

UNIVERSITY OF NAIROBI
CENTRE FOR ADVANCED STUDIES IN ENVIRONMENTAL LAW AND POLICY
(CASELAP)

**ANALYSIS OF THE ROLE OF THE COUNTY GOVERNMENTS IN
IMPLEMENTATION OF THE NAGOYA PROTOCOL ON ACCESS AND BENEFIT
SHARING: A CASE STUDY OF BARINGO COUNTY IN KENYA**

BY

GITHAIGA CICILIA WANGARI

REGISTRATION NO: Z50/79937/2012

**A THESIS SUBMITTED IN
PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD
OF THE DEGREE OF MASTER OF ARTS IN ENVIRONMENTAL POLICY OF THE
UNIVERSITY OF NAIROBI.**

NOVEMBER, 2020

DECLARATION

This research thesis is my original work and has never been submitted nor is it currently under consideration for the award of a degree in any other university.

Signed: ----- Date -----

Supervisee: Cicilia Wangari Githaiga

This Thesis has been submitted with our approval as the University supervisors.

Signed: ----- Date -----

Supervisor: Dr. Collins Odote

Centre for Advanced Studies in Environmental Law and Policy (CASELAP)

University of Nairobi

Signed: ----- Date -----

Supervisor: Prof. Stephen Anyango Obiero

Centre for Advanced Studies in Environmental Law and Policy (CASELAP)

University of Nairobi

DEDICATION

This thesis is dedicated to both my late parents Gabriel Githaiga and Phoebe Githaiga and my two beautiful children Gabriel and Phoebe who continue to inspire my life and supported me regardless. They have been very patient and have given me time out to read and research and postponed play time with me to allow me to ‘work’. I also dedicate this work to my sisters, Catherine Agnes Githaiga, Rosebell Githaiga, my brother Cyprian Githaiga and my very close friends and family Jennifer Muli and Mercy Kareithi who were part of the support system throughout this work and the Course.

ACKNOWLEDGEMENTS

I acknowledge the divine graces and blessings from my Almighty Father first foremost because he has made it possible for me to finish this journey. I am eternally indebted to my supervisors Dr. Collins Odote and Prof. Stephen Anyango Obiero for their patience, guidance, constructive criticism and understanding while providing firm direction. Best of all was the encouragement that I got from the supervisors throughout this work. I also acknowledge Prof. Mulwa for the initial guidance he provided when I began this work and throughout as a member of the faculty. I also acknowledge all the members of the faculty for their constructive criticism as well which helped shaped this work. I must not forget the great support of Linda, Darya and Rose from the faculty. Finally I acknowledge all the interviewees who created time to provide the information I needed and for the warm welcome I received during the process.

LIST OF STATUTES, BILLS, POLICIES, CONVENTIONS AND INTERNATIONAL INSTRUMENTS

STATUTES AND BILLS

Constitution of Kenya, 2010

County Government Act, 2012

Environmental Management and Co-ordination Act, Act No. 8 of 1999.

Forest Conservation and Management Act, 2013

Industrial Property Act of 2001

Intellectual Property Bill, 2020

Intergovernmental Relations Act, 2012

Kenya Agriculture Research and Livestock Act, 2013

National Museums and Heritage Act No. 6 of 2006

Protection of Traditional knowledge and Cultural Expressions Act, 2016.

Science Technology and Innovation Act, 2013

Seeds and Plant Varieties Act, CAP 326

Wildlife Conservation and Management Act, 2013

POLICIES

Kenya Vision 2030, 2007

Environmental Policy, 2014

National Land Use Policy, 2007

Fifth National Biodiversity Strategy and Action Plan, 2015

National Report on Implementation of the Nagoya Protocol, 2017

National Seed Policy, 2010

Busia Biodiversity Policy, 2017.

CONVENTIONS AND INTERNATIONAL INSTRUMENTS

Convention on Biological Diversity, 1992

Convention on International Trade in Endangered Species, 1975

International Treaty on Plant Genetic Resources for Food and Agriculture, 2004

Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefit Sharing Arising from their Utilization to the Convention on Biological Diversity, 2011

CONTENTS

DECLARATIONii

ACKNOWLEDGEMENTiv

ABBREVIATIONS.....x

ABSTRACTxiv

1.0 CHAPTER 1: INTRODUCTION 1

1.1 Background 1

1.2 Problem Statement 3

1.3 Research Questions..... 5

1.3.1 Research Sub-Questions Error! Bookmark not defined.

1.4 Research Objectives..... 5

1.5 Justification for the Study 6

1.6 Theoretical Framework..... 8

2.0 CHAPTER 2: LITERATURE REVIEW 12

2.1 Introduction..... 12

**2.2 Role of County Governments in implementation of the Nagoya Protocol in Kenya
12**

**2.3 Relationship between the National and County Governments in implementation of
the Nagoya Protocol 16**

2.3.1 Levels of implementation of the Nagoya Protocol. 16

2.3.2 National context of the Nagoya Protocol. 17

2.3.3 County context of the Nagoya Protocol..... 18

**2.4 Policy, legal and institutional arrangements in implementation of the Nagoya
Protocol19**

2..4.1 International Frameworks 19

2.4.2 National Frameworks for implementation of the Protocol in Kenya 22

2.4.3 Relevance of the Nagoya Protocol to local communities..... 25

**2.4.4 Traditional knowledge, culture and cultural heritage as the basis of ABS
governance at community level. 25**

2.4.6	Legal framework for implementation of the Nagoya Protocol	30
2.5	Research Gap	33
3.0	CHAPTER 3: METHODOLOGY	36
3.1	Introduction	36
3.2.	Area of Study	36
3.3.	Research Design.....	37
3.4.	Target Population	38
3.5.	Data Needs, Types and Sources	38
3.5	Sampling.....	39
3.5.1	Sampling technique	39
3.6	Data Collection Tools	40
3.6.1	Focus Group Discussion (FGD) guide	40
3.6.2	Key Informant Interview guide	40
3.7	Data Analysis	40
3.8	Scope and Limitations of the Study	40
3.9	Assumptions of the study?	41
3.10	Ethical Considerations	41
4.0	CHAPTER 4: RESULTS AND DISCUSSIONS	43
4.1	Introduction.....	43
4.2	The role of county governments in implementation of the Nagoya Protocol in Kenya 43	
4.2.1	Role in political will/ commitment.	45
4.2.2	Role in capacity building, communication and awareness creation.	46
4.2.3	Role in conservation of biological diversity, GRs and aTK.....	48
4.2.4	Role of counties in processing/acquisition of access permit.	50
4.2.5	Role in valorization and benefit sharing.	52
4.2.6	Role in collaboration and coordination.....	53
4.2.7	Role in financing/funding ABS activities within the County.....	57

4.2.8	Role in research within the County and National Government.....	57
4.2.9	Role in Documenting TK	60
4.2.10	Role in monitoring, reporting, compliance and enforcement.....	61
4.2.11	Role in dispute resolution	65
4.3	Relationship between the National and County Governments in implementation of the Nagoya Protocol	66
4.3.1	Levels of implementation of the Nagoya Protocol	66
4.3.2	National Government in implementation of the Nagoya Protocol.....	67
4.3.3	County Government in implementation of the Nagoya Protocol.....	71
4.4	Policy, legal and institutional gaps in implementation of the Nagoya Protocol at the County level	74
4.4.1	Policy framework for implementation of the Nagoya Protocol at the County level	74
4.4.1.1	International Frameworks	74
4.4.1.2	Convention on Biological Diversity (CBD)	74
4.4.1.3	Nagoya Protocol on Access and Benefit Sharing	75
4.4.1.4	International Treaty on Plant Genetic Resources for Food and Agriculture	75
4.4.1.5	Agreement on Trade Related Aspects of Intellectual Property Rights	76
4.4.1.6	The Strategic Plan for Biodiversity and the Aichi Biodiversity Targets	76
4.4.1.7	The 2030 Agenda for Sustainable Development	76
4.4.2	National Frameworks.	77
4.4.2.1	Kenya Vision 2030	77
4.4.2.2	Environment Policy, 2014	77
4.4.2.3	National Land Use Policy (NLUP), 2017	77
4.4.2.4	Other policies involved in ABS governance	78
4.4.3.	Legal Framework for implementation of the Nagoya Protocol at the County level	79
4.4.3.1.	The Constitution of Kenya, 2010	79

4.4.3.2	Environmental Management and Coordination Act, (EMCA) 1999,.....	80
4.4.3.3	Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006	82
4.4.3.4	Other National Laws invoked in ABS Governance.....	86
4.4.4	Formal and informal administrative frameworks for implementation of the Protocol	89
5.0	CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	92
5.1	Introduction.....	92
5.2	Conclusions	92
5.3	Recommendations	95
	REFERENCES	98
	APPENDICES	105
	Appendix 1: Interview guide for the Endorois Welfare Council Secretariat and the Community within Lobo within the County Government of Baringo.....	105
	Appendix 2: Interview Guide for National Government and County Government of Baringo	109
	Appendix 3: List of interviewees, the number, level of governance and reason for selection.....	111
	Appendix 4: Approval from Graduate School to go to the Field.....	118
	Appendix 5: Approval from NACOSTI to collect Data in Baringo County	119
	Appendix 6: Approval from NACOSTI to collect data in Nairobi County and Baringo County.....	120
	Appendix 7: Authorization from County Secretary, Baringo County to go to the field	121
	Appendix 8: Authorization from County Commissioner to go to the field to collect data.....	122
	Appendix 9: Authorization from Director of Education to go to the field to collect data	123
	FIGURES	
	Figure 1: Market sector and importance of the genetic resources.....	21
	Figure 3: Lobo area, Baringo County.....	37

ABBREVIATIONS

ABS	- Access and Benefit Sharing
ACHPRs	- Africa Commission on Human and Peoples Rights
aTK	- Associated Traditional Knowledge
BCP	- Bio-Cultural Community Protocol/Community Protocol.
CA	- Competent Authority
CAF	- County Assembly Forum
CBD	- Convention on Biological Diversity
CEAP	-County Environment Action Plan
CIDP	- County Integrated Development Plan
CoK	- Constitution of Kenya
COP	- Conference of Parties
CP	-Check Point
DPC	- Data Protection Commissioner
EA	- Environmental Audit
EIA	- Environmental Impact Assessment EMCA
EMCA	- Environmental Management Coordination Act
EMP	-Environmental Management Plan
EWC	- Endorois Welfare Council
FCMA	- Forest Conservation and Management Act
FP	- Focal Point
GIZ	-Gesellschaft Fur Internationale Zusammenarbeit
GoK	- Government of Kenya

GRs	- Genetic Resources
ICT	- Information Communication and Technology
IGRA	- Intergovernmental Relations Act
IK	- Indigenous Knowledge
INGO	- International Non-Governmental Organization
IP	- Intellectual Property
IPLCs	- Indigenous Peoples and Local Communities
ITPGRFA	-International Treaty on Plant Genetic Resources for Food and Agriculture
KARI	- Kenya Agricultural Research Institute.
KARLA	- Kenya Agriculture Research and Livestock Act, 20
KARLO	-Kenya Agriculture Research and Livestock Organisation
KECOBO	-Kenya Copyright Board
KEPHIS	- Kenya Plant Health Inspectorate Service.
KFS	- Kenya Forest Service
KIPI	- Kenya Industrial Property Institute
KNBS	- Kenya National Bureau of Statistics
KNBS	- Kenya National Bureau of Statistics
KWS	-Kenya Wildlife Services
LBGR	-Lake Bogoria Game Reserve
LBMP	-Lake Bogoria Management plan
MAT	-Mutually Agreed terms
MEAs	-Multilateral Environmental Agreements
MEF	-Ministry of Environment and Forestry

CoG	- Council of Governors
MTA	-Material Transfer Agreement
NACOSTI	- National Commission for Science Technology and Innovation
NBSAP	- National Biodiversity Strategy and Action Plan
NEAP	- National Environmental Action Plan
NEMA	- National Environment management Authority
NEMA	- National Environment Management Authority
NET	- National Environment Tribunal
NGO	- Non-Governmental Organization
NMK	- National Museums of Kenya
NOREB	- North Rift Economic Block
PA	- Publishing Authority
PAs	- Protected Areas
PGRC	- Plant Genetic Resource Centre
PIC	-Prior Informed Consent
PIN	- Personal Identification Number
PKTCE	- Protection of Traditional Knowledge Cultural Expressions Act
SCBD	- Secretariat of the Convention on Biological Diversity
SD	- Sustainable Development
SDGs	- Sustainable Development Goals
SEA	-Strategic Environment Assessment
SIA	-Social Impact Assessment
SMTA	- Standard Material Transfer Agreement

SoE	-State of Environment Report
SPVA	- Seeds and Plant Varieties Act
ST&I	- Science Technology and Innovation
TK	-Traditional Knowledge
TRIPS	- Agreement on Trade Related Aspects of Intellectual Property
UN	-United Nations
UNEP	- United Nations Environment Programme
UNFAO	- United Nations Food and Agriculture Organization
WCMA	- Wildlife Conservation and Management Act
WTO	- World Trade Organization

ABSTRACT

The Convention on Biological Diversity (CBD) (1992)(SCBD, 1992b), was the first international instrument on conservation of biological diversity to be adopted. Subsequently, the Nagoya Protocol (2011) on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (the Protocol) was adopted and came into force in October, 2014. The Protocol sought to govern access to genetic resources and sharing of benefits arising from their utilization and the traditional knowledge associated with them, a concept commonly known as ABS, and to contribute to the CBD. The critical role of counties in the management of natural resources since their introduction under the Constitution of Kenya, 2010 (CoK, 2010) is acknowledged but they have not been embedded in the ABS regime as part of the multi-level governance regime in the country. Their involvement in the management of genetic resources within the framework of the Nagoya Protocol is supported by Section 50-53 of the Environmental Management Co-ordination Act, 1999 (EMCA) including Section 147A which mandates counties to make relevant legislation. Further, the Environmental Management and Co-ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006 which provide for ABS did not have counties in contemplation since they were prepared before the CoK, 2010 came into force. Counties have consequently been inadequately involved in the ABS regime and the objectives of devolution in implementation of the Protocol have not been realized. The objectives of this research therefore were to analyze the role of county governments in implementation of the Protocol in Kenya with the specific objectives seeking to: establish their current role, investigate their relationship with the national government, find out what policy, legal and institutional gaps exist and to make policy recommendations for more effective implementation of the Protocol by County Governments. The qualitative research design was used to collect data between September 2019 and January 2020. Focus group discussions and key informant interviews were utilized. Baringo County was the ideal study site because it had experience with ABS. Results show that the role of counties exists within the current law and policy frameworks, it has been performed to some extent but that there are gaps due to among other reasons, lack of a clear unifying law and policy at both the national and county levels, failure to devolve ABS and to involve counties. It was found that counties are required among other functions to: have an integrated unifying ABS policy and law at national and county levels that include key elements for implementation of the Protocol; mainstream county roles within existing policy legal and institutional mechanisms across departments and sectors; document and value their resources; have an ABS desk office and adopt holistic systems thinking approach in implementation of the Protocol.

1.0 CHAPTER 1: INTRODUCTION

1.1 Background

Many of the world's poorest countries are reported to possess astounding natural wealth including biological and genetic diversity, which they rarely benefit from. Unfortunately, these resources have experienced unprecedented loss that is threatening the very existence of life (SCBD, 2014b). The Kenya Economic Survey of 2020 acknowledges the role played by environment and natural resources in achievement of Kenya's long term Vision 2030 (GoK, 2007; KNBS, 2020) and goes on to list the gross value added of resources such as forestry and logging, fishing and aquaculture, mining and quarrying and water supply. However, the Economic Survey does not mention the value of genetic resources (GRs) and traditional knowledge associated with the genetic resources (aTK) yet they are key components of natural wealth. Under the Convention on Biological Diversity (CBD), GRs have been defined as genetic material of actual and potential value. Genetic material is also defined in Article 2 of the CBD (SCBD, 1992b) and Regulation 1 of the Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006 (ABS Regulations) (NEMA, 2006) to mean any material of plant, animal, microbial or other origin containing functional units of heredity.

The CBD was the first comprehensive international multilateral environmental agreement on biological diversity to be adopted. It entered into force in 1993 and became the first international legal framework regulating matters of ABS (Greiber et al., 2012; SCBD, 1992b). Where domesticated in African countries, the legal frameworks were said to be 'remarkably both harmonious and chaotic' (Nnadozie, 2004) in the sense that many African Countries had harmonious approaches in all aspects of their regimes and chaotic because the approaches almost exclusively consisted of sectoral, *ad hoc*, responses with occasional overlaying of broader measures that were not ABS specific. As a result, many resources were accessed, destroyed and utilized in a manner that was not sustainable (GoK, 2014a; NEMA, 2011) without due regard to the rights of the providers who bore the brunt of costs associated with conservation of the resources (ELI, 2003; Greiber et al., 2012; NEMA, 2011; Nnadozie, 2003). In some cases, providers have received few benefits but are often excluded or inadequately included in decision making (Suiseeya, 2014).

The broader realization of the nature and importance of genetic diversity and resources, along with awareness about national and international rights to GRs and aTK prompted the onset of negotiations on their access and the means to share those benefits (Gupta, 2004). As a result, the

international community has since adopted other instruments to operationalize specific provisions of the CBD (SCBD, 1992b). The Nagoya Protocol on Access to GRs and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (SCBD, 2011a) (the Protocol) came into force in October, 2014. It sought to operationalize the third objective of the CBD, to contribute to conservation of biological diversity and resources and to govern access to GRs and sharing of benefits arising from utilization of GRs and aTK, a concept commonly known as (ABS) according to (Evanson Chege Kamau, Bevis Fedder, & Winter, 2010).

The third objective of the CBD (SCBD, 1992b), seeks to achieve the fair and equitable sharing of benefits arising out of utilization of the GRs, including by appropriate access to GRs and by appropriate transfer of relevant technologies, taking into account all rights over those resources and technologies, and by appropriate funding.’ Article 15 of the CBD provides the general framework on access and benefit sharing (Greiber et al., 2012; SCBD, 1992a). Before adoption and entry into force of the Protocol, Kenya’s legal framework for ABS included the Environmental Management and Coordination Act (EMCA) particularly Sections 50-53 (NEMA, 1999) and its Conservation of Biological Resources, Access to GRs and Benefits Sharing Regulations (ABS Regulations) (NEMA, 2006). At the time, the Country was guided by the African Model Law of the Africa Union and the Voluntary Bonn Guidelines (Evanson Chege Kamau et al., 2010; SCBD, 2001) which provided a framework for countries to voluntarily use ahead of the coming into force of the Protocol.

The Constitution of Kenya (GoK, 2010), was promulgated on 27th August 2010, and has various provisions within which implementation of Protocol can be aligned. Under Article 2 (6) of the CoK, once the Protocol and the CBD were ratified by Kenya, they became part of its laws (SCBD, 1992b) (SCBD, 2011b). Art. 11 then outlines the State’s obligation to promote culture; promote intellectual property (IP) of the people of Kenya; ensure that communities benefit from use of their cultures and cultural heritage and the ownership of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by the communities in Kenya. Further Art. 40 enjoins the State to support promote and protect the IP rights of its people, a benefit outlined in the Protocol (SCBD, 2011b). In its quest to protect and conserve the environment and to guarantee the right to a clean and healthy environment, the CoK provides for protection and conservation of biological diversity and ABS. Article 69 of the CoK in particular obliges the state to: ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of accruing benefits; protect IP in, and indigenous knowledge of, biodiversity and

the GRs of the communities; encourage public participation in the management, protection and conservation of the environment; protect GRs and biological diversity; establish systems of environmental impact assessment (EIA), environmental audit (EA) and monitoring of the environment and utilize the environment and natural resources for the benefit of the people of Kenya. (GoK, 2010).

The CoK established a devolved system of governance under Art. 176 of the CoK, 2010 (GoK, 2010). The objectives of devolution (GoK, 2010) are: to give powers of self-governance to the people and enhance the participation of people in the exercise of powers of the state and in making decisions affecting them; to recognize the right of communities to manage their own affairs and to further their development; to protect and promote the interests and rights of minorities and marginalized communities; to promote social and economic development and the provision of proximate, easily accessible services throughout Kenya; and to ensure equitable sharing of national and local resources throughout Kenya; to facilitate the decentralization of state organs, their functions and services, from the capital of Kenya. A look at the objectives pursuant to which the County governments and the devolved system were established suggests that there is a constitutional basis for extending governance of GRs and TK to county governments because the objectives make it possible to establish a governance system that reaches the local communities, one of the target beneficiaries and providers under the Protocol, to whom reference is made in this research. Thus, Kenya's County Governments are key actors in implementation of the Protocol due to their central role in devolution and in linking the local communities and National Government policies, plans and programmes which are in turn informed by the existing international environmental governance regime. This is buttressed by the existence of Section 147A of EMCA which mandates County governments to make legislation with respect to matters that are necessary, desirable, required or permitted under the CoK (GoK, 2010) and the EMCA (NEMA, 1999). In line with this mandate, the County legislation that ought to be put in place ought to operationalize Section 50 - 53 of EMCA, the ABS Regulations and other sector legislation.

1.2 Statement of Problem Problem

The promulgation of the Constitution of Kenya (GoK, 2010) created a new dawn towards realization of the right to protection and conservation of biological diversity and genetic resources, TK, culture, IP and sharing of benefits resulting from utilization of these resources. In its quest to protect and conserve the environment and to guarantee the right to a clean and healthy environment, it dedicated a myriad provisions on protection and conservation of biological diversity, ABS and

established a devolved system of governance under Art. 176 of the CoK, 2010. More specifically it obliged the state ‘... to utilize the environment and natural resources for the benefit of the people of Kenya’ (GoK, 2010). Within the context of the ABS governance regime, providers are key players who have been identified as beneficiaries of access and utilization of the GRs aTK (SCBD, 2011b).

The Protocol (SCBD, 2011b) requires that implementation be undertaken subject to domestic legislation, administrative and policy measures and anticipates that stakeholders such as communities who are the providers of GRs and aTK would be involved. States are therefore expected to have an ABS framework that involves communities in the ABS governance regime. Before the promulgation of the CoK, 2010 (SCBD, 2011b), and the coming into force of the Protocol in 2014 (SCBD, 2011b), governance of GRs in Kenya was achieved through the existing national institutions based how ABS governance invoked their mandates at the time. But since the CoK, came into force and county governments formed as part of a devolved governance structure, it became clear that counties ought to be involved in implementation of the Protocol considering their critical role as the units of governance in charge of provider communities and jurisdictions where these GRs are found. Further, EMCA requires Counties to put in place legislation under Section 147A (NEMA, 2015b), to implement the EMCA at the County level and some of the provisions they are expected to operationalize to facilitate implementation of the ABS governance regime at the County government level include Section 50 - 53 of EMCA (NEMA, 1999).

In addition to the rich culture and heritage of the communities living within Baringo County and the diversity of the County’s resources (BCG, 2018-2022), there is a lot of biological and genetic diversity and aTK within the County. However, the County and the provider communities have failed to benefit adequately from their resources due to among others, biopiracy in the past when extremophile bacteria were collected from L. Bogoria by a postgraduate student and taken out of the Country for research purpose but later found their way into foreign companies who synthesized an enzyme which was used as a detergent to manufacture of stone wash denim jeans with a high market value (ref). The responsible companies, Genencor and Proctor and Gamble later paid a small amount of money to the community after Kenya complained about the access (Kavaka, 2020; Mak, Lonnie van Zyl, Marla Tuffin, & Cowan, 2012). These extremophiles are one of the resources found within the study site but there are others such as aloe vera, trees and plant species used for traditional medicine, domestic and wild animals including camels, donkeys, flamingoes, snakes and mineral resources such as rubies (BCG, 2018-2022). This research is limited to genetic resources and

associated traditional knowledge within the scope of the Protocol.

After realizing the benefit of the Lake Bogoria and its resources, the National Government started the process of putting in place mechanisms to ensure access to GRs and aTK was regulated. At the moment, most of the ABS governance structures are within the National Government institutional framework yet county governments are legally and centrally placed at the heart of governance and administration of resources within their jurisdictions and would be key in facilitating the governance of GRs, their access, utilization and the sharing of benefits arising from utilization of such resources with the provider communities. The County Government of Baringo has since put in place some mechanisms for governance of ABS under several projects that have been implemented at the County in conjunction with the National Government institutions such as NEMA and KWS (Joseph, 2020; Kavaka, 2020) but they are not adequately embedded in the process in a manner that facilitates effective implementation of the Protocol at the County considering the critical role of Counties in administration and governance of specific jurisdictions, their resources and the demands of the Protocol. This research therefore sought to analyze the role of the County Governments implementation of the Protocol on Access and Benefit Sharing using Baringo County in Kenya as a case study.

1.3 Research Questions

This Study is guided by the following overall research question:

How can county governments facilitate implementation of the Nagoya Protocol?

Stemming from the overarching research question, the research sub-questions are outlined as follows:

1. What is the current role of County Governments in implementation of the Nagoya Protocol?
2. What is the relationship between national and county governments in the implementation of the Nagoya Protocol?
3. What are the Policy, Legal and Institutional Gaps hindering county governments' involvement in implementation of the Nagoya Protocol?
4. What policy recommendations can enable counties to implement the Protocol more effectively.

1.4 Research Objectives

The overall research objective is to establish the role of county governments in the implementation of the Nagoya Protocol in Kenya.

This is operationalized by the following specific research objectives:

1. To establish the current role of County governments in implementation of the Nagoya Protocol
2. To investigate the relationship between the national and county governments in implementation of the Nagoya Protocol
3. To identify the policy legal and institutional gaps existing in implementation of the Nagoya Protocol by the county governments
4. To make policy recommendations to enable counties to implement the Nagoya Protocol more effectively. .

1.5 Justification for the Study

There is worldwide loss of biodiversity driven by such issues as “land degradation, climate change, pollution, unsustainable harvesting of natural resources, unsustainable patterns of production and consumption and, introduction of alien invasive species” (GoK, 2014a, p. 19). These are the areas sought to be regulated to protect and conserve biological resources and genetic diversity under the CBD (SCBD, 1992b) pursuant to which the Protocol (SCBD, 2011b) seeks to ensure legal certainty and clarity on ABS while contributing to the third objective of the CBD. Loss of GRs due to loss of biological diversity and resources results to loss of IP rights, aTK, information and lack of recognition and acknowledgment of source (GoK, 2014b; NEMA, 2011). In monetary terms, the short and long term loss can be quantified as including loss of upfront payments and royalties, loss of opportunity to share the monetary benefits arising from commercialization of the resources.

Previously, GRs were accessed, utilized and commercialized with no regard to the rights and the benefits accruing to the providers, the communities, in whose jurisdiction the resources were located (Sheridan, 2004) and the rights of countries hosting these communities (Lewis, 2010). The communities amongst whom such resources were found, nurtured them for among other reasons, traditional medicine and, cultural and religious rites as a result of which the communities had long acquired religious, cultural, aTK, information and IP rights that ought to be considered in any benefits sharing regime (Nnadozie, 2003; Schroeder, Chennells, Louw, Snyders, & Hodges, 2020). Some communities have gone further and have sought recognition and benefits sharing in the access and benefits sharing regime and have asserted their rights in the international negotiations and the term as Indigenous Peoples and Local Communities (IPLCs) was adopted (SCBD, 2014a). This narrative is demonstrated in an article by Suseeya who delves into the plight of the Indigenous

Local Peoples and Local Communities and concludes that there was need to shift the debate from procedural matters to substantive rights in order for justice to be realized (Suiseeya, 2014).

Overtime, resources have been accessed for various purposes including research and for commercial purposes (Greiber et al., 2012; Lewis, 2010). In certain instances, resources have been accessed for research and academic purposes with some yielding commercially viable intended or unintended outcomes of research access and utilization. Thus, whether the access was meant for academic or commercial purposes, the benefits arising the resources ought to be negotiated in advance due to among others, the potential social and economic gains expected in the event of successful outcomes and commercialization (Greiber et al., 2012; Lewis, 2010). While regulation co-ordination and harmonization of policy and legal frameworks is necessary, it does not imply that the access to GRs ought to be restricted (K. Chege, 2009). Instead access should be allowed upon prior informed consent (PIC) and mutually agreed terms (MAT) and transfer of relevant technologies among other benefits identified under the Protocol such as joint intellectual property rights (SCBD, 2011b). Providers specifically stand to reap social and economic gains from among other sources, upfront payments, royalties and benefits shared with the provider communities particularly where there is commercialization of the research (K. E. Chege, 2015; Elisa Morgera, Elsa Tsioumani, & Buck, 2014; GoK, 2014a; NEMA, 2006).

Greiber et. al. explains that to appreciate the ABS concept, there is need to appreciate the ‘context within which GRs are provided, and utilized’ (Greiber et al., 2012). The text goes on to explain the potential social and economic significance of GRs as having the potential to contribute to social and economic development. It then maps out the monetary significance of the market for selected uses of GRs which reveals that the pharmaceutical industry had the greatest total market estimated at US\$640 billion in the year 2006 only compared with biotechnology estimated to have a total market of US\$70 billion in agricultural seeds, personal care, botanical, food and beverage (Greiber et al., 2012, p. 11). Greiber et. al also states that there is further potential for the ABS concept to provide an opportunity to value ‘biodiversity and its ecosystem services in practice and to act as an economic tool to account for this value’ (Greiber et al., 2012). The Rooibos industry wide benefit sharing agreement is one of the best practical examples of the potential of GRs (Schroeder et al., 2020).

The CoK, (GoK, 2010) entrenches rights and obligations and principles within the constitutional framework that has been praised for outstanding environmental management (Mwenda & Kibutu,

2012). Several provisions of the CoK, 2010 specifically speak to community rights, culture, ABS, IP among other rights that are important for ABS governance. It is against this background that this research is being undertaken with a view to analyze the role that county governments, are expected to play in implementation of the Protocol in the wake of promulgation of the CoK, 2010 and the resultant devolved system of governance and county administration. The role of counties as units of devolved governance within the ABS governance regime has not yet been fully contextualized, appreciated and embedded in the ABS national policy, legal and institutional frameworks in Kenya. This despite the fact that some of the benefits accruing from the ABS governance regime are expected to be shared with communities residing within county governments which in turn should result in sharing of benefits with the county governments. Further, the potential for ABS to provide an additional revenue stream for counties and their communities consistent with the objectives of the Protocol buttresses the need to establish what role these counties should play in implementation of the Protocol.

This research addresses a specific research gap evident from literature on ABS. This area of research is generally new compared to other multilateral and international environmental agreements, and no comprehensive research has been done on the role of county governments in implementation of Protocol. Most of the literature that exists has generally addressed the body of knowledge on ABS issues but does not address implementation of the Protocol at the sub-national level. This research will also facilitate the modeling of the ABS governance regime at the county governance level in Kenya in line with the Network Governance Theory with respect to implementation of international environmental regimes in a manner that invokes the engagement and participation and involvement of communities as providers of GRs and as agents or actors in the regime on matters that affect their rights to benefits accruing from utilization of GRs.

This research therefore provides a basis for further action by county governments in execution of their role in the ABS governance regime. The results will also provide comparable knowledge that could be replicated in other counties and other countries with similar characteristics as those of Kenya and the Endorois community.

1.6 Theoretical Framework

This research is based on the Network Governance Theory which has gained prominence within public administration (Klijn, 2012). The Theory is characterized by three core concepts and assumptions: actors interdependence and frames; interactions and complexity; institutional features

and network management. In 'Complexity in Governance Network Theory', Klijn et al describe the three types of complexity encountered in this Theory as being substantive, strategic and institutional and concludes that to deal with these, there has to be mutual adaption and cooperation (Erik-Hans Klijn, 2014).

The role of county governments under the Protocol is key in implementation of the Protocol and to the lowest levels of governance . Thus, county government's as democratically established institutions with democratically elected representatives, representing the structures responsible for governance of natural resources at the county and community level, as representatives of the communities, and as the link between the National Government and the community within the Network Governance Theory was reviewed. This research focuses on the implementation of the ABS governance regime in so far as it relates to the role of county governments that are in charge of the providers of resources.

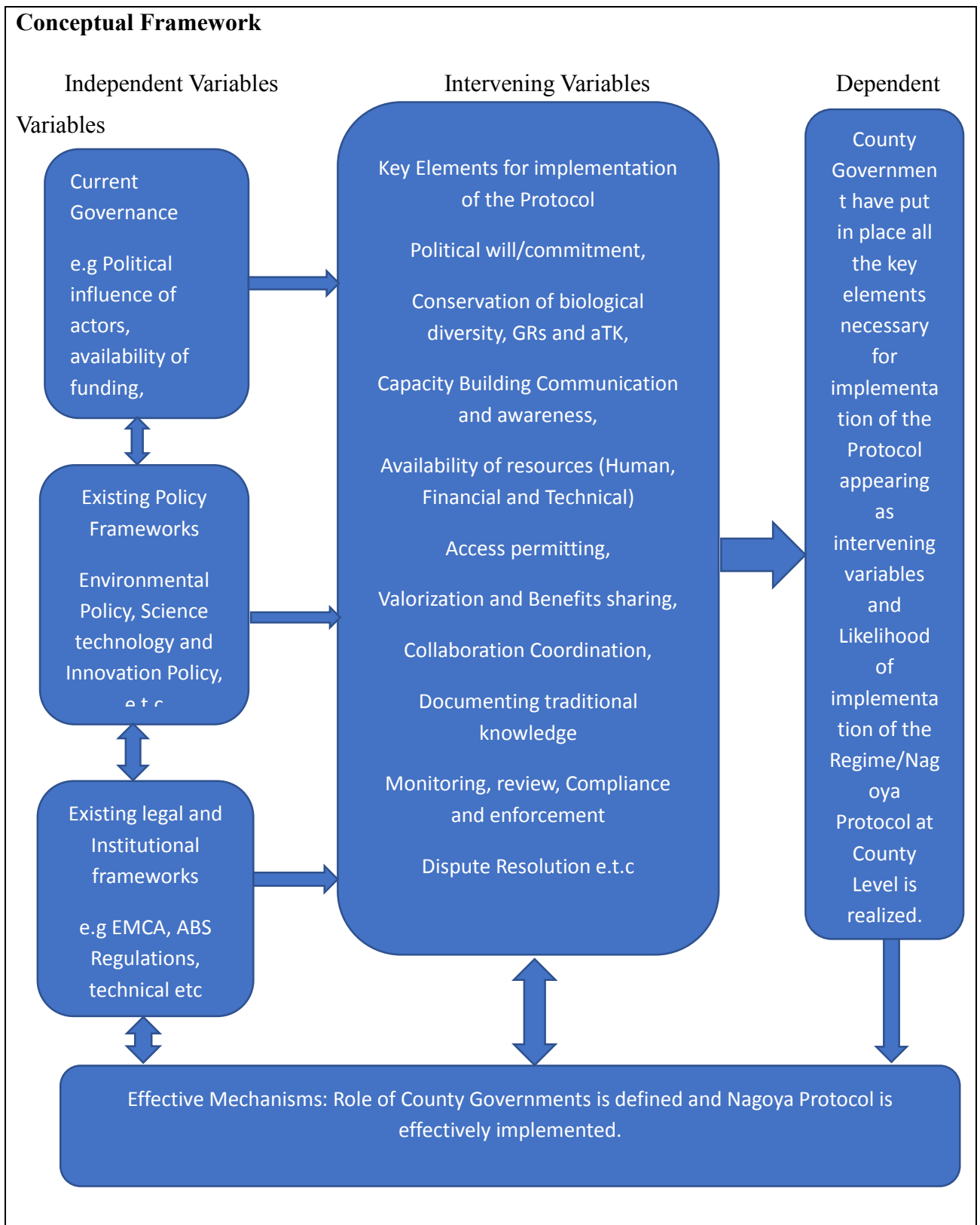
A look at the Protocol reveals the various components and institutions of the Protocol that must be put in place to enable effective implementation of the Protocol. They include: institutions like focal points, competent authorities, check points, a clearing house mechanism, a publishing house and a platform for IPLCs. It also requires that among others, mechanisms for communication, awareness creation, monitoring, compliance and dispute resolution be put in place. Considering the requirement for the National Government to devolve its functions as far as possible to the lowest unit of governance (GoK, 2010), the regime that is put in place at the National Government level must be devolved to the county government level to facilitate effective coordinated implementation of the Protocol.

Key elements for implementation of the Protocol as derived from the text of the Protocol, the Governance Network Theory read together with the CoK, 2010 and other statutes that are key in governance at the County level, were used to analyze role that county governments are supposed to play (ED Dellas et al., 2011; Erik-Hans Klijn, 2014; GoK, 2010; Gumila Olund Wingqvist, Olof Drakenberg, Daniel Slunge, Martin Sjostedt, & Ekborn, 2012; Klijn, 2012; SCBD, 2011b; Torfing, 2005). The mechanisms for involvement of county governments in the Regime should cut across: conservation of biological diversity and sustainable use of its components, capacity building, communication and awareness creation, coordination documentation of TK, provision of financing and funding, access permitting, valorization and benefit sharing, access, collaboration and

coordination, research, monitoring and reporting and evaluation, compliance and enforcement, dispute resolution amongst others. These prescriptions apply at the international level in accordance with the Protocol and are applicable at the national, sub-national and local levels of governance. The other elements for implementation of the Protocol at the national level according to domestic legislation or regulatory frameworks include the eight fields of Action for implementation of the Protocol as developed by the ABS Capacity Development Initiative (ABS Initiative) in their handbook on ‘Strategic Communication for ABS’ (ABSInitiative, 2012) are considered.

The Network Governance Theory therefore explains how interactions between the various institutions work and has been used to inform this research on the interaction of institutions in the ABS governance regime within the key elements for implementation of the Protocol as derived from the text of the Protocol, existing research, the eight fields of implementation of the Protocol and the Laws of Kenya.

1.7 Conceptual Framework



Source: @ author, Cicilia Githaiga 2020

2.0 CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter summarizes the international, national and local governance contexts of the Protocol to lay a basis for further discussion into the role that county governments ought to play in its implementation. It seeks to analyze the role of county governments in implementation of the Protocol in the ABS regime, investigates the implementation framework at the national and county levels and identifies the gaps in the policy, legal and institutional frameworks invoked in implementation of the Protocol in Kenya..

2.2 Role of County Governments in implementation of the Nagoya Protocol in Kenya

County governments are sub-national units of governance in Kenya which came into force in 2010 when the CoK, 2010 was promulgated (Lubale, 2012a). They are clothed with powers under the CoK,2010 and the various laws that support implementation of the Protocol and it is against this backdrop that the role of county governments is analyzed considering that they are key governance units in charge of legally established jurisdictions, resources and people (Greiber et al., 2012; Lubale, 2012a).

The challenge with implementation of the Protocol at the county government level stems from the fact that the Protocol was ratified by States Parties at the international level and it is supposed to be implemented subject to national legislation and other domestic measures. Those domestic measures for Kenya include a devolved system of governance that came into force post adoption of the Protocol. The system creates county governments, sub-county, locational, ward and village level units of governance that have not been captured within the ABS governance regime. This contributes to complexity of the regime as described by Klijn (Erik-Hans Klijn, 2014). In particular, the devolved system anticipates that environment and natural resources under which the ABS regime falls, are shared functions and the limits of both the national and county governments are set out in Schedule IV of the CoK (Muigua, 2016a, 2018b).

Brendan Coolsaet et.al finds that ‘... two fundamentally different governance processes’ are possible outcomes where the first one is based on a market oriented self-regulatory approach to the implementation of ABS or the normative institutional approach of public action. The first one emphasizes the self-regulating capacity of the actors be they public or private (for profit or not for profit) as the most efficient means of organizing ABS. It assumes that the actors have fixed preferences and behave according to their fixed preferences and according to how the other actor

behaves'.... 'The second type of implementation is based on a normative institutionalist approach of public action which focuses on the norms and formal rules of institutions that not only support and frame the spontaneous interactions between agents with fixed preferences but also shape and constrain the actions of the players and their preferences' 'The institutionalist approach assumes that it is both possible and desirable that the social and political institutions give the actors a reason to comply with, or be governed by, collective rules'. (Coolsaet, Tom Dedeuwaerdere, & Pitseys, 2013). In their conclusion the authors argue that the institutionalist approach is necessary to achieve the objectives of the Protocol. Kenya falls within the second institutionalist approach based on the governance regime that is in existence, where the norms and formal rules of the regime are prescribed by public institutions (Coolsaet et al., 2013). Coolsaet et.al wrote about the Belgium case before the Country ratified the Protocol and he favors the institutionalist approach that Kenya has in place.

Key elements for implementation of the Protocol as set out in the text of the Protocol to guide National Governments, provides useful guidance regarding the role that the sub-national/county governance structure established in Kenya. The Governance Network Theory, authors, the CoK, 2010 and other statutes that are key in governance at the County level, are used to analyze the role the county government is supposed to play in implementation of the Protocol (Erik-Hans Klijn, 2014; Gumila Olund Wingqvist et al., 2012; Klijn, 2012; Torfing, 2005). Gumila et al. in particular outlines the key principles of good governance as including effectiveness and efficiency; responsiveness; coordination; integration and coherency; rule of law and impartiality; accountability; transparency; participation and integrity (Gumila Olund Wingqvist et al., 2012). While Chege expounds on what he considers substantive content of the Protocol as comprising access requirements; benefit sharing; utilization of GRs; indigenous peoples and local communities and TK; compliance, monitoring and transboundary matters (Evanson Chege Kamau et al., 2010). Other authors also provide their own views of what makes up actions towards implementation of the Protocol (ABSInitiative, 2012; Eleni Dellas & Pattberg, 2013; ED Dellas et al., 2011). There is a general understanding that an organized ABS regime influences how successful ABS will be (K. E. Chege, 2015). These elements are consolidated and summarized for convenience and ease as follows:

The political will / commitment is demonstrated by the fact that Kenya has already ratified the Protocol. This is already a demonstration of political will by the National Government to implement the Protocol (ABSInitiative, 2012; Eleni Dellas & Pattberg, 2013; ED Dellas et al., 2011). Kenya

has been said to have a strong political will to implement ABS despite the challenges experienced (IEA, 2011). Capacity building, communication and awareness are key to implementation of the Protocol (ABSInitiative, 2012) in the absence of which implementation of the Protocol is likely to be hampered because the stakeholders will not understand the value of participating in the regime, or conservation and protection of components relevant to their TK and will lack incentive to participate in ABS (IEA, 2011).

Conservation of biological diversity is also a key issue under the Protocol. Implementation of the Protocol is ultimately supposed to contribute to the conservation of biological diversity and sustainable use of its components (Aremu, Cheesman, Finnie, & Van Staden, 2011; SCBD, 1992a, 2011b). Due to the intricate relationship between the community and their natural environment, TK was historically developed over time and conservation was achieved through use of traditional knowledge, culture and heritage and for sustainability of GRs and aTK, it is necessary conservation of biological diversity to be taken into account (Ashamu, 2011; AU, 2017). As part of the sub-national governments in charge of areas where resources are sought, counties ought to have a role in access permitting consistent with the objectives of the CBD and the Protocol which derives from the CBD is to establish an ABS mechanism that is fair and equitable and one that recognizes sovereignty of States over natural resources (Evanson Chege Kamau et al., 2010; Lewis, 2010; Siebenhüner Bernd, Suplie Jessica, & Ossietzky, 2005) (Evanson Chege Kamau, 2014a). These measures are supposed to be clear and are supposed to provide legal certainty and clarity to facilitate access by users to GRs while ensuring that the rights of the providers are protected. Unfortunately the measures in existence have been restrictive instead of facilitative of access (K. Chege, 2009).

States are required to take policy, legislative and administrative measures to ensure that providers of GRs and aTK benefit from utilization of the resources accessed from their jurisdictions (Greiber et al., 2012). Some of benefits are set out in the Annex to the Protocol and are either monetary or non-monetary. The benefits are also found in the ABS Regulations, the Bonn Guidelines and the Protocol (IEA, 2011; Morgera, Tsioumani, & Buck, 2016; Otswong'o, 2011). Valorization of genetic resources is critical to benefit sharing and both are key mechanisms that must be undertaken under the Protocol. Valorization of resources is undertaken '...to turn the potential economic value of GRs and aTK to actual income'(ABSInitiative, 2012), a key incentive for the providers and a source of clarity for users who engage in ABS (K. E. Chege, 2015; Evanson Chege Kamau, 2014a).

Klijn et. al stated that 'the assumption that underlies Network Theory is that handling of the complexity of difficult societal problems requires mutual adaption and cooperation among network

actors' (Erik-Hans Klijn, 2014). Other authors further state that '... Cooperation is necessary in networks' (Erik-Hans Klijn, 2014) which means that county governments have to engage in collaborative actions in implementation of the Protocol.

Implementation of the Protocol also requires investment of funds to undertake various elements to be achieved. A bioprospecting fund has been proposed (IEA, 2011) as a national fund that would support bioprospecting activities, scientists and related disciplines such as lawyers, facilities and infrastructure if put in place to assist in financing various activities relevant to implementation of the Protocol. as the support is proposed to be in form of capacity building, planning, monitoring and conservation. This is a key requirement at the international level for implementation of international agreements as there are regulations costs that are also involved in implementation of international environmental regimes according to Dellas et.al (ED Dellas et al., 2011) that must be taken into account by counties to ensure they have technical, functional and human resource skills to engage in implementation of the Protocol.

The entire process of acquisition of an access permit is undertaken to facilitate research within legally established mechanisms that seek to ensure that the benefits derived from commercialization of the research are shared with the providers of those resources (K. E. Chege, 2015; E. Kamau, G. Winter, & P. Stoll, 2015). According to Chege's work of 2015, the Protocol considers research and development as a collective term to refer to both commercial and non-commercial research because both the Protocol and the CBD did not separate the use of the terms but the intention of using the term was to cover basic and applied research to its development (K. E. Chege, 2015). Unfortunately this lack of clarity and uncertainty does not allow the ABS regime to be a fully functional system for R&D for GRs and aTK according to Morgera (Elisa Morgera et al., 2014). Documenting TK is a critical function that has yet to be undertaken in the Country this despite existence of law on protection of traditional knowledge and cultural expressions (GoK, 2016b; IEA, 2011). which mandates both National and County Governments and there is no central information depository system with controlled access that ensures confidentiality of the information collected (GoK, 2016b; IEA, 2011).

Availability of data, ability to use the data and willingness to collect and use that data assists in making informed decisions according to Stephenson et.al (Stephenson et al., 2017). Data is necessary for protection of IP rights, compliance, monitoring, measurement and reporting and allows evaluation of progress or achievement of set targets and this can be a function of Competent Authorities (Elisa Morgera et al., 2014; IEA, 2011) in conjunction with the Publishing Authority

and Clearing House. MAT is also a useful monitoring tool that outlines the rights, obligations and restrictions on parties to the agreement. It is also useful for monitoring against agreed contractual terms and milestones (Elisa Morgera et al., 2014).

Compliance and enforcement can be achieved using various methods including following up on the use of PIC and MAT, conditions of an access permit. Compliance and enforcement would also benefit from disclosure of origin in applications for patents under TRIPS and provision of PIC as evidence of benefit sharing as this would make the IPR system a means of enforcement of ABS provisions of the CBD through the World Trade Organisation (WTO) (K. E. Chege, 2015; Elisa Morgera et al., 2014). National legislation of provider countries are expected to provide relevant mechanisms for compliance with provider countries legislation and enforcement just as user countries are expected to have measures to ensure compliance (Elisa Morgera et al., 2014). It is very difficult to enforce compliance with permit conditions in a State other than the one that issued the permit and this still remains a challenge for most provider countries as there are no mechanisms for monitoring in other jurisdictions with the exception of the EU which obliges users from its member states to ensure due diligence to ascertain that GRs and aTK are obtained in accordance with applicable ABS legislation and regulatory frameworks although this measures has been criticised for not being very effective, but at least it requires due diligence on the part of users (German Ministry for the Environment & Development, 2019; E. C. Kamau, G. Winter, & P.-T. Stoll, 2015).

Dispute resolution is a key feature of a legal framework and while the Protocol does not have a provision for dispute resolution, disputes can be resolved between parties in line with contract documents signed such as PIC and MAT although the means and jurisdiction of enforcement is still not clear and is often difficult for provider countries unless the user countries have measures requiring compliance with provider countries national legislation and regulatory requirements as is the case with the EU (German Ministry for the Environment & Development, 2019; E. C. Kamau et al., 2015). According to the CoK, the Courts system and the Judiciary fall under the National Government and Article 159 encourages the use of alternative forms of dispute resolution such as reconciliation, mediation, arbitration and traditional dispute resolution mechanisms which according to Kimana and Muigua ought to be explored (Kimana, 2015; Muigua, 2018a).

2.3 Relationship between the National and County Governments in implementation of the Nagoya Protocol

2.3.1 Levels of implementation of the Nagoya Protocol.

These Network Governance Theory explains how public institutions interact with each other across levels of governance which interaction has been described as complex. This interaction has been used to explain the complexity of the ABS governance regime within the key elements necessary for implementation of the Protocol along with the prescription of the Laws of Kenya and the ABS Capacity Development Initiative's (ABS Initiative) eight fields of action for implementation of the Protocol (ABSInitiative, 2012). The eight fields of action have been summarized for purposes of this research in a framework outlined by the ABS Initiative as include: ratification of the Protocol where parties ought to have decided whether or not they wished to be bound by the prescriptions of the Protocol; definition of overall ABS policies/strategies where parties ought to have clarified their national plans to achieve ABS; putting in place domestic ABS regulations where parties seek to ensure legal certainty; establishment of institutional arrangements with clear responsibilities that facilitate implementation; dealing with TK where parties ought to have in place means of sharing benefits with providers; dealing with trans-boundary issues where parties seek to avoid conflict and create synergies; valorization strategy where parties seek to transform the potential economic value of GRs s aTK and information into financial or economic returns and finally, stakeholder involvement where parties seek to ensure commitment and compliance of different stakeholders (ABSInitiative, 2012). While these were prepared for application at the national level, they can also be applied at the County level in line with the objects of devolution.

2.3.2 National context of the Nagoya Protocol.

The CoK, 2010 is the Supreme Law of Kenya and binds all persons and all state organs at both (national and county) levels of government (Bosek, 2014; Muigua, 2016b). It has entrenched environmental Rights and obligations and principles within the constitutional framework and has been praised for good environmental management (Mwenda & Kibutu, 2012). The CoK, 2010 provides that sovereign power should be exercised directly or through democratically elected representatives in the organs of state such as parliament and the legislative assemblies in county governments; the national executive and county executive structures in the county governments and, the Judiciary and independent tribunals (GoK, 2010; Lubale, 2012a). The Protocol is first and foremost supposed to be implemented by the National Government according to national legislation and regulatory measures. For Kenya, these measures include the devolved system of governance at the sub-national level of governance which ought to trickle down to even lower levels such as the sub-county, ward and village levels.

2.3.3 County context of the Nagoya Protocol

Devolution refers to the manner of apportionment of the traditional power and authority of State to tax, spend, account for governance, offer and deliver services; control, distribute and deliver resources, make laws and public policy; identify and enforce rights and set up and enforce a governance mechanism reserved in the central/ national organs of the National Government are distributed across a range of devolved and centralized entities (Lubale, 2012a). More specifically, county governments are devolved units of governance that came into play with promulgation of the CoK, 2010 and are expected to have roles in the governance and administration of environment and natural resources within their jurisdictions (Muigua, 2018b). They also represent specific populations which ought to benefit from representation by their elected leaders within the county governments in line with the CoK, 2010 (Muigua, 2018b).

The CoK set out the principles of devolution and strict objectives of devolution under Article 174 and 175 and proceeded to set out the county governance structure. Kenya's ABS Regulations are still inadequate as they do not have among others, an institutional framework that defines the roles of each of the stakeholders in the ABS value chain and county governments had not been anticipated and have not been taken into account as critical structures in the ABS governance regime. Some of the National Government institutions took up responsibilities related to ABS under their laws where there was an ABS aspect that fell within their mandate resulting in a disjointed, uncoordinated and complicated ABS Regime that has yet to integrate county governments as key actors in the regime (E. K. Chege, 2019; K. Chege, 2009; Evanson Chege Kamau et al., 2010).

Under the Protocol, the stakeholders, institutions and agencies can either be the Focal Point, Checkpoints, Clearing House Mechanism, the Competent Authorities or the Publishing Authority (Elisa Morgera et al., 2014; Greiber et al., 2012; Lewis, 2010). Chege has expounded on the access permitting procedure in Kenya and proposed a simplified procedure that could be followed by stakeholders. The only place where counties were captured check points is in the ABS Toolkit (NEMA, 2014b). Chege distinguished the kinds of measures that could be put in place as being countering, facilitating or legitimate, all of which provide guidance on what can be done and what ought to be avoided (K. Chege, 2009). He goes on to explain that in the Philippines the procedure was so restrictive and cumbersome as the state did not facilitate the ABS process which he dismissed as counter-productive and one of the legitimate processes suggested was that of having an online system (K. Chege, 2009) to make the process easier. What is not clear is how the county governments will be integrated into the system.

In ‘Common Pools of Genetic Resources’ establishment of a welfare council such as the one set up by the San Community in South Africa¹ is lauded as an important structure (Kamau 2013) to be considered within the community level governance and the Endorois community have in place an Endorois Welfare Council (Lassen Barbara et al., 2018). In the case of the Endorois community against the Government of Kenya, the African Commission on Human and People’s Rights found that relationship between the community and their natural environment was established, rights to those resources reaffirmed and the Government of Kenya was ordered to allow the Community to register their Welfare Council (ACHMPS, 2009; Ashamu, 2011; EWC, 2019; Wicomb & Smith, 2011).

2.4 Policy, legal and institutional arrangements in implementation of the Nagoya Protocol

2.4.1 International Frameworks

The CBD sought to achieve three objectives: conservation of biological diversity, sustainable use of its components and to govern access to GRs and sharing of benefits arising from utilization of GRs and aTK, a concept commonly known as ABS (Evanson Chege Kamau et al., 2010; Greiber et al., 2012; SCBD, 1992a, 2011b). Article 28 of the CBD in particular calls upon states parties to cooperate in the formulation and adoption of Protocols to the CBD. The Protocol is one of the legally binding, supplementary agreement to the CBD that provides a framework for ABS (K. Chege, 2009; Greiber et al., 2012; Evanson Chege Kamau, 2011, 2014b). The Protocol regulates how users of GRs and or aTK are supposed to access such resources and knowledge and how the benefits arising from their access and utilization are supposed to be shared between the users and providers (Evanson C Kamau & Winter, 2009; SCBD, 2011b). It also requires States to implement it subject to their national legislation and for users to respect the domestic legislation and regulatory requirements of providers and provider countries (Greiber et al., 2012; SCBD, 1992a, 2011b).

Lewis refers to the potential value of GRs and aTK while using examples from South Africa (Lewis, 2010). South Africa has even signed an industry-wide rooibos benefit sharing agreement, the biggest benefit sharing agreement between a whole industry and the indigenous peoples so far (Schroeder et al., 2020). Greiber et. al also states that there is further potential for the ABS concept to provide an opportunity to value ‘biodiversity and its ecosystem services in practice and to act as an economic

tool to account for this value’ (K. Chege, 2009; Greiber et al., 2012) which would in turn assist discussions between the users and providers.

The objective of the Protocol derives from and is similar to the third objective of the CBD both of which provide for “the fair and equitable sharing of the benefits arising from the utilization of genetic resources”. The Protocol covers the fair and equitable sharing of the benefits arising from utilization of GRs, including by appropriate means of access of those resources and means of transfer of relevant technologies taking into consideration all parties rights and funding, key elements for discussion on matters of implementation of the Protocol (Greiber et al., 2012). Benefit-sharing therefore demands that other rights of the users and providers to accessed resources and to transferred technologies be taken into account (Greiber et al., 2012). In the final analysis, it is expected that implementation of the Protocol will contribute to conservation of biological diversity and sustainable use of its components, one of the objectives of the CBD (Greiber et al., 2012).

The scope of the Protocol under Article 3 of the Protocol includes reference to Article 15 of the CBD (SCBD, 1992a) (Greiber et al., 2012). The CBD provides for recognition of sovereignty of states in access and benefit sharing mechanisms and that the legislation and regulation of ABS is subject to national legislation. States are also required to facilitate ABS while ensuring that PIC and MAT of the providers is obtained (Greiber et al., 2012). The Protocol also provides that research should as far as possible be undertaken with participation of the providing country and if possible, the research should be carried out within the providing country and calls upon states to develop their policy, legislative and administrative mechanisms to facilitate ABS (Greiber et al., 2012).. Greiber et. al. explains that to appreciate the concept of ABS, there is need to understand the ‘context within which the GRs are provided and utilized’ (Greiber et al., 2012). They further explain the potential social and economic significance of GRs in contributing to social and economic development. He goes on to map out the extent of the sector and monetary significance of the market for selected uses of GRs as follows:

Sector	Size of the total market in 2006	Importance of GRs
Pharmaceutical	US\$640 billion	20-25% derived from genetic resources

Biotechnology	US\$ 70 billion from public companies alone	Many products derived from genetic resources enzymes and micro-organisms
Agricultural seeds	US\$ 30 billion	All derived from genetic resources
Personal care, botanical and food and, beverage industries	US\$ 22 billion for herbal supplements US\$ 12 billion for personal care, US\$31 billion for food products.	Some products derived from genetic resources: represents natural component of the market.

Figure 1: Market sector and importance of the genetic resources.

Source: (Greiber et al., 2012, p. 11) adapted from Ten Brink, 2011, p. 17.

Further, the Protocol requires all Parties that require PIC to be obtained to put in place legal, administrative and Policy measures that ensure: legal certainty, clarity and transparency of their ABS legislation or regulatory requirements; provision of fair and non-arbitrary access rules and procedures; provision on PIC applications; provision for written and cost-effective PIC decisions within a reasonable period of time; issuance of a permit or equivalent as evidence of PIC and MAT and notification of the ABS Clearing House; establishment of criteria and or processes for obtaining PIC or approval and involvement of IPLCs and establishment of clear rules and procedures for establishing MAT (K. Chege, 2009; Greiber et al., 2012; Evanson Chege Kamau, 2011; Morgera et al., 2016). It also specifically regulates access to aTK as it calls upon States, in accordance with their domestic law , to ensure that aTK held by IPLCs is accessed subject to their PIC or approval and involvement after which the terms of MAT have to be agreed with the IPLCs (Greiber et al., 2012; Evanson C Kamau & Winter, 2009; Evanson C. Kamau & Gerd Winter, 2013; Evanson Chege Kamau & Gerd Winter, 2013).

Prior to the adoption and entry into force of the Protocol, some parties/countries including Kenya modelled the governance of GRs and aTK along the voluntary Bonn Guidelines at the time to enable them have a framework for governance of their genetic resources and diversity (Lewis, 2010). The Strategic Plan for Biodiversity and the Aichi Biodiversity Targets (2011-2020) which were agreed by parties during the 10th Conference of Parties (COP 10) comprised 20 milestones and one of them required States including Kenya to ratify the Protocol before 2015 (E. K. Chege, 2019;

Evanson Chege Kamau et al., 2010; Morgera et al., 2016).

the 2030 Agenda Sustainable Development Goals (SDGs) seeks to end poverty, promote good health and well-being, industry, innovation and infrastructure, reduced inequalities, peace justice and strong institutions and, partnerships whose achievement is supported through implementation of the Protocol (UNDP, 2018). The interface between the SDGs and the Protocol arises from an element of its objective that seeks to ensure that there is contribution to conservation of biological diversity and sustainable use of its components which essentially means contribution to the objectives of the CBD and hence SD (UNDP, 2018).

The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) (UNFAO, 2004) sought to regulate access to a list of plant genetic resources for food and agriculture that have already been agreed by States. The Treaty is limited in scope to conservation and sustainable use of plant GRs for food and agriculture that have been agreed by states and the fair and equitable sharing of benefits arising out of their use (Elisa Morgera et al., 2014; IEA, 2011; E. C. Kamau et al., 2015; Morgera, 2015). The ITPGRFA (UNFAO, 2004) is expected to be implemented in harmony with the CBD according to the its first objective ought to be implemented with the CBD and its Protocol in mind. The Treaty provides for a standard material transfer agreement (SMTA) and sharing of benefits through a multilateral benefit sharing fund, a different concept compared to the CBD and bilateral benefit sharing arrangements (BioversityInternational, 2015; Halewood, Andrieux, & Crisson, 2013).

The Agreement of Trade Related Aspects of Intellectual Property Rights (TRIPS) (WTO, 2017) is the other regime that interacts with ABS from the perspective that patenting arising from access to GRs and their utilization takes place under the TRIPS once the patentability requirements are fulfilled. Various authors have stated that so far, evidence of PIC and benefit sharing agreements like MAT are not required under TRIPS (K. E. Chege, 2009; IEA, 2011; E. C. Kamau et al., 2015; Morgera et al., 2016), a challenge for compliance and enforcement efforts.

2.4.3 National Frameworks for implementation of the Protocol in Kenya

Some authors such as (Anne N Angwenyi, 2009; Ashamu, 2011; Greiber et al., 2012; Evanson Chege Kamau & Gerd Winter, 2013; Morgera, 2015; Morgera, Buck, & Tsioumani, 2012), have written generally about the ABS governance regime. Chege in particular has written about Kenya's ABS governance regime with Angwenyi concentrating on the ABS regulations. Greiber et. al having written before the Protocol came into force in 2012, wrote 'An Explanatory Guide to the Protocol'

where he expounded on the history of the Protocol starting with the CBD. He went on to expound on the articles in the Protocol and what it would entail once the Protocol came into force (Greiber et al., 2012). Angwenyi, had earlier on set out the Law Making Process of ABS in Kenya then (Anne N Angwenyi, 2009). She also highlighted the lack of a policy to regulate the sector and the role that the National Environment Management Authority (NEMA) was expected to play in issuance of guidelines and prescriptive of measures for sustainable management and utilization of genetic resources in Kenya and license fees (Anne N. Angwenyi, 2009).

Ashamu and Morgera also wrote about the Judgment of the African Commission on Human and People's Rights (AU, 2017) regarding the eviction of the Endorois community by the Republic of Kenya from their ancestral home (ACHMPS, 2009) and explained how the Endorois community interacted with their land, culture and traditions while showing the importance of culture and heritage to the Endorois indigenous peoples. This attachment to land, natural resources and culture, they explain, is a feature of most indigenous societies and it is central to their identity and survival (Ashamu, 2011; Redvers et al., 2020). Elisa Morgera and Tsioumani and Buck also undertook an expansive explanation of what the Protocol is and addressed each of its components from a legal perspective (Morgera et al., 2016) in detail. Morgera also explores how access and benefit sharing is at cross roads with the right to science and international biodiversity and makes a case for the start of a new perspective that the sharing of 'benefits of science' can also be considered under the Universal Declaration on Human Rights' (Morgera, 2015). In another text, Evanson Kamau et. al discuss ABS and the implications of the Protocol on provider and user countries based on the provisions of the Protocol and among the drawbacks, he states stem from the use of words like 'as appropriate', 'where applicable', 'as far as possible' and 'if applicable' coupled with weak language such as 'endeavor', 'encourage', 'consider' and 'promote' (Evanson Chege Kamau et al., 2010) which ultimately do not bind States to implement the Protocol according to their domestic administrative, policy and legal frameworks. Some authors decry the lack of clarity and uncertainty of the international regime. Definition of terms such as TK and other matters such as digital sequencing of information which continue to pose challenges to implementation of the Protocol (E. K. Chege, 2019; German Ministry for the Environment & Development, 2019) a factor which could influence how effective implementation of the Protocol at the sub-national levels of governance is likely to be.

On procedural Dimensions in Kenya', Chege (K. Chege, 2009) also expounds on the access permitting procedure in Kenya and proposes a simplified procedure that could be followed by

stakeholders. He distinguishes the kinds of measures that could be put in place as being countering, facilitating or legitimate, all of which provide guidance on what can be done and what ought to be avoided. He goes on to explain that in the Philippines the procedure was so restrictive and cumbersome as the state did not facilitate the ABS process and this, he said was counterproductive. In the same article, Chege explores the ABS regulatory mechanism of Kenya and finds that the ABS Regulations of Kenya create hurdles in the process of access instead of facilitating the process. He also states that the process is long, winding, expansive and expensive and may repel projects instead of attracting them and further states that a long winding process is not necessarily the panacea for illegal access as long as loopholes still exist. While regulation co-ordination and harmonization of policy and legal frameworks is necessary according to Chege, it does not imply that the access to GRs and aTK ought to be restricted according to Chege (K. Chege, 2009) as Kenya could reap social and economic gains from among other sources, upfront payments and royalties and, other commercial and non-commercial benefits available to the provider communities particularly where there is commercialization of the research outcome (Evanson Chege Kamau, 2014b). Lewis also supports the argument that there are economic gains to be made while speaking about the potential of South Africa's resources (Lewis, 2010) and the industry-wide rooibos benefit sharing agreement is just one example. Chege explains the difficulty encountered by people who intend to access GRs and aTK in Kenya and states that most ABS regimes have not been effective and have restricted instead of facilitating access (K. Chege, 2009). NEMA, for instance had issued 145 access permits by end of July 2020 under the ABS Regulations since they were published in 2006 (Imende, 2020). NACOSTI on the other hand, issues an average of 5000 research licenses in a year, 5% of which relate to biological resources but it was not possible to tell how many of the 5% issued relate to ABS because they are not segregated in the system currently in use (Kalerwa, 2020). Further, during the year 2018/2019, 2019/2020 financial years, NACOSTI granted 6015 and 5,578 licenses respectively.

Chege concludes that '...the intention of instituting the ABS regime was to achieve a fair and equitable distribution of the benefits arising from the utilization of GRs and aTK between providers and users' (Evanson Chege Kamau, 2014b). He went on to state that the ABS regime has not been able to achieve that goal because national measures in provider countries are very restrictive and that there are no measures to ensure that provider measures are observed beyond national jurisdictions neither is there a way of way of ensuring that users share benefits with provider countries (Evanson Chege Kamau, 2014b).

2.4.3 Relevance of the Nagoya Protocol to local communities.

The communities amongst whom GRs are found, nurture them for among other reasons, traditional medicine and, cultural and religious rites as a result of which the communities had long acquired among other rights religious, cultural, TK, information and IP rights (ACHMPS, 2009; Ashamu, 2011; Redvers et al., 2020; Suiseeya, 2014) that ought to be considered in any benefits sharing regime. Communities have sought recognition at national and international levels and have asserted their rights in the access and benefit sharing regime and have influenced States Parties to the CBD to adopt the term indigenous peoples and local communities (IPLCs) for use in future decisions and secondary documents under the CBD (SCBD, 2014a). In an article on ‘Negotiating the Protocol: Demand for Justice’ (Suiseeya, 2014). Suseeya addresses the plight of the indigenous peoples and local communities and concluded that there was need to shift the debate from procedural matters to substantive rights in order for justice to be realized. According to Wilmien et al, ‘The Peoples’ rights protected in the African Charter and in particular the right to culture, development, natural resources and the emphasis on community self-determination and self-identification, potentially provide a basis for creative jurisprudence to protect rural communities and promote their participation in decision making and benefit from development of their land’ (Wicomb & Smith, 2011, p. 422).

Thus if the County governments fail to be entrenched in the ABS governance regime and in implementation of the Protocol, the objectives of the Protocol will not be fully and effectively realized because the level of governance that is closest to the provider communities and one that is in charge of the jurisdiction within which the resources are found will not be adequately and properly involved. Failure to involve the county governments as the level of governance that is in charge of planning, or allocation of resources and implementation of the policies and laws emanating from the National Government at the sub-national level means that meaningful arrangements to either protect the resources, plan for them or monitor their access and use while ensuring that benefits are shared will not be achieved and the regime will be ineffective

2.4.4 Traditional knowledge, culture and cultural heritage as the basis of ABS governance at community level.

Culture is the basis for existence of many indigenous peoples and local communities and biodiversity and biological resources GRs are nurtured for traditional medicine, cultural and religious rites among other traditional uses that carry with them such as knowledge, information and IP rights (ACHMPS, 2009; Ashamu, 2011; Kameri-Mbote, 2013; Redvers et al., 2020; Suiseeya,

2014; Wicomb & Smith, 2011) and hence the need for protection, conservation and necessity of benefit sharing.

Kenya is under an obligation to ‘recognize the role of science and indigenous technologies in the development of the nation’, ‘promote IP rights of the people of Kenya’ and enact legislation to ensure that communities receive compensation for use of their cultures and cultural heritage’ (GoK, 2010). This is in tandem with Article 8j of the CBD which calls upon States ‘to respect, preserve and maintain knowledge innovations and practices of indigenous peoples and local communities for among others, conservation of biological diversity while ensuring ABS is realized from utilization of such knowledge, innovations and practices’ (Apgar, 2017; Catherine Aubertin & Geoffrey Filoche, 2011; Nijar, 2011) and whose contribution is also recognized under the ITPGRFA (Apgar, 2017) (UNFAO, 2004).

In recognition of the need to anchor the rights of the communities within the law, the Protocol provides that communities may prepare their own protocols to govern their GRs and aTK. These protocols have since been used by various communities to negotiate with government, industry and academia on benefit sharing arrangements and the terms of pre and post access utilization and in some cases commercialization (Lassen Barbara et al., 2018; Schroeder et al., 2020). These community protocols have been lauded by academia as appropriate governance structures at the community level with some authors (Apgar, 2017; Harry Jonas, Kabir Bavikatte, & Shumm, 2010; Kabir Bavikatte & Daniel F. Robinson, 2011) stating that these protocols entrench the right to self-determination and provide opportunities for inclusive governance of resources while enhancing sustainability (Jukic, 2013). A report on lessons learned from preparation and use of bio-cultural protocols in Africa (Lassen Barbara et al., 2018) outlines the lessons learned in terms of processes followed in the development of BCPs and the mechanisms put in place by different communities. Some communities such as the Endorois have even registered a governance body, the Endorois Welfare Council (EWC) and have in place a bio-cultural community protocol (BCP) outlining governance structures agreed among the members of the community and the manner of engagement with external stakeholders including government, academia and other people who intend to access and or exploit any of the Endorois Peoples’ resources(EWC, 2019).

2.4.5. Policy Framework for implementation of the Nagoya Protocol.

2.4.5.1. Kenya Vision 2030, 2007

Ndungu et.al stated that the Kenya Vision 2030 (Ndung'u, Thugge, & Otieno, 2011) has the potential to unlock Kenya's growth. He lamented that growth in the natural resources sector had been affected by a multitude of challenges including: '... air pollution, solid and hazardous waste, climate change and desertification and the country's inability to identify and develop strategic natural resources due to low innovative exploration initiatives and capacity'. Thus, there is need for proper governance of the GRs and aTK and the benefits arising from utilization of such resources and knowledge under the Protocol as it would reap among others social and economic gains for the Country and the communities responsible for nurturing the resources as found by several authors (Greiber et al., 2012; SCBD, 2011b; Schroeder et al., 2020; UNDP, 2018). The challenges Ndungu et.al mentioned also affects the ABS governance regime and the Kenya needs to devise ways of ensuring that biological diversity thrives in order for Kenya to have conversations about ABS, the conservation of biological diversity, sustainable development, access and benefit sharing. Protection of traditional knowledge and culture, documentation of traditional knowledge and culture, protection of intellectual property among other rights enshrined in the law, e.t.c.

While the strategy addresses specific priority areas, the environment and natural resource sector under which ABS falls can be considered part of those strategies whether or not the makers of the strategy knew that GRs would have potential to generate income for the economy as observed by Greiber et al. Awino et. al highlights in his findings that among the challenges of implementing the Vision include 'inadequate and limited resource allocation..., political interference, uncertain inadequate and ineffective involvement of citizens ... , unsustainability of programmes, insufficient disaggregated data, poor linkage of policy, planning and budgeting at grassroots level, natural and man-made disasters such as famine, drought' (Awino & Kithinji, 2012). The challenges for the biological diversity and the ABS regime are summarised as follows; 'land degradation, climate change, pollution, unsustainable harvesting of natural resources, unsustainable patterns of consumption and production and introduction of alien invasive species ...' (GoK, 2014b; MEF, 2019) and these must be considered and addressed in the ABS governance regime especially when considering the key elements for implementation of the Protocol. Awino et. al found that 'meticulous implementation has strategic planning and development embedded in it.' (Awino & Kithinji, 2012) This finding could be utilized by the ABS governance regime as one of the key elements for implementation of the Protocol.

2.4.5.2. National Environment Policy, 2014

The National Environment Policy undertook to ‘regulate and encourage sustainable utilization and bioprospecting of biological resources in accordance with international law’(GoK, 2014b). This is good news for the ABS sector because it means ABS matters have already been captured in the leading environmental governance commitments of the country. The Policy specifically provides for ABS by undertaking to ‘Develop mechanisms that ensure benefits from access to genetic resources such as intellectual property rights, Traditional knowledge and technology are shared with communities living in areas where the genetic material originated’(GoK, 2014b). The policy attempted to integrate all the issues that have relevance to the environment sector for a harmonized policy direction. The specific commitment to regulate bioprospecting and sustainable resource use provides the platform for integration of ABS governance regime with all relevant regimes, sectors and levels of governance having been captured within the Environment Policy. Coolsaet et al stated that the internationalization of the ABS policy regime leads not only to a multiplication of international actors (UN bodies, regional bodies ...) but also to a problem of interplay between existing regimes regulating similar or related issues’(Coolsaet et al., 2013). Coolsaet et al identify the areas that they find interaction with the Protocol as including ‘biodiversity conservation, international trade, agriculture, intellectual property and indigenous peoples (own insertion) and local communities rights, all of which are regulated through different international institutions and sets of norms’ (Coolsaet et al., 2013).

The principle of Sustainability in the policy is guided by the UN Agenda on Sustainable Development (UN, 2015) and the interplay between the Protocol and other Sustainable Development Goals has been highlighted by the ABS Initiative and the UNDP (UNDP, 2018). Stellina in her critical analysis of ABS under the Protocol finds that the Protocol is the highlight of ‘an ideal agreement based on the fundamental deep-rooted association between biodiversity and SD’(Jolly, 2015). Since the Ministry of Environment and Forestry is required to inculcate the principles of Sustainable Development as required by the 2030 Agenda on Sustainable Development (UN, 2015).

2.4.5.3. Busia Biodiversity Policy, 2016-2023.

Busia County Biodiversity Policy (Busia County, 2017) has objectives geared towards utilization and conservation of biodiversity, regulation of ABS arising from utilization of the County’s resources and promoting biodiversity research and development (Busia County, 2017). The policy lays out the various forms of genetic resources available in the County as including plant, aquatic and animal. It also highlights the County’s indigenous knowledge and practices and the socio-economic

importance of Biodiversity and the institutions involved in biodiversity conservation (BusiaCounty, 2017). It then lays out the policy concerns, challenges and the interventions to manage biological diversity and then goes on to state the proposed policies, strategies and plan of action on each of the concerns noted and states the how the County will achieve policy implementation and review (BusiaCounty, 2017). This is the only policy on biodiversity and ABS that exists in Kenya and serves as useful example for other counties to emulate. No author has written about the County's policy and no literature exists on the policy.

2.4.5.4. Other policies invoked in ABS Governance.

Most of the policies that exist within the Kenya's ABS governance landscape have not been discussed by authors and this review mentions them with a brief highlight into what they mean for the ABS governance regime. The National Land Use Policy (NLUP), 2007 (GoK, 2017b) provides 'legal, administrative, institutional and technological framework for optimal utilization and productivity of land related resources in a sustainable and desirable manner at national, county and community levels ...' (GoK, 2017b). The policy unfortunately does not identify ABS as a form of land use as a result of which it fails to take into account how ministries, agencies and actors are expected to deal with genetic resources and ABS. This is a major gap in terms of failing to take into account that there is need to plan for biodiversity protection and conservation to ensure that genetic resources are taken care of as resources of value to the economy of Kenya.

The Draft National Biodiversity Strategy and Action Plan, (NBSAP) 2019 (MEF, 2019) was prepared by the Ministry of Environment. Unfortunately, as late as the year 2019 the Strategy and action plan was still in draft and the stakeholders in the sector would have difficulty relying on it. Instead, the official document that stakeholders can rely on is the Fifth National Report on Biodiversity, 2015 (MEF, 2015) which was submitted to the Secretariat of the Convention but which is now outdated in some aspects as it fails to take into consideration the latest trends, policies and laws. For example, the law on Protection of Traditional Knowledge and Cultural Expressions Act (GoK, 2016b) came into force in 2016 and this has changed the way resources are governed and has defined the roles of both National and County Government. EMCA (NEMA, 1999) was also amended to include a section 147A that allows counties to make their own laws to implement environmental provisions and this too has not been taken care of in the Fifth National Report. The National Report on Implementation of the Nagoya Protocol, 2017 (GoK, 2017a) provides information on what Kenya has done to implement the Protocol, the steps it has taken and information that is available

on Kenya's implementation is also updated on the online report. According to Munyi et. al, the development of the seed system in Kenya shows more support for the formal compared to the informal seed sector with effort being made to formalize the informal seed sector (Munyi & De Jonge, 2015). The informal seed sector is utilized for most crops by farmers and Munyi recommends that among others, amendment to the policy and legal framework be done to accommodate the informal seed systems which have continued to be the source of farmers seeds security (Munyi & De Jonge, 2015). With these developments, matters of ABS will have to be discussed within the context of plant breeders and farmers rights. The National Seed Policy, 2010 (MoA, 2010) is domiciled within the Ministry of Agriculture and the impact of having these policies within different Ministries is that they become difficult to coordinate because Ministries are on a similar linear level of authority and none can direct the other unless if they agree to cooperate.

2.4.6 Legal framework for implementation of the Nagoya Protocol

2.4.6.1 The Constitution of Kenya, 2010

Kenya underwent political changes that necessitated review of its Constitution culminating into the promulgation of the CoK 2010. This opportunity for review paved way for entrenchment of various fundamental rights and freedoms including those regarding land, the environment and natural resources, social economic rights and, a county governance regime (Kibugi, 2011). With the right to a clean and healthy environment enshrined in the Constitution, other rights and responsibilities to conserve of biological diversity and benefit sharing were also realized (GoK, 2010; IEA, 2011; Mwenda & Kibutu, 2012). After promulgation of the CoK,2010 changes in the ABS Governance regime were necessitated. The CoK, 2010 provides for conservation of biological diversity and resources, sharing of benefits arising from utilization of resources generally and has referred to key principles within the environment sector and the Protocol severally. The CoK, 2010 also lays a lot of emphasis on the principles relevant to the Protocol which have been useful in guiding the ABS governance regime in the country. These principles include sustainable development, conservation of biological diversity, equity, , sustainable exploitation and utilization of natural resources and the fair and equitable sharing of accruing benefits (Bosek, 2014; IEA, 2011) all of which resonate with implementation of the Protocol.

The Protocol requires States to implement it subject to their national legislation which includes county governance in Kenya. Thus, Kenya's County Governments become key actors in implementation of the Protocol due to their central role in devolution (Lubale, 2012b) and in linking

the local communities and National Government policies, plans and programmes which are in turn informed by the existing international ABS governance regime.

2.4.6.2 Environmental Management and Coordination Act, (EMCA) 1999

EMCA is Kenya's framework law that was enacted to harmonize and coordinate all environmental management activities in Kenya. The National Environment Management Authority (NEMA), established under Section 9 of EMCA is the principle instrument of government charged with the exercise of general supervision and coordination over all matters relating to environment and including the governance of ABS and matters relating to the Protocol. NEMA is also charged with coordination of all matters relating to the environment and environmental management activities carried out by other lead agencies institutions who are given charge of various aspects of the environment (Muigua, 2016a) but its relationship with other lead agencies in the ABS governance regime is not clear (IEA, 2011). The scope of this research can be described as falling within the environment sector but with a very specific focus on the governance of GRs and aTK at County level.

Governance of GRs aTK and ABS would therefore require to be implemented at the County Government level and hence need for governance structures at the county level in line with the prescriptions of the CoK, 2010 on environmental governance. There are a number of the provisions in EMCA that directly or indirectly address ABS issues. Some of the sections that address the ABS sectors include sections 50 - 52 of the Act which provide for conservation of biological resources and mandate NEMA to prescribe measures for *in-situ* and *ex-situ* conservation of biological resources after consultation with the relevant agencies and Section 53 which is more specific on access to GRs of Kenya (K. Chege, 2009)

2.4.6.3 Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006.

The ABS regulations were put in place to implement the Protocol. However, these regulations were put in place in response to the need to protect providers and to ensure that any benefits that accrue from any access are shared with the providers of those resources. This need arose after an incident of biopiracy in Kenya (Sheridan, 2004). Unfortunately the processes and regulations that were put in place restrict access instead of facilitating it and the provider countries lose opportunities for useful research that could yield economic gains for the provider countries and their communities

(K. Chege, 2009; Greiber et al., 2012). The format for access permit is prescribed in the third schedule of the ABS regulations and once issued it is valid for one year from the date of issue a very short period of time compared to the trouble taken to obtain it, according to Chege (K. Chege, 2009).. These regulations give an impression that NEMA reviews the application and imposes the conditions unilaterally when in fact it does so after consultations with other lead agencies collaboratively (E. K. Chege, 2019). There used to be in operation an ABS technical committee meeting and there are plans to operationalize a complimentary online ABS permitting system where all the lead agencies relevant to the permitting system will have access and review the Application (E. K. Chege, 2019).

Chege states that the regime is unclear and uncertain due to overlapping mandates of State agencies who are in charge of various aspects of ABS within their mandates and due to complex procedures and regulations that do not mention how NEMA works with other agencies and institutions in implementation of the Protocol. While the Protocol requires States to have in place Focal Points, Competent Authorities, Checkpoints, Publishing authorities and other designated institutional arrangements, the regulations fall short perhaps because they were put in place before the Protocol but ‘the pre and post *de jure* Protocol situation in Kenya has not changed’ (E. K. Chege, 2019).

He then commends the *de factor* regime because it is functional at the moment due to several practical measures such as the ABS Technical Committee and the ABS Toolkit (E. K. Chege, 2019; NEMA, 2014b). The ad-hoc ABS Technical Committee, he says “...is faced by a legal loophole because it is not supported by law...” although it is proposed to be replaced by an online permitting system which is proposed to be a one stop shop (E. K. Chege, 2019) that will make the process of application review and grant of an access permit less cumbersome. However the online system too will have to be based on sound legal policies and laws that allow various institutions to interact with it within their mandates while ensuring that it is anchored in law otherwise at the moment the system is not supported by law.

2.4.6.4 Other National Laws invoked in ABS Governance

A synthesis of the other relevant statutes, policies and regulations and international law that have provisions for protection and conservation of biological diversity and ABS found that there were contradictions when it came to bioprospecting matters (IEA, 2011). At the national level, research has found that most institutions were found to have deliberately misinterpreted of their mandates, overlapping mandates, duplication of activities and efforts and limited resources as the main challenges bedeviling implementation of the Protocol with resultant failure to impact the local

communities (IEA, 2011). This text did not discuss the County Government Act 2012 (CGA),(GoK, 2012a) and the Intergovernmental Relations Act, 2012 (IGRA) (GoK, 2012b) among others that these came into force after the research by IEA was published in 2011 (IEA, 2011). None of the other authors have discussed the legal frameworks that are available to the County Government such as the County Government Act (CGA) (GoK, 2012a) within the ambit of GRs, aTK and ABS.

Other laws that are relevant to this discourse include the Kenya Agriculture and Livestock Research Act (KARLA) (GoK, 2013c) which established the Kenya Agricultural and Livestock Research Organization (KARLO) and the Gene Bank; the Seeds and Plant Varieties Act (SPVA) (GoK, 2012d) and its Amendments (GoK, 2013d); the Wildlife Conservation and Management Act (WCMA,2013) and its Regulations (G. KWS, 2013); the Forest Conservation and Management Act, 2016 (FCMA, 2016) and its Regulations (KFS, 2016); and the Science Technology and Innovation Act (ST&I Act, 2013) (NACOSTI, 2013) and its Regulations (NACOSTI, 2014).

2.5 Research Gap

The main reason for of the ABS regime was to ensure fair and equitable distribution of the benefits arising from utilization of GRs s and aTK between the users and providers (Evanson Chege Kamau, 2014a). Chege finds that the Protocol has not been able to achieve that objective and concludes that ‘how well and effectively the positive elements of the Protocol are implemented and how much of its shortcomings can be rectified will determine what it can achieve (Evanson Chege Kamau, 2014a)’.

Several Megadiverse Countries who are closer to Kenya’s social and economic dynamics were selected for a comparative study of their experiences with a view to understand how they compare to Kenya’s ABS governance regime. They include Ethiopia neighboring Kenya to the North, South Africa which started implementation before Kenya and has developed structures for ABS governance and Costa Rica a country, in Central America that started implementing of the regime ahead of many countries (German Ministry for the Environment & Development, 2019; Lewis, 2010).

Ethiopia has an ABS law called Access to Genetic Resources and Community Knowledge and Community Rights Proclamation also called Ethiopian ABS Proclamation, 2006 (German Ministry for the Environment & Development, 2019). It also has a regulation called Access to genetic

Resources and Community Knowledge and Community Rights Council of Minister Regulation No. 169.2009. South Africa on the other hand has National Environment Biodiversity Act, 2004 and the bioprospecting, access and benefit sharing amended regulations, 2015, both of which were came into force ahead of adoption of the Protocol(Lewis, 2010; Margo, 2018) (German Ministry for the Environment & Development, 2019). These legislative frameworks also incorporate unified institutional frameworks from which all ABS matters are coordinated.

South Africa has a multilevel governance regime just like Kenya and has been able to achieve inclusivity of communities, and private sector in its governance of the regime (Lassen Barbara et al., 2018; Lewis, 2010; Margo, 2018; Schroeder et al., 2020). More specifically, it has an indigenous knowledge documentation system for defensive protection and its system is linked to the IP system (Margo, 2018). The Country also has organizations such as the Council for Scientific and Industrial Research that have been assisting indigenous knowledge holder communities to translate their knowledge into economic gains (Margo, 2018). The country has a TK collection, documentation and publication system, done through the National Indigenous Knowledge Systems Office , and the National Indigenous Knowledge Management System and a National Recordial System under the department of Science and Technology (Lassen Barbara et al., 2018; Margo, 2018). The South African governments officials were lauded for their efforts to achieve iterative improvement of programs and laws necessary to make the protection of indigenous knowledge/indigenous biological resources work in practice for indigenous knowledge holders, users and South Africa society at large (Margo, 2018). The South African system is however said to be long and likely to make South Africa unattractive to researchers (Margo, 2018). That notwithstanding, South Africa has been so successful that it signed a unique agreement that covered the entire rooibos tea production industry and was “...the biggest rooibos agreement between industry and indigenous peoples to-date” (Schroeder et al., 2020). This initiative had the support of government and unity amongst the Khoi and San indigenous peoples (Lassen Barbara et al., 2018; Schroeder et al., 2020).

Costa Rica on the other hand has a Biodiversity Law No. 7788 of 1998 (MEE, 1998). It has a policy and a Biodiversity Strategy (2016-2025). Although Costa Rica has signed but not ratified the Protocol, it has well laid out structures that promote conservation and sustainable use of biodiversity while ensuring ABS is fair and equitable . The Country has a unified ABS system, the National Commission for the Management of Biodiversity (CONAGEBIO), the Competent Authority, through which ABS is governed (German Ministry for the Environment & Development, 2019).

Unlike South Africa, Ethiopia and Costa Rica, Kenya lacks a unifying law and unified institutions to govern biodiversity and ABS hence the disjointed implementation mechanism. Further, the South African legal and institutional framework allows useful interactions and development of indigenous knowledge unlike the Kenyan system where the county government level of governance, the gateway to effective engagement with the provider community is still not well captured in the policy legal and institutional frameworks for ABS governance. Implementation of the Protocol is mostly undertaken at the National Government level and the county government are still not anchored in the framework. In sum, the gap between National, County and Community level structures exist and the lack of implementation of certain aspects of ABS governance regime at county level hinders effective implementation of the Protocol.

This research seeks to address a specific gap noted in the process of implementation of the Protocol while addressing a gap that is evident based on the literature that exists on the subject of governance of GRs under the Protocol and the data collected. While it is true that the ABS governance regime is generally new compared to other multilateral and international environmental agreements on biodiversity, particularly the CBD (SCBD, 1992a), no research has been done on the role of counties or sub-national governments in implementation of Protocol in Kenya. Further none of the authors has made reference to the County Government Act and other legislation that is relevant for implementation of the Protocol.

Most of the literature that exists has generally addressed the general body of knowledge on issues of access and benefits sharing. This research is the first of its kind. It seeks to study a specific governance gap in the ABS governance regime in Kenya in a bid to shed light on the linkage between the national level governance of ABS and the provider communities whose interests and rights the Protocol was supposed to safeguard (SCBD, 2011b) while analyzing what role county governments ought play to implement the Protocol. None of the authors have explored the role that has been or ought to be played by county governments in the ABS governance regime in Kenya precisely because county governments were put in place in the year 2010 and have not yet wholly established their systems to-date.

3.0 CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter describes in detail the procedures followed in data collection and analysis. Aspects of research design, sample and sampling procedures, data collection procedures as well as analysis and presentation are addressed.

3.2. Area of Study

The Study was undertaken in Baringo Country. Baringo County is one of the 47 Counties of Kenya located in the former Rift Valley province. Its largest town and headquarters is Kabarnet. The County has a population of about 666, 763 (KNBS census, 2019) and an area of 11,075.3 Km². Baringo County is bounded by Turkana County and West Pokot County to the North, Samburu and Laikipia County to the East, Nakuru and Kericho County to the South. The County has six Sub-Counties and 30 Wards (BCG, 2018-2022). This study was undertaken in Lobo Location in Mochongoi Ward in Baringo County, at Lobo area, a sub-location found just before you reach the L. Bogoria's Lobo gate, the main access to the L Bogoria. L. Bogoria is a World Heritage Site and a Ramsar Site and is known for its huge population of flamingoes ranges between 850,000-1,200,000, a major tourist attraction. There is also an Endorois Peoples Cultural Centre just before the site which is also a tourist attraction. The Cultural Centre showcases the Endorois Peoples culture and cultural artefacts, their age-sets and their significance. There is also displayed a map of the areas occupied by the Endorois peoples at the cultural centre. This is where most of the community members meet to have meetings with the chief and other stakeholders. The area was preferred due to the level of awareness on ABS matters of the members of the community considering their proximity to the L. Bogoria, previous biopiracy and awareness about the revenue generated from the L. Bogoria National Reserve amongst the residents of the area. A map of Lobo location, Lobo Area in Baringo County is shown below;

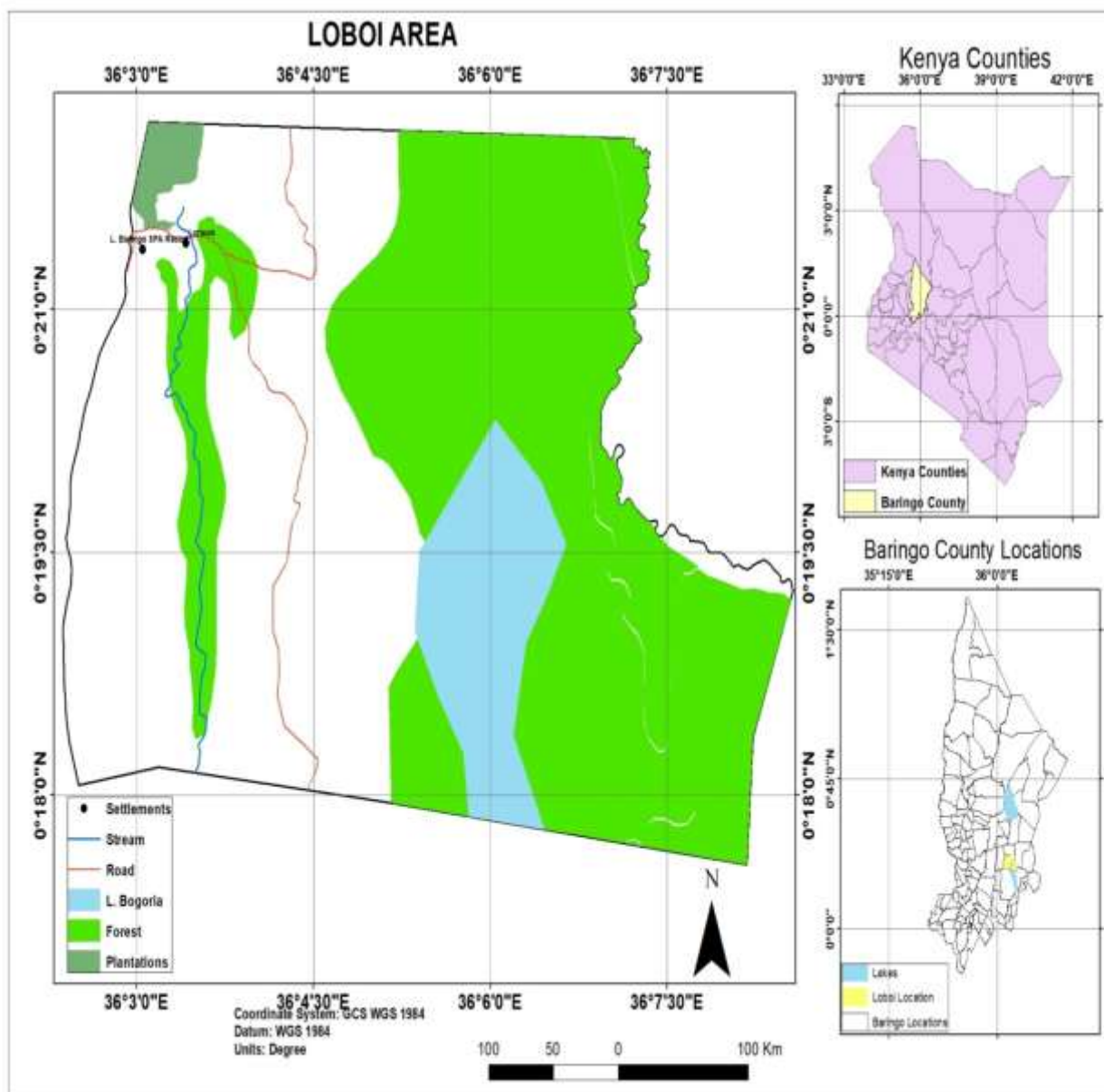


Figure 2: Lobo area, Baringo County
 Source: Ken Kiema, a GIS Expert, (2019)

3.3. Research Design

A research design is a detailed framework or plan that lays the foundation of conducting research, by guiding the researcher through the research process, allowing a greater likelihood of achieving the research objectives (Wilson, 2011).

This study used qualitative research design. Data was collected between September 2019 and January 2020. This design allowed use of researcher’s interview guide and focus group discussion

guide to collect qualitative data on respondents' understanding, opinion, experience and beliefs on role of county government in implementation of the Protocol on access and benefits sharing. This design also enabled researcher to document relevant cultural practices in relation to protection of genetic and natural resources as well as the modalities for access and benefit sharing.

3.4. Target Population

The target population for this study were; elders, opinion leaders, Women, youth as representatives of the community from Lobo Location; members of Endorois Welfare Council (EWC); County Government of Baringo officials, National Government agencies (such as KWS, NACOSTI, KEPHIS, KIPI, National museum, KALRO and CoG which institutions are relevant either in implementation of the Protocol involved in the ABS permitting process.

3.5. Data Needs, Types and Sources

This research utilized primary data collected by way of focus group discussions and key informant interviews, published academic work, policy and, national and international legal frameworks in Kenya. Secondary data derived from government policies, legislation and reports and documents from various sources was also be utilized. The data collected addressed each of the objectives of the study as follows:

To determine the current role of county governments in implementation of the Protocol, the study required primary data from the community, the county, National Government and other stakeholders involved in ABS to be able to understand their experiences and challenges and the gaps noted. Secondary data from desk review and from the interviewees was also obtained to be able to get the current situation.

To explore the relationship between the national and county governments in implementation of the Protocol, desk review of the existing laws and policies and how the to levels of government relate was undertaken. More information was obtained from the interviewees who engage in these processes at the national and county level. In addition to the formal institutional arrangements, information on informal and administrative institutional arrangements was also obtained.

To find out what are the policy legal and institutional gaps are in implementation of the Protocol by the county governments, desk review was undertaken of existing policy and laws and how they weave in institutional arrangements. More information on the policy, legal and institutional landscape was obtained from the interviewees at the County and at the National level institutions.

To explore mechanisms that can be put in place by counties to facilitate implementation of the Protocol, desk review of relevant literature, policies and laws was undertaken. Information was also obtained from the interviewees based on their experiences and who were able to state where the gaps were being experienced.

3.5 Sampling

Purposive sampling comprising 30 interview groups with a total of 53 individuals was used for this study. This was inline with Creswell's (1998) recommendation of 20 – 30 participants for qualitative research to reach saturation. Saturation occurs when adding more participants to the study does not result in additional perspectives or information.

The first cluster comprised various FGDs at community level. They included: 5 Elders men, Chair Lobo Location - Interviewed as part of the elders of the Area; 5 women; 5 middle aged men - opinion leaders; 5 youth and 5 members of EWC secretariat. The second cluster comprised the executive members of the Endorois Welfare Council (EWC) CEO and Chair of the Board of the EWC. The third cluster comprised county government officials who were drawn from the following offices: Warden in charge of the L. Bogoria; Department of Environment Natural Resources, Tourism and Wildlife; Department of Finance; Department of Planning and M&E Department; Department of Culture; Member of County Assembly- Mochongoi Ward; Department of Education and Public Participation; Department of Research; Department of Environment, Natural Resources, Tourism and Wildlife - Wetlands officer and the Department of Environment, Natural Resources, Tourism and Wildlife - Liaison officer. The fourth Cluster Comprised the National Government Officials drawn from the following offices: KWS; NACOSTI; KEPHIS; KIPI; NEMA as Competent Authority and Focal Point exercising delegated authority from the Ministry of Environment and Forests, Clearing House, Publishing Authority and the NEMA ICT section; Ministry of Environment Focal Point (FP); National Museums of Kenya (NMK); KARLO; CoG and local administration comprising a Chief and two sub-chiefs. The fifth cluster comprised a key informant from private sector/academia.

3.5.1 Sampling technique

Purposive sampling technique was used to choose respondents who were either involved (directly and indirectly) in implementation of Protocol or had knowledge in this topic like those in academia (private sectors). From the list of target population, only those who the researcher felt had

in-depth knowledge and or were affected by aspects of the study topic were included. In total, 30 respondent clusters and 53 respondents were sampled. The samples are outlined in Appendix 3 which shows those who participated in this study, how many they were, the tools used to collect data from them and the reason for selecting them.

The researcher used local administration and a native research assistant to locate and reach the respondents. Use of a native research assistant also assisted in cases where there was a language barrier especially during interviews with community groups such as elders and women.

3.6 Data Collection

This study used interview guide and focus group discussion guide to collect data. The choice of these tools was in line with their nature and characteristics as discussed below;

3.6.1 Focus Group Discussion (FGD) guide

Focus group discussion guide was used to collect data on community perspectives, understanding and experience on implementation of Protocol on access and benefit sharing. This tool was administered to a group 5 elder men, 5 women, 5 opinion leaders, 5 youths and 5 EWC secretariat members. The FGD guide used to collect information is attached as Appendix 1.

3.6.2 Key Informant Interview guide

This tool was used to collect data from Endorois Welfare Council executives (CEO EWC and Chair EWC), county government officials and National Government officials and various departments and institutions involved and charged with mandates touching on any aspect of implementation of Protocol. A total of 15 key informant interviews were conducted. The interview Guide that was used to collect information is attached as Appendix 2.

3.7 Data Analysis

Data analysis was thematic. Audios from the field were transcribed by the researcher and the research assistant. Transcribed data from KIIs and FGDs was coded by identifying and labeling items of data with similarities in themes, according to objectives and emerging themes. This was done through Content analysis (procedure for the categorization of textual, verbal or behavioral data) for purposes of classification of similar themes and topics together. Relevant quotations were extracted to support various themes that emerged.

3.8 Limitations of the Study

The Scope of the study in terms of spatial extent was limited to Baringo County as opposed to the

entire spectrum of 47 county governments. The temporal perspective of the study was also limited to Baringo County's Lobo Area in Lobo Location within Mochongoi Ward and not the entire diversity of Baringo County considering the vastness of its geographical area and resource base. Key informant interviews and focus group discussions were utilized to collect data from selected participants and those who had the mandate, knowledge and or experience on ABS matters within the County and from National Government officials mostly located within headquarters of their offices in Nairobi County. The focus of the study was limited to how the participants had experienced the ABS governance regime within the prescriptions of law policy, and practice since the time the regime started being implemented in Kenya. Some community members would digress and give me information that was not within the purview of my study. To deal with this, the interviews with the community members took longer and my research assistant and I had to be patient and we only recorded what was necessary for the study. Because of possible language barrier, which was also experienced, I went to the field with research assistants from the same community. It was difficult to find most government officials at their offices because they were busy with ABS activities at the time. To deal with this, I attended a workshop at Naivasha once when most of the officials in the ABS value chain had converged. I introduced myself and the objective of my study, I took their contacts and followed up with them thereafter and interviewed them.

3.9 Assumptions of the study

This study was based on the assumption that the interviewees engagement in the ABS governance regime had been robust and that they were adequately informed of what ABS entailed either from their mandate, knowledge or experience. It was also assumed that all the information gathered from the participants was correct in view of the interviewees mandate, knowledge and experience with ABS matters and the ABS governance regime. It was also assumed that from all the comments gathered from the interviewees together with the desktop review and analysis done, the study was meant to analyze the role of the County Government of Baringo in implementation of the Protocol.

3.10 Ethical Considerations

Authority to conduct the research was provided by the University of Nairobi through the School of Post Graduate Studies Appendix 3 in the first instance. A Research permit was the obtained from the National Commission for Science Technology and Innovation (NACOSTI) , Appendix 4. The Researcher then made a request to the relevant County offices for research authorization, Appendix 5 and 6 and was issued with research authorization to proceed to the field by the County Secretary,

Appendix 8, the County Commissioner, Appendix 7 and the Director of Education Appendix 9. And in the case of other institutions like the NEMA, the researcher had to write a letter to the DG attached as Appendix

The researcher made it clear to all respondents that participation in the study was voluntary and that there were no negative consequences if they chose not to participate. The researcher also obtained informed consent from the participants which was recorded either by audio recorder and where audio recording was not allowed, the consent to be interviewed was recorded as part of the notes by the research team. For those who allowed a recording to be used to collect data, it was so recorded using a voice recorder and that is what was later used to transcribe. Otherwise for interviewees who preferred not to be recorded, notes were taken by the research team. Finally, the research team ensured that participants' anonymity and confidentiality was protected and data provided was used for agreed purposes only through robust data security measures. This was done by making sure that all interviews recorded verbatim was destroyed after transcription in accordance with the Kenya Data Protection Act (DPC, 2019).

4.0 CHAPTER 4: RESULTS AND DISCUSSIONS

4.1 Introduction

This Chapter covers analysis of data and discusses findings of the case study according to each of the objectives set out. Data from the field was used to determine the role of the county government in implementation of the Protocol, the policy, legal and institutional gaps in implementation of the Protocol, the relationship between the national and county governments in implementation of the Protocol and to explore the mechanisms that can be put in place by counties to facilitate implementation of the Protocol.

4.2 The role of county governments in implementation of the Nagoya Protocol in Kenya

The institutional arrangements within county governments are made with national legislation and regulatory mechanisms in mind and provide opportunities and avenues for ABS governance structures to reach the local communities from whom PIC is required and with whom MATs are negotiated and agreed consistent with the Protocol (Greiber et al., 2012; SCBD, 2011b). In discussing the role of county governments in implementation of the Protocol, the role of National Government is relevant since the regime was agreed at the international level between States including Kenya and must be implemented within the government's policy, legal and institutional framework (Erik-Hans Klijn, 2014; Klijn, 2012; SCBD, 1992b, 2011a). States are required to implement the Protocol within their domestic measures and regulatory requirements (Greiber et al., 2012; SCBD, 2011b). Thus, Kenya is required to take into account the devolved system of governance, distribution of functions between the national and the county governments in Schedule IV of the CoK (GoK, 2010) and other functions interspersed throughout the CoK, 2010, the County Government Act (GoK, 2012a) and other laws such as the IGRA 2012 (GoK, 2012b; KFS, 2016; KWS, 2013b).

Considering their close relationship with the people they govern and the resources that they oversee (GoK, 2013a; Lubale, 2012a) county governments are key in implementation of the Protocol. The governance network theory discusses the place of institutional interplay, a key aspect in discussions on the role of county governments in the institutional arrangements for implementation of ABS (Erik-Hans Klijn, 2014; Klijn, 2012). This is supported by institutions that are created at the county level to enable them deliver their mandate. Within the county, the department of environment natural resource, tourism and wildlife management is in charge of the environmental matters at the County according to the results from the field. Other departments and institutions that are key to implementation of the Protocol are those related to research, planning, education and public

participation, culture and County Assembly. The county government functions dealing of the Protocol were spread out throughout the County, a regime that is almost similar to that at the national level in the sense that there is no central point of reference for matters ABS internally (Erik-Hans Klijn, 2014; Klijn, 2012). The Ministry of Agriculture and KARLO both at the national level also coordinate with the county agriculture officer which further entrenches disjointed implementation of the Protocol and the ITPGRFA (UNFAO, 2004) regimes.

Section 4 of the PKTCE (GoK, 2016b) spells out specific functions of the County Governments with respect to TK and cultural expressions. The Act requires the County Executive Committee in charge of culture to collect and compile information on TK and cultural expressions. Towards this end, county governments are expected to undertake primary registration of TK and cultural expressions to facilitate their recognition; they are also mandated to receive, document, store, update preserve, conserve promote and protect TK and cultural expressions of communities within their counties. They are also required to facilitate collaboration, access to, sharing of information and data relating to TK and cultural expressions among county governments. In addition, it is their responsibility to allocate funds for the promotion of cultural activities and to establish mechanisms for using culture as a tool for conflict resolution and promotion of cohesion.

A synthesis of the role of county governments from the perspective of a devolved system of governance, statutes and from the Protocol's requirements reveals that among the roles that the county government ought to be involved in include: putting in place policies, laws and institutional mechanisms for implementation of the Protocol; to support the community in implementation of the Protocol; to put in place mechanisms for awareness creation and capacity build communities and stakeholders in the ABS value chain within the county, communication, research governance, monitoring and reporting, create mechanisms for collaboration and coordination of ABS activities and stakeholders including those within the National Government institutions and neighboring counties where resources are shared, protect biological diversity, GRs and aTK, planning and allocation of funding for ABS activities and for the conservation and management of biological diversity, GRs, aTK and, documentation of TK.

The CoK and the CGA provide, that the County shall be responsible for among other functions that are relevant to the Protocol, the following: functions as assigned under the CoK,2010; County legislation; functions transferred to Counties by the National Government, Functions agreed with the National Government; delegation functions to lower levels of governance; ensuring efficiency, effectiveness, inclusivity and participation of the people; ensure representation of minorities and

cultural diversity; ensure citizen participation; establish modalities for citizen participation; mechanisms for public communication civic education and planning and development.

While no author has written specifically about the involvement of County governments in implementation of the Protocol, there is information about the importance of county governments in environmental governance and in decentralization and involvement of the local communities in environmental governance (Hope, 2014; Muigua, 2016a). Muigua buttresses the importance of County governments by stating that for the community to benefit from natural resources within the Country, there is need for their quality and maximum participation through the devolved system of governance (Muigua, 2018b).

Certain actions were found to have been undertaken by the County but there were gaps in implementation of the Protocol that were realized based on the feedback from the respondents in the field and the same have been captured based on the summary of key elements for implementation of the Protocol as follows:

4.2.1 Role in political will/ commitment.

The political will of the County has been demonstrated by the various steps the county government has taken to implement the Protocol. Results from the field show that these steps include: putting in place administrative units within the County to implement the Protocol, engaging in awareness creation and capacity building of county officials the EWC and the community, engaging in ABS projects within the County such as the Global ABS UNDP Project, establishing collaborative and cooperative mechanisms that allow engagements between the county, the community and the community organizations such as EWC to facilitate implementation of the Protocol, provision of funding and human resources to support implementation of the Protocol, and engaging in monitoring, reporting and dispute resolution. The County was also found to be committed as it has laws, policies and other documents albeit in draft by the time of field visits to the County. It has supported the Endorois community in the launch of the community Bio-cultural Community Protocol (EWC, 2019) which ensures organization and participation of the community in implementation of the Protocol. The County also shares the revenues it collects from benefits arising from utilization of Lake Bogoria, which are in turn used by the community to promote their own culture, traditions and heritage while paying bursaries for school going children. The County was also said to have helped the community preserve their culture through planning and supporting museums and cultural centres such as the Kimalel Cultural Centre and the Endorois Cultural Centre

according to the respondents .

The decisions made by political leaders normally impact conservation of biological diversity and protection of TK depending on the momentum and importance attached to the issue based on the needs of the people they represent (ABSInitiative, 2012). Members of the County Assembly play the representative, oversight and legislative roles within the County. A County Assembly representative stated, “Legally, I play the representative, oversight and legislative roles in the county assembly as the MCA, Mochongoi Ward and Lobo area is one of the jurisdictions I represent. It is just one sub-location of the ones I represent”.

County governments as political units of governance with political representatives decide what their priorities are based on the needs of the people they represent and decide how they should invest their resources while giving them the opportunity to participate in governance and decision making (Muigua, 2016a, 2018b). One of the tools that have been used to plan and budget for the County’s resources is the CIDP which clearly outlines the priorities of the County per sector (BCG, 2018-2022). Thus, without political will, County governments will not be able to implement the Protocol.

4.2.2 Role in capacity building, communication and awareness creation.

Results show that most National Government institutions and county government departments have supported the Endorois community activities within the county government. They include INGOs and Development partners through projects such as the UNDP Global ABS Projects. A respondent said, “The community has many resources including the Lake Bogoria National Reserve, water, salt licks, etc.”. The community, the County Government of Baringo, and other stakeholders provide the necessary support in the protection of GRs. Mechanisms on how the County communicates with the community on their benefits from the reserve have also been put in place including the 10% grant and the Board.

Some institutions facilitate coordination and collaboration, and the training and capacity building of stakeholders and other actors in implementation of the Protocol. They coordinate with relevant government bodies to train the community and oversee the implementation of the Protocol. Collaboration and support were achieved mostly through capacity building public participation and awareness creation fora. Results show that public participation and civic education was undertaken through barazas, engagements with the county government, preparation of reports on the status of the counties natural resources as a result of which coordination and collaboration. The county

treasury said that the County also provides finances, it has set up administrative structures and provides human resources for the implementation of the Protocol within the County including employment of a liaison officer who acts as liaison between the community and the County. The support is also in form of funding of joint projects and activities within the community such as capacity building and awareness creation. A respondent at the County said, “We engage in public participation and civic education where we call for barazas, engage with the county governments, prepare reports on the status of their natural resources.” By doing this, there is coordination and collaboration and this leads to better implementation. A respondent from the county treasury said that the “...the County also provides finances, it has set up administrative structures and provides human resources for the implementation of the Protocol within the County including employment of a liaison officer who acts as liaison between the community and the County”

Results show that there are institutions such as NEMA, KWS and NACOSTI that cooperate with the County in implementation of the Protocol and in the projects undertaken within the County and their communities. They champion implementation of ABS. The role of CoG was however indirect and coordinated amongst counties. The Global/ABS UNDP project and the GIZ project will ultimately contribute to the protection of GRs and TK awareness creation amongst the Governors and their respective counties is normally undertaken before they can contribute to discussions, and before decisions are made. A respondent from CoG added, “The role is indirect. Their work with the Global/ABS UNDP project and with GIZ project will ultimately contribute to the protection of genetic diversity and TK. Another one said that the project is being undertaken in conjunction with the pilot counties with the involvement of the Council of Governors. Awareness creation amongst the Governors and their respective counties is normally undertaken before they can contribute to discussions, and before decisions are made.”

The County communicates with its stakeholders and communities through many avenues and is keen on awareness creation. The County has a communication structure for engagement within the county and for engagement with external stakeholders. It is bureaucratic and systematic with official letters particularly going through the office of the County Secretary whenever the communication is going to agencies or partners outside the County while internal memos are used for communication within the County departments. Other forms of communication within and without the County include engagements in workshops, awareness creation fora, meetings and similar events.

Communication to and from external stakeholders, partners and governments, is done through the office of the County Secretary according to the respondents. The results show that letters, workshops, meetings, capacity building fora are among the methods used by institutions at the National Government and the County Government of Baringo. The county was informed of the processes and procedures of the various organizations through continuous participation and awareness creation. Linkages are facilitated through workshops, meetings, and awareness creation fora e.t.c. A respondent said, linkages are facilitated through workshops, meetings, and awareness creation fora e.t.c.” The CoG has since established a system of coherent communication and engagement where any form of engagement with Counties is required to be done through the CoG, according to a respondent from the CoG.

The County already has a legally established mechanism that can be used to implement the provisions of Article 21 and 22 of the Protocol and would be able to integrate capacity building communication and awareness on the protocol within its mechanisms. Section 87, 88 and 89 of the CGA provide the principles of citizen participation, the rights to challenge and petition and obliges the County to respond to such Petitions and challenges. It also provides for modalities and platforms for citizen participation which include: information communication technology based platforms, town hall meetings, budget preparation and validation fora, announcements of public interest e.t.c under section 91. Section 93,94 and 95 also provide for principles of public communication, the objectives of such communication and a framework for communication that include: television, information, communication technology centres, websites, community radio stations and public meetings.

4.2.3 Role in conservation of biological diversity, GRs and aTK

Conservation of biological diversity under the Protocol ultimately achieves the objectives of the CBD(SCBD, 1992c, 2011b). The County is supported by the EWC, the Community and the INGOs, Development partners and other actors who have several projects within the county and within the Lake Bogoria such as the UNDP/ABS Global ABS project (UNDP, 2018). Most Organizations including the county and the community were responsible for the conservation of biological resources which in turn conserved and biological resources and diversity including GRs and aTK. . A respondent said, “A department of the county government undertakes tree planting activities to enhance conservation efforts and increase the capacity of their ecosystem to host wildlife.”

Results show that the County Government undertakes tree planting activities to enhance

conservation efforts and increase the capacity of their ecosystem to host wildlife. It is also responsible for management of the lake in conjunction with the Community and other stakeholders. It has also developed, a Lake Bogoria Management Plan (BCG, 2020) together with KWS, the community, and other stakeholders under the Wildlife Conservation and Management Act (G. KWS, 2013). Conservation of the Lake contributes to the overall objectives of the CBD and therefore partly implements the Protocol. In the process, there is protection of GRs and aTK as a result of which the Lake attracts researchers and tourists alike which continues to be a source of revenue for the County and the community. However, there were complaints from the community with some stating that had either sought compensation from KWS or knew someone who had suffered due to snake bites or attack by wild animals. They also complained that the lake had been swelling that year and was threatening to submerge most of the surrounding areas which include some community members homes and they lamented that conservation had a cost and a downside.

The results show that the community receives 10% of the revenue collected from Lake Bogoria. the revenue is collected, it is transmitted to the National Government through the county after which the county requests for the 10% grant on behalf on the community. It is then transmitted to the community by the County through the 10% Grant Board. The results show that the process was long and payment of the funds by the National Government delays sometimes, the community gets 10% of the total revenue collected which is used for purposes of paying bursaries, cultural promotion and for other purposes that support the work of the community. A respondent said, “Previously, the community used to get 6%, but that it was later increased to 10%. They community, several respondents said, is still pursuing an increase in the revenue share from 10% to between 25% - 30% of the total revenue. The community gets an average of Kenya Shillings 6.5 million annually. From his recollection, the Liaison officer, stated that the 10% allocation in the records over the years has risen from Kenya Shillings 4.3m, 5.2m, and 6.3m during the 2014/2015, 2015/2016 and 2016/2017 financial years respectively.

The function of environment is shared between the National and County Government under Schedule IV of the CoK and the same is also captured under Section 147A and sections 50 – 53 of EMCA and the ABS Regulations meaning that the County already has the legal mandate to conserve biological diversity and would therefore contribute to the objectives of both the Protocol and CBD.

4.2.4 Role of counties in processing/acquisition of access permit.

The Process of acquiring an access permit was described variously by respondents depending on how they interact with the process and the resources. A respondent from NACOSTI said their role was, "... to manage science through regulations or research and promotion of science, technology and innovation (ST&I), to coordinate the ST&I sector and to advise both county and National Government on ST&I but the specific role it plays in implementation of the Protocol is authorization of research which may or may not involve access and use of biological material that may require analysis locally or abroad. "NACOSTI issues a research permit to a researcher in the first instance, the NACOSTI respondent stated. The researcher is then required to apply for an access permit from NEMA and even after obtaining the access permit, the researcher is required to go the respective County and obtain authorization to proceed to the field". There is no interaction with the County at the point of application of a research permit". A researcher then applies to the Directorate of Research and Quality Assurance which is then directed to the Director of Scheduled Sciences' for approval and further directions. The ST&I Act (NACOSTI, 2013), requires a researcher to report to the County Commissioner, a National Government official at the County, the County Director of Education as the Ministry's Representative at the County and finally to the Governor who represents the county government in the transaction. In the cases where an access permit is required, the researcher is advised to go to NEMA and follow the process from there onwards.

Various institutions have roles to play in granting PIC and MAT and signing collaborative agreements such as MOUs and letters of affiliation that are presented as part of the documentation that is required by NEMA. It is only after acquisition of a NEMA permit that a researcher approaches the community through the respective county government. The County Government issues relevant research authorizations as required and as directed by NACOSTI's research license. One of the main complaints was that the County is always the last one to learn that there are researchers who have been authorized to access resources from their jurisdiction and said that it would help if they knew in advance about proposed access earlier on so that they can participate in facilitating and in monitoring".

A comprehensive ABS Permitting process can be found on the ABS Clearing House Mechanism (ABSCHM) (NEMA, 2020). A look at the process on the mechanism reveals that county governments are not captured at all in the process. The process also reveals a long winding complicated process which is not facilitative of the process at all (K. Chege, 2009). Another NEMA

Respondent stated that there is an online permitting system that is currently being put in place with a view to: coordinate all stakeholders with mandates in the ABS permitting process, to make it easier for the researcher to get the necessary authorizations with minimum strain in accordance with the government requirements on the ease of doing business in Kenya (E. K. Chege, 2019).

A respondent stated that, “KWS is a competent authority on matters of wildlife in Kenya. It advises the Government on management, utilization and conservation of wildlife resources. In addition, it ensures compliance, enforcement and monitoring the use of wildlife resources as defined under the Wildlife Act 2013 (KWS, 2013b). KWS is the provider of wildlife resources on behalf of Kenya government it grants the PIC and MAT as required by the Protocol when it comes to wild biological resources in protected areas. Wildlife under the Wildlife Conservation and Management Act, 2013 (KWS, 2013b) the Respondent from KWS stated “ is everything that is considered wild including micro-organisms and fauna and flora”. The Community grants PIC and MAT relating to all their resources and aTK when researchers approach them. These are among the documents presented to NEMA at the time of application for an access permit. KWS also issues an export permit under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) whenever wildlife resources have to be taken out of the Country.

In the permitting system, NMK works with other lead agencies including the ABS permitting team. The role of NMK is to provide a multidisciplinary approach in natural resource management. NMK’s work concentrates on among other matters natural resources, cultural, historical and biodiversity issues. It collects, preserves, studies and documents Kenya’s past, cultural and natural heritage with a view to promote the conservation and sustainable utilisation of natural heritage. NMK holds over 10 million collections on zoology, botany, archaeology and palaeontology making it a key stakeholder in implementation of the Protocol. Some areas like the Kenya Lake System in the Great Rift Valley comprising three lakes, L. Bogoria, L. Elementaita and L. Nakuru were declared World Heritage Sites by the UNESCO (UNESCO, 2010) these being historical sites that hold diverse and unique biodiversity.

Failing to involve the county governments in the permitting process is a major gap in the permitting process because the proposed access takes place within Counties and failing to involve the Counties from the beginning means that they are not part of the decision making process that involves natural resources within their jurisdiction which is contrary to the CoK. It also excludes and disadvantages

the County and the Community who are expected to benefit from the resource. The failure to involve the counties from the beginning also increases the chances of biopiracy as the County and the community might be unaware of the resources of interest and from where it is proposed to be accessed.

4.2.5 Role in valorization and benefit sharing.

Results show that there were no systems for increasing the value of GRs and aTK within the County to make them more valuable. Others stated that there were no research facilities and there are no researchers from within the County to undertake research on the community's resources. Most of the access is sought by users who undertake research at universities at the national level, others are from foreign universities and foreign institutions, yet this is a potential area of investment for the County. The research also shows that the county has employed a liaison officer who links the community and the County Government on matters of revenue collection to ensure that the community gets its 10% share of the revenue. The liaison officer said, "I am employed by the county so I am in the payroll system of the County under the L. Bogoria. I am domiciled in the Warden's office as liaison officer. He also engages the community on their rights and informs them about their benefits such as 10% grant distributed using various criteria;

According to the liaison officer, "There is a 10% grant board that is mandated to distribute the 10% share, a member of EWC sits in the Board". He went on to explain that the membership of the 10% grant board includes the EWC and the warden of the lake who is also the secretary of the 10% grant board. The Board has categorized the 15 locations of Endorois into three rings. The first ring that is closest to the lake has four locations – Lobo, Sandai, Kaibos, Olkokwe, Kapmoskwoi, Chebinyiny and Sinende). The next ring has four locations: Kapkuikui, Kabuswo and Kaibosoi and Kamar. The third ring is further from the lake has four locations: Arabal, Bekiboy, Mochongoi and Kimoryot. These are the locations that benefit from the grant every financial year on rotational basis. Once the benefits trickle down to the community, there is a better appreciation of the benefit of conservation of natural resources. 60% of the 10% goes to bursary, 35% of the 10% used by the community for community projects. The 5% goes to the administrative and office costs of the Lake Bogoria Management Warden. "We redirected the 35% to projects that impact on livelihoods of women, youth and other groups within the community since the last financial year (2018/2019)". A respondent went on to state.

Benefit sharing is recognized under Article 69(1)(h) of the CoK which obliges the State to utilize the environment and natural resources for the benefit of the people of Kenya. Through devolution, the same Constitution extends responsibility to ensure ABS is achieved to County governments. Article 5 of the Protocol then requires States to put in place legislative and regulatory mechanisms to ensure that benefits are shared with indigenous peoples and local communities. The mechanisms put in place must be put in place in consultation with sub-national level government units like counties while paying attention to the other levels of governance such as sub-counties, wards and villages and how they can be utilized to put in place mechanisms that reach indigenous peoples and local communities.

4.2.6 Role in collaboration and coordination.

Results show that National Government institutions have integrated the community and the County as stakeholders in their activities. The County has also been involved in policy-making either through its own or CoG representatives at the County and National Government levels respectively where the participants are able to coordinate their activities. A respondent stated, “The Council of Governors brings the county governments and their partners and stakeholders together for consultation or engagement on various aspects that concern the county. Thus, they play a major role in coordinating work between counties.” The Clearing House is visited by all stakeholders including the public and is able to work like a coordinating platform. A respondent said, “The Clearing House ensures protection of the interest, genetic diversity and resources of the country and provider communities who are providers to ensure that they are well compensated and that they gain from the benefits arising from access to their resources.” A respondent said, “In Baringo County, there is a cultural center in Loboï manned by the community and partly supported by the County.” It has also been involved in the making policies and developing regulations that have been critical in the implementation of the Protocol including the L. Bogoria Management Plan. The county has employed a coordinator who acts as the liaison person between the community and the County on matters regarding the 10% grant who ensures that the community is informed and that it gets its 10% share of the revenue.

The EWC as the focal organization of the community on ABS matters has also brought together county representatives and community through training, workshops, etc.” Another respondent stated that the EWC was made up of Elders who were representatives of all the 15 Endorois Community locations. It provides an avenue for linkage amongst the community, the county, the researchers,

and other stakeholders including the National Government. The coordination and collaboration is achieved through the signing of MOUs and other agreements when parties agree to collaborate on research projects or other projects like the Global UNDP ABS project. The Council of Governors brings the county governments and their partners and stakeholders together for consultation or engagement on various aspects that concern the county and therefore play a major role in coordinating work between counties. It also coordinates with the National Governments through reporting and the Summit. The Council of Governors assist counties by providing guidance and helping them when it comes to domesticating policies and laws. It is now working on an MOU further to discussions that they have had under the Global UNDP Global ABS Project. Baringo County Government is one of the pilot counties in the project that stands to benefit from the collaboration and coordination. The National Government was however blamed for the lack of awareness within the County and was urged to do more to provide resources such as finances and technical capacity to the County.

A respondent at NMK said that the department she works for “has an inventory of all GRs within the county including endangered species. This was done in collaboration with other stakeholders.” NMK engages in coordination because it interacts with several agencies in the ABS value chain and other stakeholders for different reasons depending on their objectives. Before devolution museums were under the NMK but they have since been handed over to Counties under Schedule IV Part 2 (4) (g) of the COK (GoK, 2010) but due to inadequate expertise at the County, there is collaboration between the NMK and the County on matters relating to Museums and MOUs are utilised to establish these collaborations. NMK is involved in implementation of several international environmental instruments and agreements including, UNESCO, CITES, CBD, and RAMSAR conventions all of which concern biological diversity and GRs and in one way or the other and in the process, of implementation of these agreements, NMK contributes to the work of other agencies because it works with other agencies and stakeholders responsible for implementation of these instruments and agreements. Trade in wildlife under CITES is one example where, to access GRs from a tortoise for example, the resource has to be brought to NMK for verification. Under these conventions, NMK has participated in mapping of wetlands and other resources, writing position papers with other colleagues and offering technical advice from a scientific point of view.” The respondent went on to state that in the ABS permitting system, NMK and other institutions engage in collaborative actions and that NMK is a checkpoint under the Protocol. Further, she went to say, whenever research is being undertaken by NMK, the researchers must get authorization from the

county because it is required that a PIC be obtained from the community. All National Government institutions were found to work in relatively the same way in their engagements with county governments and other stakeholders but were blamed for the lack of capacity within the County as a Respondent stated “The national government is to blame for the lack of awareness on the roles of the national and county governments. A Respondent said”

Some National Government institutions and organizations are involved in public participation and awareness creation in the community in conjunction with the County Government of Baringo, scientists and researchers create awareness as well. The other form of coordination and collaboration is done through the liaison officer who employed by the county under the L.Bogoria Warden’s office and he sits in various committees as to achieve his objectives and as assistant administrator in the office of the warden and links with the Chief and Assistant Chief, downward to the people through the locational level (Chiefs), sub-locational level (Assistant chiefs) and to village elders and that is where I engage the community. The warden is the secretary of the 10% grant board.” The liaison officer stated. The National Government institutions are establishing mechanisms through counties to establish platforms for IPLCs in all counties to see how they can have proper representation at the national level and play a role in granting of PIC and MAT (SCBD, 2011b). This proposed platform gives room for better engagement of the community in ABS governance resulting in more effective implementation of the Protocol according to them. For better management of resources, the community would like joint management of the community’s resources between the National Government institutions, county governments, and the community in collaboration with the elders

Other forms of collaboration and coordination with the County and its community and stakeholders that were referred to by many respondents takes place through capacity building, awareness creation and public participation fora including *Barazas*, a congregation of local level community members and local leaders that include National Government officials such as chiefs. The county is also engaged through meetings, workshops, events and other fora where they get to coordinate and collaborate with various stakeholders which include the National Government.

There is interplay amongst county governments that can be achieved through a regional block known as the North Rift Region Economic Block (NOREB) and at the Council of Governors that could be harnessed for further collaboration and coordination of ABS matters amongst counties and between counties and the National Government. The NOREB is an economic block that was formed

by county governments in the North Rift Region due to shared and common resources such as the Kerio Valley River. A respondent said, “There is a collaboration and cooperation framework, an economic block known as North Rift Region Economic Block (NOREB), which brings together the counties in the Northern Region of Rift Valley Region. It includes, Baringo, Elgeyo Marakwet, Nandi, Turkana, West Pokot and Uasin Gishu County Governments. The rationale for having the Block is because there is a resource, a river, the Kerio River that is shared amongst the counties. The NOREB is a collaboration and cooperation framework, an economic block known as (NOREB), which brings together the counties in the Northern Region of Rift Valley Region that includes, Baringo, Elgeyo Marakwet, Nandi, Turkana, West Pokot and Uasin Gishu County Governments which seeks to widen economic, social and cultural integration for enhanced trade, investment, tourism, competitiveness and economies of scale through synergy while leveraging on individual strengths of counties.”

In the final analysis coordination and collaboration is both vertical and horizontal. Collaboration and cooperation of the National Government, the County Government and other institutions at the community level of governance exists and would facilitate more effective ABS because there are functions that are constitutionally shared between the national and County governments and there are others that need cooperation between various stakeholders. While the Protocol requires that the mechanisms put in place be inclusive and ensure collaboration and cooperation, it also requires that the Protocol be implemented in a mutually supportive manner with other international agreements and some such as the RAMSAR Convention, the CITES and the CBD would require that the stakeholders implementing those treaties and those implementing the Protocol must support each others’ work. This is provided for under article 4 of the Protocol where cooperation between the Protocol and other international agreements is addressed. The access permitting process has also been cited as a point of convergence amongst stakeholders because the relevant institutions either as checkpoints, competent authorities, counties or otherwise work in harmony under the Protocol. There are also other co-operations amongst counties that can be used to establish collaborative mechanisms that would be useful for ABS such as the NOREB. These are county functions under the CGA (GoK, 2012a) such as the county public communication, planning, civic education, planning and budgeting that require collaboration amongst counties. All of which can benefit the implementation of the Protocol within the County. As such, the mechanisms for collaboration and cooperation that would facilitate implementation of the protocol already exist and ought to be utilized. Other forms of collaborations are found under the IGRA, 2012 which created the CoG

(GoK, 2012b, 2013a).

4.2.7 Role in financing/funding ABS activities within the County.

Results show that the Department of finance at the County facilitates the implementation of the Protocol. “All the funds from collection of the revenue collected from the lake are handled through the department”. A Respondent stated. The department also supported community activities that are relevant to implementation of the Protocol such as the launch of the Endorois Bio-cultural Protocol (EWC, 2019). However, the department does not have adequate funds for its activities within the County and therefore has limited funds to support implementation of the Protocol as much as it would like considering competing needs of the County such as infrastructure, food supply and water. Other mechanisms such as budgeting, auditing, monitoring and evaluation are useful in the financing activities within the County.

The County and the Endorois community also derive funding and support to undertake the activities related to implementation of the Protocol from other sources such as international NGOs, Projects that are implemented within their jurisdictions. The funding for the County and the community’s activities had come from among others, the UNEP, GIZ and the Global UNDP ABS Project (UNDP, 2018) by the time of this interview. The CoG was also said to be a central point of resource mobilization for donor funding and would be key for the County’s financing of ABS activities.

The mechanisms for financing, budgeting, and audit exist at the both the National and County Government levels and are provided for and coordinated under the Public Finance Management Act, 2012 (PFM) (GoK, 2010; MoF, 2012, 2015) . However, the funding available within the county was inadequate for purposes of implementation of the Protocol considering other pressing needs that the County has. The Protocol and the CBD also provide for a financing mechanism at the international level which is ultimately supposed to reach the lower levels of governance where its impact is supposed to be felt.

4.2.8 Role in research within the County and National Government.

Results show that Research and technology is used all over the world to support Conservation. “Research and technology is used all over the world to support Conservation”, a respondent from NACOSTI said. He went on to state that research provides data that is used to decide necessary measures, to advice if an organization or species for example is under threat, best methodology for conservation and sustainable utilization of resources, value of resources and helps communities understand that the resources can be converted into different products that can improve their well-

being. It also contributes to protection of biological diversity, validates TK and brings its services/values/products to the market and enables existence of standardization as the active ingredients in products and outcomes of research are required to be disclosed, recommended doses, processing, preservation, packaging and administration are also required to be stated. There has been research that has been carried out that would be useful for stakeholders in implementation of the Protocol. They include the Kenya Atlas of Our Changing Environment and Kenya's Natural Capital 'A Biodiversity Atlas' (GoK, 2009; Western et al., 2015). NACOSTI is mandated to manage of science through regulation or research and promotion of science, technology and innovation (ST&I) coordinates the ST&I sector and advises both county and National Government on ST&I. NMK and KARLO also undertakes research as well as act as reference and as a custodian of biodiversity in *ex-situ facilities*. A Respondent from NMK stated that among other roles the NMK provides expert advice, mapping of resources, verification of resources including GRs whenever there is a proposed access. NMK therefore plays twin roles as a reference and as a custodian of biodiversity. NMK she added, "has been involved in field research and in research involving the resource centre on indigenous knowledge and we have museums in various regions including one in Kabarnet".

The KWS grants PIC and MAT for wildlife resources in protected areas but also undertakes research. All regulators such as NEMA, KWS, KEPHIS, and NACOSTI facilitate research through the ABS value chain. They all used to sit in the defunct Ad-hoc ABS Technical Committee that considers applications for access permits. They are part of the ABS permitting system. They collaborate and coordinate with other stakeholders and support the efforts to place effective mechanisms and structures for ABS governance in Kenya. Research also assists in the process of ABS and is the reason for existence of ABS (K. E. Chege, 2015; E. Kamau et al., 2015).

The office of the Governor has a research department through which all the research is done and through which consultation on the issuance of authority to a researcher to go into the field by the county is done. This is a good initiative, but the consultations are not documented leaving a loophole in the process.

The department of research is currently undertaking general research regarding development and the people of the County and their needs. The department is able to follow up on research that is authorized and receive research reports and publications once research is completed by researchers. However, the department needs more capacity building on ABS and implementation of the Protocol in this regard because it can play a key role in managing the research components of the Protocol.

The County collaborates with many researchers and stakeholders during research taking place within the County. The county also issues research authorisation to enable researchers to go into the field to collect data or samples after issuance of the relevant permits by NACOSTI and or NEMA according to a respondent at the County. The County undertakes research for purposes of development and planning in response to the needs of the communities within the county. After visiting NACOSTI, the KWS or KFS and NEMA to get licenses and permits depending on the research and the resource proposed to be accessed, a researcher is sent to obtain authorization from the County at the tail end of the process. Further, it is only after these authorizations are issued that they approach the EWC on matters ABS before they go to the community. Community members have been made aware and are sensitized about the value of their resources and have been made to understand that nobody should carry away resources from their jurisdiction without their permission and authorization from the relevant agencies

There had been research that had been undertaken before at the Lake and there is ongoing research at the moment on various matters within the Community. There was an instance in the 90's where resources at the Lake known as bacteria called extremophiles were taken away by a postgraduate student but which later found its way into the hands of foreign companies, and it was only after the Government of Kenya complained that the company was making stone wash denim jeans of high market value without sharing benefits (K. Chege, 2009) that the company agreed to share some benefits with the community. Some funds were paid as compensation but they were little. These benefits came post access because at the time of access there were no mechanisms for access and benefit sharing within the Country (K. Chege, 2009). Since then, the ABS regulations were put in place under the EMCA (Sheridan, 2004).

Other research that is taking place involves several universities, research institutions and a private company. A respondent from EWC stated that, "There are several MOUs that have been entered into with several universities and research institutions including include , Kenyatta University Research Centre, MOI University (through Rivatex), Jomo Kenyatta University of Agriculture and Technology, Egerton and Nairobi University and the Kenya industrial Research and development Institute, the County Government of Baringo and TATA chemicals, a private company, located in Kajiado County", all of which are interested in resources within the Endorois Peoples' jurisdictions.

The special place of women s holders of traditional knowledge which was useful in ABS was highlighted and the National Government was called upon to offer civic education to women since

they are the holders of traditional knowledge (A.Voeks, 2007), and have important skills that can contribute to research on TK and medicine (Evanson Chege Kamau et al., 2010).

Research is a function of both the national and county governments and underscores the very essence of ABS and therefore key in implementation of the Protocol. The Respondent at the Ministry of Environment and Forestry stated that there has been research that has been carried out that would be useful for stakeholders in implementation of the Protocol. However at the County level, at the moment the research does not include ABS related basic and applied research except when the County is involved in the grant of authorization to researchers to go into the field and in monitoring research outputs from researchers. Research would also be useful for ABS is in monitoring, planning, financing, evaluation, and compliance in implementation of ABS. The results show that it is done at both the national and County levels but uncertainty and lack of clarity in implementation of the Protocol has been singled out a challenge to R & D and ABS (K. E. Chege, 2015; Elisa Morgera et al., 2014).

4.2.9 Role in Documenting TK

Results show that the County has not documented its TK and resources as required under the PTKCE (GoK, 2016b). The County lacks the skills to undertake the documentation and would need assistance of the National Government institutions to undertake this task. NMK for example has the expertise to assist in the classification of species amongst other requirements for a proper record of GRs and aTK that can be utilized by stakeholders, NACOSTI is in charge of research in the Country, KWS and KFS are in charge of wildlife and forests in protected areas respectively while KARLO is in charge of plant genetic resources and food and agricultures. However, before it embarks on documentation of the resources and TK, it needs to put in place systems for protection of the information collected to protect the community's IP rights, avoid biopiracy and ensure that the community benefits from its resources.

There were efforts that support the implementation of the Protocol by the National Government. NMK documents information and keeps data about various resources including a taxonomy of plant species and TK. NMK is the depository of information and has a resource centre for indigenous knowledge. It works with communities because its work is in the field and involves interaction with communities and its scientists are also required to seek PIC from them whenever they go to the field. A Respondent from NMK said, "When it comes to the protection of TK it is noteworthy that NMK documents information and keeps data about various resources including a taxonomy of plant

species and TK. NMK is the depository of information. NMK works with communities because the work is in the field and involves interaction with communities as well. NMK and its scientists are also required to seek PIC from the communities whenever they go to the field. NMK utilized local community guides when they go to the field. A respondent from NMK stated that, “NMK has a resource centre and that Counties should undertake their role of documenting TK with support of the NMK because NMK has the expertise to assist in the classification of species amongst other requirements for a proper record of GRs and aTK that can be utilized by researchers.”

Results also show that The County is supposed to facilitate the work of documentation of TK and cultural expressions by making policy and or giving policy direction, ensuring proper planning of the activities related to documentation within sub-counties e.t.c. A respondent from KIPI stated that in his opinion “The Sub-County is the unit of governance that should undertake the work since they are directly in touch with the communities. A catalogue should then be prepared but since there is no mechanism for protection of the information, it is not prudent to release such information without proper safeguards” . “KIPI is working towards inputting confidentiality clauses in the regulations that are proposed to be put in place under the PTKCE Act, 2016 to ensure that the community’s resources and knowledge is not exposed without proper mechanisms. ” he went on to state.

The mechanism for documentation of TK and cultural expressions is already provided for by the PTKCE Act but lacks relevant safeguards to ensure confidentiality of information and knowledge collected (IEA, 2011) although KIPI is working on regulations to deal with such confidentiality. . A central repository system is lacking (IEA, 2011). Otherwise the National Government institutions have expertise and are ready to assist the County to facilitate implementation of the Protocol. This role is in line with the main objective of the Protocol and the requirement for States to put in place mechanisms and regulatory requirements under Article 15, that would facilitate fair and equitable ABS (SCBD, 2011b) because without documenting TK it becomes difficult for the Country and indeed the County to know what resources they have and their value.

4.2.10 Role in monitoring, reporting, compliance and enforcement

Results show that Monitoring is key in effective implementation of the Protocol. Monitoring seeks to ensure compliance and it is one of the ways of ensuring that benefits are shared with the providers. monitoring and reporting related to the Protocol is mostly done at the National level and most of the input comes from the national level institutions (MEF, 2015). It was however observed that the

county governments ought to be more involved especially because nothing stops them from participating in international meetings and negotiations but it would be preferable if participation is limited to those with pressing ABS issues but that the best approach would be for the County Governments to await communication from the Focal Points, Competent Authorities and Check Points. The National Biodiversity Strategy and Action Plan (NBSAP) (MEF, 2019) and other reports such as the ABS Interim National Report on Implementation of the Protocol (UNDP, 2018) are prepared through the office of the Focal Point for the CBD (SCBD, 2011b). The Ministry of Environment and Forestry (MEF) is responsible for coordination of all stakeholders who contribute to the preparation of the reports ahead of submission to the Secretariats of the Convention. The MEF has involved county governments in national and international meetings and consultations on some of their reporting work through the CoG and in some cases through individual counties. The National government and its institutions have involved Counties through meetings, workshops and other fora. Through these meetings, monitoring and reporting is also undertaken at National level through among others, the NBSAP (MEF, 2019), a reporting framework under the CBD and the Fifth National Report on Biodiversity (MEF, 2015).

Results show that National Government institutions such as KWS, NEMA, KARLO and NACOSTI have monitoring frameworks. They issue relevant permits and licenses and impose conditions to ensure compliance according to their respective mandates. They also have compliance and enforcement departments within their institutions which they utilise for purposes of monitoring and enforcement. These are measures that exist and are almost similar in all National Government institutions (BCG, 2018-2022).

KWS, KFS and NEMA implement, monitor, evaluate, and enforce within their mandates. They also periodically report on status of use of their sectors to the National Assembly... This is the practice with all sectors all National Government institutions have a monitoring, reporting, evaluation and compliance mechanism. NACOSTI's main monitoring activities involve universities and research institutes and government institutions located in various counties. KARLO used to work with communities through agriculture extension officers but presently, it coordinates with the County Agriculture officers since Agriculture became a devolved function KARLO is useful in the process of monitoring for ABS because the materials they have are exchanged through Standard Material transfer Agreements (SMTA) under the ITPGRFA (UNFAO, 2004) and it has a duty to not only inform NEMA and other regulators when material is proposed to be utilized for purposes other than

for food and agriculture. If a researcher wanted to utilize the material for purposes other than for food and agriculture, they are required to advise the lab or *ex-situ* facility from which the material was transferred of the new purpose who would in turn direct the issue of access and benefit sharing to the ABS permitting authorities. Otherwise researchers are supposed to declare at the point of access if they intend to use the material for purposes other than for food and agriculture.

The compliance, enforcement and monitoring is still a challenge because there is lack of legal clarity at both the national and international levels. The IP law regime for example is not aligned with ABS law yet there are IP rights that accrue to providers of GRs and aTK. Farmers rights have also been handled well when it comes to ABS. Some institutions lack proper enforcement mechanisms. KIPi's functions have a national focus but that should not be the case considering that ABS takes place within communities where resources are found.

County Governments have a coordinating body known as the CoG established under Section 16 of the IGRA, 2012 whose role is coordination and oversight over all county governments (GoK, 2012b). A respondent from CoG said, "The CoG has a huge role to play in monitoring and evaluation when it comes to resources and funding from donors or the utilization of funding among other aspects." He also said that their role in coordination of County governments would be very useful in supporting implementation of the Protocol.

After research is done, the County expects that the research output, a report, dissertation or thesis would be deposited with the County's research department. Institutions at the National Level like KWS, NEMA and NACOSTI have monitoring frameworks and issue relevant permits and licenses and impose conditions to ensure compliance. One of the conditions imposed by NACOSTI is for the researcher to report to the County Governor before commencement of the research and to deposit the research outputs. So far the Ministry has involved county governments in meetings and consultations on some of their reporting work through the CoG and in some cases through individual counties where monitoring and reporting is also undertaken at National level through NBSAP (MEF, 2019). A reporting framework under the CBD and the Fifth National Report on Biodiversity (MEF, 2015) or through NEMA during preparation of the County and National Environment Action Plans and State of Environment Reports (NEMA, 2016-2018) prepared under EMCA (NEMA, 2015a) is used.

The County has a department that is dedicated to planning, monitoring, evaluating and reporting

which functions are key in implementation of the Protocol. The department has the structures for monitoring and reporting that could be utilized for monitoring implementation of the Protocol at the County. A respondent from the department states that “the department is responsible for development of the County Integrated Development Plans (CIDP), County Sectoral Plans and County Spatial Plans 5, 10 and 10 year plans respectively. There was a County Spatial Plan, a broad based plan for the whole County, for the period between 2018 and 2028 that had yet to go through the final processes of approval for release to the public by the time of the interview”. Physical Development and Land Use Plans were also prepared to guide users and the whole county and regulate where physical activities would be undertaken. These plans are also used for planning the County’s finances and in monitoring and evaluating implementation.

National organizations collaborated with the County Government of Baringo in monitoring the ABS activities that are taking place within the County. “The County also monitors its activities through a digital platform known as county integrated management system which is used to update its events.” The County can also use the online ABS permitting system which is accessible to the public to monitor access within its jurisdiction. The ABS permitting system is a good tool for data collection that can also be used for analysis and can provide be used to provide information to help inform decision makers.

There are multiple mechanisms within the County that can be utilized in monitoring, reporting, compliance and evaluation within the county. One of them is the digital county integrated management system (BCG, 2018-2022)that can be used to monitor implementation of the Protocol along with other at the County functions and activities. There is no formal mechanism for monitoring researchers when they go into the field or in managing the research outputs once research has been done in the absence of which, it becomes difficult for the county to enforce, monitor compliance or ensure that research contributes to the County’s knowledge and experience while informing policy and development actions.

There are obligations of National Government institutions in different sectors to perform, enforce and monitor their mandate within their sectors which ought to be extended to ABS matters arising from the Counties to ensure ABS related data is captured, collected and collated to facilitate monitoring, reporting, evaluation and compliance. The institutional framework adopted by the County is almost similar to the National Government framework with a few modifications to suit the County’s needs which would make it easier for it to coordinate its activities with the National

Government.

4.2.11 Role in dispute resolution

Results show that the kind of disputes encountered according to respondents involve instances of researchers who stay beyond the time allowed by permits issued, breach of conditions of licenses and permits, claims for compensation from KWS for injuries from wildlife like snake bites or attack by wild animals in areas where biological diversity is conserved. Some of the respondents complained that the process of sharing the 10% grant with the County was not transparent while others wanted an increase from the 10% up to 30%.

Disputes at the community level are resolved through the community's traditional mechanisms where elders arbitrate or mediate over disputes. Some complaints are handled through the EWC. A Respondent from KIPIT stated that "No ABS issue or dispute that had been handled at the Kenya Industrial Property Tribunal". The County has a complaints registration form on its website (BCG, 2020) to enable the communities and members of the public to lodge complaints. The County has the option of engaging the Court system for disputes within counties and across counties, which courts are enjoined to engage alternative dispute resolution mechanisms under Article 159 of the CoK, 2010 (GoK, 2010). Some disputes over natural resources at the County are resolved through the department of environment while those on ABS at the national level among institutions are resolved through the Inter-Ministerial Biodiversity Committee coordinated by the MEAs department. A Respondent from NEMA also stated that "disputes are resolved through the online permitting system if queries are raised".

There are therefore various mechanisms for dispute resolution at every level of governance, across sectors, between and amongst counties and between National Government and county governments and at the international level (GoK, 2010, 2012b; SCBD, 1992b, 2011b) and it would be possible to mainstream ABS within the dispute resolution mechanism to make it clear to stakeholders which mechanism they should engage at each level of governance or sector. If this is not done, stakeholders would be confused about which mechanism to approach which will hamper efforts to solve disputes and implementation of the Protocol would be affected. One of the problems that has been identified concerns resolution of disputes when resources have already left the country and are in another jurisdiction (Evanson Chege Kamau et al., 2010) because national level dispute resolution mechanisms do not extend to other countries although parties can bilaterally agree which jurisdiction to submit to in their contract documents. For the dispute resolution mechanisms to be

effective and for them to facilitate implementation of the Protocol, judicial officers and persons involved in resolution of such disputes at all levels and in all sectors would have to be capacity built to ensure that they understand what the Protocol entails.

4.3 Relationship between the National and County Governments in implementation of the Nagoya Protocol

4.3.1 Levels of implementation of the Nagoya Protocol.

Kenya has a multi-level governance structure comprising the national, county of governments (Bosek, 2014; GoK, 2010, 2012a, 2012b, 2013a; Muigua, 2018b). There are two levels of governance provided for by the CoK,2010 and the lower levels of governance that follow thereafter are the Sub-County, the Ward and Village levels administered by Sub-County, Ward and Village Administrators respectively (GoK, 2010, 2012a, 2012b, 2013a; Lubale, 2012a, 2012b).

Under Part 1 of Schedule IV of the CoK, the National Government responsibilities that relate to execution of environmental functions that also apply to implementation of the Protocol include: foreign affairs and foreign policy; police services; courts; national economic policy and planning; national statistics and data on the economy and society generally; IP rights; education policy, standards and curricula; universities, tertiary educational institutions and other institutions of research and higher learning and primary schools; general principles of land planning and the co-ordination of planning by county governments (GoK, 2010). Roles that are more specific to protection of the environment and natural resources found in Clause 22 seek to establish a durable, and sustainable system of development, including - fishing hunting and gathering, protection of animals and wildlife, water protection and securing sufficient residual water. Other roles include mandate over ancient historical monuments of national importance, agricultural policy, capacity building and technical assistance to counties, public investment and tourism policy and development (GoK, 2010, 2013a; Mwenda & Kibutu, 2012). Some respondents said there is no clear delineation or concise understanding of the functions of these institutions across levels of government, even from a legal perspective which exacerbates confusion and lack of legal certainty (K. E. Chege, 2015; Elisa Morgera et al., 2014). A respondent from the County stated that they did not understand why National Government should retain the function of environment or education and stated that the same should be devolved completely to avoid duplication, conflict and more complications.

The results show that the National Government has not devolved the function of implementation of

the Protocol and that there was confusion and conflict among its own institutions and the functions of the National Government vis-a-vis those of the county governments was not clear by the time of this research.

4.3.2 National Government in implementation of the Nagoya Protocol

The National Government is supposed to domesticate the Protocol in accordance with domestic measures and regulatory frameworks (SCBD, 2011b). Towards this end, the National Government is also required to implement the Protocol in a manner that does not run counter to the objectives of the Protocol; ensure that benefits are shared with the provider countries; that the policy, legal and institutional mechanisms that are in place ensure that benefits are shared in an equitable and fair manner with the indigenous peoples and local communities that nurture those resources (SCBD, 2011b). These domestic measures for Kenya include the devolved system of governance that includes, Counties, Sub-Counties, wards and villages (Lubale, 2012a, 2012b). The State is also required to put in place modalities for ABS that ensure that there is PIC and MAT before GRs and or aTK are accessed. To deal with TK, the National Government is supposed to take into consideration, customary laws, community protocols and procedures of communities (SCBD, 2011b) which have been praised as bottom up approaches by communities that facilitate their interaction with external stakeholders in an organized way (EWC, 2019; Harry Jonas et al., 2010; Jukic, 2013; Lassen Barbara et al., 2018; Tobin, 2013).

While the CoK, 2010 provides for functions of both the national and county governments, transfer and agreement on performance of functions is undertaken under Art.187 CoK, 2010 and Section 118 of the County Government Act (GoK, 2012a). Shared and concurrent functions includes those of the environment, planning, culture which is also related to National Government function of language policy and promotion of local languages and ancient and historical monuments of national importance; water conservation; statistics under schedule IV of the CoK,2010 (GoK, 2010, 2012b, 2013a). Otherwise with transfer the constitutional responsibility for performance of the function is retained by the level that is assigned the function under the Schedule. A function is transferred where it would be more effectively performed by the other level or is not prohibited by law and resources for the performance of such functions ought to be transferred along with the function (GoK, 2010, 2013a).

The State is also obliged to assist communities develop their community protocols, model contractual documents for PIC and MAT for sharing of benefits arising from access and utilization

of the community resources (EWC, 2019; Harry Jonas et al., 2010; Lassen Barbara et al., 2018; NEMA, 2014b; SCBD, 2011b; Tobin, 2013). This function could be delegated to the county government as the unit of governance closest to the community which must also recognize that community protocols are community driven initiatives that should be free of external influence (Harry Jonas et al., 2010; Lassen Barbara et al., 2018).

The State is also supposed to create conditions that promote and facilitate research and encourage research that contributes to conservation and sustainable use of biological diversity, ensure that research is able to deal with emergencies that threaten to cause harm to human, animal plants and, ensure there is transboundary cooperation where the GRs are shared with other countries. The State is also required to designate a national focal point and competent authorities among other institutional mechanisms that facilitate implementation of the Protocol. It is also expected to provide information on the clearing house mechanism, ensure monitoring of utilization of GRs, ensure compliance with domestic measures while ensuring that MAT provide the available jurisdiction, applicable law and modes of dispute resolution with option for alternative modes of dispute resolution such as arbitration or mediation. The State is also required to ensure that appropriate standards and codes of ethics are developed, create awareness, and ensure there is collaboration, cooperation and transfer of technology (SCBD, 2011b). EMCA in particular obliges the state to make regulations, guidelines and standards for environmental management (NEMA, 1999).

“To implement the Protocol, some of the National Government institutions took up responsibilities related to ABS under their laws where there was an ABS aspect that fell within their mandate before the Protocol (SCBD, 2011b) and the CoK, 2010 (GoK, 2010) came into force”. A respondent from KWS stated. These stakeholders, institutions, actors and agents in the ABS value chain are defined as either the Focal Point, Checkpoints, Clearing House Mechanism, Competent Authorities and the Publishing Authority under the Protocol (SCBD, 2011b; UNDP, 2018). Currently, there are multiple laws addressing ABS under the Protocol and the CBD and they are implemented by different institutions at the national level. These institutions include the Ministry of Agriculture, the Ministry of Environment and Forestry, the National Environment Management Authority (NEMA), Ministry of Higher Education, Science, Technology and Innovation though he NACOSTI and Universities, the Kenya Wildlife Service (KWS), the Kenya Forest Service (KFS), the NMK, Kenya Industrial Property Institute (KIPI), the Kenya Agricultural Livestock and Research Organization (KARLO) and the National Commission for Science Technology and Innovation (NACOSTI).

Section 4 and 5 of the PTKCE (GoK, 2016b) set out the responsibilities of both the County and National Government level. This legislation was put in place to operationalize Article 11 and 40 (5) of the CoK on the right to culture and the right to protection of intellectual property, respectively. More specifically, this Act describes a community and TK within the Kenyan context. Considering that the Protocol requires that implementation be done in accordance with domestic measures and regulatory requirements. The Act outlines the role of the National Government with respect to protection of TK and cultural expressions as including: maintenance of the repository at the Kenya Copyright Board (KECOBO); the promotion of TK and cultural expressions in Kenya; and the protection of TK and cultural expressions from misuse and misappropriation and facilitation of access of information and sharing of information and data relating to TK and cultural expressions. A respondent from KIPI stated that the repository has never been established, the PTKCE Act is not operational and that the KECOBO is being merged with the Anti Counterfeit Agency and KIPI and an IP Office of Kenya Bill (KIPI, 2020), where these proposals and others are made is being deliberated upon. “At the moment, the national Government has not established a repository under the PTKCE Act, 2016 and there is no way of maintaining confidentiality of the information collected about GRs and aTK.” A respondent from KIPI stated. He also stated that KIPI is working on putting in place confidentiality clauses in the regulations that are proposed to be put in place under the to ensure that the community’s resources and knowledge is not exposed without proper mechanisms, according to a respondent from KIPI.

Results show that the Ministry of Environment and Forestry is in charge of policy-making and implementation of the CBD and the Protocol. The Ministry has demonstrated the political will to incorporate county governments in the implementation of the Protocol through many ways including through their participation in the inter-ministerial biodiversity committee coordinated by the MEAs department of the Ministry of Environment. It also participates in international engagement, policy making and domestication of the Convention and its Agreements. KIPI, KWS and NACOSTI and other government agencies relevant for implementation of the Protocol had been involved by the National Government as key stakeholders through participation in an inter-ministerial biodiversity committee coordinated by the MEAs department of the Ministry of Environment.

Government agencies such as NACOSTI have a platform for review, research, and support for the Protocol’s implementation. This is done by facilitating research, promoting science, technology, and innovation (ST&I) and through linkage of both the National and County Governments in implementation of the Protocol. NACOSTI authorizes research which may or may not involve

access and use of biological material that may require analysis locally or abroad. The NMK carries out research on heritage, provides multidisciplinary approach in natural resource management, cultural and historical biodiversity issues and holds over 10 million collections on zoology, botany, archeology and paleontology. Some sites had been declared world heritage sites by UNESCO and L. Bogoria as part of the Lake System in the Great Rift Valley (UNESCO, 2010) is one of them (UNESCO, 2010). A Respondent from NMK stated that “NMK was willing to assist counties to undertake documentation of their GRs and aTK because they have expertise”. Most National Government institutions played a role in making and or amending laws and policies and these laws were followed up with consultation and public participation where stakeholders were engaged. They also create regulations that govern the implementation of the Protocol, integration and coordination of policies made by other stakeholders to ensure harmony with a view achieve a common goal. The Council of Governors (CoG) established under the IGRA (GoK, 2012b) coordinates county governments’ activities and their partners. An example of a Bill that the Council of Governors has participated in is the Natural Resource and Benefit Sharing Bill of 2018 (GoK, 2018b) where the CoG raised the county governments’ collective concerns. There are other institutions facilitate the implementation of the Protocol through issuance of permits and licenses aimed at facilitating access to GRs and aTK.

The National Government has played a key role in the implementation of the Protocol in Baringo County. It was notable that most of the County’s institutions interacted with the National Government at administrative levels. There is in existence a communication mechanism at the County level that enables the County to interact with the national Government. County institutions engage the National Government institutions through participation and awareness creation meetings, workshops, reporting, letters, and emails on matters relating to implementation of the Protocol.

As part of the National Government, the NMK and interacts with all government agencies and stakeholders including county governments as required to ensure public participation in its policy, decision making, and work. The NMK and its researchers consult and seeks authorization from the County whenever they propose to undertake research because PIC must be obtained from the communities who are within county jurisdictions. Some museums have been handed over to county governments by NMK but due to inadequate expertise, there is a collaboration between the NMK and the County Government of Baringo on matters relating to Museums. KEPHIS does not interact

with counties at institutional level at all because their export permit is issued at the tail end of the process.

Results from the field show that the community would like the National Government to create awareness amongst community members and capacity build them, domesticate policies on participation, MAT and PIC properly and to ensure there is enforcement of policies on access and benefit-sharing of resources. At the community level, EWC engages with the National Government through the Chief at the locational level and other National Government officers within the County. This means that there are instances when the National Government engages the community directly through the national arms of government like the chief without necessarily going through the county governments.

Results show that the national government institutions are engaged in discussions about an online permitting platform which will be linked to each of the institutions in the permitting process. Unfortunately, the County governments have not been taken into account in the online system but the three pilot counties, including Baringo County and the CoG have been engaged in consultations.

Results from the field show that the multiplicity of ministries, departments and agencies dealing with ABS at the National level is what seems to have been adopted at the county level considering the number of Ministries and Departments that have an ABS function at the County level. A closer look reveals that the institutional framework is just as complicated as that of the National Government level.

4.3.3 County Government in implementation of the Nagoya Protocol

Besides the National and county levels of governance, the CoK, 2010 also established local governance comprising the sub-county, ward and village level. Counties are mandated by the Constitution to establish additional units as they may deem necessary (GoK, 2010, 2012a; Lubale, 2012a, 2012b).

Results show that over 70% of the National Government institutions engaged the County Government of Baringo in their legal, institutional, and implementation activities. Other organizations engaged the County Government of Baringo through county heads. EWC engages with Baringo County through the ward representatives (MCAs), the sub-county commissioners and the County through the Governor and directors across various levels in implementation of the

Protocol.

The county government demonstrated political will by facilitating the implementation of the Protocol. The County Government ensures that cultural material and knowledge is stored and preserved for posterity. In terms of the GRs, the most popular case are the enzymes found around the shores of Lake Bogoria which were exploited by foreigners without the consent of the government of Kenya or the community. After complaints from the Government, the money was paid to the community with respect to the access but it was inadequate. At the time, there were no county governments in place. Some county institutions engage the National Government through consultation, collaboration, and consultations.

Results show that there are functions that have not been performed by the National Government and were affecting how the County would implement the Protocol. The National Government had not established a repository under the PTKCE Act, 2016 neither had the County Government documented and registered or stored the TK and cultural expressions. The current situation is that there is no way of maintaining confidentiality of the information collected about GRs and aTK (GoK, 2016b). KIPi is working to input confidentiality clauses in the regulations that are proposed to be put in place under the IP Regime to ensure that the community's resources and knowledge is not exposed without proper mechanisms. The function of documenting should not be undertaken by the County for lack of systems to maintain confidentiality and it is best that community protocols be prepared by the communities until after water-tight mechanisms are put in place.

Devolution has changed the operations of some National Government organizations like KALRO because after the promulgation of the CoK 2010, a function like agriculture was devolved. On one hand, this affected the implementation of the Protocol by National Government institutions. Previously some National Government Institutions had to go to the communities through the agricultural extension officers (District Agricultural Officers) before the CoK (GoK, 2010). However, since the CoK was promulgated, the link within the County became the agriculture officer at the County. A link was effectively created between the County Government and the National Government institutions.

Although none of the authors have written about the relationship between the National and County governments in so far as implementation of the Protocol is concerned, other authors who have written about the importance of County governments have found that Counties ensure increased

self-governance by citizens and participation of communities and locations in governance at the local level while ensuring the development of their administrative capacities to participate and to ensure sharing of resources (Lubale, 2012b; Muigua, 2018b; Mwenda & Kibutu, 2012). In sum, the relationship between of County Governments with the National Government is predominantly spelt out in the CoK, 2010 (GoK, 2010), CGA, 2012 (GoK, 2012a), the IGRA, 2012 (GoK, 2012b) among other statutes. Unfortunately, not much has been done to devolve the function of implementation of the Protocol to the County Government level despite the fact that its implementation falls within environment functions and County Governments' mandate under Schedule IV of the CoK (GoK, 2010, 2013a; Muigua, 2018b).

A Respondent from NEMA stated that counties can act as Check Points in the implementation process as it is in a position to provide information, monitor and report n utilization of GRs. He stated "... county governments are information providers. They should be able to have their laws, by-laws, policies, awareness materials and community documents like bio-cultural protocols availed to the Publishing House so that that information can be uploaded onto the Clearing House. The role of the county governments in the clearing house should be able to facilitate provision of such information (including contracts such as MAT – with the exception of confidential information)". With capacity building, they can be Check Points because they are a major stakeholder when it comes to representation and protection of community rights". He went on to state.

Currently most of the functions of implementation of the Protocol are largely being performed by National Government institutions who are also in the process of amending their laws to further provide for implementation the Protocol. Implementation of the Protocol is disjointed, unclear and lacks harmony at the national level (E. K. Chege, 2019; German Ministry for the Environment & Development, 2019; Nnadozie, 2004) and as a result the lack of clarity and failure of implementation at the National level affects implementation at the County level. Further, in the absence of a unifying policy, any amendments to laws and regulations relating to ABS. Implementation of the Protocol will continue being disjointed and fragmented which will in turn affect how effectively the Counties will implement the Protocol.

Results show that the County has more interactions with some National Government institutions such as NEMA, KWS, NACOSTI, KARLO on matters relating to implementation of the Protocol and the ITPGRFA (UNFAO, 2004) in the case of KARLO compared to others such as KIPI and KEPHIS and is likely to have knowledge gaps if it does not collaborate and coordinate its activities

with all National Government institutions although, this is a problem that was created by the fragmented and disjointed institutional framework that defines implementation of the regime by the National Government.

Results show that the CoG, as the coordinating body of the Counties, has been involved in efforts to implement the Global UNDP/ABS project which started in 2015 (UNDP, 2018) and are involved in consultations on preparation of a statute and a policy for implementation of the Protocol. The CoG therefore presents an opportunity for coordination of implementation of the Protocol across various counties. With all the legal mechanisms put in place by CoK,2010, the IGRA, the CGA and other statutes, there are adequate levels of governance to facilitate implementation of the Protocol all the way to the lowest level of governance and achieve the objectives of the Protocol within legally established governance structures, an advantage according to Dellas, who found that embedding a regime in a larger institutional framework increases the likelihood of regime implementation (ED Dellas et al., 2011).

4.4 Policy, legal and institutional gaps in implementation of the Nagoya Protocol at the County level

The Protocol requires that appropriate policies, legal and regulatory mechanisms, guidelines and procedures be put in place to implement it with clarity and legal certainty. These policies cut across a institutions, levels of governance and sectors and disciplines. According to Coolsaet et al, implementation of the ‘... Protocol as a typical “multi-level governance” case, is easier said than done’ which sentiments are echoed by Greiber et. al, and other authors who agree that the scope of the subject is very wide and involves ‘... multiplication of competent authorities, stakeholders, at national, regional and supranational level’ according to Coolsaet et al. (Coolsaet et al., 2013; Greiber et al., 2012; Evanson C Kamau & Winter, 2009; Muigua, 2016a, 2018b).

4.4.1 Policy framework for implementation of the Nagoya Protocol at the County level

4.4.1.1 International Frameworks

4.4.1.2 Convention on Biological Diversity (CBD)

Results show that Kenya has not fully domesticated the provisions of the Convention. Article 15 of the CBD recognizes states’ ‘rights over their natural resources’ and gave them powers to determine ABS measures such as policy, legal and institutional frameworks within their jurisdictions but Kenya is still not adequately prepared to deal with the initial demands of the CBD let alone the Protocol and one example is in the integration of IP rights in the ABS regime. The definition of TK

is still not agreed at the international level and whereas there is a definition at the national level in the PTKCE Act, it has not been operationalized (Elisa Morgera et al., 2014; GoK, 2016b; IEA, 2011; E. C. Kamau et al., 2015). A Respondent from KIPI stated that the regime is not aligned with ABS law yet there are IP rights that accrue to providers of GRs and aTK. According to him, “there is lack of legal clarity at both the national and international levels”. There is lack of legal clarity at both the national and international levels despite the fact that TK held by IPLCs who are providers for purposes of the Protocol is critical in supporting conservation, sustainable development (SD), and in protection of biological diversity (Phillips, 2016).

4.4.1.3 Nagoya Protocol on Access and Benefit Sharing

While defining the scope of the Protocol (SCBD, 2011b) under Article 3, parties to the Protocol agreed that it would apply to GRs and aTK (Greiber et al., 2012, p. 11; SCBD, 2011b). Unfortunately there is still no agreement at the international level about some terms what is TK or what is a check point among other critical matters as a result of which there is uncertainty and there is no clarity on implementation of the ABS regime (E. K. Chege, 2019; K. Chege, 2009; German Ministry for the Environment & Development, 2019). Unfortunately, this situation is affecting implementation at the national level and ultimately affects implementation at the county government level because sub-national and lower level units of governance need legal clarity and certainty before they can make clear and effective laws, policies and mechanisms for implementation. If they do with the current gaps and lacunae, they are likely to inherit an even more complicated and unclear regime as a result of which implementation of the ABS regime is likely to be restricted (K. Chege, 2009).

4.4.1.4 International Treaty on Plant Genetic Resources for Food and Agriculture

Results show that Several challenges have been encountered in implementation of the Treaty and the Protocol mechanisms because the Treaty is domiciled in Ministries of Agriculture while the CBD and the Protocol are domiciled in Ministries of Environment as a result of which conflicting and disjointed implementation mechanisms are used to implement both regimes when in fact they should be implemented in tandem (BioversityInternational, 2015; Halewood et al., 2013). This conflict at the National Level is a result of the disjointed international mechanism as it ultimately affects implementation at the national and sub-national levels of governance (Eleni Deltas & Pattberg, 2013; ED Deltas et al., 2011). Farmers rights under the ITPGRFA (UNFAO, 2004) have not been captured well (Halewood et al., 2013). A Respondent from KWS stated that “farmers rights have not handled well in the Country but that there was room for a better implementation mechanism such as joint capacity building, proposal development, through inter-ministerial committees such as the one established by the Ministry of Environment or other ad hoc measures”. County

governments are key in protection of farmer's rights as the level of governance closest to the people and would be key in any joint mechanisms that are put in place.

4.4.1.5 Agreement on Trade Related Aspects of Intellectual Property Rights

The TRIPS Agreement (WTO, 2017) ought to be amended to ensure that patent applications disclose the country from where GRs are accessed consistent with the CBD's underlying principle of sovereignty over natural resources to ensure that Parties from where resources are obtained benefit from them. Developing countries in particular face challenges in asserting their rights to IP rights where their resources have been utilized without due regard to their rights. Amendment of the TRIPS agreement has been suggested as an avenue through which ABS can be extended to the WTO regime. In this regard, authors have suggested that Patent Cooperation Treaty ought to be used to require national legislation to make it mandatory for inventors to disclose the source of GRs and aTK when they apply for patents failing which patents would not be valid (ELI, 2003; Elisa Morgera et al., 2014; IEA, 2011; E. C. Kamau et al., 2015). This issue is still outstanding at the international level.

4.4.1.6 The Strategic Plan for Biodiversity and the Aichi Biodiversity Targets

The Aichi Biodiversity Targets mooted under the Strategic Plan for Biodiversity required Parties to the Convention to ratify the Protocol and ensure that by 2015 (SCBD, 2010) that Protocol was in-force, operational and consistent with national legislation. Kenya did ratify the Protocol in time and it is in force but not completely operational in line with national legislation as required. Operation and implementation of the Protocol at the county government level has failed to take place and Kenya has not achieved this target yet it was expected to comply with the Aichi Biodiversity Targets by the year 2015 (SCBD, 2010).

4.3.1.7 The 2030 Agenda for Sustainable Development

Results show that a delicate balance between the environment and development must always be struck in order to achieve sustainable development (SD) based on the principles set out in Agenda 21 and the on outcomes of the Summit on SD (Summit, 2002; UN, 1992). Among the objectives of Agenda 21 under Programme Area A is 'to promote and support policies, domestic and international that make economic growth and environment protection mutually supportive' (UN, 1992) While undertaking their roles in ABS, the role of the counties would also be key in implementation of various SDGs and in keeping data, monitoring, reporting and evaluation collaboration with the National Government but this can be achieved through planning, monitoring and reporting within the National and County government level. Implementation of the ABS regime is expected to

achieve several SDGs including conservation of biological diversity, poverty reduction among other social and economic benefits (UNDP, 2018).

4.4.2 National Frameworks.

4.4.2.1 Kenya Vision 2030

Implementation of the ABS regime falls within the three pillars of the Kenya Vision 2030 (GoK, 2007), that seek to: (1) encourage economic growth, (2) invest in people and reduce poverty and vulnerability and (3) strengthen institutions and improve governance (GoK, 2007) all of which find reference in this research. Environment has been identified as a key sector in realisation of the goals of the Vision 2030 and the Global Sustainable Goals (KNBS, 2019). As a result, the government continues to invest in environmental protection because it expects to reap social and economic gains from proper governance of its natural resources (KNBS, 2020). The Vision, the Country's economic blue-print, alludes to the importance of biological diversity but does not lay emphasis on the subject. It decries the lack of a biodiversity inventory and inadequate procedures for access and benefit sharing as some of the challenges. It stated that specific measures would be put in place to promote bioprospecting towards research and development of products but did not outline those measures.

4.4.2.2 Environment Policy, 2014

In its Environment Policy, the Government of Kenya undertook to encourage sustainability in resource use and regulation of bio-prospecting according to international legal frameworks (GoK, 2014b). It also undertook to develop mechanisms for among others, ABS with respect to GRs, aTK IP rights, and technology (GoK, 2014b). This policy is an overarching policy framework that guides the governance of all natural resources including GRs in the country unfortunately, it is not possible for the Ministry to direct other Ministries, Departments and Agencies such as the KARLO under the Ministry of Agriculture, KIPi under Ministry of Industrialization, Trade and Enterprise Development; KWS under the Ministry of Tourism and Wildlife; NACOSTI and NBA under the Ministry of Education Science and Technology because they do not fall under it and they have their own policies, statutes and chain of command.

4.4.2.3 National Land Use Policy , 2017

The NLUP seeks '... to provide legal, administrative, institutional and technological framework for optimal utilization and productivity of land related resources in a sustainable and desirable manner at national, county and community levels ...' (GoK, 2017b). Some of its key principles include efficiency, access to information, equity, elimination of discrimination and public benefit sharing

based on the philosophies of economic productivity, social responsibility, environmental sustainability and cultural conservation (GoK, 2017b) all of which resonate with the ABS concept. It highlights the laws relating to land use as including the CGA (GoK, 2012a), the Land Act (GoK, 2012c) and the Community Land Act (GoK, 2016a) and how lack of institutional coordination and harmony amongst the laws poses a challenge to land use (GoK, 2017b). The Policy also seeks to harmonize institutional coordination in land use planning across all sectors but with lack of proper understanding of what is entailed in the ABS sector, it is very unlikely that it will achieve harmonization that contributes to implementation of the Protocol.

The overall impact of this disharmony and fragmentation is that county governments which are supposed to implement National Government policies on matters of planning would find it difficult to plan for biological resources, traditional knowledge, and other culturally and environmentally significant areas. They would also be unable to budget, harmonize and coordinate ABS matters which cut across environment, natural resource, land use and land use planning in a manner that allows effective implementation of the Protocol.

4.4.2.4 Other policies involved in ABS governance

Draft National Intellectual Property Policy (NIPP) which seeks to strengthen the management and administration of Kenya's IP system while encouraging innovation and creativity all of which are key issues in IP rights discourse in ABS governance (NIPP, 2013). Others such as Kenya's Fifth 'National Biodiversity Strategy and Action Plan' (MEF, 2015) outlined the basis for action, progress and plans that Kenya as a Signatory to the CBD had to achieve her targets and agreements while the National Report on how the Protocol has been implemented (GoK, 2017a) was expected to have reported on measures and mechanisms that had been put in place towards implementation of the Protocol in terms of reporting requirements under Article 26 of the Protocol (SCBD, 2011b). The latest copy of the NBSAP (MEF, 2019) is still in draft yet there is need proper and updated data to inform policy and decision making. The Ministry of Agriculture has in place a National Seed Policy (MoA, 2010). The problem with the multiple policies which are domiciled in different institutions and under different ministries is that it becomes very difficult to coordinate ABS activities, laws and institutions across the policies. 'Busia County is the only County in Kenya that has a Biodiversity Policy (BusiaCounty, 2017) at the moment' according to Respondents from private sector, academia and KIPI.

4.4.3. Legal Framework for implementation of the Nagoya Protocol at the County level

4.4.3.1. The Constitution of Kenya, 2010

At the National level, the CoK is the Supreme Law in Kenya (GoK, 2010) and all laws must be consistent with its provisions failing which they become void and any act or omission in contravention is invalidated. Article 2 (5) and (6) of the CoK also provide that Kenya is bound by the general rules of international law and that once it ratifies international treaties and conventions, it is bound by their provisions (GoK, 2010). Kenya is therefore bound by the prescriptions of the CBD and the Protocol which require parties to implement them within their national legal and regulatory contexts. The provisions of the CoK on environment which are relevant to this discussion are interspersed throughout the text but more specifically, the fundamental rights and freedoms; environment and natural resources; judicial authority and legal system; distribution of functions between national and county governments. A peek into the various provisions of the CoK reveals that it provided for protection and conservation of the environment, natural resources, biological diversity GRs protection of culture, TK and IP rights over and above its emphasis on sharing of benefits arising from their utilization. When some of the provisions of the CoK are juxtaposed against those of the CBD and the Protocol it becomes apparent that the CoK does provide a sound legal basis for implementation of the Protocol at both the National and County level. Relevant to the Protocol, Article 69 (1) of the CoK obliges the state: to ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits; to protect and enhance IP in, and indigenous knowledge of, biodiversity and GRs of communities; encourage public participation in management, protection and conservation of the environment, protection of GRs and biological diversity and demands that systems of environmental impact assessment (EIA), environmental audit (EA) and monitoring of the environment be put in place; to make sure that processes and activities that endanger the environment be eliminated and that environment and natural resources are utilized for the benefit of the people of Kenya. Article 69 (2) then enjoins all persons to cooperate with the government and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources (GoK, 2010; Muigua, 2016a, 2018b).

Article 4 (1) of the CoK, also provides that Kenya is a sovereign State whose power is vested in its people. (GoK, 2010) with Article 1(1) providing that, the said power should be exercised either directly or through democratically elected representatives. Since the Protocol requires States to implement it subject to their national legislation and regulatory measures, Kenya's County

Governments become key actors in implementation of the Protocol due to their central role in devolution. The National Government would be bound to make policy legal and institutional mechanisms that guide Counties and provide linkage between the various sub-national levels of governance and local communities which are in turn informed by the existing international environmental ABS regime (ED Dellas et al., 2011). Further, Art. 10 (1) outlines national values and principles of governance which bind all persons, State Organs, State Officers and public officers in law making, legal interpretation, making or implementing public policy (GoK, 2010). Key among these is the internationally recognized principle of sustainable development under article 10 (2) (d) a guiding principle that is well settled in international environmental law (Summit, 2002; UN, 2015; UNDESA, 2016). Others include, patriotism, national unity, rule of law, democracy and participation of the people, equity, equality, social justice, human rights and protection of the marginalized, good governance, integrity, transparency and accountability most of which have been lauded by Gumila as principles of good governance (Gumila Olund Wingqvist et al., 2012) .

Sequentially, the CoK, 2010 took up the responsibility of including the spirit of the Protocol in its provisions in a bid to provide for ABS even before it ratified the Protocol presumably because the Country had already ratified the CBD which provided for among other matters, ABS under Article 15. Further, the provisions on ABS had been anchored under EMCA, its ABS Regulations and other sector laws. Unfortunately, because the Country ratified the Protocol after the CoK was passed and because the Protocol came into force in 2014, most of the laws have to catch up and implement the provisions which they have not implemented such as the institutional framework while providing clarity. Towards this end, one of the mechanisms that is being considered for this is a unified ABS law and policy currently being developed under the Global UNDP ABS Project (K. Chege, 2009; UNDP, 2018).

4.4.3.2 Environmental Management and Coordination Act, (EMCA) 1999,

EMCA is also the legal framework upon which governance of ABS and matters relating to the Protocol have been anchored. In 2015, Amendments to EMCA mandated County governments to make legislation to implement EMCA under Section 147A wherein County Governments are given leeway to make legislation on all matters as are necessary or desirable to give effect to the provisions of the CoK and EMCA including those on ABS (NEMA, 2015a). Unfortunately, Counties have not make legislation or policy and have not put in place mechanisms for implementation of EMCA on ABS matters, except Busia County which has in place a Biodiversity Policy (BusiaCounty, 2017).

There are a number of the provisions in EMCA that directly or indirectly address ABS issues including sections 50 - 53 of the Act which provide for conservation of biological resources and mandate NEMA to prescribe measures for *in-situ* and *ex-situ* conservation of biological resources after consultation with the relevant agencies. Section 53 is more specific on access to GRs of Kenya (K. Chege, 2009; NEMA, 2015b). It mandates NEMA to ‘issue guidelines and prescribe measures for the sustainable management and utilisation of GRs of Kenya for the benefit of the people of Kenya’ (NEMA, 2015a). The ABS Regulations were put in place to operationalise these provisions (NEMA, 2006, 2014a, 2015b). Further amendments to this provision enhanced the role of NEMA as they gave it mandate to issue guidelines for the recognition, protection and enhancement of indigenous knowledge and associated practices in the conservation of environment and natural resources. NEMA is mandated by a further amendment to initiate legislative measures for the protection of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by communities in Kenya, which measures have never been undertaken. It was also mandated to issue guidelines for protection of indigenous knowledge of biological resources and genetic diversity (NEMA, 2006, 2014a, 2015b), this mandate has yet to be realised because the ABS regulations have not been implemented in full, considering that an inventory of biological diversity was never undertaken, a key step in protection of indigenous knowledge and biological resources. The institutional framework that would make it possible to protect these resources has also not been agreed and instead what exists is confusion about the roles that should be played by various institutions(K. Chege, 2009).

In addition, there are many provisions in EMCA that touch on ABS either directly or indirectly and some provide for protection of biological diversity and GRs. For instance, EMCA provides for protection of rivers, lakes, wetlands, forests, environmentally significant areas and the coastal zone all of which touch on the cross-cutting nature of biodiversity, GRs and knowledge associated with the resources. As a result, several regulations in addition to the ABS regulations (NEMA, 2006) gazetted under EMCA (NEMA, 2015b) are relevant. The Environmental Management and Coordination (Environmental Impact Assessment and Audit) Regulations (NEMA, 2003) (EIA/EA Regulations) ensure that reviewers take into consideration conservation of biological diversity during the process of review of reports and other documents submitted to NEMA. TK and cultural aspects and environmentally significant areas are also taken into account (NEMA, 2003). County Environment Committees are engaged whenever the projects proposed are within their jurisdiction (NEMA, 1999) unfortunately, there might be a capacity gap amongst the committee members considering that these committees have mixed stakeholders and lead agencies who might not have

expertise ABS matters. Baingo County Government County Environment Committee for example and in accordance with EMCA has two members from amongst farmers and two others from the business community, two from public benefit organisations and a member from Kerio Valley Development Authority among other members drawn from departments within the County (GoK, 2018a; NEMA, 1999).

4.4.3.3 Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006

These Regulations apply to all GRs and aTK in line with the Protocol (SCBD, 2011b) unfortunately they have not changed pre and post the coming into force of the Protocol and are therefore not the most appropriate mechanism for implementation of the Protocol (E. K. Chege, 2019). The Regulations seek to ensure that conservation of biological diversity is achieved in accordance with the Protocol which ultimately expects to contribute to the conservation of biological diversity a key objective of the C+BD (SCBD, 1992a). In this regard, the regulations prohibit activities that have an adverse impact on the ecosystem; lead to introduction of any exotic species or lead to unsustainable use of natural resources without an environmental EIA Licence, meaning that a person proposing to undertake any of the prohibited activities is expected to go through another process of obtaining an EIA licence before they apply for an access permit (NEMA, 2003). The regulations also provide for conservation of threatened species and had mandated the taking of an inventory of biological diversity which ought to have been undertaken twenty-four months after the coming into force of the regulations in 2003. There is no information as to whether or not the inventory was ever taken and there is no record of such an inventory on Kenya's country profile the ABS Clearing House (GoK, 2020) where all information on implementation of the Protocol is supposed to be uploaded.

The regulations also oblige NEMA together with relevant lead agencies to monitor the status and components of biological diversity in Kenya and take necessary measures to prevent and control their depletion. This means that conservation is a key aspect of Kenya's ABS regime. A respondent at the Ministry stated that they have undertaken research on biodiversity and have since published a Biodiversity Atlas (GoK, 2009) but at the time, Counties were not in existence meaning there is no updated record of the Atlas. What the Country has participated in includes the County Environment Action Plans (CEAPs) that feed into the National Environment Action Plans (NEAP) prepared Section 37 and 38 of EMCA (NEMA, 1999, 2015a). These CEAPs are prepared by the

County Environment Committees, such as the Baringo County Environment Committee (GoK, 2018a) gazetted under Section 40 of EMCA's Amendments of 2015 (NEMA, 2015a). Other reports that would provide the County with updated information include the State of Environment Reports (SOE) (NEMA, 2016-2018).

The Regulations do not apply to the exchange of GRs, their derivative products, or the intangible components associated with them, carried out by members of any local Kenyan community members amongst themselves and for their own consumption; access to genetic resources derived from plant breeders in accordance with the SPVA; human GRs; and approved research for academic purposes within recognized Kenyan institutions governed by relevant IP laws.

To access GRs or aTK an application for a permit is made to NEMA, fees in accordance with the second schedule are paid and evidence of PIC from providers and a research clearance certificate from the NACOSTI must be provided.

NEMA then gives notice by publishing it in the Gazette and at least one newspaper with nationwide circulation or in any other manner that is appropriate. Views in support or in opposition to the grant of a permit are made by the public after which NEMA reviews the application and either grants the permit where it is satisfied that the activity to be carried out would facilitate the sustainable management and utilization of GRs for the benefit of people of Kenya. If NEMA declines to grant the permit, it gives reasons in writing. The decision is supposed to be rendered within 60 days of submission of the application but it normally takes up to seven months (K. Chege, 2009; Evanson Chege Kamau et al., 2010) which is a very long period considering that academic work, research proposals or grants are time bound and one has to factor in the time required for other aspects of the research. If a person is aggrieved they have a right to appeal to the National Environment Tribunal (E. K. Chege, 2019).

The format for access permit is prescribed in the third schedule and once issued it is valid for one year from the date of issue, it is not transferable although it can be renewed for a further period of one year upon payment of the prescribed fees and upon such terms and conditions that NEMA may deem necessary to impose (NEMA, 2006) considering the length of time it takes to acquire an access permit, Chege finds it unreasonable for the license to be valid for one year after such effort to obtain it, the requirements for payment of further fees and discretion as to whether or not to renew coupled with the possibility of imposition of new terms he says might cause a researcher to give up as the process does not seem to facilitate research (K. Chege, 2009) These regulations give an impression

that NEMA reviews the application and imposes the conditions unilaterally when in fact review of Applications is done collaboratively with other lead agencies (E. K. Chege, 2019). An ABS technical committee used to hold meetings with other lead agencies but it has since been described as defunct by various respondents and texts (UNDP, 2018). There are plans to operationalize a complimentary online ABS permitting system where all the lead agencies relevant to the permitting system will have access and review the Application. Unfortunately county governments are not part of the permitting system at the moment despite their critical role in ABS and none of the authors have written about this gap yet there other authors who have written about devolution and natural resources who have highlighted the critical role played by county governments in ABS (Lubale, 2012b; Muigua, 2018b; Mwenda & Kibutu, 2012).

Under Regulation 15 (1) terms and conditions that NEMA deems necessary are imposed and attached to the permit. In addition to the terms and conditions contained in an access permit the regulations provide that there are implied terms such as duplicates and holotypes of all GRs collected are supposed to be deposited with the relevant lead agency; records of all intangible components of plant genetic material collected are also required be deposited with the NEMA. The regulations also state that reasonable access to all GRs collected is guaranteed to all Kenyan citizens whether such GRs and intangible components wherever they are held in what Chege calls ‘come back’ provisions although in such instances one would be required to seek PIC afresh (K. E. Chege, 2015). The holder of an access permit is required to furnish quarterly reports to NEMA on the status of research including all discoveries from research involving GRs and/or intangible components thereof and inform the Authority of all discoveries made during the exercise of the right of access granted under the access permit.

The holder of an access permit is also required to provide a semi-annual status report on the environment impacts of any ongoing collection of GRs or intangible components and a final status report on the environment impacts of collections of GRs or intangible components, unfortunately there is no reference to the counties but ideally the reports ought to be furnished to counties and the provider communities to facilitate monitoring, compliance and capacity building. The Regulation goes on to state that the holder of an access permit is required to abide by the laws of the country otherwise NEMA is mandated, on its own volition or on application by an access permit holder, vary the conditions of an access permit, the latter part being another condition where the county and the community that issues PIC ought to be involved as the ones in control of the jurisdiction where the resource came from and in line with their right to information.

NEMA has powers to suspend cancel or revoke any access permit issued under the regulations where the holder thereof is in contravention of any of the conditions imposed on the access permit or those implied under the Regulations, or of the agreements concluded pursuant to its grant. But before suspending, canceling or revoking a permit, NEMA is expected to give a written notice of its intention to the holder of the permit, who is then invited to make representations within thirty days from the date of the notice. Where the Authority suspends, cancels or revokes a permit, it publishes the order in the Gazette in a newspaper with nationwide readership. Once again, the regulations suggest that this is a unilateral decision of NEMA yet lead agencies are consulted and the review is done collaboratively before a license is issued.

Regulation 20, of the ABS Regulations, requires the holder of a permit to involve Kenyan citizens and institutions in the execution of activities under the permit and facilitation by the holder of an access permit is said to include both monetary and non-monetary benefits. The regulations and the Protocol contain somewhat similar monetary and non-monetary benefits (SCBD, 2011b) and because the PIC and MAT are contract documents that are negotiated by the parties, they can contain whatever benefits that are negotiated and agreed bilaterally (Halewood et al., 2013) without limitation of what is provided by law and the Protocol although NEMA and other lead agencies have the mandate to interrogate whether the agreements entered into meet the requirements of the CBD and the Protocol in terms of contribution to conservation of biological diversity and ABS (NEMA, 2006).

In conclusion, the regime is unclear and uncertain due to overlapping mandates of State agencies who are in charge of various aspects of ABS and due to complex procedures (K. Chege, 2009; K. E. Chege, 2015). The *de facto* regime is commended because it is functional at the moment due to several practical measures such as the ABS Technical Committee and the ABS toolkit (E. K. Chege, 2019; NEMA, 2014b). The ad-hoc ABS Technical Committee, he says "...is faced by a legal loophole because it is not supported by law..." although it is proposed to be complemented by an online permitting system which is proposed to be a one stop shop (E. K. Chege, 2019; K. Chege, 2009; K. E. Chege, 2015) (UNDP, 2018) that will make the process of application review and grant of an access permit less cumbersome. The online system is not based on sound legal policies and laws that allow various institutions to interact within their mandates because at the moment the system is not supported by law and is likely to contribute to further confusion if implemented in the absence of proper legal regulation. Several respondents and authors stated that the ABS Technical Committee does not sit anymore and others called it defunct (UNDP, 2018) while others spoke about

it as if it exists (E. K. Chege, 2019), it can also be found on the clearing house mechanism (GoK, 2020), a situation that further contributes to uncertainty and confusion. At the County level, the only frameworks that exist, they are informal measures that do not have legal backing such as the Kakamega County ABS Technical Committee (UNDP, 2018) and the one that has existed for a longer period is the Baringo County ABS committee also known as the 10% Grant Board among others that support and facilitate the sharing of benefits within the County and the Community.

Although the process flow for acquisition of an access permit provided on the Clearing House Mechanism (GoK, 2020; NEMA, 2020) is very comprehensive and provides some guidance some of the processes do not exist in the legislation. The ABS Technical Committee and the process after issuance of an access permit by NEMA is also not supported by law. The Committee was an administrative establishment by of NEMA meant to facilitate consultation amongst lead agencies. The ABS Technical Committee was in line with the principle of public participation, a principle of environmental law also anchored in the CoK, 2010 and therefore merited. Other steps which are not provided for by law include the publication of the permit with the Publishing Authority and publication of the permit on the ABS Clearing House. The law does not require that a copy of the permit be shared with the relevant agency in brackets GR provider but it does not provide for copies to be provided to the community for instances when the GR comes from the community though this is a creative administrative mechanism that would ensure that the provider is informed of the issuance of the permit for relevant reference and action if need be. The County governments are still not captured in the permitting system despite their legal mandate.

While the Protocol requires States to have in place Focal Points, Competent Authorities, Checkpoints, Publishing authorities and other designated institutional arrangements, the regulations do not mention how NEMA works with other agencies and institutions in implementation of the Protocol and they fall short perhaps because they were put in place before the Protocol and the situation has not changed since the Protocol came into force (E. K. Chege, 2019). This gap is proposed to be filled by the preparation of a comprehensive legal framework that Kenya is currently working on under its Global UNDP ABS Project (UNDP, 2018).

4.4.3.4 Other National Laws invoked in ABS Governance

Results show that different institutions had different laws that were used to implement ABS matters within their mandate. Some of the institutions had since amended their laws and put in place regulations in an attempt to implement the Protocol. An example is the Seeds and Plant Varieties Act, 2013, the ABS Regulations under KARLA and the ABS Regulations under WCMA, 2013

which are still in draft (UNDP, 2018). Guidelines have been put in place to facilitate ABS under the Protocol through a Toolkit for ABS in Kenya (NEMA, 2014b). More comprehensive synthesis of the other relevant statutes, policies and regulations that have provisions for protection and conservation of biological diversity, GRs and aTK provisions that are discussed include: the CGA (GoK, 2012a) which seeks to achieve among other objectives, operationalization of devolution in accordance with Schedule IV of the CoK, Articles 174 of the CoK (GoK, 2010) amongst other provisions as summarised hereof; the IGRA (GoK, 2012b) in light of its relevance in defining the relationship between the national and county governments and how its institutional arrangements such as the Summit and the CoG can facilitate implementation of the Protocol (SCBD, 2011b). Other key statutes such as the KARLA (KARLA) (GoK, 2013c) which established the Kenya Agricultural and Livestock Research Organization among others. This is relevant because agricultural research in Kenya would include research on GRs and how they are accessed and managed *in situ* and *ex situ*. These resources are also within the Mandate of EMCA and the ABS regulations and the two processes are not in tandem according to the laws currently in place. Results show that the Focal point for the ITPGRFA (UNFAO, 2004) ought to be part of the ABS permitting process and online system considering that it ought to be implemented in tandem with the CBD and its Protocols. that they have mandate over *in situ* and *ex situ* plant genetic resources for food and agriculture which fall within the ambit of the ITPGRFA (UNFAO, 2004).

The regulations under the KARLA established the Gene Bank for purposes of *ex-situ* collections of plant genetic resources for food and agriculture which touches on governance of GRs and aTK under the ABS regime if the collections are proposed to be used for purposes other than for food and agriculture or if the purpose or which the collections were accessed changes and falls under the ABS regime. The Seeds and Plant Varieties Act (SPVA) (GoK, 2012d) and its Amendments (GoK, 2013d) regulate among others, the testing and certification of seeds to undertake, among other duties, establishment and indexing of names of plant varieties, control and introduction of new varieties, seed importation, and grant of proprietary rights to the people responsible for breeding or discovering new varieties. A reading of the SPVA reveal that amendments to it introduced among other changes, a Plant Genetic Resource Centre (PGRC) to protect ownership of indigenous seeds and plant varieties, their genetic and diverse characteristics, associated indigenous knowledge and its use by the communities in Kenya (GoK, 2012d). The PGRC is also expected to evaluate, map and prepare an inventory of plant genetic resource distribution in Kenya. Under the KARLA and the SPVA, the functions of the Gene Bank are the same. The former KARLA (KARLA,2013) had the

provisions before the SPVA (GoK, 2012d) amendments of 2016 as result of which conflict has been created and hence more confusion and uncertainty.

Further results show that on protection of Community rights to GRs, aTK and benefit sharing, the most prominent statutes that are reviewed include the Community Land Act (CLA), 2016 which provides for among others the recognition, protection and registration of community land rights, management and administration of community land and the role of county governments in relation to registered and unregistered community land (GoK, 2016a). The process of registration of ,ost community lands is still ongoing and some communities still complain about lack of Reference is also be made to the Protection of Traditional Knowledge and Cultural Expressions Act (PTKCEA) of 2016 which provides for the protection and promotion of TK and cultural expressions and gives effect to Articles 11, 40 and 69 (1) of the CoK (GoK, 2016b). KECOBO is the competent authority of the PTKCE but the Act has never been operationalized. KIPi implements the Industrial Property Act of 2001, and Regulations of 2002. By the time field work was completed, KIPi was in the process of being merged with the Anti Counterfeit Agency and the KECOBO and There was an Intellectual Property Bill (KIPi, 2020) that was going through the process of consultation. KIPi was also working on including confidentiality clauses in the regulations that were proposed to be put in place under the PTKCE Act, 2016 to ensure that the community's resources and knowledge are not exposed without proper mechanisms. KEPHIS's mandate incudes maintaining and observing the plant breeders rights which is a function that falls within the realm of IP rights. It also issues phytosanitary certificates for resources that are being taken outside of the Country. Farmers rights had however not been handled well (UNDP, 2018).

In terms of Planning for land and the County's resources, the County's Department of Planning is governed by the CoK,2010 (GoK, 2010) which provides that planning is a concurrent function between the national and county government, the County Government Act (GoK, 2012a) and the Physical Planning Act, (MoLPP, 2012).Other roles of the County with respect to Planning are found in Schedule IV of the CoK and Part XI of the County Government Act. However, without clear policy direction under the NLUPP, the planning function at the County level will not be able to address the needs of planning for ABS, such as ensuring conservation of biological diversity, culturally and environmentally significant areas that are critical for ABS.

On governance and institutional arrangements, the other key statutes involved in the Governance of

ABS include the WCMA and its Regulations (KWS, 2013a, 2013b) wherein the KWS and its mandate on ABS are discussed, the Forest Conservation and Management Act and its regulations (KFS, 2016) wherein another key institution, the KFS is anchored and the Science Technology and Innovation Act (ST&I Act, 2013) (NACOSTI, 2013) and its Regulations (NACOSTI, 2014) where the NACOSTI is anchored. .

4.4.4 Formal and informal administrative frameworks for implementation of the Protocol

Results show that there are formal and informal structures within the national and county government that can be used to implement the Protocol. They can be used to manage research, planning, finance, decision making, capacity building, monitoring and other county administration matters to manage and govern the implementation of the Protocol within the County. However, there are gaps.

Most County and National Government institutions spoke about the institutional arrangements within their institutions as comprising departments of education, awareness and capacity building, finance, research, compliance and enforcement, monitoring and reporting, planning e.t.c and some spoke about the Ministries that were hosting their functions such as Ministries of Environment and Forestry for the National Government and its equivalent at the County, the Environment and Natural Resources Department. Other ministries include the Ministry of Higher Education, Science and Technology, Ministry of Agriculture, Ministry of Tourism and Wildlife, Ministry of Planning e.t.c. All these demonstrate a multiplicity of institutional arrangements that have mandate over an aspect of ABS which complicate the implementation of the Protocol in Kenya. The department of planning for example stated that its work involved National Government institutions in physical planning like the Ministry of Lands because planning is a concurrent function and both the national and county government have roles under Schedule IV of the CoK,2010. Some of the County Plans are approved by the County Assembly, County Executives and the Governor while others are approved by the Director Physical Planning and the Minister of Lands. National Spatial Plans guide the County Spatial Plans and are approved by the Minister in charge of Physical Planning and Director of Physical Planning hence coordination and collaboration with the National Government is achieved.

According to the ABS toolkit (NEMA, 2014b), on Kenya's country profile on the ABSCHM (GoK, 2020) and the UNDP report on ABS and how it impacts sustainable development in Kenya (UNDP, 2018), the institutional arrangements that are in place to implement the Protocol include: The Ministry of Environment and Forestry as the Focal Point, NEMA as the Competent National Authority and checkpoints such as the NACOSTI, KIPI, KECOBO, KALRO, KEPHIS, NMK and

KWS. The County Government does not appear on the Clearing House as a Checkpoint but appears as such in the ABS Toolkit (NEMA, 2014b) Information generated by the national or county government is uploaded to the Clearing House so that the users can utilize it and county governments are information providers and should have their laws, by-laws, policies, awareness materials and community documents like bio-cultural protocols and contract documents like MAT while excluding confidential information availed to the Publishing House so that the information can be uploaded on the Clearing House. They are however said to have inadequate capacity to undertake this function. It was also noted that many researchers had been to the County and contracts had been signed and the Endorois Community had already prepared a bio-cultural community protocol but the same had also not been uploaded on the clearing house.

The County has formal subnational level units of governance such as sub-counties, locations, wards and villages, formal units of governance which can be useful in implementation of the Protocol at the community level but no structures have been created to reach the lowest level of governance. However, these structures have been utilized by the Liaison officer's office in communicating matters relating to the 10% Grant up to the ward level. formal structures that exist within institutions have been widely used to facilitate access and benefit-sharing of GRs and aTK. NACOSTI for example has a Directorate of Research and Quality Assurance and Directorate of Scheduled Sciences which administer institutional research registration and research licenses and evaluate research applications respectively. KIPi has the following separate units: Prosecution of Patents, Utility models, Industrial Designs and Trademarks. Similar administrative arrangements exist at both county and national level institutions. KEPHIS on the other hand has offices at the national and at all border points all relevant counties because their work takes place within counties. Their reason for location at the borders points is due to seed growers and horticultural growers who engage in seed production and or export.

Informal institutional frameworks for the implementation of the Protocol include the NEMA ABS technical committee used to bring the relevant agencies involved in ABS permitting together to review and consider ABS applications but had since stopped having meetings. There was an online system that is currently being put in place, through which all key lead agencies would be able to log in to review the applications submitted unfortunately the County governments and the KARLO who are key in implementation of the Protocol were not anticipated. The system had challenges and had not yet become operational by the time data for this research was collected. Several National Government institutions have set up formal administrative structures while others use informal

administrative structures that guide and support their work. Other than an inter-ministerial biodiversity committee, there is no other informal coordinating mechanism at the National Government level for implementation of the Protocol.

Results show that there are institutional arrangements within the County that can but have not been utilized for implementation of the Protocol including regional arrangements such as the NOREB (NOREB, 2019) which would be particularly useful for transboundary resources under Article 189 (2) of the CoK, 2010 (GoK, 2010). The County also has the advantage of engaging the National Government through the Council of Governors, the representative and coordinating body for all counties and the Summit, the coordinating body between the National Governments and County Governments (GoK, 2012b). This engagement is also done through the County Assembly Forum (CAF), an informal administrative platform which all members of county assemblies from all counties utilize to communicate and co-ordinate their activities and engage in discussions affecting their mandates. Other informal arrangements that exist are committees formed on a need basis by the County, EWC and communities such as the 10% Grant Board and Committee to manage matters that arise within their jurisdiction unfortunately these mechanisms are ad hoc and are not embedded in legal or policy frameworks

The EWC has administrative structures to facilitate its work; Full Council (Supreme organ), Trustees (Advisory organ), Board of management (Policy and Strategic direction), and Secretariat (Operational level). There is also the Endorois Women Forum (an arm of EWC) that allows engagement with women. The Endorois Youth Forum is platform for engagement with the youth that is being put in place.”

5.0 CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This Chapter presents a summary of the conclusions and recommendations arrived at according to each objectives of this study. It also makes recommendations on mechanisms that ought to be put in place to make implementation of the Protocol more effective at the County Government level.

5.2 Conclusions

Baringo County is partly involved in implementation of the Protocol unlike other Counties because it was the first county to learn about the loss of resources through biopiracy and has since put in place some mechanisms to implement the Protocol with the help of several projects by the UNEP, GIZ and the Global IUNDP ABS Project. Besides Baringo County, the only other counties in Kenya who have a formal mechanisms in place are Busia County which has a biodiversity policy (BusiaCounty, 2017).The others whose mechanisms are being developed include Laikipia and Kakamega counties which are part of pilot Counties along with Baringo County for implementation of the Global UNDP ABS project . The rest of the Counties have not embraced and some are completely unaware of the Protocol.

The relationship between the National and County government is defined by the CoK, 2010 and the IGRA (GoK, 2010, 2012b) but devolution as envisaged in the CoK and the mechanisms for the relationship between the two levels of governance have not taken root in implementation of the Protocol yet ABS involves environmental resources that are subject to devolution. There is no effective integration between the National and County Governments, in terms of policy, legal and institutional frameworks to facilitate effective implementation of the Protocol.

The County was experiencing the same problems experienced by the National Government in terms of lack of harmony and coordination in implementation of the Protocol. These National Government level problems were also attributed to the lack of clarity on such matters as failure to define who a check point is, or what is TK among other key terms at the international level (E. K. Chege, 2019; Elisa Morgera et al., 2014; German Ministry for the Environment & Development, 2019).

Counties already have legally established mechanisms that would provide the legal and institutional frameworks within which they can mainstream ABS matters. There are existing structures within the County can be used to implement different elements of the Protocol such as those responsible for managing research, planning, finance, communication, capacity building, monitoring and

evaluation, and other county administration matters and those are the mechanisms that should be harnessed to design an ABS regime and to manage and govern implementation of the Protocol within the County. These mechanisms are embedded in the CoK, 2010, the CGA, 2012, the IGRA, 2012 among other frameworks and would be very useful in designing an ABS regime for counties.

Other mechanisms that are required can be created to make implementation more effective. However, these mechanisms would be more effective if they are embedded in a biodiversity or ABS policy and a law within the County. Unfortunately, the National Government has not prepared its own Biodiversity or ABS law to guide the Country. That notwithstanding, precedent has been set by Busia County in terms of preparing their own biodiversity policy despite a lack of a policy at the National Level.

There are also inter-county institutional arrangements within the County that can be utilized for implementation of the Protocol including regional arrangements such as NOREB where there are transboundary resources. The County also has the advantage of engaging the National Government through the Council of Governors (CoG) and the Summit, the Coordinating and representative bodies and the County Assembly Forum (CAF), where the members of the county assemblies engage.

There are mechanisms at the County level that can be utilized and present quick wins for implementation of the Protocol such as the political good will and commitment, which is enabled by commitment of the County leadership, the existence of CoG, the Summit and other County leadership forums such as CAF. Other mechanisms that already exist and would present opportunities for implementation of the Protocol include those concerned with conservation of biological diversity; collaboration and coordination; access permitting; benefit sharing; communication; awareness creation; public participation; research; planning, monitoring, reporting and evaluation. However, there are mechanisms that will require the County to make deliberate effort to either put in place or formalize to enable it engage more effectively in implementation of the Protocol they include: valorization of resources requires documentation of TK which will as of necessity extend to cultural expressions under the PTKCE (GoK, 2016b) which is unlikely to happen due to lack of operationalization of the PTKCE (GoK, 2016b) at the National Government levels. Financing is inadequate and poses a big challenge considering competing needs of the County and its people. Compliance and enforcement is also unlikely to be effective without laws

whose development is hampered by the non-existence of a unifying National Government law.

5.3 Recommendations

Counties should perform among others, the following roles in line with the key elements for implementation of the Protocol: provide political direction, goodwill and commitment; human, financial and technical resources; undertake capacity building, awareness raising communication and public participation; participate and engage in institutional arrangements on ABS governance; permitting; valorisation and sharing of benefits; coordinate stakeholders, ensure collaboration and linkage; participate in research, monitoring and evaluation of ABS matters; document traditional knowledge; have in place a compliance, monitoring, evaluation and a dispute resolution mechanism.

Counties should be embedded in the ABS process to enable them to participate in implementation of the Protocol. However, for this to happen, there is need for a unifying ABS policy and law to be put in place at the National Government level. Such a policy and law must recognize the role of County Governments in implementation of the Protocol. The ABS law and Policy could also be embedded within a framework biodiversity law and policy for greater impact within the sector.

Counties should also develop their own unifying ABS policy and law which should guide and facilitate coordination, collaboration, financing, among other functions of the County that will lead to effective implementation of the Protocol according to the key elements identified

There is need for better integration between the National Government and county government functions on implementation of the Protocol to facilitate collaboration in the permitting process, communication, awareness, capacity building, financing, research, documentation and all the relevant mechanisms needed to effectively implement the Protocol. According to Klijin, within a network, there has to be cooperation among network actors and county governments must engage in collaborative actions not only with the National Government but with all the actors and stakeholders to effectively implement the Protocol.

Counties should take advantage of the existing legal frameworks such as the CoK,2010 (GoK, 2010) the CGA, 2012 (GoK, 2012a) and IGRA (GoK, 2012b) to design an ABS regimes at the county level. They should also take advantage of existing policy frameworks that recognize their role and functions to create their own policies and to design their own unifying ABS policy and Law in the interim instead of waiting for the National government to make its policy first. They should also borrow from the Policy made by Busia County Government and custom make theirs according to their circumstances.

The National and county governments should review laws and policies that are relevant to

implementation of the Protocol that have gaps that cause conflict or confusion in implementation of the Protocol to ensure legal clarity and certainty for all users, providers and stakeholders. These laws and policies include the NLUP (GoK, 2017b), the SPVA (GoK, 2012d) and the KARLA (GoK, 2013b). The National Government should also set up a bioprospecting fund to support bioprospecting activities and other related matters such as capacity building(IEA, 2011). Counties should also participate in drafting of laws at the National Government to ensure that they include matters and interests concerning county governments within those laws while seeking to be embedded in the regime.

Counties should adopt a holistic and systems thinking and approach in implementation of the Protocol to enable them to realize the benefits of the Protocol and other related benefits while addressing other challenges that the counties are experiencing. There are other related matters that need to take place to ensure proper implementation of the Protocol. They include improving infrastructure such as roads to facilitate access to biodiversity hotspots, campsites and tourist sites and embedding TK in the curriculum of schools.

Counties should also mainstream biodiversity and ABS matters across departments and sectors to ensure that there is planning, funding, monitoring, review and evaluation of implementation of the Protocol across all departments and sectors. Mainstreaming is also likely to help counties save and or use the resources they have prudently as more functions get centralized administration.

National and county governments should collect, collate and keep data on biodiversity as a whole and capture ABS specific data within the National data collection and collation frameworks such as the Economic Survey (KNBS, 2020), the State of Environment Reports (NEMA, 2016-2018) and NBSAP (MEF, 2019) to enable counties to monitor, report and evaluate matters such as conservation of biological diversity and how it impacts GRs and aTK and to enable them make evidenced based policies and decisions.

Counties should document their resources and value them and attach the right investment in protection and conservation of biological diversity, promotion and protection of TK and cultural expressions which will in turn facilitate negotiation of PIC and MAT with the right value in mind.

Counties should put in place an ABS desk office immediately and ensure they are coordinated with the National Government ABS desk office. These should be manned by a trained county government official within the department responsible for environment and natural resources. The desk office should work across departments sectors and levels of government and incorporate various

disciplines for more effective execution of the county's mandate.

Counties should also put in place a system where the researchers, academia and institutions that access resources within the county can deposit their reports, findings and conclusions with the county to enable them utilize the outputs and to build their own capacity. Counties should also put in place and capacity build a research department or unit, function or section that specifically deals with ABS which unit ought to be embedded in the law and policy proposed to be developed.

counties should also lobby and support the National Governments in establishing mechanisms for IPLCs in all counties to ensure IPLCs, the people they represent, have proper representation at the national level and in grant of PIC and MAT which mechanism will be compliance with the Protocol's institutional arrangement.

REFERENCES

Journal Articles

- A.Voeks, R. (2007). Are Women Reservoirs of Traditional Plant Knowledge? Gender Ethnobotany and Globalization in North-East Brazil. doi: <https://doi.org/10.1111/j.1467-9493.2006.00273.x>
- Angwenyi, A. N. (2009). The Law-Making Process of Access and Benefit-Sharing Regulations–The Case of Kenya. *Genetic Resources, Traditional Knowledge and the Law: Solutions for Access and Benefit Sharing*, 173.
- Apgar, J. M. (2017). Biocultural Approaches: Opportunities for Building More Inclusive Environmental Governance. *IDS Working Paper*, 2017(502).
- Aremu, A. O., Cheesman, L., Finnie, J. F., & Van Staden, J. (2011). *Mondia whitei* (Apocynaceae): A review of its biological activities, conservation strategies and economic potential. *South African Journal of Botany*, 77(4), 960-971. doi:<https://doi.org/10.1016/j.sajb.2011.06.010>
- Ashamu, E. (2011). Centre for Minority Rights Development (Kenya) and Minority Rights Group International on Behalf of Endorois Welfare Council v Kenya: A Landmark Decision from the African Commission. *Journal of African Law*, 55(2), 300-313. doi:10.1017/S0021855311000155
- Awino, Z., & Kithinji, C. N. (2012). Bottlenecks in the execution of Kenya vision 2030 strategy: An empirical study. *Vol. 2(3)*, 505-512.
- Bosek, J. K. (2014). Implementing Environmental Rights in Kenya's New Constitutional Order: Prospects and Potential Challenges. *African Human Rights Law Journal*, 14, 489-508.
- Catherine Aubertin, & Geoffrey Filoche. (2011). Embodiment of an Endless discussion.
- Chege, K. (2009). Facilitating or Restraining Access to Genetic Resources-Procedural Dimensions in Kenya. *Law Env't & Dev. J.*, 5, 152.
- Coolsaet, B., Tom Dedeuwaerdere, & Pitseys, J. (2013). The Challenges of Implementing the Nagoya Protocol in a Multi-level Governance Context, Lessons from the Belgium Case doi:10.3390/resources2040555
- Dellas, E., & Pattberg, P. (2013). Assessing the political feasibility of global options to reduce biodiversity loss. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 9(4), 347-363. doi:10.1080/21513732.2013.853696
- Dellas, E., Pattberg, P., Kok, M., Frantzi, S., Vos, M. d., Janssen, P., . . . Petersen, A. (2011). Modelling governance and institutions for global sustainability politics (ModelGIGS). Theoretical foundations and conceptual framework.
- Elisa Morgera, Elsa Tsioumani, & Buck, M. (2014). Unravelling the Nagoya Protocol. *Legal Studies on Access and Benefits Sharing*. .
- Erik-Hans Klijn, J. K. (2014). Complexity in Governance Network Theory. doi:<http://dx.doi.org/10.7564/14-CGN8>
- Evanson Chege Kamau, Bevis Fedder, & Winter, G. (2010). The Nagoya Protocol on Access to Genetic Resources and Benefit Sharing: What is New and what are the Implications for Provider and User Countries and the Scientific Community. *LEAD Journal (Law, Environment and Development Journal)*, 6/3(ISSN 1746-5893
-), 12.
- Halewood, M., Andrieux, E., & Crisson, L. (2013). Implementing Mutually Supportive 'Access and Benefit Sharing Mechanisms Under the Plant Treaty, Convention on Biological Diversity, and Nagoya Protocol '. *law, environment and development journal*, 1, 68.
- Harry Jonas, Kabir Bavikatte, & Shumm, H. (2010). Community Protocols and Access and Benefits Sharing. *Asian Biotechnology and Development Review*, 12(3), 27.
- Hope, K. (2014). Devolved Government and Local Governance in Kenya. *African and Asian Studies*, 13, 338-358. doi:10.1163/15692108-12341302
- Jolly, S. (2015). Access and Benefit Sharing under Nagoya Protocol and Sustainable Development-A Critical Analysis. *AGORA Int'l J. Jurid. Sci.* <http://univagora.ro/jour/index.php/aijjs>, 9, 38-45.

doi:10.15837/aijjs.v9i3.2110

- Jukic, E. (2013). Community Protocols for Environmental Sustainability: A Guide for Policy Makers. *UNEP and EDO NSW*.
- Kabir Bavikatte, & Daniel F. Robinson. (2011). Towards a Peoples History of the Law- Biocultural Jurisprudence. *LEAD Journal (Law, Environment and Development Journal)*, 7(1).
- Kamau, E. C. (2011). Common pools of genetic resources—a potential approach in resolving inefficiency and injustice in ABS. *Treffpunkt Biologische Vielfalt X*, 177.
- Kamau, E. C., & Winter, G. (2013). Common pools of genetic resources : equity and innovation in international biodiversity law.
- Kamau, E. C., & Winter, G. (2013). An Introduction to the International ABS Regime and a Comment on Its Transposition by the EU. *Law Env't & Dev. J.*, 9, iv.
- Kimana, E. (2015). Traditional Justice Systems as Alternative Dispute Resolution under Article 159(2) (c) of the Constitution of Kenya, 2010.
- Klijn, E. H. (2012). Governance Network Theory: Past, Present and Future, Policy and Politics. *Policy & Politics*, 40 (4), 187-206.
- Lewis, M. (2010). Access and Benefit-Sharing in the wake of the CBD COP10: The Nagoya Protocol and its Potential Implications fo South Africa. *South Africa Journal of Environmental Law and Policy*, 17, 69-96.
- Margo, B. (2018). Toward an Effective Indigenous Knowledge Protection Regime_Case Study of South Africa. *CIGI papers No. 207 - December 2018, No. 207*.
- Morgera, E. (2015). Fair and Equitable Benefit-Sharing at the Cross-Roads of the Human Right to Science and International Biodiversity Law. *Laws*, 4(4), 803.
- Munyi, P., & De Jonge, B. (2015). Seed systems support in Kenya: consideration for an integrated seed sector development approach. *Journal of Sustainable Development*, 8(2), 161.
- Mwenda, A., & Kibutu, T. N. (2012). Implications of the new Constitution on Environmental Management in Kenya. *Law Env't & Dev. J.*, 8, 76.
- Ndung'u, N., Thugge, K., & Otieno, O. (2011). *Unlocking the future potential for Kenya: The Vision 2030*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.410.6020&rep=rep1&type=pdf>
- Nijar, G. S. (2011). The-Nagoya-Protocol -Analysis and options for impelmentation in Developing Countries. 36.
- Nnadozie, K. (2004). Integrating African Perspectives and Priorities into Genetic Resource Regulations: A Resource Guide for Policymakers. *Policy and Global Change Series*.
- Otswong'o, F. (2011). Protecting TK in Kenya, 'What a Community Should Know'.
- Phillips, F.-K. (2016). Intellectual Property Rights in Traditional Knowledge: Enabler of Sustainable Development. *Utrecht Journal of International and European Law*, 32(83), 1-18. doi:10.5334/ujiel.283
- Redvers, N., Poelina, A., Schultz, C., Kobei, D. M., Githaiga, C., Perdrisat, M., . . . Blondin, B. s. (2020). Indigenous Natural and First Law in Planetary Health. *Challenges*, 11(2), 29.
- Schroeder, D., Chennells, R., Louw, C., Snyders, L., & Hodges, T. (2020). The Rooibos Benefit Sharing Agreement-Breaking New Ground with Respect, Honesty, Fairness, and Care. *Cambridge quarterly of healthcare ethics : CQ : the international journal of healthcare ethics committees*, 29(2), 285-301. doi:10.1017/S0963180119001075
- Sheridan, C. (2004). Kenyan dispute illuminates bioprospecting difficulties. *Nat Biotech*, 22(11), 1337-1337. doi:10.1038/nbt1104-1337
- Siebenhüner Bernd, Suplie Jessica, & Ossietzky, C. v. (2005). Implementing the access and benefit-sharing provisions of the CBD: A case for institutional learning. *Ecological Economics*, 53(4), 507-522. doi:<https://doi.org/10.1016/j.ecolecon.2004.10.012>
- Stephenson, P. J., Bowles-Newark, N., Regan, E., Stanwell-Smith, D., Diagana, M., Höft, R., . . . Thiombiano, A. (2017). Unblocking the flow of biodiversity data for decision-making in Africa. *Biological Conservation*, 213, 335-340. doi:<https://doi.org/10.1016/j.biocon.2016.09.003>

- Suiseeya, K. R. M. (2014). Negotiating the Nagoya Protocol: Indigenous Demands for Justice. *Global Environmental Politics*, 14(3), 102-124. doi:10.1162/GLEP_a_00241
- Tobin, B. M. (2013). Bridging the Nagoya Compliance Gap: The Fundamental Role of Customary Law in Protection of Indigenous Peoples' Resource and Knowledge Rights. *9/2 Law Env't & Dev. J.*, 9, iv, 9/2.
- Torring, J. (2005). Governance Network Theory: Towards a Second Generation. *European Political Science - EUR POLIT SCI*, 4, 305-315. doi:10.1057/palgrave.eps.2210031
- Wicomb, W., & Smith, H. (2011). Customary communities as peoples and their customary tenure as culture : what we can do with the Endorois decision. *African Human Rights Law Journal*, 11(2), 422-446.

Books

- ELI. (2003). *African_Perspectives on Genetic Resources: : A Handbook on Laws, Policies, and Institutions Governing Access and Benefit Sharing*. Washington DC. .
- Greiber, T., Moreno, S. P., Ahrén, M., Carrasco, J. N., Kamau, E. C., Medaglia, J. C., . . . Ali, N. (2012). *An explanatory guide to the Nagoya Protocol on access and benefit-sharing*: IUCN.
- Kamau, E. C., & Winter, G. (2009). *Genetic resources, traditional knowledge and the law: Solutions for access and benefit sharing*: Routledge.
- Kamau, E. C., Winter, G., & Stoll, P.-T. (2015). *Research and Development on Genetic Resources: Public Domain Approaches in Implementing the Nagoya Protocol*: Routledge.
- Kameri-Mbote, P. (2013). *Ours by right: law, politics, and realities of community property in Kenya*. Nairobi: Strathmore University Press.
- Morgera, E., Buck, M., & Tsioumani, E. (2012). *The 2010 Nagoya Protocol on Access and Benefit-sharing in Perspective: Implications for International Law and Implementation Challenges*: Martinus Nijhoff Publishers.
- Morgera, E., Tsioumani, E., & Buck, M. (2016). *Unraveling the Nagoya Protocol*: Brill.
- Nnadozie, K. (2003). *African Perspectives on Genetic Resources: A Handbook on Laws, Policies, and Institutions Governing Access and Benefit-sharing*: Environmental Law Institute.
- Western, D., Musyoki, C., Mwangi, E., Mwachala, G., Said, M., Wargute, P., . . . Stickler, M. (2015). *Kenya's Natural Capital: A Biodiversity Atlas*.

Book Chapters

- Angwenyi, A. N. (2009). The Law-Making Process of Access and Benefit-Sharing Regulations : The Case of Kenya. In E. C. Kamau & G. Winter (Eds.), *Genetic Resources, Traditional Knowledge and the Law: Solutions for Access and Benefit Sharing*: Earthscan.
- Chege, K. E. (2009). Disclosure requirement: A critical Appraisal. In *Genetic Resources, Traditional Knowledge and the Law* (pp. 398-418). Dunstan House 14a St. Cross St Cross St, London, EC1N 8XA, UK: Earthscan.
- Chege, K. E. (2015). Research and Development on Genetic Resources. In E. C. Kamau, Winter Gerd, & P.-T. Stoll (Eds.), *Research and Development on Genetic Resources 'Public Domain approaches in implemeting the Nagoya protocol'*. New York: Routledge.
- Mak, P. T., Lonnie van Zyl, Marla Tuffin, & Cowan, D. (2012). Extremophiles and Biotechnology: How far have we come ? In *Caister Academic Press*.

Personal Communication

- Imende, J. (2020, 03.08.2020). [ABS permits issued by NEMA].
- Kalerwa, G. (2020, 03.08.2020). [On Research Licenses issued by NACOSTI].
- Kavaka, M. (2020, 30.08.2020). [Kenya NPIF Soda lakes project. ABS agreements process and status in context of Nagoya Protocol].

Laws and Regulaions

Data Protection Act, 2019, (2019).
 GoK. (2010). *Constitution of Kenya, 2010*. Nairobi: Government Printer.
 County Governments Act, (2012a).
 Intergovernmental Relations Act, Act No. 2 of 2012 Act No. 2 of 2012 C.F.R. (2012b).
 GoK. (2012c). *Land Act*. Nairobi: Government Printer.
 Seeds and Plant Varieties Act (2012d).
 Seeds and Plant varieties (Amendment) Act (2013d).
 Community Land Act, (2016a).
 Protection of Traditional Knowledge and Cultural Expressions Act, Act No. 33 of 2016 C.F.R. (2016b).
 Natural Resource and Benefit Sharing Bill, (2018b).
 Forest Conservation and Management Act, (2016).
 Intellectual Property Bill, 2020, (2020).
 WCM Draft Bioprospecting Regulations, (2013a).
 Wildlife Conservation and Management Act, (2013b).
 KWS, G. (2013). *Wildlife Conservation and Management Act, 2013*.
 Biodiversity Law, (1998).
 Public Finance Management Act, (2012).
 Public Finance Management Amendment Bill 2015, National Assembly Bills No.4 C.F.R. (2015).
 Physical Planning Act, (2012).
 Science Technology and Innovation Act, (2013).
 Science Technology and Innovation Regulations, (2014).
 Environmental Management and Coordination Act, Act No. 8 of 1999, (1999).
 Environmental (Impact Assessment and Audit) Regulations, Legal Notice No. 101 C.F.R. (2003).
 Environmental Management and Co-ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefits Sharing) Regulations, 2006, Legal Notice Number 160 C.F.R. (2006).
 Environmental Management and Coordination (Amendment) Act, 2015., (2015a).
 Environmental Management and Co-ordination Act, Act no. 8 of 1999 (Revised 2015), Act No. 8 of 1999 C.F.R. (2015b).
 The 2030 Agenda for Sustainable Development (2015).

International Agreements and instruments

Convention on Biological Diversity, (1992b).
 The Convention on Biological Diversity, (1992c).
 Bonn Guidelines, (2001), The Hague, 8, 19 April 2002.
 Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization to the Convention on Biological Diversity, (2011b).
 CoP 12 & MOP 1 decisions in Pyong Chang Pyeongchng, South Korea, (2014a).
 World Summit on Sustainable Development Plan of Implementation, (2002).
 Agenda 21, (1992).
 UNDESA. (2016). *UN Global Sustainable Development Report 2016*. Retrieved from New York [https://sustainabledevelopment.un.org/content/documents/2328Global%20Sustainable%20development%20report%202016%20\(final\).pdf](https://sustainabledevelopment.un.org/content/documents/2328Global%20Sustainable%20development%20report%202016%20(final).pdf)
 International Treaty on Plant Genetic Resources for Food and Agriculture, (2004).
 Amended Trade Related Aspects of Intellectual Property Rights Agreement (2017), (2017).

Online databases and Webpages

ABS Initiative. (2012). *Strategic Communication for ABS: A conceptual Guide and Toolkit for Practitioners*.
 GoK. (2020). Kenya's Profile on the ABS Clearing House Mechanism (Online database). Available from SCBD Retrieved 16,01,2020, from GoK <https://absch.cbd.int/countries/KE>
 Joseph, M. (2020). *Strategies to Unlock Business Potential of Biodiversity Wealth*. from NEMA

- <http://meas.nema.go.ke/cbdchm/2020/04/21/>
- Lubale, G. (2012a). An introduction to the County Governments of Kenya (1). Retrieved from <http://gabriellubale.com/an-introduction-to-the-county-governments-of-kenya/>
- NEMA. (2020). ABS Process Flow Chart Per CHM. Retrieved from <https://absch.cbd.int/countries/ke>
- NOREB. (2019). North Rift Economic Block. Retrieved from <https://noreb.go.ke/>
- SCBD. (2010). Strategic Plan 2011-2020 'Aichi Biodiversity Targets'. Retrieved from <https://www.cbd.int/sp/targets/>
- SCBD. (2011a). The Nagoya Protocol on Access and Benefits Sharing. In S. Secretariat (Ed.). Montreal, Canada: Secretariat of the Convention on Biological Diversity.
- UNESCO. (2010). Kenya's Lake System in the Great Rift Valley. Retrieved from <https://whc.unesco.org/en/list/1060/documents/>

Reports

- BCG. (2020). *Lake Bogoria Management Plan*. Retrieved from Nakuru:
- BioversityInternational. (2015). *Mutually Supportive Implementation of the Plant Treaty and the Nagoya Protocol - A report on 'The International Treaty and the Nagoya Protocol – A tandem workshop for National Focal Points'*. Bioversity International, Rome, Italy. (ISBN: 978-92-9255-018-9). Retrieved from Rome, Italy: https://www.bioversityinternational.org/fileadmin/user_upload/Mutually_Halewood_2015_new.pdf
- Chege, E. K. (2019). *The Kenyan ABS Regulations: A Static Law in Implementing the Nagoya Protocol' in 'Fulfilling the New Obligations Among Emerging Issues'*. Retrieved from Bonn, Germany <https://www.bfn.de/fileadmin/BfN/service/Dokumente/skripten/Skript564.pdf>
- EWC. (2019). *Endorois Peoples' Biocultural Protocol* Retrieved from EWC: http://www.abs-initiative.info/fileadmin//media/Knowledge_Center/Pulications/BCPs/Endorois-Peoples-Biocultural-Protocol.pdf
- German Ministry for the Environment, N. C. a. N. S., & Development, a. R. (2019). *Implementation of the Nagoya Protocol, 'Fulfilling new obligations among emerging issues'*. Retrieved from Bonn, Germany:
- GoK. (2017a). *Interim National Report of the Nagoya Protocol*. Retrieved from <https://s3.amazonaws.com/absch.documents.abs/records/absch-nr-ke-238637-1-en.pdf>
- Gumila Olund Wingqvist, Olof Drakenberg, Daniel Slunge, Martin Sjostedt, & Ekborn, A. (2012). *The Role of Governance for Improved Environmental Outcomes, 'Perspectives for Developing Countries and Countries in Transition'*. Retrieved from https://gmv.gu.se/digitalAssets/1466/1466002_the_role_of_gov_improved_en_outcomes_finalreport.pdf
- Gupta, A. K. (2004). *WIPO-UNEP Study on the Role of Intellectual Property Rights in the Sharing of Benefits Arising from the use of Biological resources and Associated Knowledge* Retrieved from Indian Institute of Management, Ahmedabad, India:
- IEA. (2011). *Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: The Legal and Institutional Framework for Sustainable Economic Development In Kenya* (978-9966-1561-0-5). Retrieved from
- Lassen Barbara, Lesle Jansen, Jazy Rasolojaona, Cicilia Githaiga, Lena Fey, & Bossou, B. (2018). *Community Protocols in Africa : Lessons Learned for ABS Implementation*. . Retrieved from https://naturaljustice.org/wp-content/uploads/2018/11/2018_Community-Protocols-in-Africa_Lessons-Learned_Natural-Justice.pdf
- MEF. (2019). *Draft National Biodiversity Strategy and Action Plan 2019-2030*. Retrieved from MEF: <https://meas.nema.go.ke/frontpage/download/Meas/Biodiversity/Plans-and-Strategies/KENYA-NBSAPFINAL-DRAFT.pdf>
- SCBD. (2014b). *Global Biodiversity Outlook 4*. Retrieved from Montreal:
- UNDP. (2018). *ABS is Genetic Resources for Sustainable Development*. Retrieved from UNDP New York, NY

10017, USA:

Government Documents

- BCG. (2018-2022). *2018-2022 - Baringo County Government Intergrated Development Plan*. Baringo County - Kabarnet: Office of the Governor Retrieved from http://www.baringo.go.ke/images/downloads/Budget_Documents/CIDP/Baringo-CIDP-2018-2022-Approved.pdf.
- BCG. (2020). *BCG Complainants-Registration-Form*. Baringo County Government: Baringo County Government Retrieved from <http://www.baringo.go.ke/images/downloads/complaints/Complainants-Registration-Form.pdf>.
- BusiaCounty. (2017). *Busia Biodiversity Policy*. Retrieved from http://www.b4fn.org/fileadmin/templates/b4fn.org/upload/documents/Country_additional_resources/Kenya/Busia_County_Biodiversity_Policy_10_Oct_2017_Final.pdf.
- GoK. (2007). *Kenya Vision 2030, 'A Globally Competitive and Prosperous Kenya'*. Nairobi: Vision 2030 Secretariat.
- GoK. (2009). *Kenya Atlas: Our Changing Environment*.
- GoK. (2013a). *A Guide to the Mandates and Procedures of County Governments in Kenya*. Nairobi: Transition Authority & Electoral Institute for Sustainable Democracy in Africa Retrieved from <https://eisa.org.za/pdf/eh2013ken.pdf>.
- GoK. (2013c). *Kenya Agriculture Research and Livestock Act*.
- GoK. (2014a). *National Environment Policy, 2014*. Nairobi.
- GoK. (2014b). *National Environment Policy, 2014 - Sessional Paper No. 10 of 2014*. Nairobi: Ministry of Environment and Forestry.
- GoK. (2017b). *National Land Use Policy - Sessional Paper No. 1 of 2017* (Sessional Paper No. 1 of 2017). Nairobi: Government Printer Retrieved from <http://lands.go.ke/wp-content/uploads/2018/06/SESSIONAL-PAPER-NO.-1-OF-2017-ON-NATIONAL-LAND-USE-POLICY.pdf>.
- GoK. (2018a). *County Environment Committee of Baringo County Government*. Nairobi: Government Press Retrieved from http://kenyalaw.org/kenya_gazette/gazette/volume/MTgzMg--/Vol.CXX-No.113/.
- KNBS, G. (2019). *Economic Survey, 2019*. Nairobi: Kenya National Bureau of Statistics Retrieved from <https://s3-eu-west-1.amazonaws.com/s3.sourceafrica.net/documents/119074/Kenya-National-Bureau-of-Statistics-Economic.pdf>.
- KNBS, G. (2020). *Economic Survey, 2020*. Nairobi: Kenya National Bureau of Statistics Retrieved from <https://s3-eu-west-1.amazonaws.com/s3.sourceafrica.net/documents/119074/Kenya-National-Bureau-of-Statistics-Economic.pdf>.
- MEF. (2015). *Fifth National Report on Biodiversity*. Retrieved from <https://www.cbd.int/doc/world/ke/ke-nr-05-en.pdf>.
- MoA. (2010). *National Seed Policy*. MoA Retrieved from <http://www.kilimo.go.ke/wp-content/uploads/2018/11/Kenya-Seed-Policy-2010-1.pdf>.
- NEMA. (2011). *State of Environment and outlook 2010, A summary for decision Makers*. . Retrieved from Nairobi:
- NEMA. (2014a). *ABS Toolkit on Genetic Resources and Associated Traditional Knowledge*. Nairobi: NEMA Retrieved from <https://absch.cbd.int/api/v2013/documents/F3AB1BBD-08C1-4E30-1BA7-6562A31098FE/attachments/ABS%20TOOL%20KIT%20FINAL.pdf>.
- NEMA. (2014b). *Kenya's Access and Benefits Sharing Toolkit for Genetic Resources and Associated Traditional Knowledge*. . Retrieved from <http://meas.nema.go.ke/abs/download/ABS%20TOOL%20KIT%20FINAL.pdf>.
- NEMA. (2016-2018). *State of Environment Report 2016-2018*. Nairobi: NEMA Retrieved from https://www.nema.go.ke/index.php?option=com_content&view=article&id=22&Itemid=161.

Conference Proceedings

Kamau, E., Winter, G., & Stoll, P. (2015). *Research and development on genetic resources : public domain approaches in implementing the Nagoya Protocol*.

Kamau, E. C. (2014a). Valorisation of genetic resources, benefit sharing and conservation of biological diversity: What role for the ABS regime? In O. Dilling & T. Markus (Eds.), *Ex Rerum Natura Ius? - Sachzwang und Problemwahrnehmung im Umweltrecht: Tagungsband anlässlich des 70. Geburtstags von Prof. Dr. Dr. h.c. Gerd Winter* (1 ed., pp. 143-174). Baden-Baden: Nomos Verlagsgesellschaft mbH & Co. KG.

Case Law

Centre for Minority Rights development and Minority Rights Group Vs. Kenya, (2009).

African Commission on Human and People's Rights Vs. Republic of Kenya, AU (African Court on Human and People's Rights 2017).

Unpublished Work

Lubale, G. (2012b). *An Introduction to the County Governments of Kenya (2)*. Retrieved from http://www.academia.edu/download/43920490/An_Introduction_to_the_County_Governments_of_Kenya.doc

Muigua, K. (2016a). *Implementing the Constitutional Provisions on Natural Resources and Environmental Management in Kenya*. Retrieved from <http://kmco.co.ke/wp-content/uploads/2018/08/Implementing-Constitutional-Provisions-on-Natural-Resources-and-Environmental-Management-in-Kenya-FINAL-July-2016.pdf>

Muigua, K. (2016b). *Implementing_Constitutional-Provisions_NRM_Kenya*. Retrieved from <http://kmco.co.ke/wp-content/uploads/2018/08/Implementing-Constitutional-Provisions-on-Natural-Resources-and-Environmental-Management-in-Kenya-FINAL-July-2016.pdf>

Muigua, K. (2018a). Alternative Dispute Resolution and Article 159 of the Constitution.

Muigua, K. (2018b). *Devolution-and-Natural-Resource-Management-in-Kenya*. Retrieved from <http://kmco.co.ke/wp-content/uploads/2018/09/Devolution-and-Natural-Resource-Management-in-Kenya-Kariuki-Muigua-September-2018-1.pdf>

Thesis

Kibugi, R. M. (2011). *Governing Land Use in Kenya: From Sectoral Fragmentation to Sustainable Integration of Law and Policy*. (Doctor of Laws (LL.D) degree), Université d'Ottawa/University of Ottawa, Canada. , Université d'Ottawa/University of Ottawa, Canada. . Retrieved from http://137.122.14.44/bitstream/10393/20268/3/Kibugi_Robert_Machatha_2011_thesis.pdf
Available from Université d'Ottawa/University of Ottawa

Uncategorized References

Kenya Agriculture Research and Livestock Act, (2013b).

Kamau, E. C. (2014b). *Valorisation of genetic resources, benefit sharing and conservation of biological diversity: What role for the ABS regime?* Paper presented at the Ex Rerum Natura Ius?-Sachzwang und Problemwahrnehmung im Umweltrecht.

Convention on Biological Diversity, (1992a).

APPENDICES

Appendix 1: Interview guide for the Endorois Welfare Council Secretariat and the Community within Lobo within the County Government of Baringo

My name is Cicilia Githaiga a Master student at the University of Nairobi's Centre for Advanced Studies in Environmental Law and Policy where I am undertaking a Master degree in Environmental Policy. This research will be used to analyze the role of County governments in implementation of an international instrument called the Nagoya Protocol that makes it possible for the community to share benefits with the users of the resources accessed from their jurisdictions and utilized within or outside Kenya. Your consent to participate in this interview is required and once agreed, your consent to record it is requested but you have the option to decline and we will just write down your answers.

You have been identified as one of the respondents for this study due to your expertise and experience. Kindly assist me in filling in this questionnaire. Your responses will be kept confidential and will be used for purposes of this study only.

Should you need further clarification on this questionnaire, please feel free to contact Cicilia Githaiga on 0740635632 or githaigaadvocate@gmail.com and to cesadvocate@gmail.com

Thank you very much for taking time to contribute to this research.

A. Demographic information.

	Names of interviewee	Category of the group participants (Circle the right one) a) Youth b) Women c) Men d) Elders e) Local administration	Age group (Years)	Gender	Location of community

		f) Endorois Welfare Council			
1.					
2.					
3.					
4.					
5.					
6.					

B: Governance and implementation of the Nagoya Protocol in Baringo County.

1. What brings you together as a group?
2. What is your role and function in the community?
3. Please explain how your community benefits from the resources found within your community and how it benefits from access to such resources?
4. What challenges did you encounter in accessing the benefits?
5. How does the Endorois Welfare Council (EWC) support you on matters of access to resources and sharing of benefits? (Ask follow up questions)
How have they been capacity building you on access and benefit sharing?

How have they involved you in the process of access and benefit sharing?

When you have a problem relating to access and sharing of resources, how is the EWC involved and how have you been involved in resolving the problem?

6. How does the County Government of Baringo support you on matters of access to resources and sharing of benefits? (Ask follow up questions)

How does the County Government of Baringo assist you in protection and conservation of your:

- a) Biological diversity and genetic resources.
- b) Traditional and Indigenous knowledge and information.

When you have a problem relating to access and sharing of resources, how is the County Government of Baringo involved and how have you been involved in resolving the problem?

7. How does the National Government support you on matters of access to resources and sharing of benefits? (Ask follow up questions)

When you have a problem relating to access and sharing of resources, how is the National Government involved and how have you been involved in resolving the problem?

8. How were you involved in the development of the policy frameworks that govern access to those resources and benefit sharing resulting from such access?
9. How were you involved in the development of the legal frameworks that govern access to those resources and benefit sharing resulting from such access?
10. How were you involved in the development of the administrative frameworks that govern access to those resources and benefit sharing resulting from such access?
11. How have you been involved in implementation of the policy, legal and administrative frameworks mentioned herewith and actions on the ground?
12. How and by whom have you been engaged in capacity building on matters relating to access and sharing of benefits arising from utilization of those resources?
13. What challenges have you encountered in the processes of access and benefits sharing?
14. What do you think needs to happen or change to prevent the challenges and problems you have encountered?

- a) On the part of the EWC?

- b) On the part of the County government?
- c) On the part of the National Government?

Thank you. End of Interview.

Appendix 2: Interview Guide for National Government and County Government of Baringo

My name is Cicilia Githaiga a masters student at the University of Nairobi’s Centre for Advanced Studies in Environmental Law and Policy where I am undertaking a masters degree in Environmental Policy.

You have been identified as one of the respondents for this study due to your expertise and experience. Kindly assist me by agreeing to be my interviewee. Your responses will be kept confidential and will be used for purposes of this study only. Your consent to participate in this interview is required and once agreed, your consent to record it is requested but you have the option to decline and we will just write down your answers.

Should you need further clarification on this questionnaire, please feel free to contact Cicilia Githaiga on 0740635632 or githaigaadvocate@gmail.com and to cesadvocate@gmail.com

Thank you very much for taking time to contribute to this research.

A. Demographic information.

Name

Occupation

Organization / Ministry /Department in National or County Government

Position in organization

Role in organization

Telephone number

Email address

What role do you play in implementation of the Nagoya Protocol
.....

B. Governance and implementation of the Nagoya Protocol in Baringo County.

- 1. What is the role of your organization in implementation of the Nagoya Protocol and how does your organization support the Endorois Community in implementation of the Nagoya

Protocol and in access and sharing of benefits arising from access to resources within their jurisdictions? (Ask follow up questions on role in conservation, protection of genetic diversity, traditional knowledge, research, coordination, collaboration, Monitoring,)

2. What laws and policies do you have in place to ensure there is implementation of the Nagoya Protocol?
3. What formal and informal administrative organization frameworks have you put in place to facilitate implementation of the Nagoya protocol?
4. In what ways does your organization engage with the National Government of Baringo in implementation of the Nagoya Protocol? (For County Government organizations)
5. In what ways does your organization engage with the County Government of Baringo in implementation of the Nagoya Protocol? (for National Government organizations)
6. How does your organization get engaged by the County Government of Baringo to create awareness and capacity build various stakeholders on implementation of the Nagoya Protocol?
7. How does the County Government of Baringo communicate with your organization on matters involving implementation of the Nagoya Protocol?
8. How do the various communication models/media create linkages between your organization and the county on one hand and the community in Baringo County on the other?
9. How does your organization get involved in collaboration and cooperation with other actors and stakeholders?
10. How does the County Government of Baringo ensure your efforts in implementation of the Nagoya Protocol in Baringo County are coordinated with other actors and stakeholders?
11. How has your organization been involved in dispute resolution on matters involving implementation of the Nagoya Protocol?
12. What other roles should the National Government and the County Government of Baringo play to better implement the Nagoya Protocol within the County Government of Baringo.

TEnd of Interview

Appendix 3: List of interviewees, the number, level of governance and reason for selection.

No.	Organization	Interview/ FGD/ No	Level of governance	Reason for selection
1.	Elders (Men) - Chair Lobo Location - Interviewed as part of the elders of the Area	FGD - 5	Community	They are the institution memory of the community. They are a separate cluster in the community.
2.	Elder ladies	FGD - 5	Community	They are institutional memory They are a separate cluster in the community
3.	Opinion Leaders	FGD - 5	Community	They are middle aged men who are involved in the economy of the area and have an interest in the economic development of the area and have a voice among the members of the community.
4.	Youth.	FGD - 5	Community	They are a separate cluster in the community and are the future generation with an interest in

				<p>the future of the community.</p> <p>They are also aware of their rights and on ABS matters.</p>
5.	Secretariat of EWC	FGD - 5	<p>a) Community and</p> <p>b) Endorois Welfare Council (Community CBO)</p>	They are members of the Endorois community that are involved in day to day running of the EWC.
6.	Executive Director EWC	KII -1	Endorois Welfare Council. (Community CBO)	He is the Executive of the EWC and has knowledge about ABS, and the community, local, county and national levels of governance. He also serves as an institutional memory.
7.	Chair EWC	KII -1	Endorois Welfare Council. (Community CBO)	He is the Chair of the Board of the EWC and has knowledge about ABS, and the community, local, county and national levels of governance. He also serves as an institutional

				memory. He is also an elder in the community.
8.	Warden in charge of the L. Bogoria.	KII -1	County Government	Serves at the intersection of the community and the County. He manages the L. Bogoria National Reserve, the subject of benefit sharing.
9.	Director of Environment	KII -1	County Government	In charge of The Environment, Wildlife and Natural Resources Department is responsible for all matters relating to environment including ABS under the Protocol.
10.	Director Finance	KII -1	County Government	In charge of finance
11.	Planning and M&E	KII -1	County Government	The role of planning is key
12.	Director Culture.	KII -1	County Government	Culture is closely linked with GRs and TK and his department oversees culture and heritage within the County
13.	Member of County Assembly	KII -1	County Government	He is from community and is the legislator

				representing the community in the County Assembly.
14.	Education and awareness department	KII -1	County Government	County has a role to play in Education
15.	Research department	KII -1	County Government	County has a role to play in research
16.	Wetlands officer	KII -1	County Government	He is in charge of the Wetlands in the County
17.	Liaison officer	KII -1	County Government	This is an officer who liaises the County with the Community and also addresses matters of benefit sharing entitlements of the community
18.	KWS	KII -1	National Government	KWS is a key stakeholder in the ABS permitting value chain. It grants among others, PIC, export permit.
19.	NACOSTI	KII -1	National Government	NACOSTI is a key stakeholder in the ABS permitting value chain. It issues a research license and is a key stakeholder in the process

20.	KEPHIS	KII -1	National Government	KEPHIS is a key stakeholder in the ABS permitting value chain. It issues a certificate for access that requires an export permit.
21.	KIPI	KII -1	National Government	KIPI is a key stakeholder in the ABS permitting value chain. It is in charge of IP matters in the Country.
22.	NEMA a) Competent National Authority	KII -1	National Government	NEMA plays multiple roles within and without the ABS value Chain. It plays the role of Competent National Authority, Clearing House Mechanism, Publishing House and Hosts the IT online permitting platform
23.	NEMA b) Clearing House Mechanism/ Publishing House	KII -1	National Government	”
24.	NEMA c) ICT	KII -1	National Government	”
25.	Ministry of	KII -1	National Government	This is the focal

	Environment Focal Point			point for the Protocol and in responsible for implementation of the Protocol.
26.	National Museums	KII -1	National Government	NMK is a key stakeholder in the ABS permitting value chain.
27.	KARLO / Gene bank	KII -1	National Government	KARLO is a key stakeholder in the ABS process whenever they relate to the ITPGRFA.
28.	CoG	KII -1	National Government	COG is a key stakeholder in the relations between county governments and national government.
29.	Local administration – Chiefs, Sub chiefs FGD administration a) Chief, Lobo Area b) Sub-Chief, Sandai Sublocation. c) Sub Chief, Maji Moto Sub-Location.	FGD -3	National Government	Local Administrators are key stakeholders in the ABS value chain at the local level.

30.	Academia/Private Sector	KII -1	Academia/ Private Sector	Academia is key in the permitting process as they are responsible for research and development, access and utilization of GRs and aTK.
-----	-------------------------	--------	--------------------------	--

Appendix 4: Approval from Graduate School to go to the Field



**UNIVERSITY OF NAIROBI
GRADUATE SCHOOL**

Telephone: 318262
Fax Number: 243626
Telegrams: "Varsity of Nairobi"
E-mail: gs@uonbi.ac.ke

P. O. Box 30197 - 00100
NAIROBI, KENYA

Our Ref: Z50/79937/2012

April 4, 2019

Githaiga Cecilia Wangari
C/o Director
CASELAP

Dear Ms. Githaiga,

RESEARCH PROPOSAL AND SUPERVISORS

This is to inform you that the Director, Graduate School has approved your M.A research proposal titled: "**Analysis of the role of the county governments in implementation of the Nagoya protocol on access and benefits sharing in Baringo County in Kenya**".

The Director has also approved **Dr. Collins Odote** and **Dr. Anyango Abiero** as the supervisors of your thesis.





You should therefore begin consulting them and ensure that you submit your thesis for examination in **October 2019**. The Guidelines on Postgraduate Supervision can be accessed on our website (www.gs.uonbi.ac.ke) while the Research Notebook is available at the University Bookstore.

Yours sincerely,






**CATHERINE NJUE (MS.)
FOR: DIRECTOR, GRADUATE SCHOOL**

cc Director, CASELAP
Dr. Collins Odote (Supervisor) - C/o Director, CASELAP
Dr. Anyango Abiero (Supervisor) - C/o Director, CASELAP
CN/gwg

Appendix 5: Approval from NACOSTI to collect Data in Baringo County

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 930443	Date of Issue: 04/October/2019
RESEARCH LICENSE	
	
This is to Certify that Ms. Cicilia Githaiga of University of Nairobi, has been licensed to conduct research in Baringo on the topic: THESIS : ANALYSIS OF THE ROLE OF THE COUNTY GOVERNMENT IN IMPLEMENTATION OF THE NAGOYA PROTOCOL ON ACCESS AND BENEFITS SHARING IN BARINGO COUNTY IN KENYA for the period ending : 04/October/2020.	
License No: NACOSTIP/19/1713	
930443 Applicant Identification Number	Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code
	
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	

Appendix 6: Approval from NACOSTI to collect data in Nairobi County and Baringo County

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 930443	Date of Issue: 28/October/2019
RESEARCH LICENSE	
	
<p>This is to Certify that Ms.. Cicilia Githaiga of University of Nairobi, has been licensed to conduct research in Baringo, Nairobi on the topic: THESIS : ANALYSIS OF THE ROLE OF THE COUNTY GOVERNMENT IN IMPLEMENTATION OF THE NAGOYA PROTOCOL ON ACCESS AND BENEFITS SHARING IN BARINGO COUNTY IN KENYA for the period ending : 28/October/2020.</p>	
License No: NACOSTI/P/19/1713	
930443 Applicant Identification Number	 Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code
	
<p>NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.</p>	

Appendix 7: Authorization from County Secretary, Baringo County to go to the field



Appendix 8: Authorization from County Commissioner to go to the field to collect data



OFFICE OF THE PRESIDENT

Telephone: 053-21285
Fax: (053)-21285
E-Mail:
baringocountycommissioner@yahoo.com
baringocountycommissioner@gmail.com

MINISTRY OF INTERIOR
AND CO-ORDINATION
OF
NATIONAL GOVERNMENT

COUNTY COMMISSIONER'S OFFICE,
BARINGO COUNTY,
P.O. BOX 1 - 30400
KABARNET.

When replying please quote:

REF.NO: **ADM.18/1 VOL.II/136**

28TH NOVEMBER, 2019

All Deputy County Commissioners
BARINGO COUNTY

RE: RESEARCH AUTHORIZATION

Reference is made to Research license No.NACOSTI/P/19/1713 dated 28th October, 2019 from the Director General – NACOSTI.

This is to confirm that **Ms. Cicilia Githaiga** of **University of Nairobi** has been authorized to carry out research on "**Analysis of the Role of the County Government in implementation of the Nagoya Protocol on Access and Benefits sharing in Baringo County**", for the period ending **28th October, 2020.**

Please accord her the necessary support.



V. N. MBAYI
For: COUNTY COMMISSIONER
BARINGO COUNTY

Appendix 9: Authorization from Director of Education to go to the field to collect data

