the devolution of forest management rights in exchange for mutually enforceable responsibilities with the aim of producing positive ecological, social and economic outcomes.⁹ Koech (et al) posit that participatory forest management (PFM) has become the leading forest management approach. It is a forest management approach that involves multiple stakeholders such as the private sector, government institutions and local communities. These multiple stakeholders share in the management duties and the benefits that accrue. Approaches aimed at empowering communities as managers of forest resources are called community forest management (CFM).¹⁰ This is a forest management approach which involves the forest-adjacent communities in forest management activities such as conservation while at the same time meeting the needs of the community such as employment. As a result, this leads to a change in attitude in the forest – adjacent-communities leading to a change in the level of forest conservation. However, community forest management faces challenges such as over reliance of forest resources by a large number of people and poor organization. The Forest Management and Conservation Act, envisions community participation through community forest associations (CFA) enabling local communities participate in the management of public forests.¹¹ Therefore CFM is a management

⁸ Ballet et al, *‘Co-Management of Natural Resources In Developing Countries: The Importance Of Context’* (2010) Economy International, p. 53-76.

⁹ Blomely Tom et al *‘Hidden Harvest, Unlocking the Economic Potential of Community Based Forest Management’* in German Laura (ed) *Governing Africa’s Forests in a Globalized World* (Earthscan, 2011)

¹⁰ Koech C.K (et al) *Community Forest Associations in Kenya: challenges and opportunities* (2009) Kenya Forest Research Institute

¹¹ Forest Conservation and Management Act, Section 48

approach through which forest adjacent communities bare the primary responsibilities of forest management.

Another form of PFM is co-management. This is a management approach through which the government, through an agent, and communities share responsibility in the management of forests. This management approach attempts to combine the strengths of local communities and that of government. The involvement of local communities brings with it various advantages; such as access to information about the state of forest resources, and lowers the costs of enforcement due to the cooperation from the communities. Government on the other hand has the advantage of access more resources and ecological analytical tools as well as financial resources.¹² However local communities can be marginalized in the decision making process, where by communities are told what to do. This creates a mismatch between the values of the community and government towards forest resources. For example, a community may attach spiritual and cultural significance to forest resources. The government on the other hand the government my take a purely technical and utilitarian approach to forest resources resulting in a similar legal characterization. As such communities do not see the relevance of the rules and therefore do not change their behavior to conform to the law.

Co-management and CFM are similar because they are both participatory approaches to forest management which seek to maximize the chances of attaining sustainable forest management. However these two approaches can be distinguished With CFM communities are usually the only players in the management process while co-management involves having many actors including civil society organizations. With regard to sharing of benefits, the benefits which the community can receive under CFM are clearly identified such as collection of medicinal herbs, eco-tourism grass harvesting and grazing among others.¹³ On the other hand with co-

¹² Odera J, 'Lessons Learnt form Sustainable Forest Management in Africa;' (National Museums of Kenya, 2004) p 130 available at <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKewjbxPy934fmAhW0uXEKHfTdDgoQFjAAegQIAxAC&url=http%3A%2F%2Fafforum.org%2Fsites%2Fdefault%2Ffiles%2FEnglish%2FEnglish_118.pdf&usg=AOvVaw3p8HA3wxOfHcLeW93lOkLM> accessed 12/11/2019

¹³ Forest Management and Conservation Act, Section 48 (2)

management the benefits which communities receive are not easy ascertainable as the same is left to the determination by the government or stakeholder interest.¹⁴

2.3 Protection of Traditional Knowledge

Traditional knowledge provides the basis upon which communities have thrived in hostile natural environments. Traditional knowledge, technologies and cultural expressions are not old, obsolete and maladaptive but are highly evolutionary, adaptive and creative. Additionally, it a body of knowledge, customs, beliefs and cultural works and expressions handed down from generation to generation; tradition forms the glue that strengthens social cohesiveness and cultural identity. ¹⁵In most occasions this knowledge and resources are communally held. However, ownership is often subject to customary law and practice and based on the collective consent of the community. Specialized knowledge may be held exclusively by males, females, certain lineage groups, or ritual or society specialists such as healers who have rights of varying levels of exclusivity. Such specialized knowledge is not for the benefit of the individuals who possess it but for the benefit of the entire community. As such, customary laws regulate the access and use of local knowledge, resources, and cultural products. However, customary laws only apply to a community which subscribes to the customs.

Traditional medicines, derived from plants, are used as inputs in biomedical research. They not only constitute a source of income as drugs in themselves but also as sources of chemical substances forming the basis of new pharmaceuticals. Traditional knowledge provides input to modern industries such as pharmaceuticals, cosmetics, agriculture and biological pesticides. Moreover the sources of these chemicals are plants that constitute non-timber related forest products, which prove to be more valuable than timber. However, the technology, scientific know how and marketing capability for value addition is often held by developed countries, denying revenue to the developing countries. Secondly, to prevent bio-piracy, bio-pirates are individuals and companies accused of the un-authorized collection for commercial ends of genetic resources and/or traditional knowledge or the misappropriation of genetic resources and/or traditional knowledge through the patent system. In both situations no benefits flow to the

¹⁴ Wily LA '*Participatory Forest Management in Africa, An overview of progress and issue's* : Proceedings of the Second International Workshop on Participatory Forestry in Africa (2005, FAO)

¹⁵ Graham Dutfield, *Intellectual Property, Biogenetic Resources and Traditional Knowledge* (2004, Earth scan)

knowledge holders. As such defensive measures are taken to pre-empt bio-prospecting. Third, to conserve the environment, as the protection of traditional knowledge can provide significant environmental benefits because of the conservation ethics evident in the subsistence and resource management practices of many local communities. And lastly to improve the livelihoods of traditional knowledge holders and communities who depend on traditional knowledge for their livelihoods and well-being, as well as to sustainably manage and exploit their local ecosystems. This is achieved through the exploitation of traditional medicine, food and other not-timber forest products.

Notwithstanding these benefits more so those arising from the industrial application of traditional knowledge, the local custodians and practitioners of that knowledge are left out from the benefits arising. To secure these benefits, which are primarily commercial, an intellectual property regime has been adopted. This threatens the cultural integrity of indigenous knowledge which by failing to capture the worldview of the knowledge holders.

As such IPRs are not fit for protecting traditional knowledge because it is more often than not community property derived from a communal effort. Thus each member of the community is entitled to a share in it and no one individual can exercise exclusive claim to the knowledge. IPRs however create ownership rights which are vested in individuals be they natural or juristic person. Thus the communal nature of ownership stands in contrast with the individualized nature of IPRs. Furthermore, communities as an organizational structure lacks legal capacity, that is they are not juristic persons in whom ownership rights can be vested. Secondly, traditional knowledge is handed from one generation to another among members of a community. Therefore, it is not new or original information that is the subject of IPRs. Such information is part of the intellectual commons freely available within the community within which it exists. Thirdly, traditional knowledge exists primarily within oral culture. The same is remitted orally. In most occasions it is not written down. Some intellectual property regimes, such as patents, require to be expressed in a written technical language which is then published. Lastly, IPRs are for a fixed term. For example, copyright subsist for period of 50 years, trademarks for 10 years, and patents for 12. Traditional knowledge is timeless as it is generational in nature and is always evolving. Its beginning and end are not easily determined by a fixed time period as IPRs.

IPRs are market driven instrument most suited to capitalist ideology. They are designed to serve the market economy and advance commercial interests as a matter of priority over all other consideration including cultural sensitivities. As such IPRs facilitates commodification of all things, including traditional knowledge with its attended cultural identity. Knowledge which is viewed as sacred is put on an economic scale, and for indigenous communities, this commoditization and commercialization, as facilitated by IPRs, is not acceptable in dealing with their sacred knowledge and ecological experience.

Oguamanam is of the opinion that IPRs are unable to adequately to protect traditional knowledge because they are not designed for that purpose.¹⁶ He argues that knowledge protection regimes are products of the socio-cultural environments in which knowledge is generated. Hence every culture has knowledge-protection mechanisms. Since IPRs were developed for a Western culture, the same cannot apply to traditional knowledge developed in non-Western societies, unless the world views of those societies are assimilated to mirror those of Western Societies.

Daniel J.Gervais on the other hand examines how far intellectual property systems can be extended to the needs of traditional knowledge holders.¹⁷ He observes that intellectual property and copyright law in particular, emphasizes the role of individuals in knowledge creation. As such, intellectual property laws fail to reward the communities that provide the foundation for the work the subject of intellectual property rights. If intellectual property rights are applied to traditional knowledge, the communal ownership of the object of the right must be recognized. He notes that traditional knowledge consisting of sacred intangible knowledge has been neglected due to a lack of commercial value attached to this kind of knowledge. He observes that indigenous communities wishing to rely on intellectual property to prevent the use of sacred traditional knowledge would be more focused on preservation of cultural and spiritual dignity and not the financial incentives. This work is useful to this study because it demonstrates that intellectual property rights are commercial driven. This fails however to take into account the

¹⁶ Chidi Oguamanam 'Tiered or Differentiated Approach to Traditional Knowledge and Traditional Cultural Expressions': *The Evolution of a Concept* (2018) CIGI Papers No. 185

¹⁷ Daniel J. Gervais, 'Spiritual But Not Intellectual? The Protection Of Sacred Intangible Traditional Knowledge' (2004) 11 *Cardozo J. Int'l & Comp. L.* 467 2003-2004

aspects which contain values and norms that have proven most useful in the conservation of biodiversity and natural resources.

Krystyna Swiderska opines that formal efforts to protect traditional knowledge at national and international level have been led largely by governments and intellectual property rights experts, with limited participation of traditional knowledge holders themselves.¹⁸ National governments tend to focus on the on benefit-sharing with the state largely retaining the role of decision-maker on behalf of traditional knowledge holders. In international forum the World Intellectual Property Organization has been leading the discussions on the protection of traditional knowledge emphasizing the role of contracts and existing intellectual property rights. The writer notes that limited participation of local peoples in national and international discussions towards developing mechanisms for traditional knowledge protection, western concepts, models and laws shape this discussion rather than the beliefs, worldviews and customary laws and practices of indigenous peoples.

In a study focusing on the protection of the traditional knowledge of the Mijikenda and the Maasai communities the researchers observed that protection of traditional knowledge has primarily been through the use of intellectual property standards which are unsuitable for protecting rights over traditional knowledge because they provide commercial incentives, whereas traditional innovations are driven primarily by subsistence needs.¹⁹ They advocate for protection rooted in local customary laws. They found that Mijikenda traditional knowledge systems and customary laws are being eroded. Some, customary laws have been lost or modified, or selectively applied. Additionally, since colonial times, the Mijikenda have lost much of their kaya land and sacred forests to development and conservation initiatives. They state that sharing of knowledge was based on trust, but capitalism has eroded this practice, and resource ownership has tended to shift from communal to private. During their study, Traditional Knowledge Registers, as a form of traditional knowledge protection, were piloted among the Mijikenda aimed at enhancing communal ownership rights of access and reduce erosion. They observe that

¹⁸ Krystyna Swiderska , *'Traditional knowledge protection and recognition of customary law: Policy issues and challenges'* (2004, International Institute for Environment and Development) available at < <https://pubs.iied.org/pdfs/G01252.pdf>> accessed 16/8/2018

¹⁹ Krystyna Swiderska et al *'Protecting Community Rights Over Traditional Knowledge Implications Of Customary Laws And Practices'* (2010, IIED) available at < <https://pubs.iied.org/pdfs/14591IIED.pdf> >accessed 16/8/2018

the documentation process revealed an enhanced appreciation of cultural heritage and the inability of the local community to harness economic benefits arising from this knowledge. They recommended that capacity building in formal recording as a protection strategy. This research is significant to this study because it demonstrates that inadequacy of intellectual property rights systems in protection of traditional knowledge. It further demonstrates that that is a need for the protection of this knowledge. However, they have failed to explain how customary laws can be used in the protection of traditional knowledge. Furthermore they have not explained how establishing register will contribute to the conservation of the kaya forest.

2.4 Traditional Knowledge of the Mijikenda and Conservation of the Kaya forest

Wangila and Shauri have investigated the impact of traditional knowledge systems in the conservation of the Kaya forests.²⁰ The research revealed a close nexus between Mijikenda cultural practices and the organization of their lives around the Kaya forest and other natural resources. The Kaya (which means homestead) are clearing surrounded by defence forest mostly on the top of hills. Historically, they served as protective forts to the Mijikenda community against attacks by neighboring Orma and Galla communities. Within the Kaya there were buried magical objects called fingo which were believed to provide protection to the community. This therefore connotes a spiritual connection to the forests and the surrounding land.

Githitho observes that the Kaya forests are botanically diverse and have a high concentration of endemic biological diversity.²¹ The Kaya forests were revered as scared therefore, cutting of trees or destruction of vegetation was prohibited. The writer observes that by maintaining the sacredness of the Kaya forests, access and use was controlled through taboos and belief in the supernatural from which punishment for transgression would come. The forest was a burial site for the community and was believed to be a home for spirits this use proved effective in controlling the behavior of people with regard to the use of the forest resources. The writer observes that cutting of trees and other activities that could damage the forest around the Kaya was strictly forbidden. When entering the forest, one kept to designated paths preventing the

²⁰ Wangila Abraham and Shauri Halimu, *Impact of Indigenous Knowledge on the Conservation of Kaya Forests as Practiced by the Mijikenda of Kenya* (2008. Kenya Forest Research Institute)

²¹ Githitho, 'Traditional conservation and management practices in the sacred Mijikenda Kaya forests of coastal Kenya' in: Thierry Joffroy (ed.) *Research Project on Traditional Conservation Practices in Africa, Conservation of Immovable heritage in Sub Sahara Africa* (2001, ICCROM) available at <https://www.iccrom.org/sites/default/files/ICCROM_IC502_TraditionalPractices_en.pdf> accessed on 21/1/2018

trampling of vegetation. Grazing livestock in the forest was also forbidden. Furthermore, people who engaged in destructive activities within the forest risked being cursed by elders. The writer is of the view that the decline in knowledge about and respect for traditional values combined with demand for forest products, agriculture and other activities has resulted in the destruction of the forest. This literature is significant to the study as it demonstrates how a traditional religious system regarding acceptable and profane behavior within the Kaya has contributed to the conservation of the forests.

Mutta observes that the existence of the Kaya can be attributed to the Mijikenda culture and beliefs.²² The writers state that the Mijikenda were governed by Kaya elders (Ngambi) who were responsible for making the rules that controlled the access and use of resources within the forest. The introduction of a central governance system of the management of the Kaya forests in 1992 led to a decreased influence of the Kaya elders in the management of the forests. The writers observe that traditional and formal governance systems have always been in conflict with the traditional governance systems being relegated. The gazettement and inclusion of the Kaya forests in the World Heritage List put the management of the forests in the hands of the Kenya Forest Service and the National Museums of Kenya as a result the forest was opened up to exploitation. The writers observe that modern forest management practices have led to a decrease in biodiversity as members of the community started to clear the forest for agricultural use. This study is relevant because it demonstrates how modern forest management practices have failed in the protection of the Kaya forests and the breakdown of traditional institutions.

Kibet and Nyamweru investigate some of the factors that have led to the disappearance of traditional knowledge.²³ The writers first described that Kaya as being sacred to the Mijikenda. Sacred site are recognized as the home of a deity, ancestors or other benevolent or malevolent spirits. The writers observe that religion and in particular Christianity has lead members of the community in particular the youth to shun the traditional practices. Staunch Christians do not

²² John A. Parrotta (ed) ‘*Traditional Knowledge Systems For Management of Kaya Forests in Coast Region of Kenya Traditional Forest-Related Knowledge And Sustainable Forest Management in Africa*,’ (2009, IUFRO World Series NO 23) available at <<https://www.iufro.org/de/publications/series/world-series/article/2009/09/10/world-series-vol-23-traditional-forest-related-knowledge-and-sustainable-forest-management-in-afr/>> accessed 12/4/2017

²³ Kibet and Nyamweru, ‘Cultural and Biological Heritage at Risk; The Case of the Rabai Kaya Forests in Coastal Kenya’ (2008) 24(4) J. Hum. Ecol 287 available at <https://www.researchgate.net/publication/237379464_Cultural_and_Biological_Heritage_at_Risk_The_Case_of_the_Rabai_Kaya_Forests_in_Coastal_Kenya> accessed 13/4/2017

want to be associated with issues touching on traditions and values. The study the writers conducted revealed that members of the community denied any knowledge of or participation in kaya rituals since they are saved Christians. They further observe that members who are Christians viewed the traditionalists as witches and the belief in the spirits as being satanic.

This literature is particularly important to the study as it shows how changes in religion had affected the way the community relates to the environment. As such a religion will inform the way of life of most people and if the religious practices don't call for the conservation and protection of the environment it will lead to the degradation of forest ecosystems. Furthermore, the disappearance of the traditional religious practices would mean the disappearance of the knowledge and practices that led to the conservation of the forests.

2.5 Research Gap

From the literature reviewed above, there exists studies that have individually focused on forest conservation and traditional knowledge and the protection of traditional knowledge. However, no study has been conducted examining how these three concepts relate to each other more so how they influence forest conservation and sustainable forest management. This study therefore seeks to examine legal measures for protecting traditional knowledge and how those measures can contribute to sustainable forest management. It further seeks to examine the nexus between the protection of traditional knowledge and forest conservation.

2.6 International Conventions for the protection of traditional knowledge as cultural property

2.6.1 Convention for the Protection of the World Cultural and Natural Heritage²⁴

The objectives of this convention are to stem the destruction of cultural heritage and the natural heritage due to changing social and economic conditions.²⁵ The convention aims at protecting cultural heritage and conserving nature. Cultural heritage has been defined to include monuments which are of outstanding universal value from the point of view of history or from an ethnological or anthropological point of view.²⁶ State parties are under an obligation to protect

²⁴ Available at <<https://treaties.un.org/doc/Publication/UNTS/Volume%201037/volume-1037-I-15511-English.pdf>> Came into force on 17 December 1975

²⁵ Preamble

²⁶ Article 1

their natural and cultural heritage through the identification, conservation, and transmission to future generations.²⁷ In addition state parties are required to adopt a policy which aims at giving cultural and natural heritage functions in the life of communities.²⁸ And lastly states are required to set up protected areas for the protection, conservation and presentation of the cultural and natural heritage.²⁹

With regard to international protection, the convention establishes the Intergovernmental Committee for the Protection of the Cultural and Natural Heritage of Outstanding Universal Value, the World Heritage Committee within the United Nations Educational, Scientific and Cultural Organization (UNESCO) whose function is to keep up to date and publish the world heritage list.³⁰ This is a list contains properties forming part of the cultural heritage and natural heritage considers as having outstanding universal value.³¹ The Kaya forests were inscribed into the world heritage list in August 2008.³²

2.6.2 Convention for the Safeguarding of the Intangible Cultural Heritage³³

The purpose of this Convention³⁴ is to safeguard intangible cultural heritage³⁵, ensure respect for the intangible cultural heritage of the communities, groups and individuals,³⁶ and to raise awareness of the importance of the intangible cultural heritage.³⁷ Intangible cultural heritage includes the knowledge, as well as the instruments, objects, artifacts and cultural spaces associated therewith that communities or groups recognize as part of their cultural heritage. Intangible cultural heritage is characterized as being transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity.³⁸

²⁷ Article 4

²⁸ Article 5(a)

²⁹ Article 5(b)

³⁰ Article 8(1)

³¹ Article 11(1)

³² <https://whc.unesco.org/en/news/453/>

³³ Available at < <https://ich.unesco.org/en/convention> > Entered into force: 20 April 2006

³⁴ Article 1

³⁵ Article 1(a)

³⁶ Article 1(b)

³⁷ Article 1(c)

³⁸ Article 2(d)

Safeguarding under this convention is through identification, documentation, research, preservation, protection, promotion, enhancement, and transmission through formal and non-formal education.³⁹ States parties are called upon to safeguard their intangible cultural heritage through policy measures aimed at promoting the function of intangible cultural heritage in society,⁴⁰ establish one or more competent bodies for safeguarding of the intangible cultural heritage,⁴¹ adopting appropriate legal, technical, administrative and financial measures,⁴² and creation of institutions for transmission of such heritage through facilitating access and documentation of intangible cultural heritage.⁴³

Safeguarding of intangible cultural heritage at the international is through the List of Intangible Cultural Heritage in Need of Urgent Safeguarding,⁴⁴ the inscription of intangible cultural heritage to this list is the function of the Intergovernmental Committee For The Safeguarding of Intangible Cultural Heritage.⁴⁵ Traditions and practices associated with the Kayas in the sacred forests of the Mijikenda were inscribed to the list in 2009.⁴⁶

2.7 International Conventions for the protection of traditional knowledge as intellectual property

2.7.1 Convention Establishing the World Intellectual Property Organization⁴⁷

This convention creates the World Intellectual Property Organization⁴⁸ whose function is to encourage the conclusion of international agreements designed to promote the protection of intellectual property. ⁴⁹In execution of this mandate WIPO established the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC). The objective of IGC is to undertake negotiations aimed at reaching an agreement on a text of an international legal instrument for the protection of traditional knowledge, traditional

³⁹ Article 3

⁴⁰ Article 13(a)

⁴¹ Article 13(b)

⁴² Article 13(d)

⁴³ Article 13(e)

⁴⁴ Article 17(1)

⁴⁵ Article 17(g)(i)

⁴⁶ Fourth Session of the Intergovernmental Committee(4.Com) Abu Dhabi, UAE 28 September-2 October 2009 available at <<https://ich.unesco.org/en/4com>> accessed on 23 August 2018

⁴⁷ Available at <http://admin.theiguides.org/Media/Documents/WIPO%20Convention_1.pdf> entered into force on July 14, 1967

⁴⁸ Article 1

⁴⁹ Article 4(iv)

cultural expression and genetic resources through the application of IPRs. However this specialized body has not been able to come up with a treaty through which intellectual property rights have been applied to traditional knowledge

2.7.2 Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore⁵⁰

The African Regional Intellectual Property Organization (ARIPO) adopted this protocol on August 9, 2010. The objective of this protocol is to protect traditional knowledge holders against any infringement of their rights.⁵¹ The rights recognised include the right to prevent anyone from exploiting their traditional knowledge without their prior informed consent.⁵² The right to institute legal proceedings⁵³, the right to assign and conclude licensing agreement by holders of traditional knowledge,⁵⁴ and the right to the fair and equitable sharing of benefits arising from the commercial or industrial use of their knowledge.⁵⁵ However, the allows for the granting of a compulsory licence by a state in a situation where the state is of the opinion that the holder of rights in traditional knowledge has refused to grant licences subject to reasonable commercial terms and conditions. This protocol has been domesticated through the Protection of Traditional Knowledge and Cultural Expression Act as the provisions mirror that of the act.

2.8 International conventions on forest management through traditional knowledge

Sands observe that international law on forests falls within the scope of different legally binding global and regional conventions. However, there is no global consensus on a single instrument on forest law and management. As such international forest law is contained in legally and non-legally binding instruments that apply both globally and regionally⁵⁶ The conventions analyzed under this section address the nexus between forest conservation and traditional forest related knowledge.

2.8.1 Convention on Biological Diversity, 1992

⁵⁰ https://www.wipo.int/edocs/lexdocs/treaties/en/ap010/trt_ap010.pdf

⁵¹ Section 1(1.1)(a)

⁵² Section 7(7.2)

⁵³ Section 7(7.4)

⁵⁴ Section 8(8.1)

⁵⁵ Section 9

⁵⁶ Sands P (ed) (2012) Principles of International Environmental Law (2012), pg. 498

The objectives of this Convention are three fold, conservation of biological diversity, sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.⁵⁷ This convention addresses all issues of forest conservation and management by providing measures of in situ and ex-situ conservation and the sustainable use of forest resources. To this end, the Aichi Biodiversity Targets on forestry include target 5 which by 2020 aims at reducing by half the rate of loss of forests and target 7 which by 2020 aims at areas under forestry are managed sustainably, ensuring conservation of biodiversity.

With regard to traditional knowledge, Article 8(J) calls upon state parties to respect, preserve and maintain knowledge of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.

This objective is address by target 17 of Aichi Biodiversity Targets which by 2020 aims enhancing respect for the traditional knowledge, innovations and practices of indigenous and local communities which knowledge will be integrated in the implementation of the Convention with the full and effective participation of indigenous and local communities. The Conference of Parties to the convention in the year 1998 established a Working Group on Article 8(j) whose duties include examining how to integrate traditional knowledge in programmes and work under the convention, developing indicators for the retention of traditional knowledge, address the underlying causes of the loss of such knowledge, and developing an ethical code of conduct to ensure respect for the cultural and intellectual heritage of indigenous and local communities relevant to the conservation and sustainable use of biological diversity.

2.8.2 Non-Legally Binding Instruments on Forests

2.8.2.1 Declaration of the United Nations Conference on Environment and Development Agenda 21

This is an outcome document of providing for the plan of action towards achieving sustainable development.⁵⁸ Agenda 21 provides for a number of objectives that aim at conserving and ensuring sustainable use of forests.⁵⁹ This instrument establishes a general framework for land use with proper sectorial plans for forest conservation.⁶⁰ Chapter 11 of the Agenda 21 expressly

⁵⁷ Article 1

⁵⁸ Phillippe Sands 'Principles of International Environmental Law' (3rd Ed Cambridge University Press, 2012)

⁵⁹Chapter 9.20

⁶⁰ Ibid Chapter 10.7 (c)

addresses vast issues on combating deforestation. The instrument provides for a sustaining a number of roles and functions of all types of forest, forest lands and woodlands. The main objectives as outlined in chapter 11.2 include developing initiatives that seek to strengthen the relevant state actors in conservation and enhancing the scope of activities affecting forests and forest lands. Some of the activities expressly provided under the instrument include; ⁶¹ rationalizing and strengthening administrative actors to facilitate conservation of forests and forest lands, and encouraging and promoting public participation in the protection and conservation of the environment with emphasis on forest or general activities touching on forest lands.

2.8.2.2 Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Forest principles)

This instrument was adopted by the UN the General Assembly on 17 December 2007. This instrument is not legally binding and does not commit countries to any specific programs or targets. It thus reflects instrument reflects the absence of international consensus on the subject. This instrument applies to all types of forests. Each state is responsible for the sustainable management of its forests and the enforcement of its forest-related laws. The overall aim of this instrument is sustainable forest management through enforcement of forest related laws, participation of all relevant stakeholders in forest management and decision making, financial assistance by developed countries to developing countries, and good governance. Furthermore, it reaffirms the global objectives on forest management which include; reversing the loss of forest cover worldwide, enhanced forest-based economic, social and environmental benefits by improving the livelihoods of forest-dependent people; increasing the area of protected forests worldwide and reversing the decline in official development assistance for sustainable forest management through increased, new and additional financial resources. Among the national policy options suggested that directly call for the application of traditional knowledge include; the protection and use of traditional forest-related knowledge and practices in sustainable forest management with the approval and involvement of the holders of such knowledge, and promote fair and equitable sharing of benefits from their utilization.

⁶¹Ibid chapter 11.3 (a-g)

2.8.2.3 United Nation Forum on Forests and the Collaborative Partnership on Forests

The United Nation Forum on Forests is an initiative that was conceived in April 2001 to promote care and protection of all flora other than those found in the forests or forest land. The functions for the formation of this initiative as outlined in the Collaborative Partnership Forum include⁶² support of the work of UN Forum on Forest (UNFF) and its member countries; provide scientific and technical advice to the Forum and governing bodies of other Collaborative Partnership on Forest members, at their request; enhance coherence, cooperation as well as policy and programme coordination at all levels, including through joint programming and the submission of coordinated proposals to members' governing bodies, consistent with their mandates; promote the implementation of the UN Forest Instrument and the United Nations Strategic Plan for Forests as well as the contribution of forests and trees to the 2030 Agenda for Sustainable Development and other major forest-related agreements.⁶³

2.9 Domestic law on forest management through traditional forest knowledge

2.9.1 Constitution of Kenya, 2010

The Constitution contains a number of provisions on natural resource management in general and forests in particular. Treaties and conventions ratified by Kenya as well as general rules of international law shall form part of the laws of Kenya.⁶⁴ This means that all international laws and principles on sustainable forest management form part of the law of Kenya. Furthermore national values and principles of governance include participation of the people and sustainable development.⁶⁵ With regard to culture, it is the foundation of the Republic and the cumulative civilization of the Kenyan people.⁶⁶ As such the government is required to promote all forms of national and cultural expression,⁶⁷ and recognize the role of indigenous technologies in the development of the nation.⁶⁸ The Constitution requires the Country to increase and maintain tree cover at a minimum 10% of the total land area in Kenya,⁶⁹ and to protect and enhance the

⁶² UN, Department of Economic and Social Affairs: Global Forests Goals, 2001

⁶³ Section 6(f)

⁶⁴ Article 2(5)(6)

⁶⁵ Article 10 (1)(a)

⁶⁶ Article 11(1)

⁶⁷ Article 11(2) (a)

⁶⁸ Article 11(1)(b)

⁶⁹ Article 69(1)(b)

intellectual property and indigenous knowledge of biodiversity and genetic resources of communities.⁷⁰ The government by protecting the TFRK of Kenyan communities will be fulfilling its constitutional mandate. Public participation as a component of forest management is enshrined under Article 69(1)(d) which provides that the state shall encourage public participation in the management, protection and conservation of the environment.

The Constitution provides for the right to a clean and health environment which includes the right to have the environment protected for the benefit of present and further generations.⁷¹ This right includes the right of access by any person in Kenya to the environment for spiritual and cultural purposes.⁷² Therefore protecting the Kaya forests enables the realization of the rights to a clean and healthy environment as the further generations of the Mijikenda community will be able to access their cultural heritage. The government is obligated to promote all forms of national and cultural expressions through arts, traditional celebrations, publications and information as culture is the foundation of the nation and cumulative civilization of the Kenyan nation. To this end parliament is required to enact legislation that will ensure that communities receive compensation and royalties for the use of their cultures and cultural heritage.⁷³ Lastly, matters relating to intellectual property are function of the national government which matters relating cultural activities implementing national government policies on forestry.⁷⁴

2.9.2 Forest Conservation and Management Act, 2016

This is an act of parliament that provides for the development and sustainable management, including conservation and rational utilization of all forest resources for the socio-economic development. Guiding principles of this Act include protection of indigenous knowledge and intellectual property rights of forests resources,⁷⁵ public participation and community involvement in forests management.⁷⁶ Forests are classified as either public, community forests or private forests. This goes hand in hand with the classification of land.⁷⁷ Community forests are those forests that are lawfully held, managed or used by specific communities as community

⁷⁰ Article 69(1) (c)

⁷¹ Article 42(a)

⁷² Environmental Management and Coordination Act, Section 3(2)

⁷³ Article 69 (1) (b)

⁷⁴ Fourth Schedule

⁷⁵ Section 4(d)

⁷⁶ Section 4(b)

⁷⁷ Constitution of Kenya Article 61(2)

shrines.⁷⁸ Kaya forests can be considered as community forests as they serve as the sacred natural site of the Mijikenda community.

2.9.3 Environmental Management and Coordination Act

This is the framework law on environmental management in Kenya. The Act defines traditional knowledge as knowledge that may be socially and culturally acquired within or without the context of conventional education and indigenous knowledge as traditional knowledge of sources, components, capabilities, practices and uses of, and processes of preparation, use and storage of plant and animal species and their genetic resources.⁷⁹ The CS in charge of matters relating to the environment is required to issue guidelines for integrating traditional knowledge for the conservation of biological diversity with mainstream scientific knowledge.⁸⁰ With regard to the protection of forests the director-general of NEMA shall not take any action, in respect of any forest area, which is prejudicial to the traditional interests of the local communities customarily resident within or around such forest area. Additionally the CS in charge of matters relating to the environment may, by notice in the Gazette, declare the traditional interests of local communities customarily resident within or around a forest to be protected interests.⁸¹

2.10 Domestic laws on the protection of traditional knowledge

2.10.1 National Museums and Heritage Act No. 6 of 2006

This is an Act of Parliament providing for the law on the control, management and development of national museums and the identification, protection, conservation and transmission of the cultural and natural heritage of Kenya. Heritage is defined to include both natural and cultural heritage⁸² while natural heritage includes areas which are or have been of religious significance, use or veneration and which include but are not limited to Kayas.⁸³ The CS in charge of cultural may gazette areas of natural heritage as a national monument.⁸⁴

⁷⁸ Ibid Article 63(1)(d)(i)

⁷⁹ Section 2

⁸⁰ Section 51(f)

⁸¹ Section 43(1)

⁸² Section 2

⁸³ Ibid

⁸⁴ Section 25(a)

2.10.2 The Protection of Traditional Knowledge and Cultural Expression Act

The Act seeks to provide a framework for the protection and promotion of traditional knowledge and cultural expressions. The Act places an obligation upon the county government⁸⁵ and national government⁸⁶ to protect traditional knowledge. Each county government has a duty to register traditional knowledge within its county.⁸⁷The National Government, among other functions, is mandated to establish and maintain a repository of traditional knowledge at the Kenya Copyright Board.⁸⁸ Protection under the Act shall only be extended to traditional knowledge that is generated, preserved and transmitted from one generation to another, within a community, for economic, ritual, narrative, decorative or recreational purposes,⁸⁹ individually or collectively generated,⁹⁰ distinctively associated with or belongs to a community,⁹¹ and which is integral to the cultural identity of community that is recognized as holding the knowledge through a form of custodianship, guardianship or collective and cultural ownership or responsibility, established formally or informally by customary practices, laws or protocols.⁹²

The protection of traditional knowledge is not subject to any formality⁹³ however, the first form of protection offered by the Act is through collection, documentation and registration of the knowledge⁹⁴ through the establishment of a Traditional Knowledge Digital Repository⁹⁵ The Kenya Copyright Board has been given the mandate to determine any claim between different communities over who shall be recognized as holders of traditional knowledge.⁹⁶ Registration only serves as declaratory function and does not confer rights.⁹⁷ The Act therefore seeks only to preserve the existing knowledge and prevent its loss. This is commendable, however the Act envisions that use of traditional knowledge for commercial purpose thus it is heavily inclined towards protection of the intellectual property rights that arise from the use of traditional knowledge.

⁸⁵ Section 4(1)

⁸⁶ Section 5(1)

⁸⁷ Section 4(1)(a)(i)

⁸⁸ Section 5(a)

⁸⁹ Section 6(1)(a)

⁹⁰ Section 6(1)(b)

⁹¹ Section 6(1)(c)

⁹² Section 6(1)(d)

⁹³ Section 7(1)

⁹⁴ Section 7(2)(3) and Section 8(1)(2)

⁹⁵ Section 8(3)

⁹⁶ Section 7(6)

⁹⁷ Section 15(7)

The second form of protection of traditional knowledge is through the use of licensing and user agreements. The holders of traditional knowledge shall have the exclusive rights to authorize the exploitation of their traditional knowledge⁹⁸ and prevent such exploitation without prior informed consent.⁹⁹ Such knowledge can only be used after holders of the knowledge give their prior informed consent.¹⁰⁰ The holders of traditional knowledge can enter into authorized user agreements with third parties allowing for the commercial exploitation of their knowledge.¹⁰¹ Such user agreements should contain terms and conditions for the use of that knowledge which include the sharing of financial and other benefits arising from the use of the traditional knowledge,¹⁰² compensation, fees, and royalties or for the use,¹⁰³ and sharing of any intellectual property rights arising from the use of the traditional knowledge or cultural expressions,¹⁰⁴ among other. Authorised user agreements only need to be entered into when derivative work that is based on traditional knowledge is used for commercial and industrial purposes.¹⁰⁵ The copyright, trademark, patent, industrial design, geographical indication or other intellectual property right that exists in relation to a derivative work shall vest in the creator of the work in accordance with the relevant intellectual property law.¹⁰⁶ Additionally, the owners of traditional knowledge have the right to assign and conclude licensing agreements.¹⁰⁷ Such a licensing agreement must be in writing¹⁰⁸ otherwise the agreement shall have no effect.¹⁰⁹ However the Cabinet secretary responsible for matters relating to intellectual property rights can grant a compulsory license for exploitation if the knowledge is not being sufficiently exploited by the rights holders or when the right holders refuse to grant a license for exploitation.¹¹⁰ However,

⁹⁸ Section 10(1)(a)

⁹⁹ Section 10(1)(b)

¹⁰⁰ Section 18(2)

¹⁰¹ Section 25(1)

¹⁰² Section 34(a)

¹⁰³ Section 34(b)

¹⁰⁴ Section 34(f)

¹⁰⁵ Section 20(2)

¹⁰⁶ Section 20(1)

¹⁰⁷ Section 22(1)

¹⁰⁸ Section 22(3)

¹⁰⁹ Section 22(4)

¹¹⁰ Section 12(1)

traditional knowledge holders cannot grant authorization to access traditional knowledge associated with genetic resources.¹¹¹

The third form of protection of traditional knowledge is through the recognition of moral rights.¹¹² These moral rights include the right of attribution of ownership or paternity in relation to their traditional knowledge,¹¹³ the right not to have ownership of traditional knowledge falsely attributed to them,¹¹⁴ and the right not to have their traditional knowledge subject to derogatory treatment, including any act or omission that results in a material distortion, mutilation or alteration of the traditional knowledge prejudicial to the honor or reputation of the traditional owners, or the integrity of the traditional knowledge.¹¹⁵ Moral rights continue in force in perpetuity and shall be inalienable or transferable and incapable of being waived.¹¹⁶

The fourth form of protection is through the intellectual property rights such as copyright, trademarks, patents, designs or other intellectual property together with recognition of cultural rights of the knowledge holders.¹¹⁷ These are the rights of the knowledge holders to maintain, control, protect and develop their traditional knowledge as well their manifestations.¹¹⁸

2.10.3 National Policy on the Protection of Genetic Resources, Traditional Knowledge and Cultural Expression, 2009

This policy was developed to address three issues; accelerating technological development, integration of the world economic, ecological, cultural, trading and information systems and the growing relevance of intellectual property rights to these areas.¹¹⁹ The policy seeks to develop a system that documents and preserve traditional knowledge which may be on the brink of disappearance. It also seeks to promote and disseminate of innovations based on the continuing use of tradition. It recognizes that traditional knowledge has contributed to the present body of science is being widely disseminated and commercially exploited, with only a small proportion

¹¹¹ Section 26(1) Access to traditional knowledge associate with genetic resources is governed by the Environmental Management and Co-ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006

¹¹² Section 21(1)

¹¹³ Section 21(2)(a)

¹¹⁴ Section 21(2)(b)

¹¹⁵ Section 21(2)(b)

¹¹⁶ Section 21(4)

¹¹⁷ Section 23(1)

¹¹⁸ Section 23(2)

¹¹⁹ Preamble

of the benefits flowing back to holders of the knowledge.¹²⁰It further states that current intellectual property rights (IPRs) are an inappropriate legal regime for the protection of traditional knowledge calling for a sui generis form of protection.

¹²⁰ Pg. 5

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

The research design used in this study is a mix of both qualitative and quantitative methods. The qualitative data comprised of information on the views of people regarding traditional knowledge. Quantitative data includes description of the participating respondents. Data was collected from primary and secondary sources. Secondary data was obtained through a desk-top review of relevant national policies, legislation, and literature review of relevant books, journals, reports, workshop proceedings, and periodicals. Primary data was obtained by focused group discussions, participatory observation, and key informant interviews.

3.2 Study area

The study was conducted in two Kaya forests; Kaya Kauma located in Kilifi County of the northern coast of Kenya and Kaya Kinondo in Kwale County of the southern coast of Kenya.

3.2.1 Kaya Kauma

This is the primary Kaya of the Kauma sub-tribe of the Mijikenda community. It is located in Kilifi County, Ganze Constituency, Kauma Location, Mwapula sub-location within Jaribuni ward. The forest is a gazetted National Monument¹²¹. It was added to the World Heritage list in 2008.¹²² Its size is an estimated 74.85 hectares. The soil in and around the forest is black. This is due to the presence of iron ore. The forest is home to a variety of endemic plants and animals. An ethno-botanical survey revealed the existence of over 163 beneficial plants species providing food and medicine to local communities.¹²³ Internally, the forest is divided into three zones. Access to any of these zones is through gates made up of tall trees on either side. Earthen pots have been placed at the bottom of each tree. Historically, when people used to live in the forest, the first zone acted as buffer zone against invader. Currently this first zone used for research activities owing to the influence of donor. The second zone serves as a cemetery where

¹²¹ Gazette Notice No 2442 of 16th May 1997.

¹²² Decision 31 COM 8B.21 of the World Heritage Committee of the Convention Concerning The Protection of the World Cultural And Natural Heritage, of 11 May 2008. Available at < <https://whc.unesco.org/archive/2007/whc07-31com-8be.pdf>> accessed on 3rd July 2019.

¹²³ Jolly Rajat et al (2010) Ethnobotanical Important Plant Species of Kaya Kauma and Kaya Tsolokero. Available at < <https://symbiosisonlinepublishing.com/horticulture-agriculture/horticulture-agriculture16.php>> on 3rd July 2019.

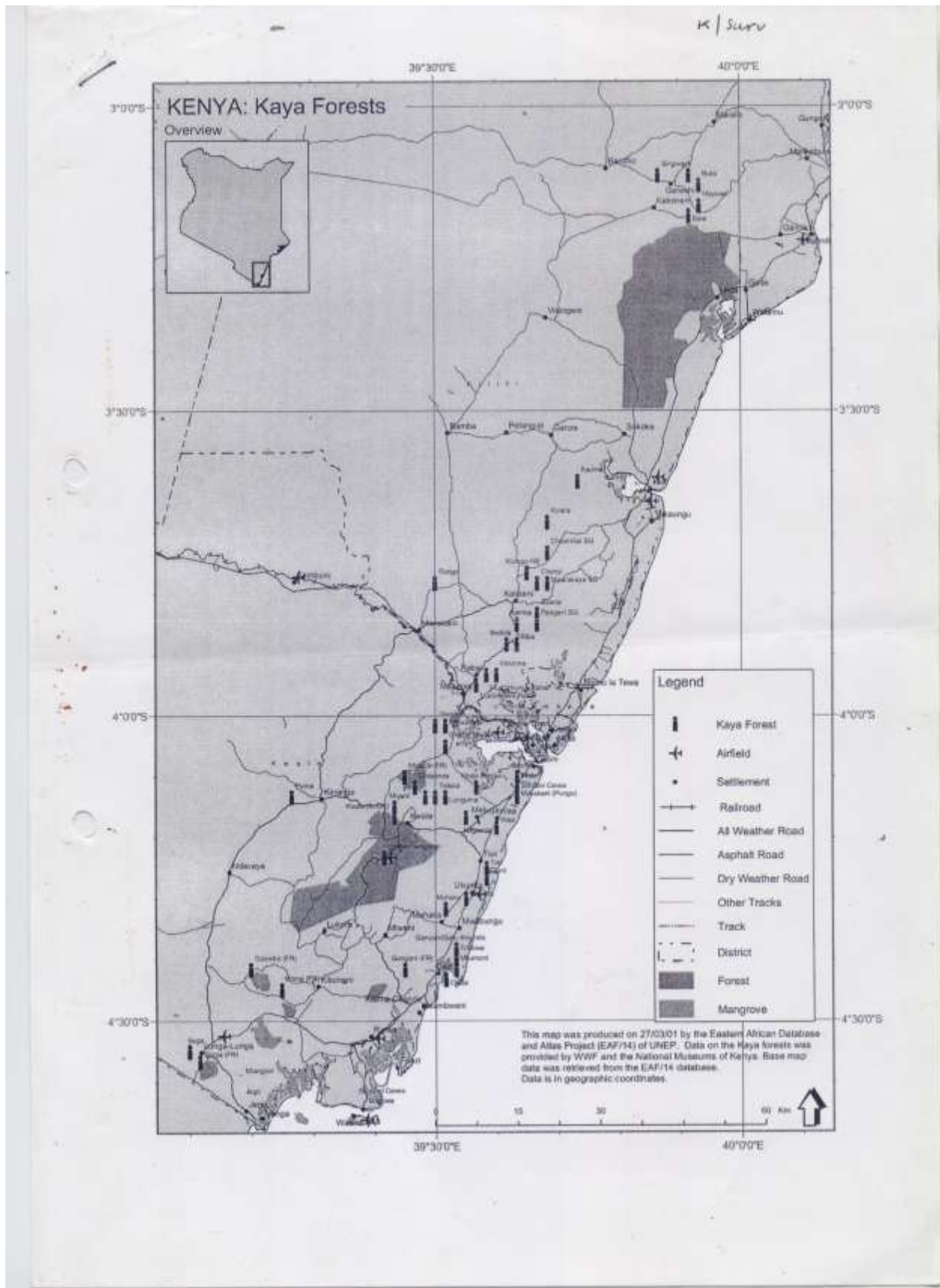
community members are buried. The third zone at the heart of the forest is the central clearing. In the middle of this third zone there is a prayer hut made from palm fronds tied together with sticks and rope. A medicine man lives in this hut. Additionally, sacred totems (*fingo*) are placed in this hut.

3.2.2 Kaya Kinondo

This is the primary Kaya of the Digo sub-tribe of the Mijikenda community. It is located in Kwale County, Ukunda Division, Msambweni Constituency, Diani Location, Kinondo sub-location. It is a gazetted National Monument¹²⁴ and, was added to the World Heritage list in 2008.¹²⁵ The forest is an estimate 30 hectares. It is home to rare fauna and endemic flora. The forest adjacent to the Indian Ocean as such coral rocks are jut out from the forest floor. Tourism is a major economic activity within the greater Diani area. As a consequence, beach front properties have been constructed adjacent to the forest. The forest and the beach front properties are only separated by a marram road. Two villages boarder the forest namely Kindondo and Chale. The community has established an eco-tourism project within the forest which comprises of administrative offices, cottages for guest and tourists and a tree nursery. The forest is demarcated into three zones. The first zone is the eco-tourism access trail, the second zone is the sacred area which is a burial site and the third zone is the central clearing where historically people used to live. Currently no person lives in the forest.

¹²⁴ Gazette Notice No 2442 of 16th May 1997.

¹²⁵ Decision 31 COM 8B.21 of the World Heritage Committee of the Convention Concerning The Protection of the World Cultural And Natural Heritage, of 11 May 2008. Available at < <https://whc.unesco.org/archive/2007/whc07-31com-8be.pdf>> accessed on 3rd July 2019.



3.4 Sampling Methods

Sampling methods used during the study were purposive sampling, and snowball sampling. Purposive sampling was used to identify respondents who are involved in the protection of traditional knowledge or possessed in-depth knowledge on Mijikenda customary laws. Snowball sampling was used to identify other respondents as directed by those who took part in the purposive sampling. These methods were used to identify and select key informants. A total of 10 key informants were interviewed during the study. Key informants comprised of officials from the National Museums of Kenya, the Coastal Forest Conservation Unit, Kenya Copyright Board, Kenya Industrial Property Institute, County Government of Kilifi, World Agroforestry Center and Kaya elders. Key informants were selected based on their role in forest management and protection of traditional knowledge.

3.6. Data Collection Methods

Primary data was collected using three methods key informant interviews, focused group discussions and participatory observation. A questionnaire was used to collect data from respondents who lived adjacent to the forests. The questionnaire sought for background information of the respondent, traditional forest management practices, protection of traditional knowledge and integration of traditional and modern forest management practices. A key informant interview guide was used to conduct in-depth interviews of respondents possessing relevant knowledge on the protection of traditional knowledge and of Mijikenda customary laws.

Focused group discussions were conducted involving members of the forest adjacent communities. A focused group discussion interview guide was used to collect data from three focus groups. The groups were composed of both male and female respondents. The first group comprised of respondents, the second eight respondents and the last comprised of eight respondents.

Lastly participatory observation was used. The researcher trekked through the forests under the guidance of a junior elder or a tour guide. The researcher observed items such as wooden carvings, earthen pots, huts, and other items of cultural significance kept in the forest. In

addition, the researcher wore some of the traditional garments in order to access the forests. The researcher also tasted and smelt a variety of medicinal and food plants from the forests.

3.7 Data analysis

The study generated both qualitative and quantitative data. Qualitative data was generated through participatory observation and key informant interviews. Quantitative data was generated through research questionnaire. The qualitative data was then transcribed from the voice recordings and summarized. The data was then organized in themes. Quantitative was sorted, summarized and was keyed-in and analyzed using Microsoft Excel. Quantitative data was then presented in charts and graphs where necessary.

3.8 Limitations of the study

The study suffered from resource constraints of time and finances. The researcher was new to the areas under study and therefore was not familiar with geographical locations. Transport was a serious constraint. Movement was by foot and public transport and while the study area was vast, the researcher could only cover a small area. Language was also a barrier. The areas surveyed are inhabited by members of the Kauma and Digo, Mijikenda sub-tribes.

To mitigate the language barrier and lack of familiarity with the study area, the research employed the services of local community members who acted as research assistants. However, the research assistants and respondents were not fluent in English. Therefore, data was presented in Kauma or Digo languages, translated to Kiswahili and then recorded in English. Some of the respondents who had agreed to participate in the study refused to give information unless they were paid by the researcher.

Since the researcher is not a member of the Mijikenda community, the researcher was denied access to some parts of the forest namely the central forest clearing for Kaya Kauma and the burial site for Kaya Kinondo. Furthermore, the researcher was required to pay a fine, *in lieu* of a sacrifice for cleansing rituals, for being allowed to enter the forest as an outsider of the community. Lastly the researcher due to time constraints, unfamiliarity with the study area and inadequate funds was unable to reach the targeted respondents. To mitigate against resource constraints therefore the researcher had to travel to the field in two separate time periods to collect data. .

3.9 Ethical Considerations

Kaya Kinondo and Kaya Kauma are sacred natural sites of the Chonyi and Kauma communities; therefore the study was conducted with the utmost respect for the communities. The researcher therefore put on the clothes required to be worn when entering sacred ground as well as removing shoes as and when required. Most of the respondents possessed knowledge on medical plants which can potentially be exploited for commercial gain without benefiting the knowledge holders. The researcher informed the respondents that they were at liberty not to disclose any secret information if they felt that it may be exploited for commercial gain without their benefit. Lastly respondents were under the impression that the researcher was working under the behest of a donor organization and therefore was in a position to finance their community projects. The researcher informed them that this was an academic study and no benefits shall be forthcoming to the community other than receiving copies of the research findings.

CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 Demographic Information

4.1.1. Age

The median age of the respondents was 45 years old. The minimum age was 20 years and the maximum age was 92 years. Age is important because it assisted in identifying whether or not a respondent could be considered as a key informant.

4.1.2 Gender

Male persons made up 51% of the respondents while female persons made up 49% of the respondents. Gender was relevant since most of the people in leadership positions within the areas surveyed are male.

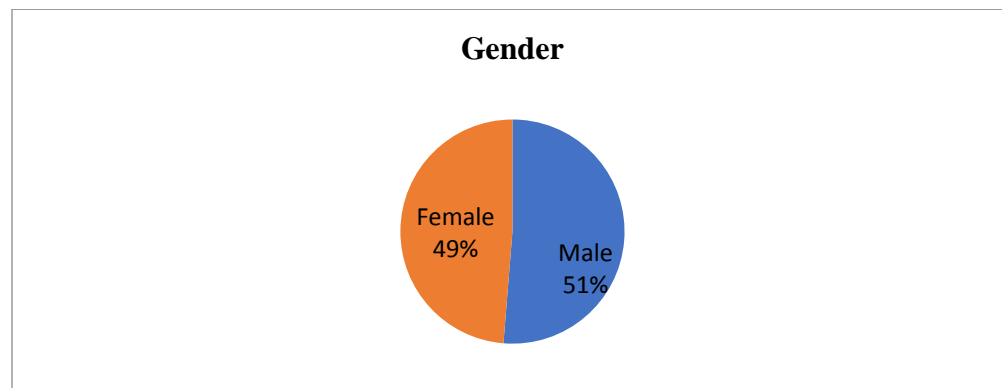


Table 1- Gender

4.1.3 Education

Of the respondents interviewed 15% had obtained university education, 38 % secondary education, 23% primary education and 23% had no formal education. The type and level of education is relevant because it guided the research in examining whether or not formal education will have affect the perspective of traditional knowledge by the respondents. The purpose of collecting information on education was to determine whether formal or informal education affected respondent possession of knowledge. The level of education possessed by the respondents did not dispose one of the knowledge however it affected the practice of a custom.

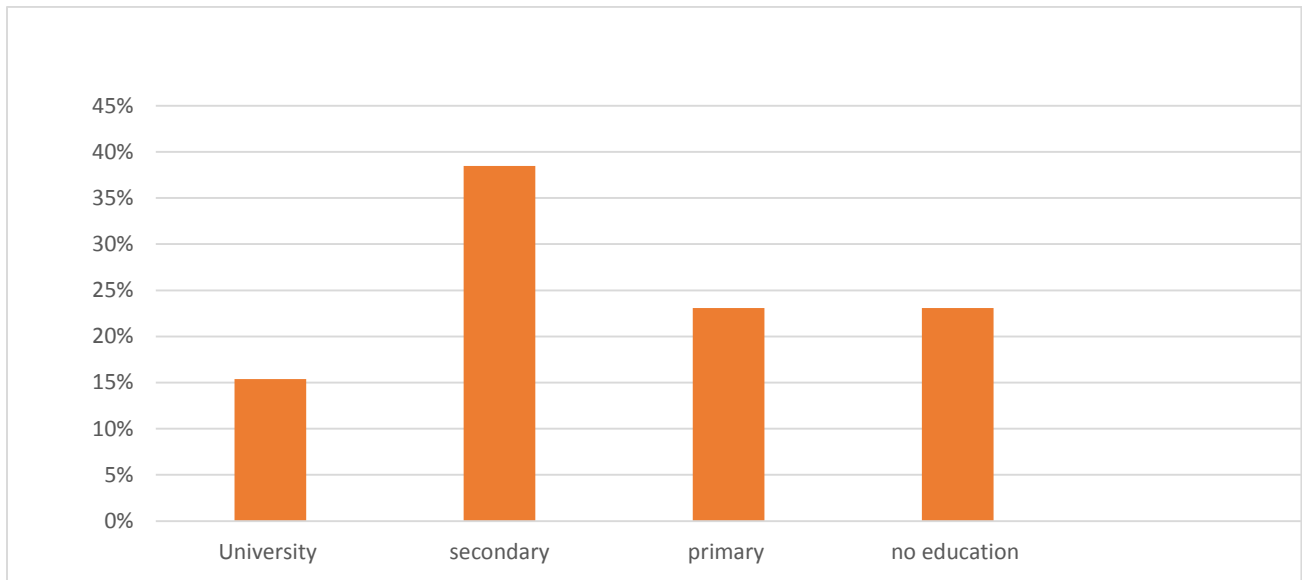


Table 2- Level of Education

4.2 Traditional forest knowledge of the Mijikenda community

The first objective of the study was to identify and characterize the nature of existing knowledge among members of the Mijikenda community that is the Kauma and Chonyi sub-tribes. From the respondents interviewed, customs and practices are closely related to the surrounding forests. This forms part of their identity and world view. The customs and practices are oral in nature. They have not been codified in any written form. They exist in the mind of the knowledge holder and are transmitted from generation to generation. The first type of type of traditional forest related knowledge and practice relates to the history of the Mijikenda community. Through it the community is able to explain where it originated from and members of the community are able to identify with a particular ancestor who they are name after. Additionally, the forest is a cemetery where those who subscribe to the traditional practices are buried. Therefore it helps those who are living to remember those who have passed on.

The second type of type of traditional forest related knowledge and practice relates to special arrangement of the forest. It relates to specific spaces and how they are understood by the community members. For example the community has designated pathways through which to enter and leave the forest. Furthermore, during prayer ceremonies clans enter the forest using

different gates that have been designated as belonging to each of the clans. Furthermore the forest is organized in zones some of which entry into a given zone is prohibited.

The third type of traditional forest related knowledge and practice is on the names and categories different components of the environment. For example the knowledge on the identity and names of different plants is crucial in the collection of medicinal plants. This is the practical aspect or rather application of this knowledge. It is used by the knowledge holders to sustain their subsistence needs through providing food and medicine.

The fourth type of traditional forest related knowledge and practice of Mijikenda traditional knowledge is that it regulates behavior through a taboo system. There exist rules and regulations which dictate the acceptable and profane behavior within the forest. These rules however are neither uniform nor universally applied. For example at Kaya Kauma non-Mijikenda persons are allowed to enter the burial cited while at Kaya Kinondo access to the burial site is prohibited for all persons other than the elders.

The fifth type of traditional forest related knowledge and practice relates to the belief in the supernatural and spirits. In both forests members of the community hold the belief that supernatural forests reside within the forest and therefore fear doing anything that may attract anger from the supernatural realm.

The types of knowledge are consistent with the definition of traditional knowledge under the Protection of Traditional Knowledge and Cultural Expression Act. The Act defines traditional knowledge means any knowledge originating from an individual, local or traditional community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, embodied in the traditional lifestyle of a community; or contained in the codified knowledge systems passed on from one generation to another including agricultural, environmental or medical knowledge, and knowledge associated with genetic resources.¹²⁶

The Convention for the Safeguarding of the Intangible Cultural Heritage, 2003 defines intangible cultural heritage as practices, representations, expressions, knowledge, skills – as well as cultural spaces– that communities, groups and, in some cases, individuals recognize as part of their

¹²⁶ Section 2

cultural heritage.¹²⁷ Under the convention intangible cultural heritage is manifested inter alia in knowledge and practices concerning nature and the universe.¹²⁸

Therefore Mijikenda traditional knowledge is a form of intangible cultural heritage. It is living knowledge since it is transmitted from generation to generation, is constantly recreated by community and in response to their environment, their interaction with nature and their history, and provides them with a sense of identity.

Therefore this knowledge is possessed by individuals and the community as a whole. The Act defines a holder of traditional knowledge as an individual or community in whom the custody or protection of traditional knowledge is entrusted in accordance with the customary law and practices of that community.

4.3 Protection of traditional knowledge

The second objective of the study was to identify the threats and modes of protection of the existing traditional knowledge. Kaya elders from both Kaya Kinondo and Kaya Kauma stated that the level to which customs and traditions relating to the forest has changed from the time they were growing up to the present day. During their childhood the forests were revered as sacred and no one dared destroy anything within the forest, however currently the forest is not as respected. This finding is consistent with the objective of the National Policy on the Protection of Traditional Knowledge, Genetic Resources, and Traditional Culture Expression 2009, which seeks to address the erosion of indigenous knowledge and Shepherd Walwyn who argues that among the Mijikenda community the traditional belief system is not important.¹²⁹ However practices are applied differently. There is no homogeneity in the level of adherence to customs and traditions as the knowledge is perceived and applied differently. There are different practices among different Kayas. In some areas the rules are more relaxed than others. For example at Kaya Kauma a non-Mijikenda member is allowed to enter the burial site while in Kaya Kinondo only member from the Mijikenda community are allowed to enter the burial site. This is the main difference among the kaya forests.

¹²⁷ Article 2(1)

¹²⁸ Article 2(2)(d)

¹²⁹ Shepherd-Walwyn, Emma (2014) Culture and Conservation in the Sacred Sites of Coastal Kenya. Doctor of Philosophy (PhD) thesis, University of Kent

Threats facing traditional knowledge can be classified as either direct or underlying.¹³⁰ Direct threats include loss of pathways of transmission of knowledge, change of traditional livelihood practices, change of traditional religion and beliefs and change of traditional institutions. The loss of pathways of transmission is characterised by the absence of induction of new generations to the traditional practices and customs. This is characterised by the presence of aged practitioners, diminished participation, few practitioners or halted transmission. Change of traditional livelihood practices leading to increased dependence on formal or informal employment can lead to changes in ecological knowledge and management of natural resources. Changes in religion and beliefs affect the overall perspective that community members will have regarding issues such as burial and prayer rituals. While change in traditional institution shall relate to the degree to which institutions are still existing and functional. For example how effective is the council of elders in enforcing customary laws relating to forest management. Underlying threats include contact with other cultural groups resulting in the change of religion, livelihood practices which interrupt transmission pathways. Another underlying threat to Mijikenda knowledge is relocation or migration. This is the cause of inconsistent practices among different sub-tribes of the Mijikenda community as each adopted different practices depending on the area settled.

The Convention for the Safeguarding of the Intangible Cultural Heritage, 2003 is the main treaty for the safeguarding of traditional knowledge.¹³¹ Under this convention safeguarding measures include the identification, documentation, research, preservation, protection, promotion, enhancement, transmission, particularly through formal and non-formal education, as well as the revitalization of the various aspects of such heritage. Article 17, allows for the listing of intangible cultural heritage in need of urgent safeguarding. Mijikenda traditional knowledge on the Kaya forest was listed in 2009.

According to the Protection of Traditional Knowledge and Cultural Expression Act, 2016, the protection traditional knowledge is the responsibility of both the national and county governments. Every county government is required to establish and maintain a register

¹³⁰ A Classification of Threats to Traditional Ecological Knowledge and Conservation Responses and: Conservation & Society, Vol. 14, No. 1 (2016)

¹³¹ Article 1 (c)

containing information relating to traditional knowledge and cultural expressions collected and documented by the county government during the registration process.¹³² The national government in consultation with the relevant county government is required to establish and maintain a comprehensive Traditional Knowledge Digital Repository which shall contain information relating to traditional knowledge and cultural expressions that have been documented and registered by county governments.¹³³ This Traditional Knowledge Digital Repository shall be establishment and maintenance of the Repository at the Kenya Copyright Board.¹³⁴

The study has revealed that both County governments of Kwale and Kilifi have not identified, recorded or documented the existing traditional knowledge within their counties. The Kenya Copyright Board has also not established the knowledge repository. There are no regulations to guide the procedures for recording and storage of traditional knowledge. The Act is not being implemented. Traditional knowledge has vast and varied applications in different sectors such as agriculture, livestock management, food security, and natural resources conservation and management, the focus of this study. For a systematic and coherent documentation of traditional knowledge; the knowledge holders have to be identified, the uses of the knowledge identified, consensuses on the content of the knowledge agreed upon, and the language to be used in recording also needs to be identified. Thus to establish a database on traditional knowledge will require resources and skilled personnel. Furthermore, the study has also revealed that the state of knowledge within the Mijikenda community is not homogenous. A mechanism will therefore need to be established on how to resolve inconsistencies among knowledge holder to create a uniform record.

Under the Act not all forms of traditional knowledge will receive protection. Protection shall only be extended to knowledge that is inter-generational in nature,¹³⁵ individually or collectively generated,¹³⁶ and is integral to the cultural identity of community¹³⁷ and lastly the knowledge is

¹³² Section 8(1)

¹³³ Section 8(3)

¹³⁴ Section 5(1)(a)

¹³⁵ Section 6(1)(a)

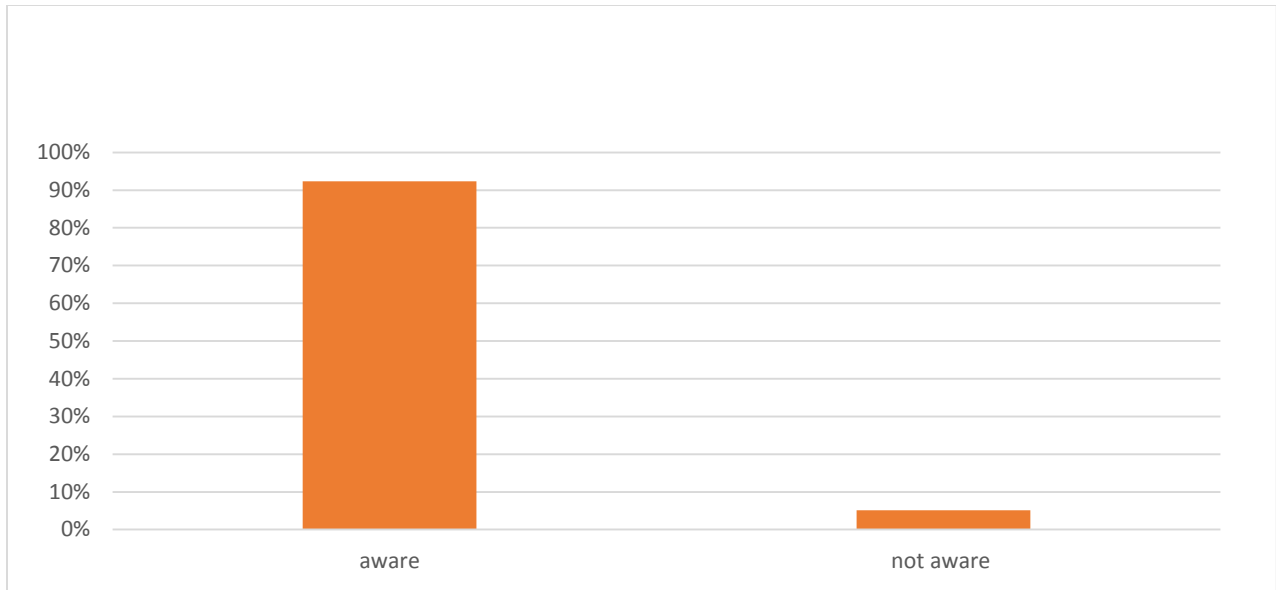
¹³⁶ Section 6(1)(b)

¹³⁷ Section 6(1)(c)

held through a form of custodianship, guardianship, or cultural ownership established formally or informally by customary practices, laws or protocols. Mijikenda traditional forest knowledge qualifies for protection under the Act. Their knowledge is a repository of the community's history and origins. Through the Kaya forests the history of the Mijikenda is told and retold. Burial sites remind the living of their ancestors. Knowledge of the Kaya forest is integral to the identity of the Mijikenda. The belief in the supernatural, spirits and the sacredness to which the forests are held is unique to the community. This uniqueness has resulted in the inscription of the Kaya forests to the World Heritage list. There are rules and regulations which guide community members on what they can or cannot do within the forest. The knowledge is communally held and Kaya elders are considered as the custodians of knowledge and culture. Further there are rules and regulations on how knowledge on medicinal plants is transmitted. Therefore, knowledge on Kaya forests qualifies for protection under the Act.

Since the Act is not being implemented the community has therefore taken up the responsibility of protecting its own knowledge and culture. The knowledge holders are in the best position to safeguard and protect their knowledge through keeping their knowledge and practices alive. This finding is consistent with the findings by Paul Ongugo (et al) who found that conservation actions by traditional knowledge holder/users will result in better protection outcomes.¹³⁸ From the data collected 92% of the respondents cited knowledge of and awareness of customs and practices relating to the forest. Only 8% of the respondents cited lack of knowledge and awareness. (Table 4 below). This finding is significant because it demonstrates that traditional customs have an ability to endure despite the threats that this type of knowledge is facing. Furthermore, this finding has shown that the communities under study have taken deliberate steps to protect their customs and beliefs by ensuring that it continues to live through awareness of customs. Respondents who were aware of these laws also knew what was expected of them in relation to the forest. They know what is permitted and what is prohibited. They also recognise the authority of the Kaya elders. On the other hand those who lacked awareness of the customary laws did not recognise the authority of the Kaya elders and did not know of any protocols that guided their interaction with the forest.

¹³⁸ Paul Ongugo, Doris Mutta, Mohamed Pakia and Peter Munyi, (2016) *Protecting Traditional Health Knowledge in Kenya: The role of Customary Laws and Practices*



Tabel 4: Awareness of Mijikenda customary laws relating to forest management

Arising from the s awareness of customary laws and regulations this study sought to examine whether there was actual practice of the said customs and regulations. From the data collected 82% of the respondents confirmed that they are willing to participate in cultural activities while 18% of the respondents are not willing to participate in cultural activities. Most of the cultural activities are performed in the forest include prayers. However, respondents could not cite the frequency to which they actually participated in any of the communal cultural activities be they prayers or other ceremonies within the forest. All reported that they no cultural activity had taken place for the past 10 years (as from the year 2009). Therefore, there is halted transmission of knowledge as actual practice is are not being conducted so as to introduce the younger generation to the procedures and practices of customary law,.

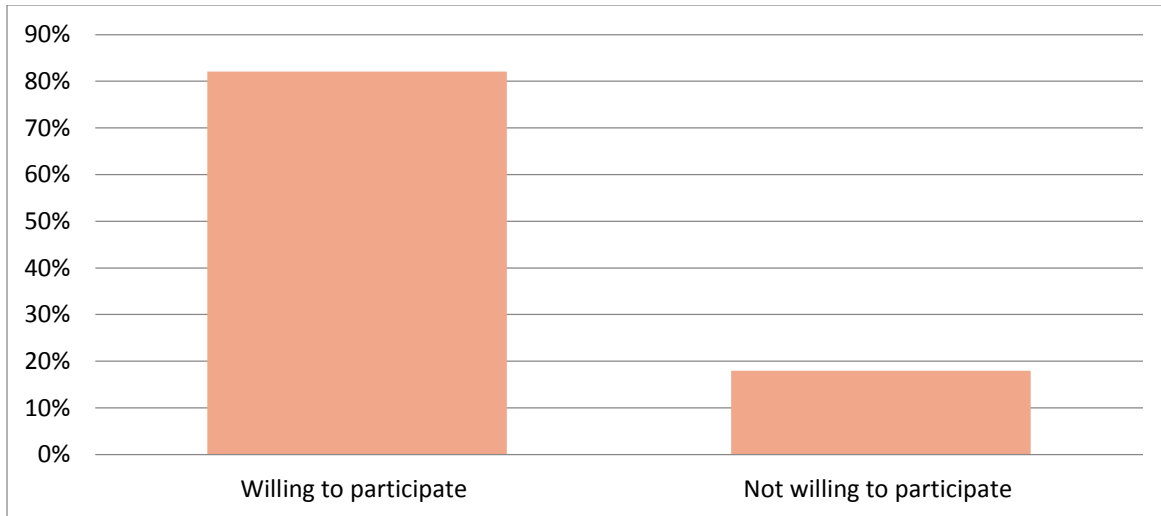


Table 5: Willingness to Participation in cultural activities

From the data collected, 13 % have never visited the forests, 10% visit forests at least once per day, 13% visit the forests 1-4 times per week, 46% visit the forests at least 1-4 times per month and 18 % of the respondents visit the at forests 1-4 times per year. The frequent visitors; daily, 1-4 times per week and 1-4 times per month, usually enter the forest on account of their roles i.e. forest guard, elder or conservation and development committee member. Those who visit the forest the forest on a yearly basis depends on the occurrence of community ceremonies performed in the forest. These can be either prayers, funerals or other traditional ceremonies.

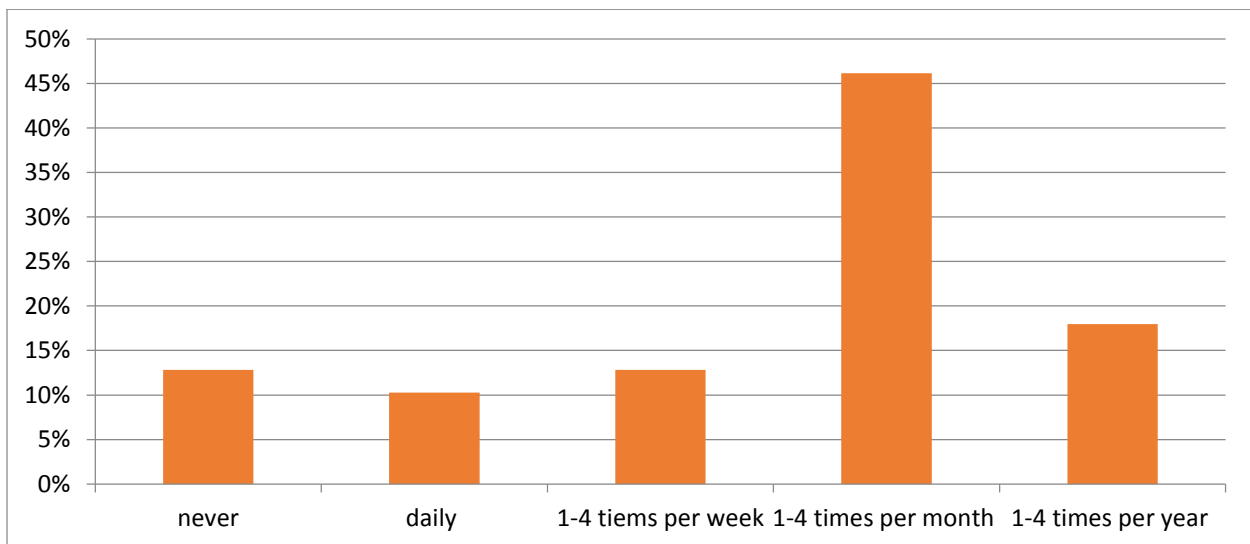


Table 6: Frequency of forest visits.

When the community experiences a calamity such as drought, disease or a failed harvest they usually conduct prayers in the forest to appease the spirits that may be the cause of that calamity. These ceremonies involve the entire community. Members are involved in raising money to buy the sheep, goat and chicken that shall be slaughtered during the prayers. They also participate in clearing of the forest to create paths and building of prayer huts where sacrifices will be made. This finding demonstrated the cultural ecosystem services that are provided by the forest to the forest adjacent communities as per the Millennium Ecosystem Report. Furthermore, by participating in cultural activities the members assert their right to participate in cultural life as guaranteed by Article 44 (1) and (2) of the Constitution.

Closely related to the performance of cultural activities, inter-Kaya competition funded by UNESCO and coordinated by NMK is held yearly. A trophy, certificate and money are awarded to the top three best managed and well conserved forests.¹³⁹ The aim of this competition is to encourage community members to protect their traditions and conserve the forests. Adjudicators travel to different forests and assess the level of adherence to cultural norms and the conservation activities carried out. A public ceremony attended by members from the participating kaya forests and officials from the national and county governments is organised to award the winner. This competition has rekindled the need to protect the forest and culture as the conservation and development committees have prioritised winning. This inter-Kaya competition is consistent with the objectives of the 5 year strategic management plan (2015-2018) for the conservation of the sacred Kaya forests by the National Museums of Kenya which seeks to encourage the active use of the Kaya as areas of cultural or traditional practices.

Apart from cultural activities inter and intra-generation transmission of knowledge is key to the protection of this knowledge. Elders and community members go to primary schools within the locality of the forests educating school going children about their culture. They also encourage

¹³⁹Report on evaluation of the best managed and well conserved sacred Kaya Forests of the Mijikenda From 11th-16th February, 2019 < <https://unesco.go.ke/wp-content/uploads/2019/07/2019-evaluation-report-of-the-best-managed-and-well-conserved-kayas.pdf>> accessed 1st August 2019.

schools to visit the forest in order and display their culture and practices. This creates awareness and teaches children of the conventions and customs that will guide their conduct in the forest as it is expected that they shall adhere to these customs and practices when they grow up. Knowledge is usually transmitted at the homestead by parents and relatives to children. Respondents cite their grandparents, parents and other relatives as the source of the knowledge regarding customs and traditions. After family members, respondents cited the wider community and as the source of knowledge. One of the major factors preventing the transmission of knowledge is the belief in witchcraft. Respondents reported that they believe elders, seers or medicine men practice witchcraft and therefore do not want to be associated with them whether family or not. This has been a great hindrance in transmitting knowledge. Furthermore, it puts the life of the people categorised as witches or wizards at risk as calamities are blamed on them.

Religion has had a profound effect on the transmission of knowledge and participation in cultural activities. The Kaya forests are sacred but only to those who still believe in spirits and the supernatural. From the data collected, 79% of the respondents adhere to Islam, 18% adhere to Christianity and 3% identified themselves as adherents to African traditional religion. Religion has a profound influence on the performance of some cultural activities such as burial. However, religion has not been a major threat. Adherents to Islam or Christianity are not buried in the forest. Burials are conducted depending on Islamic or Christian rites. Islam is the main religion, and this has created a conflict between Islamic leaders and elders. Some religious leaders advocate a total separation from the traditional beliefs. In Kaya Kinondo burials are no longer carried out in the forest. Members of the Digo community recognize themselves as Islamic and therefore choose to be buried as per Islamic rites. The change of traditional religion, beliefs and world view serve as an indication of a direct threat to Mijikenda traditional knowledge.

On the other hand, at Kaya Kauma burials are still performed within the forest. Members of the Kauma community recognize themselves as Christians or subscribe to African traditional religion. The researcher was able to visit fresh graves where burial rites had been performed. The practice of burial is still alive in Kaya Kauma. Graves are marked by stones or pieces of wood inserted in the ground.

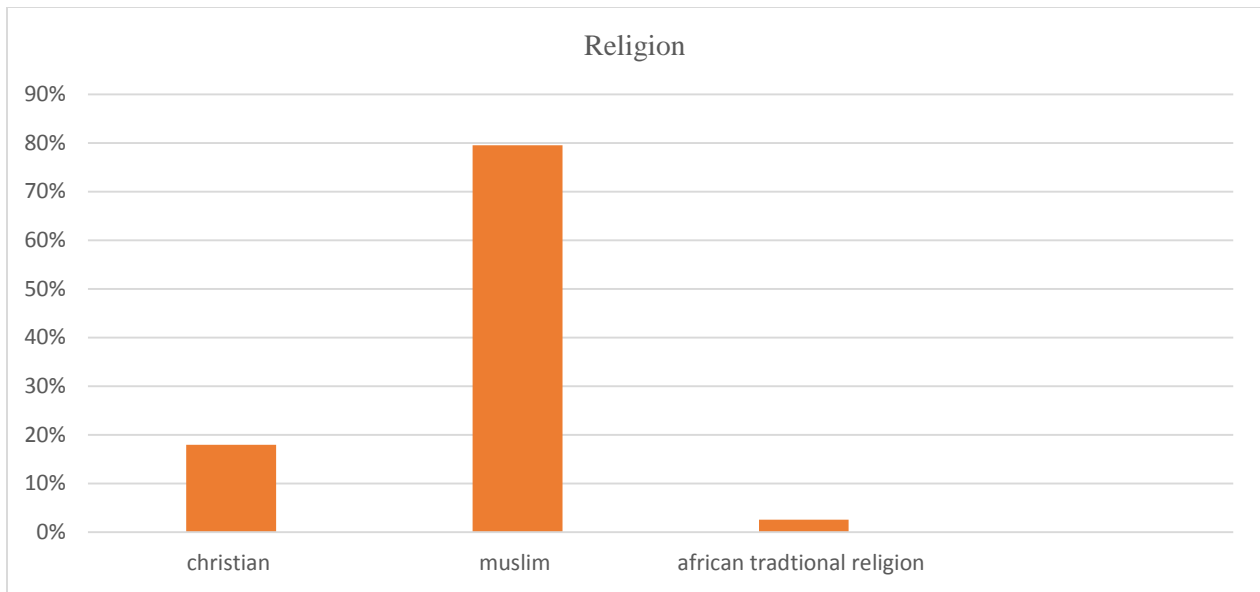


Table 7-Religion

4.4 Integration of traditional and modern forest management

The third objective of the study was to examine the integration of traditional and modern forest management practices. Traditions and customs govern the use of the Kaya forests. They are sacred natural site, this means that the forest is revered and respected by those who adhere to this perspective. People with different perspectives will not hold the forest as sacred and therefore will not conserve and manage it for the same reasons as a member of the Mijikenda community would. This finding is consistent with the observation by Anthony N. Githitho who notes that the Kaya forests are revered as sacred therefore; cutting of trees or destruction of vegetation is prohibited. As a result, traditional religious system regarding acceptable and profane behaviour within the Kaya has contributed to the conservation of the forests.

Both Kaya Kauma and Kinondo are managed by two institutions; the council of elders (ngambi) and a Conservation and Development Committee. The council of elders constitutes a group of 8-10 men who aged between 70-95 years. They are responsible for pronouncing and enforcing customary laws as well as induction of new members to eldership. At Kaya Kuma the council of elders holds weekly meeting on Fridays and at Kaya Kinondo they hold monthly meeting on every first Wednesday of the month. The Conservation and Development Committees consists of

both men and women who are elected from the respective villages that neighbour the forest. They are therefore representatives of the community members who cannot directly take part in forest management activities. This committee is responsible for the day to day patrol of the forests. At Kaya Kinondo they are responsible for the management of the eco-tourism project and the collection and accounting for the proceeds generated from the project. The conservation and development committee members are first to identify threats to the forest such as illegal loggers or squatter. In a case such as logging the committee will report to the council of elders who will decide on the punishment to be meted out. In other situations, such as forest fires the committee will report to KFS. The conservation and development committee at Kaya Kauma is not as active in holding regular meeting, they only meet when necessary. At Kaya Kinondo the committee holds meeting on every third day of the month.

These findings demonstrate the devolutions of management and conservation function to the people closest to the forest. This finding is consistent with Article 69(1) (d) of the constitution that requires the state to encourage public participation in the management, protection and conservation of the environment. Furthermore, public participation and community involvement in the management of forests Forest Conservation and Management Act. As a consequence, the Act envisages community participation in forest conservation and management through community forest associations (CFAs). However there are no CFAs within the Kaya forest. This is because the traditional institutions (the ngambi), the modern institution (conservation and development committees) do not need to police the members of the community rather there is an inherent discipline and self-regulation when it comes to the conservation of the forests. Most of the people living adjacent to the forests know what is allowed and prohibited. Community management is therefore the dominant forest management practice of the Kaya forests. The community is solely responsible for the management of the forests. There is little to no influence by either the national or county government in the management of the forests.

The community is governed by a set of customary laws that regulate access and use of the forest resources. Entry into the forest is restricted. Only members of the Mijikenda community can enter the forest. Outsider, (persons who are not Mijikenda) can be allowed to enter the forest but are restricted to the places they can enter. An outsider is required to use a designated path and

not to stray from it. At Kaya Kauma an outsider is restricted to the research zone and burial site. Entry into the central clearing is strictly forbidden. At Kaya Kinondo outsiders can enter the eco-tourism zone and central clearing but not the burial site. The reason for this difference is the location of a sacred totem (fingo). This totem at Kaya Kauma is placed in a hut within the central clearing while at Kaya Kinondo it is in hut within the burial site. Access is restricted to all even members of the community unless they are elders. A person entering the central clearing is required to remove his/her shoes. Historically, people used to live in the central clearing, the removal of shoes is symbolic to indicate that one is entering the home of the ancestors At Kaya Kinondo all persons entering the forest are required to wrap a black tunic around their waist. This is symbolic of the traditional dress of the Digo people. However, at Kaya Kauma there are no traditional attires readily available. Outsiders are required to pay a fine (kajama) for cleansing rituals as it is believed that sprits are angered when outsiders enter the forest. At Kaya Kinondo this fine is termed as conservation fee. The amount is different depending on whether you are a Kenyan citizen or a foreigner.

While in the forest one is not allowed to cut trees, harvest timber, graze livestock or cut firewood. Forest guards, volunteers from the local community, or members from the conservation and development committee conduct daily or weekly patrols in the forest to ensure that no person is carrying out the prohibited activities. If a person is found in transgression he/she is detained and the evidence secured. The case can either be reported to the council of elders or to government institutions such as the National Museums of Kenya or the Kenya Forest Service. If reported to the council of elders the community member is required to pay a fine of a black goat, black sheep, a black hen and pay a fine of up to KShs. 15,000.00 to cater for the costs of the cleansing rituals. The transgressor is required to provide palm wine to the elder who shall perform the cleansing rituals. Livestock found grazing in the forest are not allowed to leave and are sacrificed. Cases which are reported to government institutions the transgressors are usually taken to court. Such cases include as boarder disputes, illegal mining, or timber harvesting.

The management of the forests through the council of elders and the conservation and development committees is indicative of public participation in the management of natural resources as provided for under Articles 10 and 69(1)(d) of the Constitution and Section 4 (1)(b)

of the Forest Conservation and Management Act, which call for devolution, public participation and community involvement in the management of forest. As such the traditional meets the modern through the principal of public participation as the TFRK is applied to compliment a modern forest management method. .

Traditional knowledge is has contributed to the sustainable management of both Kaya Kauma and Kinondo. Under Article 8(j) of the Convention of Biological Diversity; member states are called upon to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices. Whereas, Article 10(c) state party shall protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements. Articles 8(j) and 10(c) are supportive of indigenous peoples and local communities who contribute to the conservation and sustainable use of biodiversity. Notably, these articles only apply to communities whose traditional lifestyles are relevant for the conservation and sustainable use of biodiversity. From the research findings, members of the Mijikenda community have been using the forest and its resources to suit their traditional lifestyles. The community relies on the forest for medicine, food and performance of rituals which have become integral to the identity of the community members.

One of the key forest management approaches under the Forest Conservation and Management Act is community participation. This approach appears under various headings such as co-management, participator, collaborative, joint, mixed, and multiparty management. It a management approach that incorporates numerous partners with a variety of roles whose over all aim is environmental conservation, sustainable use of natural resources, and the equitable sharing benefit and responsibilities. The overall aim of this approach is to gain as many stakeholders in the management of the forest. As indicated herein above that there are no community forest associations within the Kaya forests. Therefore traditional forest knowledge is a mechanism through which sustainable utilization of forest resources has been achieved. It is a management system that has maintained the integrity of the natural forests and conservation of the

biodiversity while at the same time protecting the cultural heritage and identity of communities. Conventional forest management practices are unable to meet the objectives of conservation, economic development and social wellbeing. Traditional forest knowledge has provided an alternative approach to conserving forests in Kenya. It is imbued with principles and ethics that modern society can learn from in the quest to seek balance between conservation, economic development and social. Additionally, through eco-tourism, the community is able to earn a living and at the same time get an incentive to preserve and protect their culture.

Furthermore, the government institution directly involved in the management of both Kaya Kauma and Kinondo is the Coastal Forest Conservation Unit (CFCU), a department within the National Museums of Kenya because the Kaya forest are national monuments under the national Museums and Heritage Act. The headquarters are located within Kilifi town. This department is responsible for management of the Kaya forests throughout the coastal region as national monuments. This department is responsible for coming up with a forest management plan for the Kaya forest and the implementation of the plan. This department works closely with the Mijikenda community in the preservation of culture and forest conservation. Therefore, co-management is a modern management approach that is currently being used in the management of the kaya forests. This is a management approach that involves both the government through the CFCU and the local community. The involvement of local community brings with it various advantages; such as access to information about the state of forest resources, and lowers the costs of enforcement due to the cooperation from the communities.

Aside from co-management, another conservation model employed in the Kaya forests is the bio-cultural approach which emphasises on the interdependence between biological and cultural diversity. These approaches recognize there exists multiple world views that provide different sets of knowledge and experience thus providing human beings with grater adaptive capability to current and future environmental challenges. Among the Mijikenda, culture shapes the dynamics of resource use and conservation therefore solutions to environmental problems designed for universal application are inappropriate and ineffective for conservation. Bio-cultural approach recognises that conservation efforts should be guided by the culture of the community within which conservation is taking place. As such, the objectives of in-situ conservation as elucidated

under Articles 8(j) and 10 of the Convention of Biological Diversity on the customary uses of biodiversity is achieved through the bio-cultural approach used to conserve the Kaya forests as the communities traditional forest knowledge, innovations, and practices enable them to interact with and use biodiversity in sustainable ways.

4.4 Chapter Summary

Data analysis has shown that traditional knowledge has contributed towards the conservation and sustainable utilization of the kaya forest. Traditional knowledge is living knowledge that is applied in the day to day lives of the knowledge holder. However this knowledge is facing threats rendering its continued application in conservation tenuous. The framework act for the protection of traditional knowledge has not been implemented. Institutions in both the national and county governments have not taken up their mandate in the protection of traditional knowledge. However, the community itself is leading the effort towards the protection of their knowledge. Furthermore, communities applying their customary laws are able to effectively protect and efficiently use their forest resources.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

Kenyan forests continue to lose its forest cover due to encroachment, logging, and competing land uses. This is despite the existence of the Forest (Conservation and Management) Act 2016 and the Environmental Management and Conservation Act, 1999 being put in place to protect this valuable resource. The study was based on the premise that traditional forest related knowledge can fill the gap that natural resource management laws have left. Traditional forest related knowledge is under threat and therefore in need of protection. To this end the Protection of Traditional Knowledge and Cultural Expression Act, 2016 was enacted to provide a framework and institutions tasked with the responsibility of protecting traditional knowledge.

This study has revealed that traditional forest related knowledge is alive within the Mijikenda community. The Kaya forests are revered as sacred natural sites. Traditional rites such as prayers sacrifices and initiations are still being performed in the forests. The performance of these cultural practices has been instrumental in the continued sustainable use of the kaya forest. Traditional knowledge is imbued with ethical and moral imperatives absent in formal law. These moral obligations have been able to guide the behaviour of community members to actually conserve the forest.

The Protection of Traditional Knowledge and Cultural Expression Act is yet to be enforced. There are no rules or regulations that guide the application of the Act. Institutions in both the national and county government that have been tasked with the protection of traditional knowledge are not performing their duties.

Communities are the most effective when it comes to the protection of their own traditional knowledge and cultural heritage. This is because traditional knowledge is living and therefore the more knowledge holder there are the more practitioners there are and it is only through practice that the customs will remain alive and the conservation ethic transmitted intergenerational

Lastly, traditional forest management practices and modern forest management practices are applied side by side. Both management practices complement each other by ensuring the objectives socio-economic development and sound environmental use is achieved.

5.2 Recommendations

The findings of this study have demonstrated that traditional forest related knowledge of the Mijikenda community is slowly being abandoned and faces the danger of disappearing. This has a negative impact on the Kaya forests. Therefore, there is a need to create awareness of the importance of traditional forest related knowledge in forest conservation. This study recommends that traditional institutions such as the council of elders (*ngambi*) be recognised and given authority over matters of natural resource management. This will enhance the role that they play in conservation by giving them a say in the decision making processes that affect the forest.

This study recommends the establishment of a multi-agency authority to oversee the documentation and establishment of a traditional knowledge repository rather than the duty being vested in one government agency, the Kenya Copy Rights Board. The multi-agency authority can be composed on members from the National Museums of Kenya, the Kenya Copyright Board, the Kenya Industrial Property Institute, a representative from the Council of Governors and a representative from the umbrella organisation of traditional and cultural leaders drawn from all around the country. This agency can be responsible for the collection, documenting and dissemination of all the relevant information on traditional knowledge on natural resource management of Kenyan communities.

The Protection of Traditional Knowledge and Cultural Expression Act, 2016 should be amended to create for a listing system through which traditional knowledge in danger of erosion is identified and them included in a the listed for priority protection. Furthermore, the function for the protection of traditional knowledge should be moved from the government ministry in charge of intellectual property to the government ministry in charge of culture.

The county government and the national government should invest in capacity building with respect to the collection, preservation, documentation and dissemination of information on TFRKP within counties. This can include training of local communities on the ways through which their knowledge and practices can be preserved and propagated for the benefit of future generations.

Establishment of county knowledge and cultural centres with the cooperation and assistance by the NMK, which shall be in charge of creating databases on traditional knowledge and practices within the counties. These centres can also host public meetings to facilitate dialogue between holders of traditional forest knowledge and persons seeking to access the said knowledge.

Members of the Mijikenda community can consider forming community forest associations under the Forest Conservation and Management Act. By forming these associations they will get formal recognition and enable them to engage with the Kenya Forest Service on how to protect the forest against competing land uses such as mining and illegal logging.

Lastly this study recommends the conferment of legal rights to sacred natural sites that have been recognised as national monuments. In addition, recommends the granting of legal personhood to the Kaya forests for their place in the identity of the Mijikenda community and their place as being part of world heritage. The conferment of legal personhood will mean that the Kaya forests can be able to maintain causes of actions in and of themselves, through their stewards the council of elders, in case of harm being inflicted upon the forest.

5.3 Area of Further Research

From the research conducted traditional medicine, drawn from plant and plant products, is a crucial aspect of traditional knowledge. Traditional medicine continues to exist side by side with modern conventional medicine. Therefore there is a need to examine how traditional medicine impacts sustainable forest management. There is also need to examine how legal framework on traditional knowledge, access and benefit sharing and intellectual property rights affect the exploitation, use and transmission of traditional medical knowledge specifically that which relates to medicinal plants and their extracts.

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APPENDIXES

Appendix 1: Key Informant Interview Guide

Declaration

I am a student of MA (Environmental Law) at the Centre for Advanced Studies in Environmental Law and Policy (CASELAP), University of Nairobi. I am carrying out research titled; Analysis of Mechanisms for The Protection of Traditional Forest Related Knowledge and Practices to Achieve Sustainable Forest Management; A Case Study of Kaya Forests of Kenya for partial fulfillment of the requirement for my MA degree. The information and data collected will be strictly confidential, and is intended purely for research study being undertaken. Please feel free to express your personal opinion. You will not receive any money for participating in this study.

Student: Njagi Ambrose Munene

Registration Number: Z51/7703/2017

Key informant Interview Guide

Profile of Key informant

Name

Profession/rank/position
.....

Experience in profession/rank/position (years)

This interview guide addresses the question of how best to protect traditional knowledge to achieve sustainable forest management.

- 1. In your opinion, has traditional knowledge contributed to the sustainable forest management?

Explain.....
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- 2. What are the laws and policies that contribute to the protection of traditional knowledge in Kenya?

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3. What are the methods used in the protection of traditional knowledge on forest conservation and management in Kenya?

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4. In your opinion does the protection of intellectual property rights associated with traditional knowledge encourage sustainable forest management?

- Yes
- No

Explain.....

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5. What are some of the institutions involved in the protection of traditional knowledge on forest conservation and management in Kenya?

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6. How have those institutions protected traditional knowledge in Kenya?

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7. How is traditional knowledge on forest conservation and management protected by:

i. National Government

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ii. County Government

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8. How can local/indigenous communities protect their traditional knowledge on forest conservation and management?

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9. What are your suggestions on improving the way of protection of traditional knowledge on forest conservation and management in Kenya?

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Appendix 2 Focused Group Discussion Interview Guide

Declaration

I am a student of MA (Environmental Law) at the Centre for Advanced Studies in Environmental Law and Policy (CASELAP), University of Nairobi. I am carrying out research titled; Analysis of Mechanisms for The Protection of Traditional Forest Related Knowledge and Practices to Achieve Sustainable Forest Management; A Case Study of Kaya Forests of Kenya for partial fulfillment of the requirement for my MA degree. The information and data collected will be strictly confidential, and is intended purely for research study being undertaken. Please feel free to express your personal opinion. You will not receive any money for participating in this study.

Student: Njagi Ambrose Munene

Registration Number: Z51/7703/2017

Focused Group Discussion Interview Guide

Background information

Date of interview

Number of participants

Gender

- Male(number)
- Female(number)

This interview guide is aimed at a discussion on traditional knowledge on forest conservation and management among the Mijikenda community and how this knowledge is being protected.

1. What are the traditional practices of managing and conserving Kaya Forests?
2. What are the challenges facing the application of traditional forest conservation and management practices?
3. What can be done to encourage the continued application of traditional forest conservation and management practices?
4. What is the cultural significance of Kaya Forests to the Mijikenda community?
5. How is the Mijikenda community protecting its cultural identity?
6. How is the Mijikenda community protecting its traditional knowledge on forest management and conservation?
7. What are the modern forest management and conservation practices applied in Kaya Forests?
8. How effective are modern forest management and conservation practices in protecting Kaya Forests?
9. What are some of the measures that can be taken to better protect the forest using both traditional and modern forest management practices?