

**CONSERVATION AND MANAGEMENT OF FORESTS IN KENYA: AN ANALYSIS
OF THE REGULATORY FRAMEWORK REGULATING TIMBER HARVESTING
IN NATURAL AND PLANTATION FORESTS IN KENYA**



THE UNIVERSITY OF NAIROBI

SCHOOL OF LAW

MASTERS OF LAW (LL.M)

LATOYA TWYLA KENDI WANYANGA

G62/33446/2019

*A thesis submitted to the University of Nairobi in partial fulfilment of the requirements for
the award of the degree of Master of Laws (LLM)*

TABLE OF CONTENTS

DECLARATION	vi
DEDICATION	vii
ACKNOWLEDGEMENTS	viii
LIST OF STATUTES AND POLICY DOCUMENTS	ix
LIST OF ABBREVIATIONS	x
LIST OF CASES	xii
ABSTRACT	xv
CHAPTER ONE: INTRODUCTION	1
1.1. Background	1
1.2. Statement of the Problem	9
1.3. Justification	11
1.4. The Study Objectives	14
1.5. Research Questions	14
1.6. Theoretical Framework	15
1.6.1. Utilitarian theory	15
1.6.2. The Land Ethic Concept	16
1.7. Research Methodology	18
1.8. Literature Review	18
1.9. Limitation of the Study	32

1.10.	Hypothesis	33
1.11.	Chapter Outline	33
CHAPTER TWO: THE CURRENT STATUS AND IMPACT OF TIMBER HARVESTING ON SUSTAINABLE MANAGEMENT OF NATURAL AND PLANTATION FORESTS IN KENYA		
35		
2.1.	Introduction	35
2.2.	Current status of Timber harvesting in Natural and Plantation forests in Kenya	37
2.3.	Impact of Timber Harvesting on Sustainable Management of Natural and Plantation forests in Kenya	40
2.4.	Conclusion.....	48
CHAPTER THREE: THE REGULATORY (LEGAL, INSTITUTIONAL, POLICY) FRAMEWORK GOVERNING TIMBER HARVESTING IN NATURAL AND PLANTATION FORESTS IN KENYA.....		
49		
3.1.	Introduction	49
3.2.	Legal, Policy and Institutional Framework.....	50
3.2.1.	Governance of forest resources and implications on timber harvesting.....	50
3.2.2.	National and County governments’ Functions in Relation to forestry and timber harvesting.....	59
3.2.3.	Human Rights in Relation to the Environment.....	76
3.2.4.	Constitutional obligation to Achieve and maintain over ten percent tree cover in Kenya	84

3.2.5.	Promotion of Sustainable Timber harvesting.....	88
3.2.6.	Participation of Communities in public forests Management	97
3.2.7.	Penalties for illegal timber harvesting.....	103
3.2.8.	Forest Concessions in establishing timber harvesting rights	104
CHAPTER FOUR: KEY STRATEGIES THAT COULD IMPACT SUSTAINABLE TIMBER HARVESTING.....		110
4.1.	Introduction	110
4.2.	The legal and policy shift to tree growing instead of tree planting.....	110
4.3.	Effective use of forest management Plans.....	113
4.3.1.	What are forest management plans?.....	113
4.3.2.	The role of forest management plans and their guiding laws	114
4.3.3.	Examples of forest management plans Kenya and whether they provide timber harvesting rights	115
4.3.4.	Forest management plans impact on sustainable timber harvesting and conclusion	121
4.4.	Establishment of plantations on community forests.....	123
4.5.	Chain of Custody Rules	128
4.6.	Granting Community Forest Associations rights in Forest concessions.....	137
CHAPTER FIVE: FINDINGS, CONCLUSION AND RECOMMENDATIONS.....		141
5.1.	Findings of this Study	141
5.2.	Conclusion of the study.....	142

5.3. Recommendations	144
5.3.1. Short-term recommendations	144
5.3.1.1. Timber licensing changes to promote compliance in timber harvesting	144
5.3.1.2. Opportunity on Community land	144
5.3.2. Medium-term recommendations	145
5.3.2.1. Providing hefty penalties for timber harvesting related offences	145
5.3.2.2. Legalization of the logging bans imposed by the President	145
5.3.2.3. Promotion of sustainable forest and tree growing and effective use of forest management plans in that regard	146
5.3.2.4. Promoting good governance in the forestry sector to enhance sustainable timber harvesting	147
5.3.3. Long-terms recommendations	150
5.3.3.1. Improvement of the chain of custody system to enhance timber tracking	150
5.3.3.2. Rights to CFAs in forest concessions to enhance community participation in sustainable timber harvesting	151
5.4. Further research areas recommended	152
BIBLIOGRAPHY	153

DECLARATION

I, LATOYA TWYLA KENDI WANYANGA, do hereby declare that this is my original work and that it has not been submitted for award of a degree or any other academic credit in any other University.

LATOYA TWYLA KENDI WANYANGA

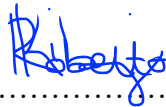
G62/33446/2019(Candidate)



Signature.....

Date..... 07/12/2021

This research project has been submitted for examination with my approval as a university supervisor



Signature:

Date: 7 DEC 2021

DR. ROBERT M. KIBUGI (Senior Lecturer, Faculty of Law, University of Nairobi)

DEDICATION

This work is devoted to God who has granted me wisdom, that has enabled me to conduct this Study and also my family for continued support and reassurance.

ACKNOWLEDGEMENTS

I acknowledge and sincerely appreciate the efforts of my supervisor Dr. Robert Kibugi for his patience, guidance, reliability and dedication throughout the course of this study. His wealth of knowledge and expertise in this area of law was of great value.

I also thank God for empowering me to complete this work.

LIST OF STATUTES AND POLICY DOCUMENTS

1. Constitution of Kenya, 2010.
2. Community Land Act No.27 of 2016.
3. Draft National Forest Policy, 2020.
4. Environment and Land Court Act No.19 of 2011, Laws of Kenya.
5. Environmental Management and Coordination Act No. 8 of 1999, Laws of Kenya.
6. Forest Conservation and Management Act No.34 of 2016, Laws of Kenya.
7. Forest (Harvesting) Rules, 2009.
8. Forests (Participation in Sustainable Forest Management) Rules 2009.
9. Land Act No.6 of 2012, Laws of Kenya.
10. National Land Commission Act No. 5 of 2012, Laws of Kenya.
11. Wildlife Conservation and Management Act No.47 of 2013.

LIST OF ABBREVIATIONS

ASALs	Arid and Semi-Arid Area
CFA	Community Forest Association
CSA	Canadian Standards Association
EA	Environmental Assessment
EIA	Environmental Impact Assessment
ELC	Environment and Land Court
EMCA	Environmental Management and Coordination Act
FAO	Food and Agriculture Association
FCMA	Forest Conservation and Management Act
FSC	Forest Stewardship Council
GDP	Gross Domestic Product
KPLC	Kenya Power and Lighting Company
KWS	Kenya Wildlife Service
LAPPSET	Lamu Port- South Sudan-Ethiopia-Transport
MKCEECA	Mt. Kenya East Environmental Conservation Association
NEMA	National Environment Management Authority
NET	National Environmental Tribunal

NLC	National Land Commission
PEFC	Programme for the Endorsement of Forest Certification
PFM	Participatory Forest Management
PFMG	Participatory Forest Management Guidelines
REA	Rural Electrification Agency
SFI	Sustainable Forestry Initiative
SDGs	Sustainable Development Goals
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
WCMA	Wildlife Conservation and Management Act

LIST OF CASES

Abdalla Rhova Hiribae & 3 others v Attorney General & 7 others, [2013] eKLR

Council of County Governors v Attorney General & 12 others [2018] eKLR

Communications Commission of Kenya & 5 others v Royal Media Services Limited & 5 others, [2014] eKLR.

Development Group & 5 others (Interested Parties), [2019] eKLR.

Ephantus Githae & another v National Land Commission & another, [2020] eKLR.

Henry Thurania v Republic, [2017] eKLR.

Independent Electoral and Boundaries Commission (IEBC) v National Super Alliance (NASA) Kenya & 6 others, [2017] eKLR.

In the Matter of the National Land Commission, [2015] eKLR.

Isaac Rutoh & 2 others v Naftali K Kipkorir Assistant County Commissioner Elburgon Division & 6 others, [2019] eKLR.

Joseph Leboo & 2 others v Director Kenya Forest Services & another, [2013] eKLR.

Joseph Owino Muchesia & another v Joseph Owino Muchesia & another, [2014] eKLR.

Joyce Mutindi Muthama & another v Josephat Kyololo Wambua & 2 others, [2018] eKLR.

Ken Kasinga vs. Daniel Kiplagat Kirui & 5 others, [2015] eKLR.

Kenya Association of Manufacturers & 2 others v Cabinet Secretary - Ministry of Environment and Natural Resources & 3 others, [2017], eKLR.

Law & Social Development Trust (LASODET) & 2 others v Attorney General & 10 others, [2014] eKLR.

Makueni County Assembly v National Environment Management Authority & 3 others; Mbooni Development Group & 5 others (Interested Parties), [2019] eKLR.

Narok County Council & Another V National Environment Management Authority & Another [2006] eKLR.

Martin Osano Rabera & another v Municipal Council of Nakuru & 2 others, [2018] eKLR.

Mohamed Ali Baadi and others v Attorney General & 11 others, [2018] eKLR.

Mr. Peter K. Waweru v the Republic, [2006] eKLR, Misc. Civ. Applic. No. 118 of 2004.

Nyeri Timber Manufacturers Association & 3 others v Kenya Forest Service & 3 others, [2018] eKLR.

Patrick Musimba v National Land Commission & 4 others, [2016] eKLR.

Peter Makau Musyoka and Award of Mining Concessionary Rights to the Mui Coal Basin Deposits- Constitutional Petition Nos 305 of 2012, [2015] eKLR.

Raycon Limited v Superply Limited & 2 others [2017] eKLR.

Republic v Kenya Forest Service Ex-parte Clement Kariuki & 2 others, [2013] eKLR.

Republic v County Government of Kiambu Ex parte Robert Gakuru & another, [2016] eKLR.

Republic v National Environment Management Authority; Ex-parte Applicant: Comply Industries Limited & another, [2020] eKLR.

Republic v National Environment Management Authority & another Ex-Parte Philip Kisia & City Council of Nairobi, [2013] eKLR.

Republic v Principal Magistrate Lamu Magistrate's Court & another ex parte Kenya Forest Service, [2016] eKLR.

Robert Wachira v Republic, [2016] eKLR.

Save Lamu & 5 others v National Environmental Management Authority (NEMA) & another [2019] eKLR.

Willice Omondi Were & another v Director of Public Prosecutions & 3 others, [2018] eKLR.

ABSTRACT

Forests serve Kenya economically, environmentally, socially and culturally. Sustainable management of the same is therefore paramount. Forest resources are on high demand, especially timber which is used by various industries in Kenya. While timber is an important commodity that fulfils the various needs of the society, its current demand however puts a lot of pressure on our forests leading to elevated levels of deforestation and forest degradation. The Constitution, provides that Kenya should target achieving at least 10% tree cover. Timber harvesting therefore needs to be well controlled to achieve this target. Sustainable timber harvesting requires that while trees are cut down for various purposes, their regeneration is also encouraged to address the requirements of all generations.

The adequacy or inadequacy of the regulatory framework in ensuring sustainable timber harvesting was the main focus of this study. This study used desk-based research as the main research method, where there was a critique of the existing institutional, policy and legal framework, analysis of the relevant literature review, and key strategies that could impact sustainable timber harvesting while also looking at examples of countries that have utilized the said strategies.

This study also looked at the various challenges facing sustainable timber harvesting in Kenya especially from a practical perspective and the impact that these challenges have had on forests and the environment as a whole.

It was noted in this study that while there is an existing institutional, policy and legal framework that governs sustainable timber harvesting, there are still gaps in the same as forests are still being degraded at a high rate especially due to illegal activities related to timber harvesting.

The regulatory framework as it is today is still inadequate in ensuring sustainable timber harvesting. To protect our remaining forests and for Kenya to achieve its least tree cover target of 10%, a review of the existing framework is urgently needed.

This study therefore proposed some recommendations that could enhance the legal, policy and institutional framework to ensure effective regulation of timber harvesting in Kenya, that balances the needs of the society while still ensuring our forests and the environment as a whole is protected and preserved for all generations.

CHAPTER ONE: INTRODUCTION

1.1. Background

Management and conservation of forests is important and should be encouraged as it ensures the protection and preservation of Forests which are of high significance in Kenya. Forests contribute to the economy in numerous ways by promoting Kenya's growth not only economically, but culturally, socially and ecologically.¹ Some of the benefits of forests are: climate change mitigation, soil erosion reduction, wildlife habitat, control of biodiversity, control of water resource and employment.² Our economy benefits from the proper administration and preservation of forests for instance the income generated by sector employment, trade and process of forest products and supply of energy.³

The significance of forests is not only beneficial to Kenya but also globally as they have a huge part in ensuring development that is sustainable is fostered, for the benefit of all generations. Forests are highlighted in the "15th Goal of the United Nations SDGs" to be important in restoring, protecting and improving the long-term viability of terrestrial ecosystems. Goal 15 further speaks to reversing and stopping degradation of land, ceasing biodiversity loss, tackling desertification and managing forests sustainably.⁴ Forests also attenuate climate change by contributing to the

¹ (2021) *Un.org*. Available at: <https://www.un.org/esa/forests/wp-content/uploads/2019/04/UNFF14-BkgdStudy-SDG8-March2019.pdf> (Accessed: 19 June, 2021). P.8.

² (2021) *Fao.org*. Available at: <http://www.fao.org/3/am723e/am723e00.pdf> (Accessed: 19 June, 2021). P.21.

³ *Global Forest Resources Assessment 2005*, Chapter 7: socio-economic functions P.107-108 Available at: <http://www.fao.org/3/A0400E/A0400E00.pdf>, (accessed 19 June, 2021). P.3.

⁴World Health Organization. Regional Office for the Western Pacific. (2016). Sustainable development goals (SDGs): Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss [poster]. Manila: WHO Regional Office for the Western Pacific. <https://apps.who.int/iris/handle/10665/208303> (accessed June, 22, 2021). P.1.

balance of carbon dioxide, oxygen and humidity in the air and protection of watersheds which supply seventy five per cent of freshwater worldwide.⁵ Climate change pose a serious threat to the realization of SDGs⁶ with specific reference to “elimination of poverty” under Goal 1, “zero hunger” under Goal 2, “health and well-being” under Goal 3, “sustainable cities and communities” under Goal 11, “sustainability of marine resources” under Goal 14, “protection of terrestrial ecosystems and peace” under Goal 15, “justice and strong institutions” under Goal 16. It hinders economic growth and erodes food security.⁷

Despite the significance of forest resources all over the world and particularly in Kenya, they have in recent years been exhausted at an alarming rate of about five thousand hectares per annum.⁸ Currently, forest coverage in Kenya is estimated to be about seven point four per cent of the entire land mass.⁹ This coverage is below the least rate of ten per cent recommended globally according to FAO¹⁰ and the Constitution which stipulates that it ought to be achieved and maintained.¹¹ Further, no deadline has been imposed for improvement of forest cover by nations to achieve the

⁵[2021] SDGs Knowledge platform: ‘Forests’ available at: <https://sustainabledevelopment.un.org/topics/forests> [Accessed 22 June, 2021]. Para.2

⁶ Lopes, A.A, Nandi. S and Murugesab.A. (2006) *Delhi Sustainable Development Summit, Linking Across MDGs Towards Innovative Partnership and governance* Available at: <https://wsds.teriin.org/2006/backgroundpaper.pdf> (accessed June,22,2021). P.14.

⁷ Rashid Abubakar, ‘The evolution of Differentiation in International Climate Change Law and its implications for the effectiveness of the Paris Agreement’ (2019) LLM Thesis submitted to The University of Nairobi. P.2.

⁸ Friends of Karura Forest, ‘Karura Forest - Secure, Safe, Serene’ available at https://www.friendsofkarura.org/wp-content/uploads/2018/05/Final-Report_29Apr2018_17h.pdf (accessed June, 22,2021). P.5.

⁹ (2018) *Environment.go.ke*. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (Accessed: 9 August 2021). P.5.

¹⁰ Kibugi R. (2017) ‘Evaluating the Role of Private Land Tenure Rights in Sustainable Land Management for Agriculture in Kenya’ In: Ginzky H., Heuser I., Qin T., Ruppel O., Wegerdt P. (eds) *International Yearbook of Soil Law and Policy* International Yearbook of Soil Law and Policy, vol 2016. Springer, Cham. (P.P 219-235).

¹¹ The Constitution of Kenya, 2010, Article 69 (1)(b).

required global minimum, hence this has the effect of lengthening the attainability of this goal by nations. This has a direct impact on reduction of water availability which in turn translates to economic loss to the economy.¹² It also undermines climate change mitigation and conservation of biodiversity. If this is not tended to critically in Kenya, it can have a great impact on attainment of both ‘Vision 2030’ and the ‘Government’s Big Four Agenda’ of “affordable and decent housing”, “food and nutritional security”, “universal healthcare” and “manufacturing”.¹³

Natural and plantation Forests boost the economy especially through employment opportunities in the furniture manufacturing industry, saw milling, paper industry among other forest industries.¹⁴ As a result, demand for forest products especially timber, has over the years gone up, with the increase in population and urbanization.¹⁵ There has been an increase in cutting of trees on not only natural forests but plantation forests for timber and charcoal production. Timber is a vital forest resource and its demand currently stands at 38 million cubic meters annually. However, this demand cannot be met currently due to the ban of logging by the Government of Kenya, which has led to the increase in cutting of private forests.¹⁶

¹² (n.d.). Friends of Karura Forest, ‘Karura Forest - Secure, Safe, Serene’ available at https://www.friendsofkarura.org/wp-content/uploads/2018/05/Final-Report_29Apr2018_17h.pdf (accessed 22 June, 2021). P.5.

¹³ (n.d.). Friends of Karura Forest, ‘Karura Forest - Secure, Safe, Serene’ available at https://www.friendsofkarura.org/wp-content/uploads/2018/05/Final-Report_29Apr2018_17h.pdf (accessed 22 June, 2021). P.5.

¹⁴ Ullah, S.; Noor, R.S.; Abid, A.; Mendako, R.K.; Waqas, M.M.; Shah, A.N.; Tian, G. Socio-Economic Impacts of Livelihood from Fuelwood and Timber Consumption on the Sustainability of Forest Environment: Evidence from Basha Valley, Baltistan, Pakistan. *Agriculture* 2021, 11, 596 available at <https://doi.org/10.3390/agriculture11070596> (accessed 22 June, 2021). P.5.

¹⁵ (Brack, n.d.)Background Analytical Study 4 Sustainable consumption and production of forest products (2018) *Un.org*. Available at: https://www.un.org/esa/forests/wpcontent/uploads/2018/04/UNFF13_BkgdStudy_ForestsSCP.pdf (Accessed: 22 June, 2021). P.3.

¹⁶ 2014. Kenya Forest Service-Dire Shortage of Timber Forcing Merchants To Import Commodity, *Kenyaforestservice.org*. Available http://www.kenyaforestservice.org/index.php?option=com_content&view=article

Timber in Kenya comes from two sources being natural and plantation forests¹⁷. Kenya forests cover an area of 4,986,676 ha of which natural forests cover an area of 4,754,378 ha while plantations cover an area of 232,298 ha.¹⁸ Natural forests are a dominant source of hardwood while plantation forests are a huge source of softwoods. Timber contributes to both subsistence and commercial levels.¹⁹

Forests are also classified into public forests, community forests and private forests which classification is based on their respective ownership.²⁰ The area covered by natural forests that have been gazetted is 905,357 hectares while those in communal lands are 3,849,021 hectares but only 3,252,922 ha are under community management. Private plantations on the other hand cover 94,146 ha while public plantations cover 138,152 ha.²¹

Plantation softwoods contribute 80-90% of Kenya's industry needs while indigenous hardwoods both sourced locally and imported is preferred by the Furniture, construction, flooring among other uses.²² Public natural forests provide firewood and environmental services while timber, wood energy and poles are from plantations in public forests.²³

[&id=144:dire-shortage-of-timber-forcing-merchants-to-import-commodity&catid=81:news&Itemid=538](#) [Accessed June,23 2021].

¹⁷ 2013. Analysis of demand and supply of Wood Products in Kenya, (2021) *Kenyaforestservice.org*. Available at: <http://www.kenyaforestservice.org/documents/redd/Analysis%20of%20Demand%20and%20Supply%20of%20Wood%20Products%20in%20Kenya.pdf> (Accessed: 9 August 2021). P.12.

¹⁸ Ibid n 17. P.13.

¹⁹ N.T.M.M.J. (1994). *Hard times for hardwood: Indigenous timber and the timber trade in Kenya*. Traffic.Org. <https://www.traffic.org/site/assets/files/9761/timber-trade-in-kenya.pdf>. [Accessed June,23, 2021]. P.10.

²⁰ Supra n 17.P12.

²¹ Ibidn17.P13.

²² Supra n19.P10.

²³ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: [https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1\(acesed](https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1(acesed) on 31st August, 2021) P.15.

Community forests on the other hand are known for the provision of fuelwood and building poles, where harvesting is done with little to no consideration of sustainable management due to non-effective management.²⁴

Public plantations are managed by the Kenya Forest Service to produce timber, fuel wood and industrial wood. Private plantations contribute a huge amount of the total timber supply in Kenya, where Eucalyptus is the dominant species used for electricity poles and sawn wood. The quality is however not as suitable hence most is used for production of charcoal.²⁵ It has been observed by MEWNR, that there is an average increase of planting of private forests being three thousand hectares per year.²⁶

Due to high demand for Timber in Kenya as a result of urbanization, forests have been degraded at an extremely high rate. This is attributed to prohibited actions such as logging illegally, illegal charcoal burning, timber being overharvested and illegal trade in timber. The United Nations Environment Program and Interpol report provides that hectares amounting to seventy thousand are lost annually as a result of logging that is done illegally. This has been attributed to the laws of Kenya being weak and organized crimes, where timber is laundered.²⁷

²⁴ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1 accessed on 31st August, 2021) P.15.

²⁵ Ibid n24.P15

²⁶ Ibid n24.P15

²⁷ Muthiani, D., 2017. *70,000 hectares of forests is lost to illegal logging every year – UN Report*. [online] Eawildlife.org. Available at: <https://eawildlife.org/archive/index.php/membership/new-membership/104-conservation-news-articles/conservation-news-articles-kenya/181-70-000-hectares-of-forests-is-lost-to-illegal-logging-every-year> [ureport#:~:text=A%20new%20report%20has%20shown,to%20blame%20for%20the%20predicament](#). [Accessed June,23, 2021].

Illegal logging involves the prohibited cutting, transportation and use of trees. In these activities corruption is a major driver where protected forest areas are accessed, trees are harvested and sold as timber to the black market.²⁸ Both small-scale and large-scale illegal logging is done in Kenya where the former is done at night using seesaws and power saws while the latter is done by large scale merchants in collusion with government authorities. Corruption is a major driver in the case of timber merchants.²⁹

The increasing demand for timber has led to increase in illegal logging in Kenya. The demand for wood in Kenya as at the year 2012 stood at 41.7 million cubic meters while the supply fell short at 31.4 million cubic meters leading to a 10.3 million cubic meter shortfall. This shortfall is expected to linger on, with an anticipated rise in demand to 50.7 million cubic meters and supply to 35.7 million hence raising the gap between supply and demand to 15.0 million cubic meters.³⁰

As highlighted above, the shortage of supply in timber can also be attributed to the Government logging ban on public and community forests over the years and recently in the year 2018, hence the demand cannot be met by the supply from community forests and private forests.³¹ As a result, this has led to increase in imports from neighbouring countries both from legal and illegal trade. Kenya imports most of its timber from Malawi, Angola, South Sudan, Tanzania, Uganda and Democratic Republic of Congo.³² In 2012, Kenya imported a total of 347,366 cubic meters of

²⁸ 2018. Illegal logging and charcoal burning. necc.go.ke. Available at: <https://www.necc.go.ke/2018/11/12/illegal-logging-charcoal-burning/> (Accessed: 9 August 2021)

²⁹ Kamweti, D., Osiro, D. and Mwiturubani, D., 2009. *Nature and extent of environmental crime in Kenya*. [online] Files.ethz.ch. Available at: <<https://www.files.ethz.ch/isn/111770/M166FULL.pdf>> [Accessed 31 August 2021]. P. 34.

³⁰ Kenya National Forest Programme 2016-2030 | KWCA Kenya National Forest Programme 2016-2030 | KWCA (2017). Available at: <https://kwcakenya.com/download/kenya-national-forest-programme-2016-2030/> (Accessed: 18 August, 2021) p.50.

³¹ Supra n17.P.36.

³² 2010. Timber shortage forces Kenya to import more. ccpitgx.org. https://www.ccpitgx.org/webcpitgx/en/webcpitgx/2010/ccpitnews_1119/4407.html (Accessed: 9 August 2021)

wood products.³³

Illegal timber trade and smuggling is also a major threat facing forests in Kenya. Hardwood timber from Congo enters the Kenyan market through vendors who have connections in customs hence the avoidance of tax by under declaring the volumes of timber, which in turn denies the country income.³⁴ Illegal timber trade is undertaken through unofficial routes between Kenya and Tanzania.³⁵

In 2011, the EU's Forest Law Enforcement, Governance and Trade team attempted to capture the amount of timber imported into the Country through the Kenya Revenue Authority and customs, however this proved difficult as companies dealing with hardwoods do not admit that they import timber, instead they state that they purchase from vendors without questioning the origin of the timber.³⁶

In the years between 2009 and 2013 it was found by the Kenya Forestry Research Institute that, "Kenya imported from the Democratic Republic of Congo, 83 729 cubic meters of hardwood timber and softwood of 192 279 cubic meters , 348 139 transmission poles that have been treated, wattle bark of 8360 tonnes, 5800 cubic meters of logs and 5.8 tonnes of Charcoal from Tanzania."³⁷

³³ 2013. Analysis of Demand and Supply of Wood Products in Kenya.pdf.kenyaforest.org Available at: <http://www.kenyaforestservice.org/documents/redd/Analysis%20of%20Demand%20and%20Supply%20of%20Wood%20Products%20in%20Kenya.pdf> (Accessed: 9 August 2021) P.35.

³⁴ Jones R. 2014.Forest Governance and Timber Trade flows within, to and from Eastern and Southern African Countries Available at: <https://europa.eu/capacity4dev/file/21637/download?token=la3jv180>.(Accessed: 9 August 2021) P.13.

³⁵ Lukumbuzya, K. and Sianga, C. (2017). Overview of the Timber Trade in East and Southern Africa: National Perspectives and Regional Trade Linkages. 53 pp. TRAFFIC and WWF. Cambridge, UK. TRAFFIC. (Accessed on 9th August, 2021) P.33.

³⁶ Kahana. L and Cassian. February 2017.overview of the timber trade in East and Southern Africa: National Perspectives and Regional Trade Linkages. Available at: (2021) *Trafficj.org*. Available at: https://www.trafficj.org/publication/17_Timber-trade-East-Southern-Africa.pdf (Accessed: 31 August 2021).P.32.

³⁷ Kahana. L and Cassian. February 2017.overview of the timber trade in East and Southern Africa: National Perspectives and Regional Trade Linkages. Available at: (2021) *Trafficj.org*. Available at: https://www.trafficj.org/publication/17_Timber-trade-East-Southern-Africa.pdf (Accessed: 31 August 2021). P. 33.

The smuggling of timber across borders is a major threat to sustainable management of forests, control of forest diseases and also denies foreign exchange.³⁸

Illegal charcoal burning is also another threat for forests in Kenya. In the year 2005, the market value of the charcoal sub-sector was reported at Kenya Shillings Thirty Two (32) billion (USD.427 million) and by the year 2013, the market value was reported at Kenya Shillings One Hundred and Thirty Five Billion (USD.1.6 billion).³⁹ The Charcoal demand as at the year 2014 was averaged at 16 million cubic meters while supply was averaged at 7.4 million cubic meters, hence identifying a gap of 8.7 million cubic meters annually.⁴⁰ This as a result causes a key threat to natural and plantation forests due to the high demand compared to the low supply, as illegal and unsustainable harvesting of trees increased as a result. Natural forests are said to account for 18% while forest plantations account for 6% of charcoal supply in Kenya.⁴¹

From the above it is clear that timber is a valuable product, however, it is important that while timber demand is fulfilled in Kenya, forests management and preservation should be observed to safeguard the needs of all generations. However, this has not been the case due to numerous challenges that interfere with the proper management of Forests, as they are being degraded at a high rate.

This clearly indicates that there are numerous gaps in the legal and institutional framework regulating timber harvesting in natural and plantation forests in Kenya such as poor forest

³⁸ Supra n30.

³⁹ Ndegwa G, Sola, P., Iiyama M, Okeyo I, Njenga M, Siko I., Muriuki, J.2020. Charcoal value chains in Kenya: a 20-year synthesis. Working Paper number 307. World Agroforestry, Nairobi, Kenya. DOI <http://dx.doi.org/10.5716/WP20026.PDF> (accessed on 23rd September, 2021). P.17.

⁴⁰ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1 accessed on 31st August, 2021) P.36.

⁴¹ Ibid n.40.

governance, lack of co-ordination and cooperation by mandated institutions, overlap of mandates of forestry institutions, poor law enforcement and regulation and lack of stricter controls. It exposes the various challenges that affect regulation of the same as it facilitates illegal logging and other organized crimes related to timber harvesting.

The main aim of this study is to critically examine the status and impact of timber harvesting in Kenya's plantation and natural forest management, look into the framework of law regulating timber harvesting in natural and plantation forests in Kenya, identify the challenges and gaps in the regulation of timber harvesting in Kenya and finally to recommend strategies and legal options to regulate timber harvesting in a way that encourages management of natural and plantation forests sustainably.

1.2.Statement of the Problem

According to global forest watch, Kenya has lost 361 kha of tree cover from the year 2001 to 2020 which is equivalent to an 11% decline since the year 2000.⁴²As highlighted above, the Forest tree cover in Kenya is below the target of 10% set by the Constitution.⁴³A key objective of the Forestry sector in Kenya is to increase the tree cover to the minimum requirement by ensuring sustainable forest management, where there is sustainable use of forest resources while still minimizing the negative impacts to the environment and also where timber harvesting is concerned, promoting sustainable timber through implementation of a good plan that not only provides for the cutting down of trees for their commercial value but encourages their

⁴² Kenya Deforestation Rates & Statistics / GFW. Available at: <https://www.globalforestwatch.org/dashboards/country/KEN/?category=summary&dashboardPrompts=> (Accessed: 31 August 2021).

⁴³ Supra n11.

regeneration for long term value and well-being of the trees⁴⁴ and ensures that the future yields of timber are not affected but are promoted by the harvesting methods⁴⁵ and the current needs of the society are met without compromising their availability for future generations.⁴⁶

Timber in Kenya is on high demand due to increase in population and urbanization. The construction industry especially is a high consumer of timber among other various industries such as furniture and paper.⁴⁷ With this increase in demand for timber it is important that timber harvesting is well managed, regulated and controlled so as to ensure that natural and plantation forests are well preserved and their benefits realized in a sustainable manner.

The Timber sector in Kenya is currently facing the problem of servicing the rising demand for timber while still promoting the management of plantation and natural forests sustainably and minimizing adverse effects to the environment. The increase in demand for timber versus the low supply creates room for forest degradation and deforestation⁴⁸

There is a legal framework in place to regulate timber harvesting in Kenya. Despite this, there are still challenges in the regulation of timber harvesting noting that there is illegal massive destruction of forests at an alarming rate. It is against this backdrop that, this study seeks to

⁴⁴ American Forest Foundation, My Land plan, Managing a Successful, Sustainable Timber Harvest. Available at: <https://mylandplan.org/content/managing-successful-sustainable-timber-harvest> (accessed on 1st November, 2021) Para 2.

⁴⁵ Rhode Island Woods, 'Sustainable harvesting' available at: <https://rhodeislandwoods.uri.edu/landowner-toolbox/sustainable-harvesting/> (accessed on 1st November, 2021).

⁴⁶ J. Douglas Brodie, C. Tattersall (Tat) Smith, J.C. Tappeiner, J.R. Boyle, Economic considerations for sustainable forestry, Reference Module in Earth Systems and Environmental Sciences, Elsevier, 2016. (accessed on 1st November, 2021), abstract.

⁴⁷ (Brack, n.d.) Background Analytical Study 4 Sustainable consumption and production of forest products (2018) *Un.org*. Available at: https://www.un.org/esa/forests/wpcontent/uploads/2018/04/UNFF13_BkgdStudy_ForestsSCP.pdf (Accessed: 22 June, 2021). P.18.

⁴⁸ 2013. Analysis of Demand and Supply of Wood Products in Kenya.pdf.kenyaforest.org Available at: <http://www.kenyaforestservice.org/documents/redd/Analysis%20of%20Demand%20and%20Supply%20of%20Wood%20Products%20in%20Kenya.pdf> (Accessed: 9 August 2021) P.53.

analyse the legal framework regulating timber harvesting in natural and plantation forests in Kenya. It also explores the challenges facing timber harvesting regulation and other legal options and recommendations that promote regulation of timber harvesting in a manner that will encourage sustainable management of natural and plantation forests.

1.3. Justification

The importance of forests cannot be overemphasized enough and this is for a number of reasons. First, water in Kenya is sourced from its five water towers and provide fifteen thousand eight hundred million cubic meters of water every year, accounting for 75% and more of Kenya's renewable surface water resources.⁴⁹ Secondly, forests are a very important renewable resource that is essential to local populations' livelihood.⁵⁰ Thirdly, forests provide valuable ecosystem service. Fourthly, they make significant contributions to the overall economy.

The Kenya Vision 2030, identified the forestry sector as a key contributor to the country's long-term growth.⁵¹ Forests are highly crucial for various reasons as highlighted above, most importantly the impact of forests to climate change cannot be ignored. Following the ratification of UNFCCC in 1993, forests now play a vital role in climate change mitigation and adaptation as parties committed themselves to conserving available carbon reservoirs, including forests, to reaffirm this commitment, in November, 2021, more than one hundred countries including Kenya, swore that by the year 2030, they shall stop and reverse the degradation of land and

⁴⁹ Programme, U. (2012) *The Role and Contribution of Montane Forests and Related Ecosystem Services to the Kenyan Economy*, *Wedocs.unep.org*. Available at: <https://wedocs.unep.org/handle/20.500.11822/8513> (Accessed: 30 August 2021). P.10.

⁵⁰ D. K. Langat, E. K. Maranga, A. A. Aboud, J. K. Cheboiwo, "Role of Forest Resources to Local Livelihoods: The Case of East Mau Forest Ecosystem, Kenya", *International Journal of Forestry Research*, vol. 2016, Article ID 4537354, 10 pages, 2016. <https://doi.org/10.1155/2016/4537354>. P.1.

⁵¹ Chapter 1: Environment and Vision 2030 Available at: https://na.unep.net/atlas/datlas/sites/default/files/unepsiouxfalls/atlasbook_1135/Kenya_Screen_Chapter1.pdf (accessed on 30th August, 2021). P.3.

deforestation through shared efforts as forests are critical in mitigation of change in climate, attainment of SDGs and prevention of biodiversity loss, this was in the UN Climate summit in Glasgow.⁵² Forests help to ‘stabilize climate’ as they ‘regulate the ecosystem, play an integral part in the carbon cycle and are also one of the most important solutions to addressing the effects of climate change’.⁵³ “Approximately 2.6 billion tonnes of carbon dioxide, one-third of the CO₂ released from burning fossil fuels, is absorbed by forests every year”. Estimates show that nearly two billion hectares of degraded land across the world offer opportunities for restoration. Increasing and maintaining forests is therefore an “essential solution to climate change”.⁵⁴

Mangrove forests for instance are important in reducing the consequences of climate change as their soils are effective carbon sinks.⁵⁵ Mangrove forests are less than one per cent and zero point four per cent of the global tropical forests and entire forests, respectively, according to UNESCO.⁵⁶ In Kenya, mangrove forests cover approximately 151,403.9 acres (61,271 hectares). This is approximately below 1% of land area or 3% of natural forest cover.⁵⁷ Despite their importance especially with regards to climate change they face extreme degradation as they are being cut down in an unsustainable manner. Their rapid loss is three to five times faster than global

⁵² UN General Assembly, *United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly*, 20 January 1994, A/RES/48/189, available at: <https://www.refworld.org/docid/3b00f2770.html> [accessed 31 August 2021]; UN Climate change conference UK 2021, Glasgow Leaders’ Declaration on Forests and Land Use, available at: <https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/>.

⁵³ *Forests and climate change* (2017). Available at: <https://www.iucn.org/resources/issues-briefs/forests-and-climate-change> (Accessed: 31 August 2021). P.1.

⁵⁴ *Ibid* n53.

⁵⁵ Kibria, Golam. (2013). *Mangrove Forests- Its Role in Livelihoods, Carbon Sinks and Disaster Mitigation*. 10.13140/RG.2.1.1848.8800. (Accessed: 31 August 2021). P.10.

⁵⁶ *Mangroves in the spotlight* (2017). Unep.org. Available at: <https://www.unep.org/news-and-stories/story/mangroves-spotlight> [Accessed: 31 August 2021].

⁵⁷ Atlascorps.org. 2021. » *How Mangroves Protect People in Kenya?* [online] Available at: <https://atlasorps.org/how-mangroves-protect-people-in-kenya/> [Accessed 31 August 2021]. Para 2.

forests.⁵⁸

In Kenya, the main driver of deforestation of mangrove forests is demand for wood products and no proper cutting plans. The mandated government agencies lack adequate resources to ensure the proper management of mangroves and other forests in Kenya.⁵⁹

The demand for timber which is driven by both industrial and domestic demand has led to a lot of deforestation and land degradation as activities such as overharvesting are being utilized to meet this demand. Deforestation in Kenya is estimated at 5,000 hectares annually which equates to a loss of nineteen million dollars every year.⁶⁰ Forestry sector faces numerous challenges when it comes to illegal timber harvesting and trade such as Corruption, non-compliance of the national and international laws and lack of proper forestry governance.⁶¹

Deforestation to satisfy the requirement for timber in Kenya has resulted in not only adverse environmental effects but also huge losses to the economy which supports a lot of livelihoods in the country.⁶² This therefore calls for the proper regulation of timber harvesting from both natural and plantation forests. This study will look into the legal framework regulating timber harvesting in both natural and plantation forests in Kenya. It is anticipated that this study will show the sufficiency of the current legal framework in addressing the challenges facing timber harvesting regulation and also explore other legal options and recommendations that promote regulation of

⁵⁸ Protecting mangroves in Kenya: See Daily Nation: <https://www.nation.co.ke/lifestyle/health/conservation-of-mangroves> [Accessed on 21/03/2020]

⁵⁹ Sigi Lang'at, Kipkorir & Kairo, J.G (2013). Conservation and management of mangrove forests in Kenya. Available at: <https://legacy.oceandocs.org/bitstream/handle/1834/6989/ktf0069.pdf?sequence=1> (Accessed: 31 August 2021). P.6.

⁶⁰ 2020. Republic of Kenya, Ministry of Environment and forestry, Third draft National Policy. Available at: <http://www.environment.go.ke/wp-content/uploads/2020/12/Third-Draft-Policy-December-2020.pdf> (Accessed: 31 August, 2021). P.20.

⁶¹ Ibid.n 60. P.14.

⁶² Supra n60.

timber harvesting in a manner that will encourage sustainable management of natural and plantation forests.

1.4.The Study Objectives

The objectives for this study are:

1. To examine the current status and impact of timber harvesting on sustainable management of natural and plantation forests in Kenya.
2. To evaluate the legal and institutional framework regulating timber harvesting in natural and plantation forests in Kenya.
3. To identify the challenges and gaps in the regulation of timber harvesting in Kenya.
4. To recommend strategies and legal options to regulate timber harvesting in a manner that promotes sustainable management of natural and plantation forests in Kenya.

1.5.Research Questions

In order to achieve its set objectives, this study responds to the following questions:

1. What is the current status and impact of timber harvesting on sustainable management of natural and plantation forests in Kenya?
2. What is the institutional, legal and policy framework regulating timber harvesting in natural and plantation forests in Kenya?
3. What are the challenges and gaps in the regulation of timber harvesting in Kenya?
4. What strategies and legal options can be recommended to regulate timber harvesting in a manner that promotes sustainable management of plantation and natural forests in Kenya?

1.6.Theoretical Framework

This study relies on the following theories:

1.6.1. Utilitarian theory

This study relies on the utilitarian theory. The utilitarian theory argues that an ideal approach for evaluating the law is dependent on the ability of the law in question to achieve public good and happiness for the greatest number of people.⁶³ The society and what it considers acceptable can limit the ability of the law to achieve what it wants with regards to environmental protection.⁶⁴

The classical utilitarians are Jeremy Bentham and John Stuart Mill.⁶⁵ While Mill's views are important, Jeremy Bentham, provides a conclusive approach to utilitarian jurisprudence and philosophy. He provides for the ideal rule utilitarianism which states that as long as an action is done in accordance with an ideal rule, then the same is considered right.⁶⁶ For a rule to be considered ideal, it usually has preferable outcomes or satisfactory results when heeded by all or majority of the people it applies to compared to any other rule that regulates the same action.⁶⁷

In instances where public law issues and various stakeholders are involved, the ideal rule-utilitarianism is more suited.

⁶³ C. McGrath. (2010) Does environmental law work? How to evaluate the effectiveness of an environmental legal system. Available at: <http://www.envlaw.com.au/delw.pdf> [accessed on 31st August, 2021] P.34.

⁶⁴ Ibid n63.

⁶⁵2014.Stanford encyclopedia philosophy. The history of utilitarianism. Available at: <https://plato.stanford.edu/entries/utilitarianism-history/> (accessed on 31st August, 2021).

⁶⁶ Michael D. Bayles, ed. *Contemporary Utilitarianism*. Garden City: Doubleday, 1968.Ten essays that debate act vs. rule utilitarianism as well as whether a form of utilitarianism is correct. (Accessed on 31st August,2021). Para 3.

⁶⁷ Ibid n.66.

1.6.2. The Land Ethic Concept

This concept was developed by Aldo Leopold (1887-1948) for the regulation of the relationship between human beings and nature.⁶⁸ The Land ethic concept promotes the development of environmental ethics.⁶⁹ It notes that human beings view nature as a commodity and abuse it, as they prioritize their needs over the interests of the ecosystems.⁷⁰ The concept has three principles being: limiting the freedoms and actions of human beings for achievement of environmental ethics; human beings seeing themselves as part of the biotic community and not as a commodity; and affirms the existence of nature and value of life.⁷¹ The land ethic concept increases the community boundary to comprise plants, soils, human beings, animals and water, where human beings are prompted by ethics to cooperate.⁷² The role of human beings is changed to a member of the community and not a conqueror of the land, which therefore requires respect of the community from them.⁷³

The Land ethic takes a holistic approach as it considers the entire ecosystem; hence human beings are required to consider their actions as everything is interconnected.⁷⁴ Aldo Leopold provides that when the biotic community's beauty, stability and integrity is not preserved by a thing, then it is considered wrong.⁷⁵ Human beings should therefore control their actions so as to ensure that there

⁶⁸ Zhao, Y., 2016. An Analysis of Aldo Leopold's Land Ethics. *International Journal of Humanities, Social Sciences and Education*, [online] 3(12), PP 21-25. Available at: <<https://www.arcjournals.org/pdfs/ijhsse/v3-i12/3.pdf>>. (Accessed on 23rd September, 2021) P.1.

⁶⁹ Ibid n.68. P.4.

⁷⁰ Supra n68.P2.

⁷¹ Andrews, L., 2016. *Ethics and the Environment - A Focus on Aldo Leopold's Land Ethic*. [online] LinkedIn.com. Available at: <https://www.linkedin.com/pulse/ethics-environment-focus-aldo-leopolds-land-ethic-lisa-andrews> [Accessed 23rd September, 2021]. P.4.

⁷² LEOPOLD, A., & SCHWARTZ, C. W. (1949). *A Sand County almanac, and Sketches here and there*. New York, Oxford Univ. Press. (Accessed on 23rd September, 2021). P.204.

⁷³ Ibid n.72.

⁷⁴ Jennifer, C,1988. An ecological approach to Environmental Law. An LLB (Hons)Dissertation University of Auckland. Available at: <http://www.nzlii.org/nz/journals/NZLRFOP/1988/29.pdf> (accessed on 23rd September, 2021). P.33.

⁷⁵ Ibid n.74.

is harmony between them and nature as a whole.⁷⁶

Aldo Leopold observed that in the management of forests, government regulation is widespread.⁷⁷ He provides that the obligations are too complex and wide to be handled and performed by the government alone.⁷⁸ He therefore recommends that private land owners should be provided with more ethical obligations when it comes to management of forests which will remedy shortfalls in the performance of government.⁷⁹

From the above theoretical framework, it is provided that individual human interests should be sacrificed for the greater good of the society as required by the utilitarian theory and also for the benefit of the entire biotic system as required by the concept of land ethic.⁸⁰

Population growth in Kenya has been intense over the years, which has resulted in a lot of pressure being exerted on the environment. Forests in particular have been degraded at an extremely high rate for various human needs such as timber and charcoal production. These human needs cannot be ignored; however, they should be regulated to ensure that as they are being fulfilled, the environment is also conserved.

A system of conservation should be able to achieve a balance of interests. Aldo Leopold provided that a system that is built around the sole promotion of economic self-interest is unbalanced as it ignores other elements in the land community which are important for its functioning.⁸¹

⁷⁶ Supra n.74.

⁷⁷ LEOPOLD, A., & SCHWARTZ, C. W. (1949). *A Sand County almanac, and Sketches here and there*. New York, Oxford Univ. Press. (Accessed on 23rd September, 2021). P.213.

⁷⁸ Ibid n.77. P.214.

⁷⁹ Supra n.77.

⁸⁰ Supra n.77.

⁸¹ LEOPOLD, A., & SCHWARTZ, C. W. (1949). *A Sand County almanac, and Sketches here and there*. New York, Oxford Univ. Press. (Accessed on 23rd September, 2021).P.214.

The utilitarian theory together with the land ethic concept shall be used to analyze whether the current legal and institutional framework regulating timber harvesting in Kenya is adequate and effective in balancing the interests of various stakeholders in the timber sector while also ensuring that sustainable management and protection of forest resources in Kenya for the benefit of current and future generations is achieved.

1.7. Research Methodology

This study explores the Kenyan laws and policies relating to regulation of timber harvesting in natural and plantation forests and the adequacy or inadequacy of any such laws and policies. It is primarily desk-based, noting that most of it is theoretical. It shall employ an in-depth literature review with reliance to primary data sources and secondary data sources. It shall interrogate Kenya's laws and its effectiveness in regulation of timber harvesting in natural and plantation forests, address the challenges faced in achieving this. The study shall conclude by giving recommendations to improve Kenya's institutional, policy and legal framework so as to better regulate timber harvesting, which shall ensure conservation of forests.

Noting that this topic is primarily theoretical, sources such as journals, newspapers, periodicals and the internet shall be highly utilized for research.

1.8. Literature Review

The highlighted literature relevant to this study examines the works of a number of scholars that speaks to the law relevant for regulation of timber harvesting in natural and plantation forests in Kenya. The Literature review shall be on the basis of this study's key objectives.

Objective 1: The current status and impact of timber harvesting on sustainable management of natural and plantation forests in Kenya.

*UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure?*⁸²The authors look into timber processing and harvesting and the impact it has on both natural and plantation forests as a key contribution to deforestation and degradation of forests. The report points to the lack of ability of the regulatory framework and the relevant authorities to halt illegal activities such as illegal charcoal burning and logging. It recommends implementation of controls that are stricter and regulations that are simpler. This however are general recommendations without proper guidelines on who is to effect the changes and the means to which they shall be arrived at. This study will endeavor to make recommendations on any changes and identify the specific authorities responsible to effect any changes so as to ensure proper regulation of timber harvesting in natural and plantation forests. Other impacts relating to harvesting timber on not only plantation but natural forests shall also be addressed by this study.

*The National Assembly (2018), "Report on the inquiry into Forest Resources Management and Logging Activities in Kenya"*⁸³The report identifies logging in Kenya as a huge disaster to the forestry sector and this has been attributed to the failure by the Kenya Forest Service to enforce terms and conditions of licensing and lack of compliance by licensees. It has been noted by the

⁸² UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1 (accessed on 31st August, 2021).

⁸³ The National Assembly, (2018) report on the inquiry into forest resource management and logging activities in Kenya, Available at: http://www.parliament.go.ke/sites/default/files/201909/REPORT%20ON%20LOGGING_compressed.pdf (accessed on 31st August, 2021)

report that there is a lack of coordination in planning for available resources. There is also a conflict of mandate in relevant agencies. It was recommended that the Timber Manufacturers should be able to self-regulate where they would be able to make recommendations to the Kenya Forest Service for revocation or suspension for the reason of malpractice which has to be supported with proof. Further it was provided that the functions of forestry agencies should be streamlined so as to enhance their effectiveness and resolve conflict. Corruption in allocation of forest materials by the Kenya Forest Service should be streamlined using a bottom-up approach. The report is comprehensive however there are other impacts of timber harvesting on natural and plantation forests and other recommendations to ensure management and conservation of forests that have not been addressed and this study will provide the same.

*Lukumbuzya, K and Sianga.C. (2017), "Overview of the timber trade in East and Southern Africa"*⁸⁴ The report provides that the demand for timber has led to deforestation of forests in Kenya. It provides that one of the drivers of illegal activities in the forestry sector is lack of transparency and corruption in institutions of the forestry sector. Some of the recommendations highlighted by the report are: improving national wood traceability and verification systems to prevent timber laundering; improving transparency in the forest agencies by having data on trade dynamics publicly available and an assessment of forest governance as a tool to enhance accountability by officials in the forestry sector. The authors have provided recommendations however, they have not provided for the means of achieving the same. The impacts of timber harvesting on natural and plantation forests that have been identified are also not exhaustive. This study will provide steps that need to be undertaken to achieve the recommendations and identify

⁸⁴ Lukumbuzya, K. and Sianga, C. (2017). Overview of the Timber Trade in East and Southern Africa: National Perspectives and Regional Trade Linkages. 53 pp. TRAFFIC and WWF. Cambridge, UK. TRAFFIC. (Accessed on 31st August, 2021)

other impacts that timber harvesting has had on natural and plantation forests in Kenya.

*Bongers, F. and Tennigkeit, T., 2010. Degraded forests in Eastern Africa: Management and Restoration. USA and Canada: Earthscan.*⁸⁵ The authors identify forests as being under a lot of pressure due to human demand and increasing human population. Sustainable forest management has been identified as a major challenge. Illegal logging for timber has been identified as one of the causes of forest degradation. Weaknesses in the policy of land ownership has been identified as one of the causes of forest degradation. The authors recommend participatory forest management and changes in forest governance. This book covered the Eastern Africa region, where Kenya was only highlighted but much emphasis was with regards to Ethiopia, Uganda and Tanzania. This study will therefore lay emphasis and focus on degraded forests in Kenya.

G. Muthike, J. Githiomi, "*Review of the Wood Industry in Kenya; Technology Development, Challenges and Opportunities*"⁸⁶. The authors acknowledge that the forest sector supports the livelihood of Kenyans by providing numerous goods and services. It is provided that sectors based on resources that are natural provide around 42% to the GDP of Kenya. The forestry sector in particular is said to provide over Kenya shillings 20 billion to the Kenyan economy. Timber is identified as one of the major uses of forests especially for construction. Timber processing is said to highly contribute to the Kenyan economy especially through employment. Loss of forest cover has been attributed to the ever-growing human population. The authors recommend sound management of forest through involvement of the private sector and development of technologies

⁸⁵ Bongers, F. and Tennigkeit, T., 2010. *Degraded forests in Eastern Africa: Management and Restoration*. USA and Canada: Earthscan (accessed on 16th September, 2021).

⁸⁶ G. Muthike, J. Githiomi, " Review of the Wood Industry in Kenya; Technology Development, Challenges and Opportunities ", *International Journal of Research Studies in Agricultural Sciences (IJRSAS)*, vol. 3, no. 10, p. 8, 2017. Available at: <http://dx.doi.org/10.20431/2454-6224.0310005> (accessed on 17th September, 2021).

for enhancement of wood recovery during logging.⁸⁷This study will identify other effects that timber harvesting has had on natural and plantation forests and provide more recommendations to ensure proper management and conservation of forests, with reference to timber harvesting.

Conclusion

From the literature review above, it is clear that Timber harvesting has a massive impact on both natural and plantation forests, where associated illegal activities lead to massive forest degradation and destruction. The gaps that are identified in the review are weaknesses in the current legal and policy framework and governance in the relevant institutions, where there is lack of cooperation and corruption interfering with the proper regulation of timber harvesting to ensure that forests are well managed and conserved even as they meet various human needs. There is therefore need for changes in forest governance, transparency in the relevant forestry institutions and review of the existing framework of law and policy to ensure that natural and planted forests are properly managed and this study will recommend the said changes and specific actions that need to be done for this to be realized.

Objective 2: The legal and institutional framework regulating timber harvesting in natural and plantation forests.

Ongugo PO, Langat D, Oeba VO, Kimondo JM, Owuor B, Njuguna J, Okwaro G and Russell AJM. 2014. *“A review of Kenya’s national policies relevant to climate change adaptation and mitigation: Insights from Mount Elgon.”*⁸⁸ The report notes that there is a weak institutional

⁸⁷ Ibid n.86.P.7.

⁸⁸ Ongugo PO, Langat D, Oeba VO, Kimondo JM, Owuor B, Njuguna J, Okwaro G and Russell AJM. 2014. A review of Kenya’s national policies relevant to climate change adaptation and mitigation: Insights from Mount Elgon. Working Paper 155. Bogor, Indonesia: CIFOR. Available at: https://www.cifor.org/publications/pdf_files/WPapers/WP155Russell.pdf (accessed on 31st August, 2021).

framework and weak enforcement of laws and policies due to overlapping of mandates in various agencies. A lack of cohesion in the existing forest policies where the need for harmonization was noted. The report does not provide how the recommendations are to be achieved and only covers a small scope of the laws and is not updated to the current laws enacted since, hence this study will give an up-to-date suggestion of changes that need to be implemented to enable better conservation and management of forests in Kenya.

*Kenya Forest Service (2007), Forest Law Enforcement and Governance in Kenya*⁸⁹This paper observes that there has been a tremendous increase in illegal logging and other illegal forest activities. It therefore does an analysis of Kenya's governance and enforcement of laws relevant to the forestry sector. Some of the weaknesses identified are inadequate or weak institutional capacity, lack of adequate knowledge and training for prosecutors, poor governance, inadequate forest policy, overlapping responsibilities of stakeholders, abuse of office and poor application of forest laws. Some of the recommendations by the author are strengthening of the Kenya Forest Service Capacity, community forest associations and civil society organizations through knowledge and training, development of an up-to-date system to monitor forest crimes and harmonization of legislations. While this paper did an in-depth review, the same was done in the year 2007, and since then there have been new laws that have been enacted and numerous changes have since occurred then. This paper will therefore do an up-to-date analysis taking into consideration the new laws.

⁸⁹ Kenya Forest Service (2007) Forest Law Enforcement and Governance in Kenya. Available at: https://www.profor.info/sites/profor.info/files/AFR_2007_Forest%20Law%20Enforcement%20and%20Governance%20in%20Kenya_0.pdf (accessed on 31st August, 2021).

Kiefer, S. & Bussmann, R.W. (2008), “*Household energy demand and its challenges for forest management in the Kakamega area, western Kenya.*”⁹⁰ This report provides that for domestic use, wood is an important source of energy hence exerting a lot of pressure on forest resources. Wood is seen to also have a lot of economic importance as it is a source of timber, charcoal among other uses. It noted that the demand for wood for uses such as house construction, has led to destruction of forests due to increase in population and poverty, which makes it a vital resource. One of the major challenges identified that the Government of Kenya experienced with the decrease of the forest cover, is the introduction of proper management plans to prevent this. The report recommends creation of a management strategy that is sustainable and participative, which shall ensure that the conservation strategy also incorporates the needs of the local community. This report was done prior to the enactment of new laws, hence does not provide an up-to-date status of timber harvesting in Kenya, this study will therefore endeavor to deliver a current assessment of the legal and institutional framework.

*Teucher, M., Schmitt, C., Wiese, A., Apfelbeck, B., Maghenda, M., Pellikka, P., Lens, L. and Habel, J., 2020. Behind the fog: Forest degradation despite logging bans in an East African cloud forest.*⁹¹ The authors state that significant changes are occurring in forests due to deforestation and degradation. The report examined the existing laws and policies and found that the same are fragmented as responsibilities are spread among various institutions. It was noted

⁹⁰ Kiefer, S. & Bussmann, R.W. (2008) *Household energy demand and its challenges for forest management in the Kakamega area, western Kenya. Journal of Ethnobotany Research and Applications*, 6,363-371(accessed on 16th September, 2021)

⁹¹ Teucher, M., Schmitt, C., Wiese, A., Apfelbeck, B., Maghenda, M., Pellikka, P., Lens, L. and Habel, J., 2020. Behind the fog: Forest degradation despite logging bans in an East African cloud forest. *Global Ecology and Conservation*, 22, p.e01024.(Accessed on 17th September, 2021).

that the governance of forest resources and protection was extremely low, hence contributing to the continued forest cover losses. There is poor regulation of logging and timber trade as a result of corruption. This article recommends that there is the need to promote good governance, enforcement of forest laws, review of policies and legislations for proper harmonization in relevant forestry institutions. While this report is comprehensive and up to date, there are other aspects of the laws and policies that have not been covered and this study shall cover the same.

*Makanji, L. and Mochida, H., 2004. Logging Ban in Kenya: Convergence or Divergence from the Forest Law and Policy and Impacts on Plantation Forestry. Journal of Forest Planning.*⁹²This article looks into the command-and-control regulation that is not addressed by the legal and policy framework governing the forestry sector, being Government logging bans. It addresses the relationship between logging bans and the forestry laws and policies and how it has an effect on plantation forests. The paper concludes that the ban on logging diverges from the forestry laws and policies and recommends the need to examine laws and policies prior to use of logging bans. This study will further address the use of logging bans as a tool for regulating timber harvesting in Kenya.

Conclusion

From the literature review above, the gap addressed in the legal and institutional framework regulating timber harvesting are weak institutional framework and enforcement of laws, lack of cohesion in the existing policies, corruption, abuse of office and poor governance. As a result, it is necessary to harmonize the forest sector's current institutional, policy and legal framework. There is the need to amend the existing laws to ensure proper management of natural and

⁹² Makanji, L. and Mochida, H., 2004. Logging Ban in Kenya: Convergence or Divergence from the Forest Law and Policy and Impacts on Plantation Forestry. *Journal of Forest Planning*, 10(1), pp.21-30. (Accessed on 17th September, 2021).

plantation forests in Kenya and this study will fill the gap by providing specific recommendations in that regard.

Objective 3: The challenges and gaps in the regulation of timber harvesting in Kenya.

*Ministry of Environment and Forestry (2020) The National Forest Reference Level for REDD+ Implementation*⁹³

This report provides that despite the importance of forests in Kenya, the challenges of deforestation and degradation are still there due to pressure from urbanization and inadequate forest governance. It notes that there is an overlap in the mandates of institutions and policies in the country, lack of collaboration between the Government agencies. The report explores policy reforms as a means of protection of the country's present tree cover. It however does not specify what specific reforms need to be put in place to achieve the objective of protection and conservation of forests, this study will therefore provide for the specific reforms.

Ministry of Environment and Forestry, *Taskforce Report on Forest Resources Management and Logging Activities in Kenya.*⁹⁴The author notes that illegal logging and forest destruction needs to be urgently addressed as it has had an extremely negative impact on the forest resources in Kenya, which has resulted in environmental damage and economic losses. The report's purpose is to address the challenges in the forest sector and to propose recommendations to ensure proper management of forests in Kenya. Some of the issues identified by the report with specific reference to timber harvesting are that KFS does not issue saw millers' licenses but instead issues

⁹³ Ministry of Environment and Forestry, (2020) The National Forest Reference Level for REDD+ Implementation, Available at: https://redd.unfccc.int/files/kenya_national_frl_report- august_2020.pdf (accessed on 31st August, 2021)

⁹⁴ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 31st August, 2021).

an award letter which lacks terms and conditions, the Kenya Forest Service also conducts an unfair direct allocation of timber logging rights which has been abused by officers and little to no collaboration between the relevant agencies in the forestry sector. The recommendations made in the report are provision of a clear framework to ensure co-ordination of the relevant agencies, issuance of timber licenses by the Kenya Forest Service and not award letters which should provide clear terms and conditions that the licensees should comply with and also follow ups should be done to ensure compliance. The report is comprehensive however there are still recommendations that have not been addressed and this study will provide the same.

*Duguma, Lalisa A., Joanes Atela, Peter A. Minang, Alemayehu N. Ayana, Belachew Gizachew, Judith M. Nzyoka, and Florence Bernard. 2019. "Deforestation and Forest Degradation as an environmental behavior: Unpacking Realities Shaping Community Actions"*⁹⁵ Illegal timber and exploitation of charcoal wood are identified as contributors of forest degradation and deforestation. Policy challenges and failure in governance are seen as hinderances to forest conservation and management. The recommendations made are formulation of a proper plan for land use with a clear policy to guide this, revision of governance policies and addressing the failures of governance. This report identifies a few challenges to the regulation of timber harvesting in Kenya and provides general recommendations on how they are to be curbed. This study will therefore identify more challenges and provide specific recommendations on the way forward to ensure forest conservation and management.

⁹⁵ Duguma, Lalisa A., Joanes Atela, Peter A. Minang, Alemayehu N. Ayana, Belachew Gizachew, Judith M. Nzyoka, and Florence Bernard. 2019. "Deforestation and Forest Degradation as an Environmental Behavior: Unpacking Realities Shaping Community Actions" Land 8, no. 2: 26. <https://doi.org/10.3390/land8020026>(accessed on 16th September, 2021).

*Jane Mutune, Christian Hansen, Raphael Wahome and David Mungai (2017) in What Rights and Benefits? The Implementation of Participatory Forestry Management in Kenya: The Case of Eastern Mau Forest Reserve*⁹⁶The study looked into Participatory Forest Management in its current state as a challenge, as it is difficult for the policy to currently achieve the goal of forest conservation and progression of livelihoods. This is due to the fact that it does not confer specific powers to Community Forest Associations to enable them make decisions especially over resources such as firewood and timber. To achieve the goal of conservation and enhancement of livelihoods there would need to be extra delegation of rights to CFAs.⁹⁷This study will address other challenges that affect regulation of timber harvesting in Kenya that have not been addressed by the report.

*Imo, Moses (2012). "Forest Degradation in Kenya. Impacts of Social, Economic and Political Transitions"*⁹⁸The author recognizes that forests are under a lot of pressure due to human activities and pressure. Forest management in Kenya faces the challenges of corruption and unprofessional conduct in forestry institutions. There are also challenges in the implementation of legislation and weak capacity, where capacity building has been recommended for proper forest management in Kenya. This book has identified regulatory problems that face the sector of forestry however, there are more challenges which this study will highlight especially with regards to timber harvesting in Kenya.

⁹⁶ Jane Mutune, Christian Hansen, Raphael Wahome and David Mungai in *What Rights and Benefits? The Implementation of Participatory Forestry Management in Kenya: The Case of Eastern Mau Forest Reserve* (2017) *Journal of Sustainable Forestry*, Vol 36(230-249), (accessed on 16th September, 2021).

⁹⁷ Ibid.n.96.

⁹⁸ Imo, M., 2012. *Social, Environmental and Political Issues. Forest Degradation in Kenya: Impacts of Social, Economic and Political Transitions*. 1st ed. Kenya, pp.pp.1-38. Available at: https://www.researchgate.net/publication/257869577_Forest_Degradation_in_Kenya_Impacts_of_Social_Economic_and_Political_Transitions (accessed on 17th September, 2021)

Conclusion

From the literature review above, the challenges identified in the legal and institutional framework regulating timber harvesting are weak institutional framework and overlap of mandates by relevant institutions. This has led to increase in corruption in the sector and poor enforcement of laws. There is therefore a need to have the institutional framework strengthened so as to ensure proper management of natural and plantation forests in Kenya. This study will address specific ways in which the institutional framework can be strengthened and recommend review of policies and legislations for proper harmonization in relevant forestry institutions.

Objective 4: Strategies and legal options to regulate timber harvesting in a manner that promotes sustainable management of natural and plantation forests

Ministry of Environment and Natural Resources, “*National Forest Programme 2016-2030.*”⁹⁹

The objective in this report is sustainable forest management where use of the resources related to forests is done in a way that not only encourages progress in Kenya’s economy but ensures resilience to climate.¹⁰⁰It provides that illegal logging and increased trade in timber has resulted in biodiversity loss and clearing of forests. Policy and legal constraints are identified as a major problem when it comes to the timber value chain as they result in high transaction costs and inefficiency in processing. The forest institutions mandated with administration are deemed weak according to the report, they lack clarification of roles and proper institutional governance structures. Some of the recommended reforms are, harmonization of existing legislations and policies, development of natural resource conflict resolution and domestication of international

⁹⁹ Kenya, Ministry of Environment and Natural Resources. (2016). National Forest Programme of Kenya. MENR, Nairobi, Kenya. Available at: <https://kwckkenya.com/download/kenya-national-forest-programme-2016-2030/?wpdmdl=10306&refresh=6130b291129171630581393> (accessed on 31st August, 2021).

¹⁰⁰ Ibid.n99.

obligations into our laws, specification and division of roles in forestry institutions. The report is comprehensive however it is not specific to how the recommendations are to be achieved. This study will provide for the specific actions that need to be done for achievement of the recommendations.

*Ministry of Forestry and Wildlife. 2013. An analysis of drivers and underlying causes of forestry cover change in the various forest types of Kenya. Ruri Consultants, Nairobi, Kenya.*¹⁰¹

Overexploitation for timber was noted as one of the key drivers of deforestation and degradation. The report attributes weak institutions, illegal logging, poor law enforcement and governance as lacking to guarantee the conservation and management of forests. The report recommends and encourages partnerships and formation of structures to ensure that the forestry sector achieves its objectives. The report gives general recommendations; hence this study will seek to provide a more specific approach when issuing recommendations.

Brain Rotich, Staley Makindi and Moses Esilaba, (2020). *“Communities’ attitudes and perceptions towards the status, use and management of Kapolet Forest Reserve in Kenya.”*¹⁰² This report identified illegal logging as a factor that contributes to loss of forests. As a result of corruption by enforcement officers and inadequate engagement of the local people in management of forests, there is dissatisfaction with the current regime relating to forestry management. The Yellowwood (*p. falcatus*) and East African rosewood (*Hagenia abyssinica*) were identified as a huge target for timber in Kapolet Forest reserve. The report identifies

¹⁰¹ Ministry of Forestry and Wildlife. 2013. An analysis of drivers and underlying causes of forestry cover change in the various forest types of Kenya. Ruri Consultants, Nairobi, Kenya. Available at: <http://www.kenyaforestservice.org/documents/redd/Analysis%20of%20Drivers%20of%20Deforestation%20&forest%20Degradation%20in%20Kenya.pdf> (accessed on 31st August, 2021)

¹⁰² Brain Rotich, Staley Makindi and Moses Esilaba, (2020). *Communities’ attitudes and perceptions towards the status, use and management of Kapolet Forest Reserve in Kenya. International Journal of Biodiversity and Conservation, Vol. 12(4), pp. 363-374* (accessed on 16th September, 2021).

governance as a major challenge and recommends the devolution of rights to localized institutions. The report provides a few recommendations and does not state how the recommendations are to be achieved. This study will therefore look into other recommendations and provide for the specific actions that need to be done for achievement of the recommendations.

*Peter Wass (1995) in Kenya's Indigenous Forests status, Management and Conservation*¹⁰³ The author provides that the population increase in Kenya exerts a lot of pressure on forests in Kenya resulting in forest deforestation and degradation. The report proposes revision in policy and legislation, strengthening of institutions involved in forest management, proper control of exploitation and inclusion of all sectors including private ones in forest management. The book was published prior to the enactment of the current laws governing forests and specifically timber harvesting in Kenya, hence does not provide up to date recommendations. This study will therefore provide an up-to-date study of the current legal and policy framework and provide recommendations.

Abednego Osindi Birundu, Yasushi Suzuki, Jun'ichi Gotou & Mika Matsumoto, "*Analysis of the role of forest, biomass policy legislation and other factors that may affect the future of Kenya's forests: Use of Japanese forestry as a model*"¹⁰⁴ This article recommends that the laws and policies in Kenya should focus more on reforestations, plantations and promotion of silviculture.

¹⁰³ Wass, P., 1995. *Kenya's indigenous forests status, management and conservation*. Gland: IUCN. (Accessed on 17th September, 2021)

¹⁰⁴ Abednego Osindi Birundu, Yasushi Suzuki, Jun'ichi Gotou & Mika Matsumoto (2017) *Analysis of the role of forest, biomass policy legislation and other factors that may affect the future of Kenya's forests: Use of Japanese forestry as a model*, *Journal of Sustainable Forestry*, 36:1, 90-105, DOI: 10.1080/10549811.2016.1260037 (accessed on 17th September, 2021)

The laws should be implemented and enforced and not only created.¹⁰⁵ The article provides good law and policy recommendations however, the same is not comprehensive and this study will endeavor to provide more recommendations for proper regulation of timber harvesting to ensure that forests are well managed and conserved.

Conclusion

From the above literature review, it is clear that the legal framework on timber harvesting needs review as this has been noted as a huge driver to deforestation and forest degradation. The common issue noted by the authors in this area involved weak institutions and Governance problems. This study shall delve into this in more detail and shall also address other weaknesses and recommend reforms in that regard so as to ensure proper protection and administration of Kenya's forests.

1.9.Limitation of the Study

Limited information presents a significant limitation to this study, particularly on findings to do with the legal framework in regulation of timber harvesting in natural and plantation forests, and its effectiveness or not in ensuring forest conservation and management. Another limitation to this study is limited time which results in a library-based study and will not conduct a field study. Time limitation is addressed by proper time management and use of a work plan.

¹⁰⁵ Abednego Osindi Birundu, Yasushi Suzuki, Jun'ichi Gotou & Mika Matsumoto (2017) Analysis of the role of forest, biomass policy legislation and other factors that may affect the future of Kenya's forests: Use of Japanese forestry as a model, *Journal of Sustainable Forestry*, 36:1, 90-105, DOI: 10.1080/10549811.2016.1260037(accessed on 17th September, 2021).

1.10. Hypothesis

This study is premised on the hypothesis that although there is an existing legal framework regulating timber harvesting in natural and plantation forests, the same is not adequate to protect and administer Kenya's forests and does not provide sufficient solutions to deal with the challenges faced in that regard.

This hypothesis is based on the following assumption:

The decline of forest cover reported in Kenya and the continuing challenges in the regulation of timber harvesting points to the strong possibility of gaps in the legal and institutional framework regulating timber harvesting in natural and plantation forests.

1.11. Chapter Outline

Chapter One

This Chapter introduces the research topic. The Chapter explains the background to the study, the problem statement, justification of the study, research questions, the study objectives, theoretical framework, literature review, research methodology, limitations of the study and the hypothesis.

Chapter Two

The focus of this chapter will be on the current status and impact of timber harvesting on sustainable management of natural and plantation forests in Kenya.

Chapter Three

This Chapter analyses the regulatory (legal, institutional, policy) framework regulating timber harvesting in natural and plantation forests in Kenya. This will involve evaluating whether the regulatory framework is aligned to the utilitarian theory, or integrates the balancing of interests

advanced by the land ethic, and by sustainable development.

Chapter Four

This Chapter will identify the key actions that could impact sustainable harvesting of timber in Kenya.

Chapter Five

This Chapter concludes the study by providing for a summary of findings, conclusion and making recommendations that should be implemented for proper regulation of timber harvesting in natural and plantation forests in Kenya to ensure conservation of forests.

CHAPTER TWO: THE CURRENT STATUS AND IMPACT OF TIMBER HARVESTING ON SUSTAINABLE MANAGEMENT OF NATURAL AND PLANTATION FORESTS IN KENYA

2.1.Introduction

Timber harvesting is the planning of harvest and reforestation; cutting of trees and transferring them to a landing; processing, sorting and loading and transportation of materials.¹⁰⁶ Timber in Kenya is used in the construction industry, furniture industry, transmission poles, fuelwood and paper industry.¹⁰⁷ The timber industry in Kenya supports a lot of Kenyans either directly or indirectly. In the year 2017, the Kenya Forest Service was estimated to obtain revenue amounting to Kenya Shillings 3 billion from the timber industry.¹⁰⁸ This revenue comes from fees for permits and wayleaves, charges and sale of mature trees to saw millers.¹⁰⁹

It has been estimated that the sector of forestry brings about three hundred and sixty-five million dollars to Kenya's GDP per year.¹¹⁰ As at the year 2013, the production value of the formal and informal sector of furniture was estimated at Kshs.15 billion and Kshs.23 billion respectively.¹¹¹

The timber industry has a lot of potential for growth, however for this to happen, there has to be a favorable business environment in place, access to markets and value chains that are

¹⁰⁶ Timber Harvesting: Available at: <https://www.nrs.fs.fed.us/fmg/nfmg/docs/mn/harvesting.pdf> (accessed on 12th September, 2021) p.5.

¹⁰⁷ Mathu, W. and Ng'ethe, R., 2011. FOREST PLANTATIONS AND WOODLOTS IN KENYA. *African Forest Forum*, [online] 1(13). Available at: <<https://www.sifi.se/wp-content/uploads/2012/02/Forest-plantations-and-woodlots-in-Kenya.pdf>> [Accessed 28 September 2021].p.10.

¹⁰⁸ Njenga Hakeenah(2018), Kenya's multibillion timber industry gets support with Nairobi GLF meeting. Available at: <https://theexchange.africa/industry-and-trade/kenyas-multibillion-timber-industry-gets-support-with-nairobi-glf-meeting/> (accessed on 12th September, 2021) Para 2.

¹⁰⁹ Ibid n108. Para 4.

¹¹⁰ Kenya National Forest Programme 2016-2030 | KWCA Kenya National Forest Programme 2016-2030 | KWCA (2017). Available at: <https://kwcakenya.com/download/kenya-national-forest-programme-2016-2030/> (Accessed: 6th October, 2021) p.9, para 3.

¹¹¹ Ibid n.110, p.9, para 5.

efficient.¹¹² Currently, the timber value chain in Kenya is identified by transaction costs that are too high and processing inefficiencies.¹¹³ The high costs of trading in timber are mainly due to poor technology and road infrastructure and an unfavorable policy and legal environment.¹¹⁴ Kenya has six (6) plywood mills for supply to the local market and also for export to other neighbouring countries.¹¹⁵ Veneer is used to manufacture plywood locally and also for export to China and India. Recently, there has been an increase of supply of plywood and veneer in Kenya, which are used for manufacturing of blockboards and flush door for the construction industry, hence causing stability in prices.¹¹⁶

The demand for treated poles has also increased over the years, due to the needs of KPLC and REA as they require one million poles each year.¹¹⁷ Eucalyptus is the main species utilized to meet this demand; however, the local supply is not enough to meet the demand.¹¹⁸

The demand for timber has increased tremendously over the years hence exerting a lot of pressure on the current tree cover.¹¹⁹ The impact of continued forest degradation and deforestation for timber cannot be ignored, hence, it is therefore important that timber harvesting in both natural and plantation forests is done in a sustainable manner, which will ensure that while the demand for timber is being met, the forest cover is also protected. This chapter shall therefore delve into the current status and impact of timber harvesting in sustainable management of natural and plantation forests in Kenya.

¹¹² Supra n110, p.3, para 1.

¹¹³ Supra n110.p.36

¹¹⁴ Ibid.p36

¹¹⁵ Ibid.p36

¹¹⁶ Supra n110.p37

¹¹⁷ Ibid.p37

¹¹⁸ Ibid. p37.

¹¹⁹ Timber Harvesting: Available at: <https://www.nrs.fs.fed.us/fmg/nfmg/docs/mn/harvesting.pdf> (accessed on 12th September, 2021) p.5.

2.2. Current status of Timber harvesting in Natural and Plantation forests in Kenya

Timber harvesting activities started in the year 1913 and continued to develop until the second world war, where an increase was noted to meet the supply of the armament industry.¹²⁰ After Kenya obtained its independence in the year 1963, the number of saw mills increased from 60 to 450 in the 1990s producing 200,000 cubic meters of timber products annually.¹²¹ The industry employed 20,000 employees, in the year 1999.¹²²

In the year 1999, Kenya effected a logging ban, prohibiting harvesting of timber in public forests.¹²³ This resulted in small and medium businesses reducing their activities significantly while others stopped their operations completely.¹²⁴ The economy was estimated to lose nearly Kenya Shillings Three (3) Billion annually due to the logging ban from the year 1999-2011, and further, Kenya Shillings Seven (7) billion was spent to import timber and timber products from other countries.¹²⁵ In the years of 2011 and 2012 there was continued harvesting in public plantations, as forests that are natural were set aside for conservation.¹²⁶ Studies indicated that there was a rapid increase in tree harvesting on farms, posing the risk of overharvesting and harvesting of immature trees, which had the impact of reducing revenue and tree cover.¹²⁷

¹²⁰ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: [https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1\(acsed](https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1(acsed) on 28th September, 2021). p.23.

¹²¹ Ibid n120.

¹²² Ibid n120.p.11

¹²³ Supra n120.p23

¹²⁴ Ibid n123.

¹²⁵ Mwangi.M.2006 'Kenya loses Kshs.3 billion annually following 7-year Ban on logging. *Daily Nation* 27th March, 2006. Available at: <https://allafrica.com/stories/200603270720.html> accessed on 28th September, 2021).

¹²⁶ Supra n.120. p .23

¹²⁷ Kagombe J., Kiprop J., Langat D., Cheboiwo J., Wekesa L., Ongugo P., Mbuvi M.T. and Leley N. (2020). Socio-economic Impact of Forest Harvesting Moratorium in Kenya (accessed on 9th October, 2021)

The Ministry of Environment and Natural Resources was provided with harvesting measures by the Forest Department such as implementing clear-felling plans, a planting Programme, employment of another one thousand forest rangers and mapping of harvested areas.¹²⁸ This led to the establishment of a fast response team to curb unlawful activities and improve field units.¹²⁹

The timber industry steadily grew and the Kenya Forest Service registered 633 saw mills in the year 2012. In 2015, the number of saw mills increased to 700.¹³⁰

In the year 2018, a second logging ban was imposed on all community and public forests, resulting in huge losses to stakeholders in the timber sector. Saw mills had their turnover reduced by 65% from the previous year of 2017 resulting in loss of employment.¹³¹ An increase of 22.65% on sawn timber prices was also noted as a result.¹³²

Due to shortage of timber supply locally as a result of the logging ban, timber imports also increased to 29,355.39 cubic meters in the year 2018 from the low importation of 3,231.38 cubic meters, resulting in a loss of Kshs.1.04 billion in 2018 from foreign exchange.¹³³

On 23rd November, 2020, the government of Kenya partially lifted the logging ban imposed in the year 2018, to allow for the harvesting of mature and over mature plantations for an area not exceeding Five Thousand (5000) hectares.¹³⁴ According to the 2021 Economic survey report,

¹²⁸ Ibid n127, p23

¹²⁹ Ibid n127, p23

¹³⁰ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: [https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1\(acsed](https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1(acsed) on 28th September, 2021).

¹³¹ Supra n127, p. ix

¹³² Ibid n131.

¹³³ Supra n127, P.23.

¹³⁴ Cabinet Secretary of the Ministry of Environment and Forestry, 'Moratorium on logging in Public and Community Forests,' Press Release (23rd November, 2020) accessed on 6th October, 2021).

government forest plantation has increased from 147,600 hectares in 2019 to 149,600 hectares in 2020.¹³⁵ A further decrease in the area planted was noted by the report, from 7,200 hectares in the year 2019 to 4,300 hectares in the year 2020.¹³⁶ Due to the logging ban, there was no clear feeling of forests both in the year 2019 and 2020.¹³⁷

The 2021 Economic Survey further notes a surge in the sales of timber from government owned forests to 80,000 cubic meters in the year 2020, this is despite the logging ban in place.¹³⁸ This however, has been attributed to the electricity way leaves created.¹³⁹

With the increasing demand and supply imbalance of wood products, the present deficit, which has been highlighted in the previous chapter is 10.3 million cubic meters and the gap is set to increase to 15.0 million cubic meters by the year 2032.¹⁴⁰ As a result of this deficit in supply, the economic report of 2021 noted that there has been an increase by 69.6% of importation of timber and wood products.¹⁴¹

Currently, the moratorium on logging has affected timber harvesting in Kenya, leading to a reduced supply of timber and increase of timber prices by an average of 22.65%.¹⁴² Positive effects have however also been noted as a result of the logging ban, as there has been an increase in the

¹³⁵ Kenya National Bureau of Statistics, 2021, *Economic Survey, 2021*, available at: <https://www.knbs.or.ke/wp-content/uploads/2021/09/Economic-Survey-2021.pdf> (accessed on 28th September, 2021).P.4.

¹³⁶ Ibid n.135.P.157.

¹³⁷ Supra n.135.

¹³⁸ Kenya National Bureau of Statistics, 2021, *Economic Survey, 2021*, available at: <https://www.knbs.or.ke/wp-content/uploads/2021/09/Economic-Survey-2021.pdf>, P.158 (accessed on 28th September, 2021).

¹³⁹ Ibid n.138.P.158.

¹⁴⁰ Kenya National Forest Programme 2016-2030 | KWCA Kenya National Forest Programme 2016-2030 | KWCA (2017). Available at: <https://kwcakenya.com/download/kenya-national-forest-programme-2016-2030/>,p.34 (Accessed: 28th September, 2021)

¹⁴¹ Supra n.138, p.29.

¹⁴² Kagombe J., Kiprop J., Langat D., Cheboiwo J., Wekesa L., Ongugo P., Mbuvi M.T. and Leley N. (2020). Socio-economic Impact of Forest Harvesting Moratorium in Kenya. Executive summary, P.IX (accessed on 28th September, 2021)

forest area from 4,288.8 thousand hectares in 2019 to 4,231.9 thousand hectares in 2020, according to the Economic Survey, 2021.¹⁴³

2.3.Impact of Timber Harvesting on Sustainable Management of Natural and Plantation forests in Kenya

Sustainable management of natural and plantation forests is important to ensure that both conservation and utilization goals are met.¹⁴⁴ Sustainable forest management requires that forest values are preserved and increased for the benefit of all generations¹⁴⁵In the context of timber harvesting, sustainable management of forests entails meeting the timber demand in a sustainable way by ensuring regulation and improving management practices¹⁴⁶ such as timber processing technology, plantation management practices, improving harvesting techniques and harvest planning and training and involvement of various stakeholders to ensure conservation of forests and biodiversity.¹⁴⁷

Timber harvesting is a dominant direct cause of tree cover loss in Kenya, with the underlying cause being the ever-increasing human population and industrial demands for timber.¹⁴⁸ With the logging

¹⁴³ Supra n.138, p.4.

¹⁴⁴ Brain Rotich, Staley Makindi and Moses Esilaba,(2020). *Communities' attitudes and perceptions towards the status, use and management of Kapolet Forest Reserve in Kenya. International Journal of Biodiversity and Conservation, Vol. 12(4), pp. 363-374*(accessed on 16th September, 2021).P.2.

¹⁴⁵ Supra n.140, p.5.

¹⁴⁶ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: [https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1\(acsed](https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1(acsed) on 9th October, 2021). P. 3.

¹⁴⁷ Ibid n.146, p3.

¹⁴⁸ Teucher, M., Schmitt, C., Wiese, A., Apfelbeck, B., Maghenda, M., Pellikka, P., Lens, L. and Habel, J., 2020. Behind the fog: Forest degradation despite logging bans in an East African cloud forest. *Global Ecology and Conservation, 22*, p.e01024.(Accessed on 29th September, 2021). P2.

ban in place, there has been an extreme shortage of timber supply.¹⁴⁹ This shortage has resulted in encroachment of forests not meant for the production of timber.¹⁵⁰

Encroachment has led to the great loss of forests in Kenya and it has been identified as one of the major threats to water towers, biodiversity and communities dependent on forests resulting in conflicts over available resources and land as well.¹⁵¹ Some of the gazetted forests that have been impacted by encroachment are: the Kakamega forest, which according to the aerial monitoring of forest boundaries by KFS and KWS was encroached in six locations by settlements¹⁵²; the Leroghi Forest reserve has over 600 settlements;¹⁵³ Ndotos forest reserve, Mt. Kulal forest and Mt. Nyiru forest reserve, have pastoralists who have settled in them resulting in forest degradation and soil erosion.¹⁵⁴ Maasai Mau has also been degraded at a high rate due to illegal settlements, where it was approximated that there has been loss of 13,281 hectares from the year 1973 to the year 2014.¹⁵⁵

According to the Kenya Forest service forest plantations are the main supplier of timber in Kenya together with forest reserves that have been unlawfully accessed.¹⁵⁶ Timber harvesting in Kenya

¹⁴⁹ Supra n.146.p3.

¹⁵⁰ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1 (accessed on 29th September, 2021).

¹⁵¹ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 6th October, 2021).

¹⁵² Ibid.n.151. p.38.

¹⁵³ Ibid.n.142.

¹⁵⁴ Ibid.n.142.

¹⁵⁵ Supra n 151.p41.

¹⁵⁶ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1 (accessed on 29th September, 2021). P1

has been linked to various illegal activities in both natural and plantation forests to meet the demand for timber, which has a negative impact on conservation of the environment.¹⁵⁷

Illegal logging and harvesting affects the sustainable management of natural and plantation forests. These activities occur in the form of over harvesting beyond the authorized amount and outside the authorized areas. Overharvesting of timber impacts sustainable management of natural and plantation forests. Given the shortage of timber in Kenya, there is overharvesting in private forests and woodlots.¹⁵⁸ Overharvesting of timber particularly of a specific species or group of species can lead to the extinction of the same locally.¹⁵⁹

It is a requirement, according to KFS that to guarantee proper tracking and identification of logs from public forest plantations, a hammer mark specific to the relevant forest station should be placed on them.¹⁶⁰ However, this is not complied with by all, as there are logs from public forest plantations that are transported without hammer marks and disguised as being from private farms.¹⁶¹ This is due to the fact that there is no requirement for logs from private farms to have hammer marks hence seen as a loophole.¹⁶²

¹⁵⁷ Ibid n.156.

¹⁵⁸ 2014. Kenya Forest Service-Dire Shortage of Timber Forcing Merchants To Import Commodity, Kenyaforestservice.org. Available http://www.kenyaforestservice.org/index.php?option=com_content&view=article&id=144:dire-shortage-of-timber-forcing-merchants-to-import-commodity&catid=81:news&Itemid=538 [Accessed 1st October, 2021]. Para 3.

¹⁵⁹ Ingram JC, Whittaker RJ, Dawson TP. Tree structure and diversity in human-impacted littoral forests, madagascar. *Environ Manage.* 2005 Jun;35(6):779-98. doi: 10.1007/s00267-004-0079-9. PMID: 15977086. (Accessed on 1st October, 2021). p.15.

¹⁶⁰ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 6th October, 2021). .p.66.

¹⁶¹ Supra n159.

¹⁶² Ingram JC, Whittaker RJ, Dawson TP. Tree structure and diversity in human-impacted littoral forests, madagascar. *Environ Manage.* 2005 Jun;35(6):779-98. doi: 10.1007/s00267-004-0079-9. PMID: 15977086. (Accessed on 1st October, 2021). p. 62.

It is a requirement that any movement of timber from saw mills to their end use should be done with the use of a movement permit.¹⁶³ When it comes to timber from private farms, the same are issued with movement permits after the issuance of a certificate of origin.¹⁶⁴ Noting that there is no way to verify if timber is from private farms, illegally harvested timber from public plantations are disguised and issued with a movement permit as if they were from private farms.¹⁶⁵

Forgery and duplication of timber related documentation such as movement permits has also been identified as a major threat, as it facilitates illegal logging activities outside the permitted areas.¹⁶⁶ All these activities affect sustainable forest management as it makes it difficult for forestry officials to be able to verify and track the source of timber, hence derailing forest conservation efforts.¹⁶⁷

Illegal logging and harvesting occurs in both natural and plantation forests. Plantation forests are a major contributor to the economy as they were estimated to contribute 10.7 billion in the year 2018.¹⁶⁸

The harvesting of indigenous tree species was banned in the year 1986, however illegal harvest of these species still continues causing adverse effects to the five water towers in Kenya.¹⁶⁹ The most targeted species of all is the Cedar (*Juniperus procera*) according to a forest health survey conducted in the Mau Forest Complex in the year 2016, surveillance by the Rhino Ark Charitable

¹⁶³ Ibid n162.

¹⁶⁴ Supra n162.

¹⁶⁵ Ibid.

¹⁶⁶ N.T.M.M.J. (1994). *Hard times for hardwood: Indigenous timber and the timber trade in Kenya*. Traffic.Org. <https://www.traffic.org/site/assets/files/9761/timber-trade-in-kenya.pdf>. [Accessed on 9th October, 2021]. P32.

¹⁶⁷ Supra n.151.p.63.

¹⁶⁸ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 29th September, 2021).P.32.

¹⁶⁹ Ibid n.168.P.30.

trust of the Aberdare Range and Mt. Kenya in the year 2013 and a forest health survey conducted across Loita Hills in the year 2018.¹⁷⁰ This is because they are mainly used in the construction industry and making of fencing posts.¹⁷¹ Illegal logging has resulted in significant reduction of the tree cover in Kenya and has weakened the capacity of forests to be regenerated.¹⁷²

The Arabuko Forest faces the threat of indigenous trees being illegally logged with the collaboration of corrupt officers from the Kenya Forest Service.¹⁷³ Illegal logging in this forest has been mainly for the purpose of charcoal production and carving of wood.¹⁷⁴

Mangrove forests in Kenya have also been faced with the challenge of illegal logging for timber, building poles and energy.¹⁷⁵ The rapid loss of mangroves cover between the year 1985 and 2009 was estimated at about 20% and 40% across the coast.¹⁷⁶ In the last decade, an estimated 80% loss of mangroves in Mombasa has been reported.¹⁷⁷ The degradation of mangroves leads to global warming as they stop taking up carbon and release the already stored carbon to the air.¹⁷⁸

The coverage of mangroves in Lamu are 60% of the total mangrove cover in Kenya.¹⁷⁹ They cover an area of 29,830 ha that have been distributed in five management blocks.¹⁸⁰ *Ceriops tagal* and

¹⁷⁰ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 29th September, 2021). P.31.

¹⁷¹ Ibid. n170.

¹⁷² Supra n170. P. 30.

¹⁷³ Supra n170.p40

¹⁷⁴ Supra n170.p.39

¹⁷⁵ M. Fredrick, Kairo.J.2019.Hot Spot Analysis of Mangrove Degradation in Mangroves in Lamu County, Kenya. Available at: <https://symposium.wiomsa.org/wp-content/uploads/2019/06/39.Mburu-F.-J.-Kairo.-Hot-Spot-Analysis-of-Mangrove-Degradation-in-Mangroves-in-Lamu-County-Kenya.pdf>.P.1 (accessed on 9th October, 2021).

¹⁷⁶ Supra n170.P.39.

¹⁷⁷ Supra n 175.

¹⁷⁸ M. Fredrick, Kairo.J.2019.Hot Spot Analysis of Mangrove Degradation in Mangroves in Lamu County, Kenya. Available at: <https://symposium.wiomsa.org/wp-content/uploads/2019/06/39.Mburu-F.-J.-Kairo.-Hot-Spot-Analysis-of-Mangrove-Degradation-in-Mangroves-in-Lamu-County-Kenya.pdf>.P.1 (accessed on 9th October, 2021).

¹⁷⁹ Ibid n178.P2

¹⁸⁰ Ibid.

Rhizophora mucronata are the dominant species.¹⁸¹ The estimated loss, over the last 28 years of mangroves in Lamu were recorded at 8.4 ha per year being a 0.8% percentage rate of loss.¹⁸² There have been gains and losses in several areas during this period, where Mongoni and Dodori Creek had gains of about 470 ha and North central block lost a coverage of about 1881 ha, with the Pate Island swamp following behind closely.¹⁸³

Prior to participatory forest management, there were elevated levels of illegal timber harvesting without any acquired permits or payments done.¹⁸⁴ This was done in collaboration with corrupt forestry officials. However, even after the implementation of Participatory Forest Management, there is still violation of timber harvesting rules.¹⁸⁵ Nakuru county is the home of Eastern Mau Forest block. In the year 2001, 35,301 ha were excised for human settlements.¹⁸⁶ It is one of the most utilized forests for timber extraction, especially by industries such as Timsales and Comply.¹⁸⁷ In the year 2009, 34,399.74 m³ of wood was produced in Eastern Mau at a value of Kenya Shillings Eighty-Six (86) Million.¹⁸⁸ The main economic activity in Elburgon is logging and it employs almost thirty thousand people.¹⁸⁹ Podocarpus and Red cedar trees are the most demanded

¹⁸¹ Ibid.

¹⁸² Ibid.

¹⁸³ Ibid.

¹⁸⁴ Jane M. Mutune, Christian P. Hansen, Raphael G. Wahome & David N. Mungai (2017) What rights and benefits? The implementation of participatory forest management in Kenya: The case of Eastern Mau Forest Reserve, *Journal of Sustainable Forestry*, 36:3, 230-249, DOI: 10.1080/10549811.2017.1289105 (accessed on 9th October, 2021) P.238.

¹⁸⁵ Ibid n.184.

¹⁸⁶ Kipkoech, D., Mogaka, D., Cheboiywo, D. and Kimaro, D., 2011. *THE TOTAL ECONOMIC VALUE OF MAASAI MAU, TRANS MARA AND EASTERN MAU FOREST BLOCKS, OF THE MAU FOREST, KENYA*. [online] Nairobi: Environmental Research and Policy Analysis (K). [Accessed 9 October 2021]. P. 24.

¹⁸⁷ Ibid n.186.P.31

¹⁸⁸ Supra.n.186. P.32

¹⁸⁹ Kipkoech, D., Mogaka, D., Cheboiywo, D. and Kimaro, D., 2011. *THE TOTAL ECONOMIC VALUE OF MAASAI MAU, TRANS MARA AND EASTERN MAU FOREST BLOCKS, OF THE MAU FOREST, KENYA*. [online] Nairobi: Environmental Research and Policy Analysis (K). [Accessed 9 October 2021]. P. 58

tree species in the areas.¹⁹⁰ Monitoring of logging activities and enforcement of laws has proved difficult due to bad roads and corruption by forest officials.¹⁹¹

Illegal Charcoal burning also affects sustainable management of natural and plantation forests in Kenya. The continued increase of demand for charcoal has been identified as a main driver for deforestation and degradation of natural and plantation forests in Kenya.¹⁹² Illegal and unsustainable charcoal burning has degraded forests such as Dakatcha woodland, Endau Hill, Mwingi Game Reserve and South Mbooni Forest.¹⁹³ Charcoal meets over 70% of the demand for domestic energy in Kenya,¹⁹⁴ however a demand and supply imbalance of 8.7 million cubic meters annually still exists, as is highlighted in the previous Chapter.¹⁹⁵ With this gap, therefore comes the rampant destruction and degradation of forests. The continued increase in the consumption of charcoal, unsustainable harvesting and inefficient kilns that are being used pose a major threat to natural and plantation forests in Kenya.¹⁹⁶

When it comes to timber harvesting, there is also the issue of ineffective harvesting operations such as poor machinery and equipment, use of chainsaw operators that are unskilled and ineffective

¹⁹⁰ Ibid n.189.p58

¹⁹¹ Ibid.

¹⁹² 2018. Illegal logging and charcoal burning.necc.go.ke. Available at: <https://www.necc.go.ke/2018/11/12/illegal-logging-charcoal-burning/>(Accessed: 30th September, 2021) p.58.

¹⁹³ Ibid n.192.

¹⁹⁴ Sola. P. & Omar.P.2021. Kenya has been trying to regulate the charcoal sector: why it's not working. Available at: <https://pim.cgiar.org/2021/03/03/kenya-has-been-trying-to-regulate-the-charcoal-sector-why-its-not-working/>: (Accessed: 30th September, 2021).Para 1.

¹⁹⁵ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1 accessed on 30th September, 2021) P.35.

¹⁹⁶ Ibid.n195. P.30.

planning of harvesting.¹⁹⁷ This results in a lot of wastage of timber, hence reducing productivity.¹⁹⁸ Improvement of these operations would improve the volume of timber production in natural and plantation forests, hence reducing pressure on natural and plantation forests.¹⁹⁹ It is estimated that that upgrading of operations would increase the production of timber by 10,000 cubic meters annually.²⁰⁰

Sustainable Development Goal 15 has identified the key pillars of achieving environmental goals as combating desertification, improving forest management, reversing land degradation and preserving biodiversity.²⁰¹ It is important that timber harvesting activities are conducted in a way that balances this goal and other economic Sustainable Development Goals such as Sustainable Development Goal 1 create income to fight poverty.²⁰² Currently, timber harvesting has resulted in massive loss of forests due to poor harvesting techniques, illegal timber harvesting related activities and unsustainable harvesting.²⁰³

As provided in the theoretical framework above, it is vital that there should be a balance of needs between the various stakeholders in the timber business as well as sustainable forest management.

¹⁹⁷ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: [https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1\(acsed](https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1(acsed) on 1st October, 2021) P.21.

¹⁹⁸ Ibid n 197.p.28

¹⁹⁹ Supra n 197.p.28.

²⁰⁰ Supra n 197.p.29.

²⁰¹ World Health Organization. Regional Office for the Western Pacific. (2016). Sustainable development goals (SDGs): Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss [poster]. Manila: WHO Regional Office for the Western Pacific. <https://apps.who.int/iris/handle/10665/208303> (accessed on 1st October, 2021). P.1.

²⁰² Baumgartner, R., 2019. Sustainable Development Goals and the Forest Sector—a Complex Relationship. *Forests*, 10(2), p.152.(accessed on 1st October, 2021).

²⁰³ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: [https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1\(acsed](https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1(acsed) on 1st October, 2021) P.21.p.18.

While preservation and conservation of forests is important to ensure that they not only cater for the current but the future generation, timber demands also have to be met but in a sustainable and legal way.

2.4.Conclusion

From the above it is clear that the demand for timber is at an all-time high, however, there is a problem with meeting the current Kenyan timber demand while still ensuring sustainable management of natural and plantation forests. This can be attributed to challenges such as weak institutional framework, weak enforcement of laws, poor governance, corruption and abuse of office. Efforts to control timber harvesting for preservation of forests such as legislative measures and government logging bans in public and community forests, have been marred by timber related illegal activities. To preserve our remaining forests, it is therefore important that measures and systems such as a strong enforcement approach, strengthening of institutional framework and harmonization of relevant institutions are put in place to ensure that timber harvesting activities are properly regulated and governed.

CHAPTER THREE: THE REGULATORY (LEGAL, INSTITUTIONAL, POLICY) FRAMEWORK GOVERNING TIMBER HARVESTING IN NATURAL AND PLANTATION FORESTS IN KENYA

3.1.Introduction

Timber is an important commodity in Kenya for various industries such as the paper industry, construction industry and furniture industry.²⁰⁴ However, the demand for timber currently exceeds the supply²⁰⁵, hence exerting a lot of pressure to the existing forest cover as this has led to increase in illegal activities related to timber harvesting.²⁰⁶ Forests are therefore under threat to meet the timber demand and are continuously being degraded at a high rate, increasing the strain on conservation efforts.²⁰⁷ The existing institutional, policy and legal framework in Kenya is effective, however there are still challenges such as weak forest institutions, weak law enforcement, minimum participation by stakeholders in monitoring of forests and poor infrastructure.²⁰⁸ This Chapter will look into the current legal, institutional and policy framework regulating timber harvesting in natural and plantation forests in Kenya and will evaluate whether it is aligned to the utilitarian theory, or integrates the balancing of interests advanced by the land ethic, and by sustainable development.

²⁰⁴ Ullah, S.; Noor, R.S.; Abid, A.; Mendako, R.K.; Waqas, M.M.; Shah, A.N.; Tian, G. Socio-Economic Impacts of Livelihood from Fuelwood and Timber Consumption on the Sustainability of Forest Environment: Evidence from Basho Valley, Baltistan, Pakistan. *Agriculture* 2021, 11, 596 available at <https://doi.org/10.3390/agriculture11070596> (accessed 11th October, 2021). P. 5.

²⁰⁵ Kenya National Forest Programme 2016-2030 | KWCA Kenya National Forest Programme 2016-2030 | KWCA (2017). Available at: <https://kwcakenya.com/download/kenya-national-forest-programme-2016-2030/> (Accessed: 11th October, 2021). P.50.

²⁰⁶ Ibid n.205.P96.

²⁰⁷ GATSBY Charitable Fund. 2014. Meeting the wood supply challenge: The need for commercial forestry in Kenya. Available at: https://beamexchange.org/uploads/filer_public/70/ac/70ac4b96-646a-4879-8c15-286e2eee418f/pwc_study_-_meeting_the_wood_supply_challenge_060514_compressed.pdf (accessed on 11th October, 2021).P.4.

²⁰⁸ Supra n.205.P94.

3.2. Legal, Policy and Institutional Framework

Timber harvesting in Kenya is regulated by a myriad of laws that aim to preserve forests and the environment as a whole. This sub-section shall analyse the said specific laws related to timber harvesting and evaluate whether they are aligned to the utilitarian theory, or integrates the balancing of interests advanced by the land ethic, and by sustainable development.

Further, the analysis of the legal, policy and institutional framework shall be based on the key legal/policy concerns that pose a challenge to sustainable harvesting of timber in Kenya, as addressed below.

3.2.1. Governance of forest resources and implications on timber harvesting

Governance involves many participants who serve various roles in shaping behavior to meet social needs. These include self-governing organizations, government institutions, and non-government players such as citizens and industry stakeholders.²⁰⁹ To ensure effective governance, the law is the foundation because it creates norms that are substantive, formulates processes and institutions that assist in making decisions, and provides accountability and conflict resolution procedures.²¹⁰

Good governance is paramount in sustainable development. It is important in environmental protection, poverty eradication and inclusive and sustainable economic growth.²¹¹ For sustainable harvesting to be achieved, there has to be in place an effective, transparent and fair national

²⁰⁹ Muigua, K. [2019] Enhancing Environmental Governance for Peace Building in Kenya. Available at: <http://kmco.co.ke/wp-content/uploads/2019/05/Enhancing-Environmental-Governance-for-Peace-Building-in-Kenya-Kariuki-Muigua-18th-May-2019.pdf> (accessed on 22nd October, 2021).

²¹⁰ Ibid n.209.

²¹¹ UNEP Division of Environmental Law and Conventions, Advancing Justice, Governance and Law for Environmental Sustainability, available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/9969/advancing_justice_governance_law.pdf?sequence=1&isAllowed=y (accessed on 22nd October, 2021).P.IV

governance arrangement based on: laws that are fair, clear and implementable; public participation in decision making; access to information and justice; integrity and accountability of institutions; clear and coordinated mandates and roles; impartial, fair and timely mechanisms for dispute resolution; and recognition of the relationship between human rights and the environment.²¹²

The Forest Conservation and Management Act has laid out strong forest management principles and it applies an ecosystem approach driven by utilitarian and preservationist model.²¹³ The principles in the Act include good governance as per Article 10 of Constitution²¹⁴, participation and involvement of not only the public but community in forests management,²¹⁵ the national and county governments consultation and co-operation,²¹⁶ the Constitution's public service principles and values,²¹⁷ protection of forest intellectual property rights, indigenous knowledge and adoption of universal greatest practices in forests conservation and management.²¹⁸

The Constitution in Article 10 recognizes national values and principles of governance, being democracy, sustainable development, integrity, transparency and accountability, public participation, good governance, and sustainable development.²¹⁹ Sustainable development and public participation are therefore at the center of governance in Kenya.²²⁰

²¹² Ibid n.211.P4

²¹³Chisika, S. and Yeom, C., 2021. Enhancing Ecologically Sustainable Management of Deadwood in Kenya's Natural Forests. *International Journal of Forestry Research*, 2021, pp.1-20. (Accessed on 12th October, 2021) P.5.

²¹⁴The Forest Conservation and Management Act No.34 of 2016, Section 4(a)

²¹⁵Section 4(b)

²¹⁶Section 4 (c)

²¹⁷Section 4(d)

²¹⁸Ibid, Section 4 (e)

²¹⁹ The Constitution of Kenya, 2010, Article 10(2).

²²⁰ Dr. Robert Kibugi, is entitled "The Constitutional Basis of Public Participation in Environmental Governance: Framing Equitable Opportunities at National and County Government Levels in Kenya." It is a chapter in the Book "Fostering Development through Opportunity, Inclusion and Equity, 2013 (accessed on 22nd October, 2021).P.308.

The sustainable development principle sheds light on the challenge of balancing protection of the environment and development.²²¹ It requires that development should be done in a manner that meets the needs of not only the current but future generation.²²² It fosters intergenerational equity.²²³

The conflict between development and environmental protection is also recognized by the concept of recognition and works at reconciling the two as they are connected.²²⁴ Timber harvesting is an important activity, just like other economic activities that are essential for development of the nation and eradication of poverty.²²⁵ The role of law in balancing of interests is to ensure that while timber harvesting activities are being undertaken, they not only attain the development requirements but also preserve the environment, hence ensuring sustainable development.²²⁶

Recognition of sustainable development in the Constitution makes it a priority in environmental protection.²²⁷ The Constitution recognizes the right to development. It is a universal right to economic and social rights.²²⁸ Recognition of both the environmental and development rights requires that they should be balanced.²²⁹

²²¹ Faure, MG & du Plessis, W 2011, *The balancing of interests in environmental law in Africa*. Pretoria University Law Press, Pretoria.P.167. (Accessed on 26th October, 2021).

²²² Ibid n.221.

²²³ Tladi, D., *Sustainable Development in International Law: An Analysis of Key Enviro-Economic Instruments* (Pretoria University Law Press, 2007) P.40.(Accessed on 26th October, 2021).

²²⁴ Ibid. n.220.P.64.

²²⁵ Faure, MG & du Plessis, W 2011, *The balancing of interests in environmental law in Africa*. Pretoria University Law Press, Pretoria.P.171. (Accessed on 26th October, 2021).

²²⁶ Ibid. n.225.

²²⁷ Ibid.

²²⁸ Faure, MG & du Plessis, W 2011, *The balancing of interests in environmental law in Africa*. Pretoria University Law Press, Pretoria.P.172. (Accessed on 26th October, 2021).

²²⁹ Ibid. n.228.

Sustainable development is critical in balancing social, environmental and economic needs.²³⁰ It is therefore required by every person both individuals and entities that as they conduct activities related to timber harvesting, the same should also guard and protect the environment.²³¹ Timber harvesting can be done in a sustainable manner when it is consistent with environmental and social considerations.²³²

In the case of *Communications Commission of Kenya & 5 others v Royal Media Services Limited & 5 others*²³³ it was recognized by the supreme court that the values of equity, inclusiveness and people's participation are underpinning for nationalism and that the State, its organs and the Government in all their projects have to promote and protect public interests to attain development sustainably.²³⁴ When legislating, applying, or interpreting the law, or making and implementing public policy decisions, all persons including State officers, public officers and State organs are bound by the Constitution's governance principles.²³⁵ The Constitution's purpose and focus is the improvement of Kenyans' wellbeing-, and nurturing their economic and social growth.²³⁶ It was held that the CAK had to re-align its licensing procedures to conform with Articles 10, 34 and 227 of the Constitution.²³⁷

²³⁰ Tladi, D., *Sustainable Development in International Law: An Analysis of Key Enviro-Economic Instruments* (Pretoria University Law Press, 2007) P.11.(Accessed on 26th October, 2021).

²³¹ Faure, MG & du Plessis, W 2011, *The balancing of interests in environmental law in Africa*. Pretoria University Law Press, Pretoria.P.174. (Accessed on 26th October, 2021).

²³² Supra n.230.P.34.

²³³ [2014] eKLR Communications Commission of Kenya & 5 others v Royal Media Services Limited & 5 others.

²³⁴ Ibid n.233, Para 382

²³⁵ Supra n233. Para 365.

²³⁶ Supra n.233.Para 384

²³⁷ Supra n.233, para 414.e.

In *Independent Electoral and Boundaries Commission (IEBC) v National Super Alliance (NASA) Kenya & 6 others*²³⁸ the Court made a firm determination that Article 10 (2) of the Constitution is enforceable and justiciable and its violation can raise a cause of action either on its own or in collaboration with other provisions of the Constitution or other statutes.²³⁹

*Peter Makau Musyoka and Award of Mining Concessionary Rights to the Mui Coal Basin Deposits*²⁴⁰ affirmed that the rights provided under Article 10 of the Constitution are justiciable and that if any of the allegations made by the petitioners are proven, the same would lead to a suitable relief by the Court.²⁴¹ Public involvement is a national value that reflects the sovereignty of the country, according to Article 10 of the Constitution. It is therefore one of the foundations of the modern democracy and is a justiciable right in Kenya.²⁴²

In *Patrick Musimba v NLC & 4 others*²⁴³, it was provided that any person or entity required to include the public in governance or decision making has to make sure that the public has been invited and equally given adequate opportunity to participate in such processes.²⁴⁴

The High Court in *R v County Government of Kiambu Ex parte Robert Gakuru & another*²⁴⁵ elucidated that public participation is paramount in not only National but County Governments' policy and legislative functions. Public participation should apply in legislative enactment, performance and planning management and financial management.²⁴⁶

²³⁸ [2017] eKLR Independent Electoral and Boundaries Commission (IEBC) v National Super Alliance (NASA) Kenya & 6 others

²³⁹ Ibid.n238 Para 213(a).

²⁴⁰ [2015] eKLR, Peter Makau Musyoka and Award of Mining Concessionary Rights to the Mui Coal Basin Deposits - Constitutional Petition Nos 305 of 2012.

²⁴¹ Ibid. n240, Para 87.

²⁴² Supra n.240, Para 88.

²⁴³ [2016] eKLR Patrick Musimba v National Land Commission & 4 others

²⁴⁴ Ibid. n243.Para.147.

²⁴⁵ [2016] eKLR

²⁴⁶ [2016] eKLR Republic v County Government of Kiambu Ex parte Robert Gakuru & another

In *Mohamed Ali Baadi and others v Attorney General & 11 others*²⁴⁷ one of the issues for determination was whether there was sufficient public participation in the conceptualization and implementation of the LAPPSET project, as required under Article 10 of the Constitution. The court concluded that the standard of determining whether there is adequate public participation in environmental matters is the standard of reasonableness which must include complying with the set statutory provisions on public participation. It was held that the project suffered from inadequate public participation.²⁴⁸ The established Article 10 principles of the Constitution should be applied to ensure proper regulation and management of timber harvesting in natural and plantation forests in Kenya. In *Mr. Peter K. Waweru v Republic*, which preceded the 2010 Constitution, the court was very keen to promote environmental protection and conservation for all generations.²⁴⁹ The Court affirmed that the right to an environment that is clean is fundamental for all creatures.²⁵⁰

From the above it is clear that all public actions must integrate the principles and values in Article 10 of the Constitution. This therefore should be mandatory for all forestry institutions whenever they perform their functions, in the event that there is violation, this can raise a cause of action either on its own or in collaboration with other provisions of the Constitution or other statutes.

Article 60(1) of the Constitution provides for the principles land use and management, being efficiency, productivity, equity and sustainability.²⁵¹ The main principles relevant to this study being: sustainable and productive management of land resources²⁵²; sound conservation and

²⁴⁷ [2018] eKLR.

²⁴⁸ [2018] eKLR, *Mohamed Ali Baadi and others v Attorney General & 11 others*.

²⁴⁹ [2006] eKLR, Misc. Civ. Applic. No. 118 of 2004.

²⁵⁰ *Ibid* n249. Para 26 (i).

²⁵¹ The Constitution of Kenya, 2010, Article 60(1).

²⁵² Article 61(1)(c)

protection of ecologically sensitive areas²⁵³; and transparent and cost-effective administration of land.²⁵⁴

Deforestation has been identified as one of the main challenges facing land use in Kenya.²⁵⁵ Land is a major factor in production, hence proper management of the same is required for sustainable development.²⁵⁶ The demand for forest products such as timber are more than the available land resources.²⁵⁷ The principles of use and management of land are relevant and important to sustainable timber harvesting as an obligation is placed on the state through its institutions to ensure that as timber related activities are being conducted there is ecological sustainability and prevention of damage to the environment.²⁵⁸ The principles also require that the land must be used economically, in a manner that is socially acceptable, sustainably and ensures that there is harmony in the conflict between utilization of resources and conservation.²⁵⁹

In *Ephantus Githae & another v National Land Commission & another*²⁶⁰ It was affirmed that the Constitution's Article 60 decrees that land should be used, managed and held equitably, efficiently, productively and sustainably, in conformity with the principles of equitable access to land, security of land rights, sustainable and productive management. This is due to the fact that land is inelastic and has to be dealt with in a manner that achieves maximum benefit and sustains

²⁵³ Article 61 (1) (e)

²⁵⁴ Article 61 (1) (d)

²⁵⁵ National Environmental Management Authority, 2011. Integrated National Land use guidelines for a sustained societal attributes-infrastructure, environmental resources and public safety. Available at: <https://www.nema.go.ke/images/Docs/Guidelines/national%20landuse%20guidelines-nema.pdf> (accessed on 26th October, 2021). P.2.

²⁵⁶ Ibid.n.255. P. viii.

²⁵⁷ Ibid.

²⁵⁸ Ibid.

²⁵⁹ National Environmental Management Authority, 2011. Integrated National Land use guidelines for a sustained societal attributes-infrastructure, environmental resources and public safety. Available at: <https://www.nema.go.ke/images/Docs/Guidelines/national%20landuse%20guidelines-nema.pdf> (accessed on 26th October, 2021). P.4.

²⁶⁰ [2020] eKLR *Ephantus Githae & another v National Land Commission & another*

it for the benefit of future generations.²⁶¹

In the case of *Law & Social Development Trust (LASODET) & 2 others v Attorney General & 10 others*²⁶² It was provided that the Court should embrace the principle of sound conservation and protection of ecologically sensitive areas when dealing with environmental matters and also the principle that resources should be managed in a sustainable and productive manner in accordance with Article 10 of the Constitution.²⁶³

*In the Matter of the National Land Commission*²⁶⁴ it was noted in the advisory opinion of the Supreme Court that the call for accountability and transparency as ordained under Article 10 of the Constitution imports the principle of “checks and balances” as provided in the Constitution’s Article 60 (1) (d) which requires efficient, productive, equitable and sustainable land management and clear and cost-effective land administration.²⁶⁵

The land management principles in the Constitution are relevant to sustainable timber harvesting as they require productive and sustainable management of forest resources.²⁶⁶ This therefore requires that all activities relating to timber harvesting should be done sustainably to guarantee the conservation and preservation of the environment for future generations. FCMA has also embraced the idea of sustainable management of forests as it requires that all indigenous, plantations and community forests should be managed in a sustainable manner.²⁶⁷ It requires that all forestlands are properly maintained, protected, and rehabilitated for the benefit of all, through sustainable utilization management of all natural resources and the environment while striving to

²⁶¹ Ibid 260.Para 18.

²⁶² *Law & Social Development Trust (LASODET) & 2 others v Attorney General & 10 others* [2014] eKLR

²⁶³ Ibid. n262.

²⁶⁴ [2015] eKLR *In the Matter of the National Land Commission*

²⁶⁵ Ibid n.264.Para 190.

²⁶⁶ The Constitution of Kenya, 2010, Article 60.

²⁶⁷ The Forest Conservation and Management Act No.34 of 2016, Section 42, 43 and Section 49 (b).

attain the minimum tree cover threshold of 10% of the total land area in Kenya.²⁶⁸ The Draft Forest Policy on the other hand provides that forests must be managed sustainably not only for the present but future generations.²⁶⁹ To achieve this, the policy seeks to protect and restore the forest ecosystem²⁷⁰ and apply fairness in utilization of resources equally in all generations.²⁷¹ As for the National Forest Programme, sustainable forest management is its overall objective, where benefits obtained from forests cater to not only short but long-term development needs.²⁷² In the conduct of timber harvesting activities, it is also required that there should be transparent and cost-effective administration as required by the Constitution.²⁷³

While the Constitution and other sectoral laws recognize the principles of governance being democracy, good governance, public participation, integrity, sustainable development, accountability, transparency and sustainable development²⁷⁴, the situation on the ground when it comes to forest governance in Kenya is however different as they are not adequately implemented as there are still issues of corruption, lack of transparency, weak public participation, poor traceability of forest produce, and criminal activities, which are threats to forest governance²⁷⁵. This has an implication on sustainable timber harvesting in Kenya as it encourages activities such as bribery to have the rights for harvesting, bribery to avoid arrests, illegal logging, issuance of

²⁶⁸ KFS. Wesonga.B. Laws that protect our forests-The Forest Conservation and Management Act, 2016.Available at: http://www.kenyaforestservice.org/index.php?option=com_content&view=article&id=530&Itemid=187 (accessed on 26th October, 2021).

²⁶⁹ Ministry of Environment and Forestry, Draft National Forest Policy, 2020. (Foreword).

²⁷⁰ Ibid n.269.P.14.

²⁷¹ Ministry of Environment and Forestry, Draft National Forest Policy, 2020.P.25.

²⁷² Kenya, Ministry of Environment and Natural Resources. (2016). National Forest Programme of Kenya. MENR, Nairobi, Kenya. Available at: <https://kwcakenya.com/download/kenya-national-forest-programme-2016-2030/?wpdmdl=10306&refresh=6172da795e4a51634916985> P. iii (accessed on 26th October, 2021).

²⁷³ The Constitution of Kenya, 2010.Article 60 (1)(d).

²⁷⁴ The Constitution of Kenya, 2010, Article 10.

²⁷⁵ Kenya Forest Service (2007) Forest Law Enforcement and Governance in Kenya. Available at: https://www.profor.info/sites/profor.info/files/AFR_2007_Forest%20Law%20Enforcement%20and%20Governance%20in%20Kenya_0.pdf (accessed on 30th October, 2021). P.17.

licenses irregularly, illegal timber trade and illegal marking of timber.²⁷⁶

Over the years, poor governance has led to rampant illegal timber harvesting in Kenya, where there has been encroachment of forests not meant for timber production.²⁷⁷ In order to have sustainable timber harvesting in Kenya, there has to be improvement of forest governance in practice, where transparency in timber supply chain is enhanced, participation of all sector stakeholders, no tolerance of corrupt activities, improved compliance and law enforcement and proper delivery of service.²⁷⁸

3.2.2. National and County governments' Functions in Relation to forestry and timber harvesting

The Constitution apportions tasks between the national and county governments, which have a bearing on administration of forestry and timber harvesting, as assessed below.

3.2.2.1. The National Government

Its functions are provided under the Constitution's fourth schedule, where it is entrusted with the protection of the environment and natural resources with a view of establishing a sustainable and durable development system.²⁷⁹ In terms of the management of the environment, this is a general obligation placed on the state, however, there are state agencies that are tasked with carrying out

²⁷⁶ Ibid. n.275.

²⁷⁷ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1 (accessed on 30th October, 2021).

²⁷⁸ Kenya National Forest Programme 2016-2030 | KWCA Kenya National Forest Programme 2016-2030 | KWCA (2017). Available at: <https://kwcakenya.com/download/kenya-national-forest-programme-2016-2030/> (Accessed: 30th October, 2021 P.3).

²⁷⁹ Muigua, K. [2019] Strengthening the Environmental Liability Regime in Kenya for Sustainable Development. Available at: <http://kmco.co.ke/wp-content/uploads/2019/09/Strengthening-the-Environmental-Liability-Regime-in-Kenya-for-Sustainable-Development-Kariuki-Muigua-26th-April-2019.pdf> (accessed on 12th October, 2021).

this role on behalf of the government as empowered by various statutes. The National Government therefore discharges its obligations relating to the environment through the various institutions empowered with the role through statutory enactments. The National Government institutions empowered with this role in relation to forests are KFS, NEMA, NLC, NET and the Environment and Land Court as highlighted below.

3.2.2.2.National Land Commission (NLC)

The NLC as established under Article 67 (1)²⁸⁰ of the Constitution, is tasked with public land management for National and County Governments, together with land related resources.²⁸¹ Save for game reserves and animal sanctuaries of the government, water catchment areas, Article 63 (2) (d) (i) forests, national parks, and specially protected areas, Article 62 of the Constitution recognizes government forests as public land.²⁸²

NLC has the mandate to manage public land²⁸³ and is required to recommend to the national government a national land policy.²⁸⁴ When it comes to forests and wildlife protected areas, the commission as provided under the Land Act, is required “to take all necessary action to maintain all public land with endangered or endemic species of flora and fauna, critical habitats or protected areas.²⁸⁵” From this, the commission can be able to take the necessary action of prohibiting legal and illegal timber harvesting in the said protected areas and forests, however the achievement of this will be enhanced by collaboration with other sectoral agencies such as KFS and NEMA.

²⁸⁰ The Constitution of Kenya, 2010, Article 67 (1).

²⁸¹ National Land Commission Act No.5 of 2012, Section 5.

²⁸² The Constitution of Kenya, 2010, Article 62 (1) (g);(3).

²⁸³ The Constitution of Kenya, 2010, Article 67 (2)(a).

²⁸⁴ The Constitution of Kenya, 2010, Article 67(2)(b).

²⁸⁵ The Land Act No.6 of 2012, Section 11(1).

Another mandate that the commission has is to monitor and have oversight responsibilities over Kenya's land use planning.²⁸⁶ When exercising this mandate, the commission has the power to request and obtain any information or documentation by any means appropriate from any state organ²⁸⁷, so as to ensure that any issued licenses and permits are in compliance with the constitution and where the same is found by the commission not to be in compliance, it has the right to have it revoked.²⁸⁸

Land use planning outside protected areas is regulated by the Physical Planning and Land use Act of 2019 where the commission when it comes to planning of land use is not only required to monitor and oversee, but also to prepare reports as feedback on land use and develop guidelines for monitoring and oversight.²⁸⁹ In protected areas, planning is separately governed by management plans as provided under the relevant forest and wildlife laws, being the FCMA²⁹⁰ and the WCMA.²⁹¹ In timber harvesting, management plans are used to determine the allowed extent of the said activities in permitted forests.²⁹² The preparation, approval, monitoring and oversight of management plans is currently under the mandate of KFS.²⁹³ The ideal situation would be to have the KFS prepare the forest management plans while the National Land Commission exercises the role of approval and oversight of management plans to ensure that they are compliant with the constitution and other laws on land use, this will ensure the streamlining of land use planning in all areas including ones that are protected and those that are not. Under the physical planning law

²⁸⁶ The Constitution of Kenya, 2010, Article 67(2)(h)

²⁸⁷ The National Land Commission Act No.5 of 2012, Section 6 (2)(a).

²⁸⁸ The National Land Commission Act No.5 of 2012, Section 14.

²⁸⁹ The Physical Land Use Planning Act No.13 of 2019, Section 9.

²⁹⁰ The Forest Conservation and Management Act No.34 of 2016, Section 47.

²⁹¹ Wildlife (Conservation and Management) Act, Cap 376, Section 3A (d).

²⁹² Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 23rd October, 2021). P.63.

²⁹³ The Forest Conservation and Management Act No.34 of 2016. Section 8(b).

in Kenya²⁹⁴ the use of management plans for physical and land use planning in protected areas still remains uncoordinated as there are no mechanisms that have been put in place in the physical planning laws to have this coordinated.²⁹⁵ Hence the use of management plans in the protection of forest areas, should be mainstreamed through the inclusion in the physical planning laws.²⁹⁶

Another role of NLC is to ensure sustainable management of public land by the responsible state agencies for the intended use.²⁹⁷ The NLC can ride on this mandate to ensure state agencies such as KWS and KFS manage forests under their jurisdiction in a sustainable manner.²⁹⁸

The role of NLC is more of a trustee, where it has a fiduciary responsibility to protect the public's environmental capital.²⁹⁹ In *Peter Waweru versus The Republic*³⁰⁰ it was held that the government and its agencies have a public trust to manage land resources, forests, wetlands and waterways, in a manner that preserves a great balance between the economic benefits of development and the needs of a clean environment.³⁰¹

²⁹⁴ The Physical Land Use Planning Act No.13 of 2019.

²⁹⁵ Slobodian, L. N., Badoz, L., eds. (2019). Tangled roots and changing tides: mangrove governance for conservation and sustainable use. WWF Germany, Berlin, Germany and IUCN, Gland, Switzerland. xii+280pp.P.100

²⁹⁶ Ibid.

²⁹⁷ The National Land Commission Act No.5 of 2012, Section 5 (2) (c).

²⁹⁸ Ministry of Environment, Water and Natural Resources, 2013. Final Legal Report, Forest governance, REDD + and Sustainable development in Kenya. Available at:

<http://www.kenyaforestservice.org/documents/redd/Forest%20Governance,%20REDD+%20and%20Sustainable%20Development%20in%20Kenya.pdf> (accessed on 31st October, 2021).P.57.

²⁹⁹ P. Kameri-Mbote., 'The use of the Public Trust Doctrine in Environmental Law', 3/2 Law, Environment and Development Journal (2007), p. 195, available at <http://www.lead-journal.org/content/07195.pdf> [Accessed 23rd October 2021]. P.199.

³⁰⁰ [2006] eKLR, Misc. Civ. Applic. No. 118 of 2004.

³⁰¹ C.Odote, B.Ochieng, O.Makoloo, The implications of Property Rights for wetlands Management in Kenya. Available at: https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/1757/Odote_122601.pdf?sequence=1 (accessed on 23rd October, 2021).

3.2.2.3. The National Environmental Management Authority (NEMA)

3.2.2.3.1. Mandate of NEMA

The Environmental Management and Coordination Act under Section 7 establishes NEMA as a corporate body.³⁰² It is mandated to exercise co-ordination and the general supervision of environmental matters.³⁰³ This broad mandate of NEMA poses the risk of it overstepping and colliding with other state agencies.³⁰⁴

In the case of *Martin Osano Rabera & Another v Municipal Council of Nakuru & 2 others [2018] eKLR*³⁰⁵, the court elucidated that NEMA was not merely a prosecutor and investigator, and that its superior mandate towards the Kenyan people was implementing environment related policies as opposed to measuring its success based on successful prosecutions and investigations.³⁰⁶

The specific functions of NEMA have an impact on sustainable timber harvesting as addressed herein. NEMA is required to coordinate all lead agencies' activities relating to the management of the environment³⁰⁷ This function promotes sustainable timber harvesting as it requires that KFS regulates and manages the sustainable utilization of forest resources being timber in this case, for environmental preservation and safeguard while ensuring benefit to the human life in Kenya. This therefore ensures that there is a balance of interests.

³⁰² The Environment Management and Coordination Act No.8 of 1999, as amended in 2015, Section 7

³⁰³ Ibid n.249, Section 9 (1)

³⁰⁴ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 31st October, 2021). P.51

³⁰⁵ [2018] eKLR, *Martin Osano Rabera & another v Municipal Council of Nakuru & 2 others*

³⁰⁶ Ibid n.305.

³⁰⁷ The Environment Management and Coordination Act No.8 of 1999, as amended in 2015, Section 9 (2)(a).

NEMA is also required to assess Kenya's natural resources, their conservation and utilization.³⁰⁸ Keeping track of natural resources, creates accountability where KFS is required to ensure that forest resources are sustainably utilized and conserved, as a result sustainable timber harvesting is promoted. The EMCA places an obligation on NEMA to team up with other institutions in forests management in the country.³⁰⁹ This definitely promotes sustainable timber harvesting as NEMA exercises an oversight role over timber related activities being regulated by KFS, hence ensuring conservation and sustainable utilization due to concerted effort.

Another function of NEMA is to monitor and assess all activities being conducted by sectoral agencies to make sure their activities do not lead to environmental degradation and management of the environment is complied with.³¹⁰ This oversight role of NEMA especially in relation to timber harvesting ensures that as the said activities are being conducted, they do not have adverse effects to the environment, this therefore promotes sustainable timber harvesting.

When it comes to enhancement of public awareness in environmental matters, NEMA is required to cooperate with other sectoral agencies to develop programmes for this purpose and the importance of proper environmental management.³¹¹ This has a positive impact on sustainable timber harvesting as it encourages public support to enhance timber conservation of the environment while undertaking as timber related activities.

³⁰⁸Ibid, Section 9 (2) (b).

³⁰⁹Muigua, DK, Didi Wamukoya, Kariuki F. 2015. Natural Resources and Environmental Justice in Kenya. Natural Resources and Environmental Justice in Kenya., Nairobi: Glenwood Publishers Limited.P167.

³¹⁰ The Environmental Management and Coordination Act No.8 of 1999, as amended in 2015, Section 9 (2) (i).

³¹¹ The Environmental Management and Coordination Act No.8 of 1999, as amended in 2015, Section 9 (2)(m).

NEMA may give directions to a lead agency in any sector to perform a statutory role imposed on it and in the event that the agency fails to comply, NEMA may directly perform the said actions or cause the actions to be performed and in this case, all expenses incurred by NEMA are recoverable from such agency as a civil debt.³¹² In the year 2010, NEMA directed KFS within three months to secure all forests of the state and biological diversity by enforcing the provision of the Forest Act. The notice also directed KFS to avoid any more human encroachment, logging, charcoal burning and cultivation in the said forests.³¹³

In *Republic v National Environment Management Authority & another Ex-Parte Philip Kisia & City Council of Nairobi*³¹⁴ the respondents averred that in charging the council, NEMA acted in an unreasonable and unlawful manner by overlooking the provisions of section 12 of the EMCA, where NEMA is required to issue a directive to the council requiring compliance, then if not complied with then NEMA is allowed to remedy the same and claim any costs incurred as a civil debt from the council. The court however rejected this argument stating that the provisions provided in the EMCA's Section 12 were optional and NEMA did not have to exercise the same prior to prosecuting the council.

In *Willice Omondi Were & another v DPP & 3 others*³¹⁵ This case involves the Solai dam and in as much as it was stated by the petitioners that the lead agencies which were expected to have knowledge of the existence of the dam were the Water Resources Management Authority and the Nakuru County Government as per the Water Act, NEMA still had an oversight role in this case

³¹² The Environment Management and Coordination Act No,8 of 1999, as amended in 2015, Section 12.

³¹³ Kenya Forest Service, 2014. NEMA demands action to save forests. Available at:

http://www.kenyaforestservice.org/index.php?option=com_content&view=article&id=123:nema-demands-action-to-save-forests&catid=81:news&Itemid=538 (accessed on 26th October, 2021).

³¹⁴ [2013] eKLR, *Republic v National Environment Management Authority & another Ex-Parte Philip Kisia & City Council of Nairobi*

³¹⁵ [2018] eKLR, *Willice Omondi Were & another v Director of Public Prosecutions & 3 others*

pursuant to Section 12 of the EMCA.³¹⁶NEMA and EMCA are superior to other agencies and environment related laws as provided under Section 148 of the EMCA which requires that all laws in the sector relating to the environment that either came before or after the EMCA have to interpreted to comply with the provisions of the EMCA.³¹⁷ This is so as to consolidate environmental law and decision-making in the public sector.³¹⁸

3.2.2.3.2. Environmental Assessments and Audits

The Constitution provides environmental management tools such as EIA, EA, and monitoring of the environment.³¹⁹ The EMCA amendment Act, 2015, provides that a Strategic Environmental Assessment should be subjected to all plans, programmes and policies for implementation.³²⁰ It is required that all entities should prepare a strategic environmental assessment at their own cost and submit the same to NEMA for approval.³²¹

EIA and Environmental Audit is also provided under the EMCA³²², where it is required to be undertaken by the project's proponent at his own cost and have a report prepared thereof.³²³ It is an obligation that the EIA is done and the project should not be implemented unless it has been approved by NEMA.³²⁴

³¹⁶ [2018] eKLR, *Willice Omondi Were & another v Director of Public Prosecutions & 3 others*

³¹⁷ Dr. Robert Kibugi, is entitled "The Constitutional Basis of Public Participation in Environmental Governance: Framing Equitable Opportunities at National and County Government Levels in Kenya." It is a chapter in the Book "Fostering Development through Opportunity, Inclusion and Equity, 2013 (accessed on 22nd October, 2021). P.177

³¹⁸ Dr. Robert Kibugi, is entitled "The Constitutional Basis of Public Participation in Environmental Governance: Framing Equitable Opportunities at National and County Government Levels in Kenya." It is a chapter in the Book "Fostering Development through Opportunity, Inclusion and Equity, 2013 (accessed on 22nd October, 2021). P.177

³¹⁹ The Constitution of Kenya, 2010, Article 69(1)(f).

³²⁰ The Environmental Management and Coordination Act, 1999, as amended in 2015. Section 57 A(1).

³²¹ *Ibid* n.320, Section 57 A (3).

³²² The Environmental Management and Coordination Act, 1999, as amended in 2015. Section 58.

³²³ Muigua. K. A paper on Environmental Impact Assessment (EIA) in Kenya. Available at: <http://kmco.co.ke/wp-content/uploads/2018/08/A-Paper-on-Environmental-impact-assessment.pdf> (accessed on 26th October, 2021) P.3.

³²⁴ *Supra* n.322.

When it comes to Timber harvesting, NEMA is mandated to issue licenses on any timber related activities that affect the environment,³²⁵ conduct environmental audits on such activities with environmental impact,³²⁶ and where there is any damage to the environment from the said activities, to issue conservation orders.³²⁷

The importance of an EIA and EA in undertaking timber harvesting has been underlined in a number of cases such as: *Republic v National Environment Management Authority; Ex-parte Applicant: Comply Industries Limited & another*³²⁸ it was stated that the undertaking of timber harvesting was a “project” in view of Section 2 of the EMCA. Hence it was compulsory for Timsales and Comply to obtain an EIA License prior to undertaking any timber harvesting. They were required to submit an Environmental Impact Assessment Report and obtain the EIA License from NEMA in line with Section 58 (1), (2) and (3) of EMCA. In the exercise of its mandate, it was held that NEMA had no obligation to give a hearing prior to issuance of a notice to the parties.³²⁹

In *Joseph Leboo & 2 others v Director Kenya Forest Services & another*³³⁰, it was noted that while the consent of the board of KFS was required for all activities not included in the management plan for a forest, an EIA also had to be done by NEMA.³³¹ In *Makueni County Assembly v National Environment Management Authority & 3 others; Mbooni Development Group & 5 others*

³²⁵ Ibid.

³²⁶ The Environmental Management and Coordination Act, 1999, as amended in 2015. Section 58. Section 68.

³²⁷ Ibid, Section 108.

³²⁸ [2020] eKLR, *Republic v National Environment Management Authority; Ex-parte Applicant: Comply Industries Limited & another*

³²⁹ [2020] eKLR, *Republic v National Environment Management Authority; Ex-parte Applicant: Comply Industries Limited & another*

³³⁰ *Joseph Leboo & 2 others v Director Kenya Forest Services & another* [2013] eKLR

³³¹ *Joseph Leboo & 2 others v Director Kenya Forest Services & another* [2013] eKLR

(Interested Parties)[2019] eKLR³³² the petitioner submitted that Mbooni South Forest was being harvested without an EIA being considered by the County Environment Committee as provided under section 29 and 30 of the EMCA and that logging activities were affecting the source of livelihood of the residents in violation of Article 42, 69 and 70 of the constitution. An environmental audit was also not conducted despite being advised by the senator of the area, however this claim was deemed immature as a year had not lapsed from the commencement of the project, to require an environmental audit to be conducted when the petition was being filed. It was held that the requirements for public participation were adhered to and harvesting of timber in this case was not illegal as the respondents had been pre-qualified and duly licensed by NEMA to conduct harvesting in South Mbooni Forest.³³³

In *Narok County Council & Another v NEMA & Another*³³⁴ the Tribunal held that the project should not proceed unless and until the proponent prepares a conclusive EIA report in accordance with the EMCA and submit it to NEMA for NEMA to make its determination thereon.

3.2.2.4. Kenya Forest Service (KFS)

KFS is established under Section 7 of the FCMA as a corporate body.³³⁵ The core mandate of the service is to conserve, manage, develop and utilize all forest resources towards Kenya's economic and social development.³³⁶ Section 8 of the FCMA further sets out functions of KFS which include but are not limited to protection, conservation and management of public forests, receipt and consideration of applications for licenses, establishment and implementation of benefit sharing

³³² [2019] eKLR, Makueni County Assembly v National Environment Management Authority & 3 others; Mbooni Development Group & 5 others (Interested Parties)

³³³ Ibid, Para 38.

³³⁴ Narok County Council & Another V National Environment Management Authority & Another [2006] eKLR

³³⁵ Forest Conservation and Management Act no.34 of 2016, section 7

³³⁶ Kenya Forest Service, Strategic plan 2017-2022. Piv.

arrangements, assisting county governments in management of forests, promotion of forestry education and training, registration and maintenance of a register of all public forests management plans, management of water catchment areas and implementation and enforcement of rules and regulations of trading in forest products and their importation and exportation.³³⁷

When it comes to timber harvesting, the Kenya Forest Service has the following powers which are reviewed in detail under this chapter:

- a. Issuance of timber licenses and permits for forest related activities;³³⁸
- b. register and maintain forest management plans for management of public forests, nature reserve and provisional forests;³³⁹
- c. entering into concession agreements for management of forests;³⁴⁰
- d. entering into joint agreements for management of any indigenous forests,³⁴¹
- e. issuing permission to CFAs to partake in conservation and management of public forests³⁴² and entering into agreements for management with the CFAs which confer timber harvesting rights,³⁴³
- f. sustainable management of plantation and indigenous forests for production of forest products including wood,³⁴⁴;and

³³⁷ Supra n.335, section 8.

³³⁸ Forest Conservation and Management Act No.34 of 2016, Section 56 (2)(b).

³³⁹ Ibid, Section 47(2).

³⁴⁰ Ibid, Section 44.

³⁴¹ Ibid, Section 42(3).

³⁴² Ibid, Section 48 (2).

³⁴³ Ibid, Section 49 (2)(c).

³⁴⁴ Ibid, Section 42(1) and Section 43(1).

g. verification of origin of forest products through a chain of custody system.³⁴⁵

3.2.2.5. Kenya Wildlife Service

KWS is established under Section 6 of WCMA.³⁴⁶ It has the mandate of management of all indigenous forests that are within national reserves, national parks and game sanctuaries.³⁴⁷ It is required to collaborate with the Kenya Forest Service and other organizations to ensure that there is proper and efficient management of forests.³⁴⁸ The functions of the Kenya Wildlife Service extend to vegetation/forests as they form the habitat for animals.³⁴⁹ It also formulates policies on the management, conservation and utilization of all wild flora and fauna.³⁵⁰ In relation to illegal logging and timber related activities, the KWS has the role of reducing deforestation.³⁵¹ Under the Act, any authorized officer, which includes a forest officer has the right to require the production of any authorization, license or permit for any actions done or committed by any person in relation to wildlife resources for which such clearance would be required.³⁵²

³⁴⁵ Ibid, Section 58 (1).

³⁴⁶ Wildlife Conservation and Management Act No. 47 of 2013. Section 6.

³⁴⁷ Muigua, DK, Didi Wamukoya, Kariuki F. 2015. Natural Resources and Environmental Justice in Kenya. Natural Resources and Environmental Justice in Kenya., Nairobi: Glenwood Publishers Limited. P166. (Accessed on 12th October, 2021).

³⁴⁸ Ibid.

³⁴⁹ Supra n.347

³⁵⁰ Kamweti, D., Osiro, D. and Mwiturubani, D., 2009. *Nature and extent of environmental crime in Kenya*. [online] Files.ethz.ch. Available at: <<https://www.files.ethz.ch/isn/111770/M166FULL.pdf>> [Accessed 26th October, 2021]. P. 41-42.

³⁵¹ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 27th October, 2021) .P. 128.

³⁵² Wildlife Conservation and Management Act No.47 of 2013, Section 110.

KWS has mandate over protected areas, where it is required to conserve and manage National Parks, National Reserves or sanctuaries within its jurisdiction.³⁵³ KWS is mandated to manage forests that are part of these protected areas.³⁵⁴

KWS also has the mandate to manage marine protected areas. This includes mangrove forests in these areas.³⁵⁵ In marine protected areas, zoning is required to be adopted for use of the resources therein for any other purpose related to specified human activities within the zone.³⁵⁶

Timber harvesting in protected areas is only permitted by KWS where findings on the non-detrimental nature of the activities have been determined and that the quantity of the timber being harvested will not affect the survival of species in the wild.³⁵⁷

Illegal logging in the protected areas is however prohibited as provided under the Wildlife Conservation and Management Act³⁵⁸ Where this is done, the person is said to have committed an offence and is liable to a fine of Kshs.200,000/= if convicted or to imprisonment of two years or both.³⁵⁹ This is observed in *Henry Thurania v Republic*³⁶⁰ where the appellant was convicted of two counts in the Chief Magistrate's court in Nanyuki. On the first count he was charged with the offence of conducting logging in a National Park that had indigenous species being red cedar contrary to Section 102 (1) (c) of WCMA. On the second count the offence was entering a national park without the requisite authorization in contradiction with section 102 (1) (1) of WCMA. He

³⁵³ Wildlife Conservation and Management Act No.47 Of 2013, Section 6 (7) (a)

³⁵⁴ FAO. Current status of Forestry Sector and the Vision for the year 2020. Available at: <https://www.fao.org/3/ab569e/AB569E04.htm> (accessed on 1st November, 2021).

³⁵⁵ Slobodian, L. N., Badoz, L., eds. (2019). Tangled roots and changing tides: mangrove governance for conservation and sustainable use. WWF Germany, Berlin, Germany and IUCN, Gland, Switzerland. xii+280pp.P.106.

³⁵⁶ Wildlife Conservation and Management Act No.47 of 2013, Section 32 (2)(e).

³⁵⁷ Lubia I.K., Kyalo S.N., Mukonyi K.W. Lusweti A.M. Situma C.A.(2008) Strategy for Conservation and Management of Commercial Aloe Species in Kenya. (accessed on 1st November, 2021).

³⁵⁸ Wildlife Conservation and Management Act No.47 of 2013, Section 102 (c).

³⁵⁹ Wildlife Conservation and Management Act No.47 of 2013, Section 102(1).

³⁶⁰ *Henry Thurania v Republic [2017] eKLR.*

was convicted on both counts and sentenced to Kshs,200,000 fine and in default 2 years imprisonment. The appellate court upheld the judgment of the trial court and stated that the actions of logging cedar trees contributed to environmental degradation of the country and not only affects the current generation but the future generations.³⁶¹

3.2.2.6.National Environment Tribunal

The EMCA³⁶² established the NET to determine and hear any disputes relating to the environment in accordance with the provisions of the Act.³⁶³ In relation to forests, Rule 69 of the Forests (Participation in Sustainable Forest Management) Rules 2009 provides that any person who is aggrieved by the verdict of KFS in a decision relating to authorization or any action of the service, may appeal to NET under the EMCA³⁶⁴ This position was affirmed in the case of *R v Principal Magistrate Lamu Magistrate's Court & another ex parte KFS [2016] eKLR*³⁶⁵ where it was held that the application in Lamu PMCC No.34 of 2015 fell under Section 3(2) of the Forest Act, among other provisions and such dispute should have been taken to the NET under the EMCA.³⁶⁶

In *Save Lamu & 5 others v NEMA & another*³⁶⁷ the NET provided that an EIA is meant to support a country to attain sustainability in development of projects. The SDGs set by the UN which call upon all countries to urgent action on goals such as ending deprivations including poverty, must go hand in hand with economic growth strategies while promoting measures aimed at addressing

³⁶¹ *Henry Thurania v Republic [2017] eKLR.*

³⁶² The Environment Management and Coordination Act, 1999 as amended in 2015.

³⁶³ *Ibid*, Section 126(2).

³⁶⁴ Forests (Participation in Sustainable Forest Management) Rules 2009, Rule 69.

³⁶⁵ [2016] eKLR *Republic v Principal Magistrate Lamu Magistrate's Court & another ex parte Kenya Forest Service*

³⁶⁶ *Ibid*. 365, Para 11.

³⁶⁷ *Save Lamu & 5 others v National Environmental Management Authority (NEMA) & another [2019] eKLR*

climate change and forests and oceans preservation. The NET set aside the license issued by NEMA on account of lack of public participation.³⁶⁸

From this case, we note that the Tribunal promotes sustainable development that not only meets social and economic needs but also ensures that the environment is conserved and protected for not only the current but future generations. It issues orders to promote sustainable development where the sectoral agencies fail to comply with the law as they undertake their obligations.³⁶⁹

3.2.2.7.Environment and Land Court

Section 4 (1) of the ELC Act, establishes the ELC.³⁷⁰ The jurisdiction of the ELC is to hear and determine disputes relating to environmental protection and planning, issues of climate, land use planning, title, tenure, boundaries, rates, rents, valuations, mining, minerals and other natural resources.³⁷¹ The guiding principles of the Act when exercising its mandate are provided in Articles 69 and 70 of the Constitution. In *Nyeri Timber Manufacturers Association & 3 others v KFS & 3 others*³⁷² the Court affirmed the ELC's jurisdiction in all matters involving the environment, land use, occupation and title and that there can be no doubt that disputes arising from the application of the FCMA fall within the jurisdiction of the ELC.³⁷³

The Learned Judge in *Raycon Limited v Superply Limited & 2 others*³⁷⁴ stated that he had responsibility as an ELC judge to ensure compliance with the law in a sensitive matter involving the conservation of forests. He barred the 1st and 2nd respondents in this case from harvesting until

³⁶⁸ *Save Lamu & 5 others v National Environmental Management Authority (NEMA) & another* [2019] eKLR

³⁶⁹ Muigua. K. 'National Environment Tribunal, Sustainable Development and Access To Justice In Kenya' available at: <http://kmco.co.ke/wp-content/uploads/2020/03/National-Environment-Tribunal-Sustainable-Development-and-Access-to-Justice-in-Kenya-1.pdf> (accessed on 1st November, 2021).

³⁷⁰ The Environment and Land Court Act No.19 of 2011, Section 4(1).

³⁷¹ *Ibid.* Section 2 (a).

³⁷² [2018] eKLR, *Nyeri Timber Manufacturers Association & 3 others v Kenya Forest Service & 3 others*

³⁷³ *Ibid.* n.372.

³⁷⁴ *Raycon Limited v Superply Limited & 2 others* [2017] eKLR

they showed proof of license and harvesting rights. He also noted that the Kenya Forest Service and its officers failed in their mandate to manage forests that have been entrusted in them by the people of Kenya.

From this case, we learn that the court issues orders to ensure that the environment is conserved and preserved while activities are being undertaken on them. It issues orders to ensure that the law is complied with while timber harvesting is being conducted and proof of compliance must be provided, by any proponent of a project. It steps in where the sectoral agencies have been unable to follow the law in the execution of their obligations.

3.2.2.8. The County Government

County Governments are under Article 62(2) tasked with managing all public forests.³⁷⁵ The Fourth Schedule to the Constitution tasks County Governments with controlling public nuisances such as air and noise pollution and outdoor advertising.³⁷⁶ They also have the responsibility of implementing national policies on natural resources and conservation of the environment, such as water conservation, forestry and soil.³⁷⁷

FCMA also provides the County Governments' functions in management of forests. These include implementing national forest management and conservation policies, management of public forests, promotion of afforestation activities, advising and assisting stakeholders in management of community or private forests, and joint management of private or community forests with individuals or communities where they have entered into joint management agreements.³⁷⁸

³⁷⁵ The Constitution of Kenya, 2010, Article 62(2).

³⁷⁶ The Constitution of Kenya, 2010, Fourth Schedule, Function 3.

³⁷⁷ The Constitution of Kenya, 2010, Fourth Schedule, Part II, Function 10.

³⁷⁸ The Forest Conservation and Management Act No. 34 of 2016, Section 21.

In the case of *Council of County Governors v Attorney General & 12 others* [2018] eKLR³⁷⁹, it was argued that the mandate of the Nyayo Tea Zones Development Authority vested in the county governments as provided under the Fourth Schedule of the Constitution function number 10 Part 11.³⁸⁰

Conclusion

Despite the existence of the above institutions that are mandated to regulate timber harvesting, there is still the challenge of an inadequate and/or weak structural/institutional capacity for enforcement of forest laws and governance.³⁸¹ This is due to lack of workers, morale being low, ineffective forest guard equipment, abuse of office, lack of understanding and training on forest legislation on the persons tasked with prosecution which therefore results in weak enforcement of the existing laws hence amounting to poor governance.³⁸²

There are also institutional overlaps when it comes to the management of forest activities, which has to be addressed to promote efficient governance of forest resources as provided in the Constitution.³⁸³ In addition, policy conflicts, inadequate policies on land tenure and inadequate collaboration by forest conservation agencies have also been identified as challenges to governance of forest resources.³⁸⁴ For instance, when it comes to the EMCA, there is still the

³⁷⁹ [2018] eKLR Council of County Governors v Attorney General & 12 others

³⁸⁰ Ibid. n.379.

³⁸¹ Kenya Forest Service (2007) Forest Law Enforcement and Governance in Kenya. Available at: https://www.profor.info/sites/profor.info/files/AFR_2007_Forest%20Law%20Enforcement%20and%20Governance%20in%20Kenya_0.pdf (accessed on 22nd October, 2021).P.6.

³⁸² Ibid. n269.

³⁸³ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 22nd October, 2021) P.90.

³⁸⁴ Ministry of Environment and Forestry, (2020) The National Forest Reference Level for REDD+ Implementation, Available at: https://redd.unfccc.int/files/kenya_national_frl_report- august_2020.pdf (accessed on 31st August, 2021) P.59.

challenge of implementation yet it is the supreme law for environmental protection.³⁸⁵

In Kenya today, the Kenya Forest Service is tasked with the monitoring and assessment of state forests and forest resources.³⁸⁶ It also has the role of management of protected forests.³⁸⁷ This creates an issue of conflict of interest; hence it is advisable to have a separate institution dealing with the monitoring and assessment of state forests aside from the one tasked with the management of forests.³⁸⁸

When it comes to KFS's organizational structure, there is a challenge in monitoring the roles of the forest officers.³⁸⁹ At the center of the organisational structure of KFS is the forest manager. The efficiency of the KFS heavily depends on the reliability of the forest manager.³⁹⁰ The service is also understaffed hence posing the challenge of proper enforcement of forest conservation measures and difficulty in addressing forest crimes.³⁹¹

3.2.3. Human Rights in Relation to the Environment

The Constitution in the Preamble provides for respect to the environment, noting that the environment is Kenya's heritage and therefore should be sustained for future generations.³⁹² In as much as there is the need to fulfill human needs from the environment it is a requirement that

³⁸⁵ Ibid n.384.

³⁸⁶ Friends of Karura Forest, 'Karura Forest - Secure, Safe, Serene' available at https://www.friendsofkarura.org/wp-content/uploads/2018/05/Final-Report_29Apr2018_17h.pdf (accessed June, 22,2021). P.29

³⁸⁷ Ibid n.386.

³⁸⁸ Supra n.386.

³⁸⁹ Friends of Karura Forest, 'Karura Forest - Secure, Safe, Serene' available at https://www.friendsofkarura.org/wp-content/uploads/2018/05/Final-Report_29Apr2018_17h.pdf (accessed June, 22,2021). P.47

³⁹⁰ Ibid n.389.

³⁹¹ Supra n.389.

³⁹² The Constitution of Kenya, 2010, The preamble.

the environment should be respected by the people of Kenya. In the case of *Mohamed Ali Baadi and others v Attorney General & 11 others*³⁹³ the need for exercising caution while dealing with the environment was recognized as provided under the Preamble of the Constitution. The words were said to suggest reverence to sustainable development.³⁹⁴ Hence, when undertaking any activities related to timber harvesting, respect to the environment as a whole has to be adhered to.

The Constitution in Article 42 accords to everyone the right to not just a healthy but clean environment. This includes the right to environmental protection for the benefit of all generations through the enactment of legislation and other means, with the right to redress under Article 70.³⁹⁵ The clean and healthy environmental right was recognized in *Joseph Leboo & 2 others v Director KFS & another*³⁹⁶.

This Constitutional right has also been provided under the EMCA.³⁹⁷ Co-operation is required by all persons with government agencies to safeguard and conserve the environment, as well as to guarantee use of natural resources sustainably and ecological development.³⁹⁸

The substantive elements of an environment that is clean and healthy are access to safe water and adequate sanitation, safe climate, healthy and sustainably produced food, clean air, healthy ecosystems and biodiversity and a non-toxic environment to live, work and play in.³⁹⁹

³⁹³ [2018] eKLR Mohamed Ali Baadi and others v Attorney General & 11 others

³⁹⁴ Ibid. n393. Para 273.

³⁹⁵ The Constitution of Kenya, 2010, Article 42.

³⁹⁶ [2013] eKLR, Joseph Leboo & 2 others v Director Kenya Forest Services & another.

³⁹⁷ Environmental Management and Coordination Act, 1999 as amended in 2015, Section 3 (1)

³⁹⁸ Ibid, Section 3 (2A).

³⁹⁹ UNEP. Right to a Healthy environment, good practices. Available at:

<https://wedocs.unep.org/bitstream/handle/20.500.11822/32450/RHE.pdf?sequence=1&isAllowed=y> (accessed on 22nd October, 2021) Chapter III(c).

The state is also required to encourage public participation in the management, protection and conservation of the environment;⁴⁰⁰ protect genetic resources and biological diversity⁴⁰¹; establish systems of environmental impact assessment, environmental audit and monitoring of the environment⁴⁰²; eliminate processes and activities that are likely to endanger the environment⁴⁰³ and use the environment and natural resources for the benefit of Kenyan people.⁴⁰⁴ Pursuant to Article 10 of the Constitution, public participation is mandatory in environmental protection, conservation and management. the management, protection⁴⁰⁵ In *Patrick Musimba v NLC & 4 others* ⁴⁰⁶ it was provided that any person or entity required to include the public in governance or decision making has to make sure that the public has been invited and equally given an ample chance to participate in such processes.⁴⁰⁷

The main goal of involving the public in environmental decisions is for attaining sustainable development, which concerns both the welfare of the people and the environment.⁴⁰⁸ Securing a balance of interests, through the concept of integration requires that the needs of the people and protection of the environment are both achieved for the benefit of humans and ecological functions.⁴⁰⁹

⁴⁰⁰ The Constitution of Kenya, 2010, Article 69 (1) (d)

⁴⁰¹ Article 69 (1) (e)

⁴⁰² Article 69 (1) (f)

⁴⁰³ Article 69 (1) (g)

⁴⁰⁴ Muigua, K. [2017] Reflections on Managing Natural Resources and Equitable Benefit Sharing in Kenya. Available at:<http://kmco.co.ke/wp-content/uploads/2018/08/Reflections-on-Managing-Natural-resources-and-Equitable-Benefit-Sharing-in-Kenya-17th-November-2017-Kariuki-Muigua.pdf> (accessed on 12th October, 2021).

⁴⁰⁵ The Constitution of Kenya, 2010, Article 10.

⁴⁰⁶ [2016] eKLR Patrick Musimba v National Land Commission & 4 others

⁴⁰⁷ Ibid. n308.Para.147.

⁴⁰⁸ Dr. Robert Kibugi, is entitled "The Constitutional Basis of Public Participation in Environmental Governance: Framing Equitable Opportunities at National and County Government Levels in Kenya." It is a chapter in the Book "Fostering Development through Opportunity, Inclusion and Equity, 2013 (accessed on 22nd October, 2021). P.310.

⁴⁰⁹ Ibid n.408.P.310.

Article 69(1) has a direct impact on the timber industry in Kenya in terms of the obligations of the state to ensure that the environment is well managed and protected through the various institutions. In the case of *Ken Kasinga vs. Daniel Kiplagat Kirui & 5 others (2015) eKLR*,⁴¹⁰ it was stated that where the procedures of public participation in the protection of the environment is not followed, then an assumption that the right to a clean and healthy environment is under threat may be drawn. The evidence showed that the appellants breached the public participation constitutional requirements of Article 69(1) (d).⁴¹¹

In safeguarding and preservation of the environment and to ensure use of natural resources sustainably and ecological development, every person has an obligation to collaborate with State organs and other persons.⁴¹² This provision has been faulted at being inadequate since the State and its organs should take the lead in the management, while the other stakeholders take directions and support as required.⁴¹³ However, this duty sets the keystone for involvement of the public in environmental decision making with sustainable development being the main output of the same.⁴¹⁴ This therefore requires that the environment is preserved not only for the present but the future generation.⁴¹⁵

The right to a clean and healthy environment is guaranteed in the constitution, hence in the instance that the same is violated by unsustainable timber harvesting practices, then anyone has the right to file a claim based on that. The court is empowered to stop or prevent any action that

⁴¹⁰ [2015] eKLR Ken Kasinga vs. Daniel Kiplagat Kirui & 5 others

⁴¹¹ [2015] eKLR Ken Kasinga vs. Daniel Kiplagat Kirui & 5 others

⁴¹² The Constitution of Kenya, 2010, Article 69(2).

⁴¹³ Muigua. K. Reconceptualizing the Right to Clean and Healthy Environment in Kenya, available at: <http://kmco.co.ke/wp-content/uploads/2018/08/RIGHT-TO-CLEAN-AND-HEALTHY-ENVIRONMENT-IN-KENYA.docx-20th-November-2017.pdf> (accessed on 12th October, 2021).P.4.

⁴¹⁴ Dr. Robert Kibugi, is entitled "The Constitutional Basis of Public Participation in Environmental Governance: Framing Equitable Opportunities at National and County Government Levels in Kenya." It is a chapter in the Book "Fostering Development through Opportunity, Inclusion and Equity, 2013. P.314-315.

⁴¹⁵ Ibid n.414.P.315.

is detrimental to the environment.⁴¹⁶ It is however a requirement that a person claiming their right to a clean and healthy environment has been infringed, should demonstrate that their right is likely to be violated, denied, infringed or threatened. The court in *Joseph Owino Muchesia & another v Joseph Owino Muchesia & another [2014] eKLR*⁴¹⁷ provided that the applicant had to demonstrate denial, violation, infringement and threat to their right under Article 42 of the Constitution for their application to succeed.⁴¹⁸

Article 70 together with Article 22 and 42, confer the right to anyone to file a case where they can demonstrate denial violation, infringement or threat to their right to a clean and healthy environment.⁴¹⁹ One does not need to prove loss or injury on a personal capacity to file a case for the protection of the environment. In *Joseph Leboo & 2 others v Director KFS & another [2013] eKLR*,⁴²⁰ the court stated that to bring an action for environmental protection, reading Articles 42 and 70 of the Constitution, one does not need to show loss or injury.”⁴²¹

The avenue to seek legal address in the event of violation of environmental rights is through the Environmental and Land Court.⁴²²The Environment and Land Court established under the Environment and Land Court Act, 2011 which was enacted to give effect to Article 162 (2)(b) of the Constitution is tasked with the obligation to hear and determine disputes relating to the

⁴¹⁶ CIC KENYA, June 2017, The Kenyan Constitution’s Enhanced Focus on Protecting Environmental Rights, available at: <https://www.cickenya.org/kenyan-constitutions-enhanced-focus-protecting-environmental-rights/> (accessed on 12th October, 2021).

⁴¹⁷ Muigua, K. [2019] Strengthening the Environmental Liability Regime in Kenya for Sustainable Development. Available at: <http://kmco.co.ke/wp-content/uploads/2019/09/Strengthening-the-Environmental-Liability-Regime-in-Kenya-for-Sustainable-Development-Kariuki-Muigua-26th-April-2019.pdf> (accessed on 12th October, 2021).

⁴¹⁸ Ibid n.417.

⁴¹⁹ Muigua. K. Reconceptualizing the Right to Clean and Healthy Environment in Kenya, available at: <http://kmco.co.ke/wp-content/uploads/2018/08/RIGHT-TO-CLEAN-AND-HEALTHY-ENVIRONMENT-IN-KENYA.docx-20th-November-2017.pdf> (accessed on 12th October, 2021).

⁴²⁰ [2013] e KLR, Joseph Leboo & 2 others v Director Kenya Forest Services & another.

⁴²¹ [2013] e KLR, Joseph Leboo & 2 others v Director Kenya Forest Services & another. Para.26.

⁴²² Section 3(2).

environment and land.⁴²³

In the case of *Joyce Mutindi Muthama & another v Josephat Kyololo Wambua & 2 others* [2018] eKLR⁴²⁴ the court stated that under Section 13(3) of the Environment and Land Court Act, the court is mandated to hear and determine applications made pursuant to the rights and fundamental freedoms under the Constitution's Articles 42, 69 and 70.⁴²⁵

In *KAM & 2 others v Cabinet Secretary - Ministry of Environment and Natural Resources & 3 others* [2017]⁴²⁶ it was declared that courts must be guided by the framework under the Constitution's Articles 70, 69 and 42, and it should also be promoted in determining disputes relating to the environment and should adhere to the principles captured in the EMCA's Section 3. These are fundamental in interpreting laws and adjudicating disputes relating to the environment.⁴²⁷

The Court in hearing these applications has the discretion to give directions or make orders that it deems necessary to deal with the acts or omissions that are harmful to the environment; compel any public officer to take measures to prevent or discontinue any act or omission that is harmful to the environment; or to provide compensation for any victim of a violation of the right to clean and healthy environment.⁴²⁸

⁴²³ Muigua, K. [2019] The Role of Courts in Safeguarding Environmental Rights in Kenya: A Critical Appraisal. Available at: <http://kmco.co.ke/wp-content/uploads/2019/01/The-Role-of-Courts-in-Safeguarding-Environmental-Rights-in-Kenya-A-Critical-Appraisal-Kariuki-Muigua-17th-January-2019-1.pdf> (accessed on 12th October, 2021).P.4.

⁴²⁴ [2018] e KLR, Joyce Mutindi Muthama & another v Josephat Kyololo Wambua & 2 others.

⁴²⁵ [2018] e KLR, Joyce Mutindi Muthama & another v Josephat Kyololo Wambua & 2 others. Para 16.

⁴²⁶ Muigua, K. [2021]. Providing Legal Advice on Corporate Environmental Compliance in Kenya. Available at: <http://kmco.co.ke/wp-content/uploads/2021/05/Corporate-Environmental-Compliance-in-Kenya-May-2021.pdf> (accessed on 12th October, 2021).

⁴²⁷ Muigua, K. [2021]. Providing Legal Advice on Corporate Environmental Compliance in Kenya. Available at: <http://kmco.co.ke/wp-content/uploads/2021/05/Corporate-Environmental-Compliance-in-Kenya-May-2021.pdf> (accessed on 12th October, 2021).

⁴²⁸ The Constitution of Kenya, 2010. Article 70(2).

Under Article 69 (1) of the Constitution, the state is obligated to ensure the sustainable exploitation, utilization, management and conservation of the environment and natural resources, and the sharing of benefits that accrue equally.⁴²⁹ This Article recognizes the state's role in safeguarding management of forests sustainably and also allocating benefits derived therefrom.⁴³⁰ In *Abdalla Rhova Hiribae & 3 others v Attorney General & 7 others [2013] eKLR*,⁴³¹ the Learned Judge acknowledged the obligation imposed on the state as per Article 69 of the Constitution. In the Learned Judge's view, this Article contemplates laws that comprehensively protect land, natural resources and environment. This would require comprehensive and efficient plans with all the necessary elements for environmental protection, including the use of land, water, forests and other resources that are natural. He was also of the view that the goal of Article 69 was to have a legislative framework that ensures the complete enjoyment of all land and environmental rights. To guarantee that there is complete enjoyment of all rights noting that they arise from different factors and controlled by different state entities, is by having an agency that co-ordinates the various entities involved in their exploitation and management. If the state fails to ensure that there is such an agency or policy and legislation in place, then the state can be said to be in breach of its constitutional obligations to the petitioners.⁴³²

There are other rights that are procedural such as access to justice, fair administrative action and access to information that supplement the fulfillment of environmental, economic and social

⁴²⁹ The Constitution of Kenya, 2010, Article 69(1)(a).

⁴³⁰ Mwenda, A. and Kibutu, T., 2012. IMPLICATIONS OF THE NEW CONSTITUTION ON ENVIRONMENTAL MANAGEMENT IN KENYA. *LEAD Journal (Law, Environment and Development Journal)*, [online] 8(1), p.80. Available at: <http://lead-journal.org/content/12076.pdf> [Accessed 12 October 2021].

⁴³¹ [2013] eKLR, *Abdalla Rhova Hiribae & 3 others v Attorney General & 7 others*.

⁴³² [2013] eKLR, *Abdalla Rhova Hiribae & 3 others v Attorney General & 7 others*. Para.68.

rights.⁴³³

Conclusion:

Unsustainable harvesting of timber in Kenya affects the human right to a clean and healthy environment as it is a direct cause of forest loss and degradation, which results to carbon emissions.⁴³⁴ Human acts such as unsustainable harvesting of timber, result to heightened levels of greenhouse gases in the air, hence triggering climate change and other impacts including droughts, rise of sea levels and extreme weather conditions.⁴³⁵

When it comes to environmental human rights, while the same are guaranteed, there is also the challenge of achieving the balance between environmental and other fundamental human rights including economic and social rights.⁴³⁶ Economic development is also important, however as the same is being conducted, it is required that the environment still thrives and survives, hence the requirement of public participation and other measures such as use of the EIA to evaluate the environmental impact of any project or development.⁴³⁷ Balancing the needs and interest of the people of Kenya with sustainable forest conservation is at the forefront of the Draft National Forest Policy.⁴³⁸

⁴³³ Robert Kibugi, is entitled "The Constitutional Basis of Public Participation in Environmental Governance: Framing Equitable Opportunities at National and County Government Levels in Kenya." It is a chapter in the Book "Fostering Development through Opportunity, Inclusion and Equity, 2013 (accessed on 22nd October, 2021).P.309.

⁴³⁴ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: [⁴³⁵ Ibid.P.25/48.](https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1(accessed on 22nd October, 2021) P.1.</p></div><div data-bbox=)

⁴³⁶ The Constitution of Kenya,2010 Article 43.

⁴³⁷ Patrick Musimba v National Land Commission & 4 others [2016] eKLR, Para 140.

⁴³⁸ Ministry Of Environment and Forestry, Draft National Forest Policy, 2020, P.2

3.2.4. Constitutional obligation to Achieve and maintain over ten percent tree cover in Kenya

The state has the obligation of working to achieve and maintain a tree cover of at least ten percent of the land area of Kenya.⁴³⁹ According to the National Forest programme the current tree cover in Kenya as at the year 2010 is estimated as 6.99% of the total land area in Kenya.⁴⁴⁰ The rate at which the earth is losing its vegetation cover is alarming, as it has been projected that each year millions of hectares of forestlands are converted for alternative land uses.⁴⁴¹ Growing of trees has been considered one of the measures to curb the reducing vegetation cover, however the success is dependent on the current restoration initiatives.⁴⁴² The success of planted trees has however been low since planted seedlings have a poor survival rate.⁴⁴³ The investment in tree planting has been high however, the return has been low as a result of poor or no monitoring of the seedlings.⁴⁴⁴

For success to be realized, it is important to not only plant the seedlings, but to identify the right planting materials, have them planted in the appropriate places, taking care of them to ensure they mature and become grown trees.⁴⁴⁵ There are however, many challenges that hinder the success of planted seedlings such as: short planning cycles, where most projects operate on a cycle of 1- 3 years and yet 5 years is what is required for most species to become trees; narrow

⁴³⁹ The Constitution of Kenya, 2010, Article 69(1)(a).

⁴⁴⁰ Kenya, Ministry of Environment and Natural Resources. (2016). National Forest Programme of Kenya. MENR, Nairobi, Kenya. Available at: <https://kwckkenya.com/download/kenya-national-forest-programme-2016-2030/?wpdmdl=10306&refresh=6172da795e4a51634916985> (accessed on 22nd October, 2021).

⁴⁴¹ Duguma L, Minang P, Aynekulu E, Carsan S, Nzyoka J, Bah A, Jamnadass R. 2020. From Tree Planting to Tree Growing: Rethinking Ecosystem Restoration Through Trees. ICRAF Working Paper No 304. World Agroforestry. DOI: <http://dx.doi.org/10.5716/WP20001.PDF> (accessed on 22nd October, 2021). P.5.

⁴⁴² Ibid n.441 P.9.

⁴⁴³ Ibid.

⁴⁴⁴ Supra n.441.P10.

⁴⁴⁵ Supra n441.P12.

planning scope, where there are numerous issues with pre-planting and post planting management of the trees to ensure they mature; lack of interest and investment in communities to plant seedlings; and lack of adequate resources to ensure the achievement of objectives within a project life cycle.⁴⁴⁶

Some of the actions that can be taken to ensure effective restoration are establishing a road map to ensure that the projected landscape is achieved, developing an accountability framework where an entity is tasked with the role of monitoring the tree seedlings, resources should be allocated for the entire project life cycle and used effectively and matching tree species to the right planting sites.⁴⁴⁷

In Kenya, achieving the targeted 10% national tree cover will require expansive afforestation in both private and community lands. Over the years, especially in areas where there is high population, tree cover on private farms has increased.⁴⁴⁸ In *Joseph Leboo & 2 others v Director Kenya Forest Services & another [2013] eKLR*,⁴⁴⁹ the importance of forests was recognized, hence the recognition by the Constitution. It was stated that the respondents would have to demonstrate that efficient management plans existed for each forest for the target national tree cover to be achieved. The learned Judge, recognising the principle of sustainable development, noted that trees harvesting did not amount to forests destruction. The principle would work where there is a demonstrated plan and strict compliance with the constitutional and statutory

⁴⁴⁶ Duguma L, Minang P, Aynekulu E, Carsan S, Nzyoka J, Bah A, Jamnadass R. 2020. From Tree Planting to Tree Growing: Rethinking Ecosystem Restoration Through Trees. ICRAF Working Paper No 304. World Agroforestry. DOI: <http://dx.doi.org/10.5716/WP20001.PDF> (accessed on 22nd October, 2021). P.12-19.

⁴⁴⁷ Ibid. n446. P.20-23.

⁴⁴⁸ 2020. Republic of Kenya, Ministry of Environment and forestry, Third draft National Policy. Available at: <http://www.environment.go.ke/wp-content/uploads/2020/12/Third-Draft-Policy-December-2020.pdf> (Accessed: 31 August, 2021). P. 37.

⁴⁴⁹ [2013] e KLR, *Joseph Leboo & 2 others v Director Kenya Forest Services & another*.

principles.⁴⁵⁰

The pressure of timber harvesting in public forests can be alleviated, with the promotion of tree growing outside protected areas.⁴⁵¹ There should be a mandatory requirement for national and county governments as per Section 55 of the FCMA to participate in national tree-planting week with a target set.⁴⁵² Gazetted forests are limited, hence communal woodland and farm forestry provide the most resources for domestic and industrial use.⁴⁵³ There is the need to encourage farmers to incorporate tree growing on farms.⁴⁵⁴ In Kenya, tree growing faces a lot of challenges such as inadequate supply of quality seeds, inadequate financial support for tree growing, minimum financial incentives, a forest extension system that is non-functional, and a market system that is still underdeveloped.⁴⁵⁵

The FCMA⁴⁵⁶ underlines the need for programmes to achieve and maintain the 10% target tree cover.⁴⁵⁷ Community land accounts for approximately sixty seven percent (67%) of all land in Kenya.⁴⁵⁸

Under the Forest Act, forests on community and private land can be registered to contribute to the national tree cover.⁴⁵⁹ The national wood supply deficit can be balanced by commercial

⁴⁵⁰ Ibid.n449.Para 48.

⁴⁵¹ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 22nd October, 2021). P.45.

⁴⁵² Ibid n.451.

⁴⁵³ Supra n.451.P.53.

⁴⁵⁴ Ibid.

⁴⁵⁵ Supra n.451.P.57.

⁴⁵⁶ The Forest Conservation and Management Act No.34 of 2016, Section 6(3)(a)(iii)

⁴⁵⁷ Ministry of Environment and Forestry, 2019, National strategy for achieving and maintaining over 10% tree cover by 2022, available at: <http://www.environment.go.ke/wp-content/uploads/2019/08/Strategy-for-10-Tree-Cover-23-5-19-FINAL.pdf> (accessed on 22nd October, 2021).P.9

⁴⁵⁸ 2013.Analysyis of demand and supply of Wood Products in Kenya, (2021) *Kenyaforestservice.org*. Available at: <http://www.kenyaforestservice.org/documents/redd/Analysis%20of%20Demand%20and%20Supply%20of%20Wood%20Products%20in%20Kenya.pdf> (Accessed: 23rd October, 2021). P.71.

⁴⁵⁹ The Forest Conservation and Management Act No.34 of 2016, Section 32 and 33.

private forest plantations.⁴⁶⁰ These plantations can supplement the current supply of wood from public forests.⁴⁶¹ There are strategies that can be used to increase the establishment of commercial forest plantations such as: offering technical support to establishing and managing plantations of high value, providing incentives to commercial private forest enterprises such as access to financial facilities; establishing a private forest register; establishment of 300,000 ha of plantations by farmers and the private sector and top innovative funding.⁴⁶²

Conclusion

The Constitution, has set 10% of Kenya's land mass as the target of minimum tree cover.⁴⁶³ When it comes to data collection there is still a challenge as KFS assesses Kenya's forest cover and not tree cover and NEMA relies on the data from KFS.⁴⁶⁴ A systemic data collection for assessment and monitoring of the tree cover set by the Constitution is still lacking.⁴⁶⁵ There is also the lack of definition of sustainable management, rational utilization of forest resources hence creating a challenge in enforcement of the said principles.⁴⁶⁶ This has contributed to the lack of restrictions to the utilization of forest resources. Hence there is a need to have them clearly defined.⁴⁶⁷

There is also no specific timeline set in our laws for achieving the minimum tree cover target, this therefore has the effect of prolonging the attainment of the target.⁴⁶⁸ Yes, there is a

⁴⁶⁰ Ministry of Environment and Forestry, 2019, national strategy for achieving and maintaining over 10% tree cover by 2022. Available at: <http://www.environment.go.ke/wp-content/uploads/2019/08/Strategy-for-10-Tree-Cover-23-5-19-FINAL.pdf> (accessed on 23rd October, 2021) P.20.

⁴⁶¹ Ibid n.460.

⁴⁶² Ibid.

⁴⁶³ The Constitution of Kenya, 2010, Article 69 (1)(b).

⁴⁶⁴ Friends of Karura Forest, 'Karura Forest - Secure, Safe, Serene' available at https://www.friendsofkarura.org/wp-content/uploads/2018/05/Final-Report_29Apr2018_17h.pdf (accessed 24th October,2021). P.29

⁴⁶⁵ Ibid. n.464

⁴⁶⁶ Ibid.

⁴⁶⁷ Ibid.

⁴⁶⁸ Ibid.P.9

presidential directive to achieve the tree cover by 2022, however the timelines need to have a legal backing hence improving the results of achieving the same.

There is also the challenge of monitoring the achievement of the tree cover target. A separate institution from the Kenya Forest Service should be tasked with this role, hence creating a system of checks and balances.⁴⁶⁹

3.2.5. Promotion of Sustainable Timber harvesting

3.2.5.1. What amounts to sustainable timber harvesting?

Sustainable timber harvesting entails the implementation of a good plan that not only provides for the cutting down of trees for their commercial value but encourages their regeneration for the well-being and long-term value of the trees⁴⁷⁰. It also ensures that the future yields are not affected but are promoted by the timber harvesting methods⁴⁷¹ and the current needs of the society are met without compromising their availability for future generations.⁴⁷²

3.2.5.2. Authorizations and Licenses required for Timber harvesting

When it comes to timber harvesting, KFS is required under the Act to issue timber licenses⁴⁷³ in compliance with the relevant legislation, including legislation on public procurement and asset disposal.⁴⁷⁴

⁴⁶⁹Supra n.464. P29.

⁴⁷⁰ American Forest Foundation, My Land plan, Managing a Successful, Sustainable Timber Harvest. Available at: <https://mylandplan.org/content/managing-successful-sustainable-timber-harvest> (accessed on 1st November, 2021) Para 2.

⁴⁷¹ Rhode Island Woods, 'Sustainable harvesting' available at: <https://rhodeislandwoods.uri.edu/landowner-toolbox/sustainable-harvesting/> (accessed on 1st November, 2021).

⁴⁷² J. Douglas Brodie, C. Tattersall (Tat) Smith, J.C. Tappeiner, J.R. Boyle, Economic considerations for sustainable forestry, Reference Module in Earth Systems and Environmental Sciences, Elsevier, 2016. (accessed on 1st November, 2021), abstract.

⁴⁷³ Forest Conservation and Management Act No.34 of 2016, Section 56 (2)(c)

⁴⁷⁴ Ibid, Section 57 (3).

In reference to licensing by KFS, for one to be eligible, they need the capacity to enter into a binding agreement, have technical and financial capacity and for foreign investors, compliance with all investment laws as required by foreigners.⁴⁷⁵ Permits from KFS are also required for the import or introduction of forest products into the country and export and re-export.⁴⁷⁶

A valid license is a mandatory requirement for harvesting in state forests, provisional forests, a local authority forest or a registered private forest.⁴⁷⁷ In the case of *Isaac Rutoh & 2 others v Naftali K Kipkorir Assistant County Commissioner Elburgon Division & 6 others [2019] eKLR*⁴⁷⁸ Although the case was dismissed, the learned Judge emphasized that harvesting of trees has to be done in strict compliance with the law and after obtaining the appropriate permits.⁴⁷⁹

Timber harvesting is required to be done in a way that avoids any harm to trees, resources or soil in the felled area.⁴⁸⁰ In the event of damage, the licensee as required by the Director of KFS shall be required to remedy the same⁴⁸¹ and where the licensee harvests trees not designated in the license, they shall be required to pay damages as assessed by the Director.⁴⁸²

Licensing is an important tool for sustainable timber harvesting as it controls the areas that should be harvested, specifies the rules for harvesting that are to be complied with by the licensee and in the case of non-compliance remedies are provided therein.

⁴⁷⁵ Ibid, Section 57(1).

⁴⁷⁶ Ibid, Section 60.

⁴⁷⁷ Forest (Harvesting) Rules, 2009, Rule 4 (1).

⁴⁷⁸ [2019] eKLR *Isaac Rutoh & 2 others v Naftali K Kipkorir Assistant County Commissioner Elburgon Division & 6 others*

⁴⁷⁹ Ibid n.478.

⁴⁸⁰ Forest (Harvesting) Rules, 2009, Cap 385. Rule 6 (1).

⁴⁸¹ Rule 6 (3).

⁴⁸² Rule 6 (4).

3.2.5.3.Chain of custody system for timber tracking

A chain of custody system is also required to be published as per Section 58 (1) of the Act. This is for purposes of verification of forest products origin, whether from community, public or private forests and ensuring adherence by holders of licenses. However, this is still yet to be implemented.⁴⁸³ It is defined as a system that requires sellers of timber and their related products to show proof to the buyer that the same is from a legal or certified source.⁴⁸⁴ A more detailed definition provides that it is a system which shows the link of legal materials and the forest source of origin and describes the entire path that the timber has taken from harvesting to the consumer, including processing, transformation, transportation, storage and distribution.⁴⁸⁵ A statutory definition is provided under FCMA, where it is defined as the distribution, tracking and monitoring channel of products from their forest of origin to the end user.⁴⁸⁶

The chain of custody system is important to ensure traceability of wood throughout the whole supply chain.⁴⁸⁷ The key elements of a chain of custody system are: providing accurate and detailed information which includes volumes and quantities of timber and recording them; identification of the timber through marking and training together with supervision of the staff involved in the

⁴⁸³ 2020. Republic of Kenya, Ministry of Environment and forestry, Third draft National Policy. Available at: <http://www.environment.go.ke/wp-content/uploads/2020/12/Third-Draft-Policy-December-2020.pdf> (accessed: 12th October, 2021). P. 29.

⁴⁸⁴ KWC Certification program. Chain of custody verification for legality and certification: an introduction for the Ghana timber industry. Available at: http://www.itto.int/files/itto_project_db_input/2950/Promotional/Chain-of-Custody-Brochure.pdf (accessed on 1st November, 2021).

⁴⁸⁵ ASEAN Guidelines for Chain of Custody of Legal Timber and Sustainable Timber, available at: https://asean.org/wpcontent/uploads/images/archive/AMAF%2032%20ASEAN_Guidelines_for_Legal_Sustainable_Timber-%20final.pdf (accessed on 25th October, 2021)P.6

⁴⁸⁶ Forest Conservation and Management Act No.34 of 2016, Section 2, Interpretation.

⁴⁸⁷ Marais.G.2012.understanding the forest product chain of custody certification standard, A discussion about the challenges, impacts and opportunities for the Forest Product Chain-of-Custody (CoC). Available at: <https://www.sgs.com/~media/Global/Documents/White%20Papers/SGS-White-Paper-Forest-Product-Chain-of-Custody-EN.ashx> (accessed on 1st November, 2021).

system so as to ensure compliance with the procedures.⁴⁸⁸The chain of custody system has benefits such as increase in sales and profitability, international recognition of timber, transparency, legality of timber assurance and effective communication in the supply chains.⁴⁸⁹

The main goal of a chain of custody system is to promote sustainable forest management.⁴⁹⁰When it comes to timber harvesting, it ensures that the biodiversity, ecological processes and productivity of the forest, is still maintained while still being socially beneficial and economically viable without compromising the forest resources, adjacent communities or the ecosystem.⁴⁹¹ Examples of countries that have adopted the Chain of custody system and the benefits derived therefrom shall be assessed in Chapter 4 below.

The law requires that when timber is being harvested, the licensee should ensure that for indigenous stock, the height of the stump does not exceed 15 cm, the top diameter is not less than 10 cm and no residue is removed from the forest, while for cultivated plantation, the stump height does not exceed 8 cm and top diameter is not less than 10 cm.⁴⁹²

Timber marking is also required of licensees, to ensure that they mark, brand or identify timber felled with the exact mark that has been assigned by the Director before removing felled timber from the area.⁴⁹³ In *Joseph Leboo & 2 others v Director KFS & another*,⁴⁹⁴the applicants claimed that there was a breach of the 10th rule of the Forest Harvesting rules in that the trees harvested

⁴⁸⁸ Ibid.

⁴⁸⁹ Paluš, H., Parobek, J., Dudík, R. and Šupín, M., 2017. Assessment of Chain-of-Custody Certification in the Czech and Slovak Republic. *Sustainability*, 9(10), p.1898.(accessed on 1st November, 2021).P.2.

⁴⁹⁰ Teketay D., Mbolo A. M. M., Kalonga S. K. and Ahimin O. 2016. Forest certification in Africa: achievements, challenges and opportunities. African Forest Forum, Nairobi, Kenya. 157 p.

⁴⁹¹ Teketay D., Mbolo A. M. M., Kalonga S. K. and Ahimin O. 2016. Forest certification in Africa: achievements, challenges and opportunities. African Forest Forum, Nairobi, Kenya. 157 p, (accessed on 1st November, 2021).P.4.

⁴⁹² Forest (Harvesting) Rules, 2009, Cap 385.Rule 6 (1). Rule 8 (1).

⁴⁹³ Rule 10.

⁴⁹⁴ [2013] eKLR *Joseph Leboo & 2 others v Director Kenya Forest Services & another*.

had not been marked, which is a requirement in Timber harvesting. The learned Judge in this case restrained the harvesting of timber or trees.⁴⁹⁵

As previously highlighted, this is however not complied with by all, as there are logs from public forest plantations that are transported without hammer marks and disguised as being from private farms.⁴⁹⁶ This is due to the fact that there is no requirement for logs from private farms to have hammer marks hence seen as a loophole.⁴⁹⁷

Forest produce from state or local authority forest should be transported with a valid license and a delivery note issued and where the produce is from any other land, proof of origin from the forest owner where the timber was felled and proof of payment of prescribed fees is required.⁴⁹⁸ The County Ecosystem Conservator is responsible for issuing movement permits after providing a certificate of origin showing the source of the timber and the owner of the farm where the timber was sourced from.⁴⁹⁹ In the case of sawn timber and bamboo being transported within one month and does not exceed one tonne or one cubic meter, the said requirement for transportation are not required.⁵⁰⁰

Saw mills are under the obligation to ensure that timber or bamboo delivered to them is accompanied by proof of origin⁵⁰¹ and where the origin is from a state or a local authority, it is

⁴⁹⁵ Ibid n.494.

⁴⁹⁶ Ingram JC, Whittaker RJ, Dawson TP. Tree structure and diversity in human-impacted littoral forests, madagascar. *Environ Manage.* 2005 Jun;35(6):779-98. doi: 10.1007/s00267-004-0079-9. PMID: 15977086. (Accessed on 1st October, 2021) p.62

⁴⁹⁷ Ibid.

⁴⁹⁸ The Forest (Harvest) Rules, 2009, Section 11 (1).

⁴⁹⁹ Kenya Forest Service, Clarification on the use of Movement Permits to regulate harvesting of trees in the Country, available at:

http://www.kenyaforestservice.org/index.php?option=com_content&view=article&id=665:clarification-on-the-use-of-movement-permits-to-regulate-harvesting-of-trees-in-the-country&catid=173&Itemid=755 (accessed on 23rd October, 2021).

⁵⁰⁰ The Forest (Harvest) Rules, 2009, Section 11 (2).

⁵⁰¹ Rule 16 (a).

properly marked or branded.⁵⁰² In the event that the licensing provisions are not complied with, the same is considered an offence and upon conviction, a penalty of Kenya shillings ten thousand, imprisonment for a term of up to one (1) year or both the fine and jail term.⁵⁰³

The chain of custody system established by KFS needs to be reviewed as there is no way to verify the documents provided along the system, little attention is given to the requirement of a certificate of origin and the capacity to ensure verification before the issuance of a movement permit is limited.⁵⁰⁴

3.2.5.4.Procedure for issuance of a timber license

The procedure for issuance of the timber license includes pre-qualification, offering, advertisement and bidding.⁵⁰⁵ In the period prior to 2015/2016, open tendering procedure was utilized by the KFS to select, award and grant of timber logging licenses.⁵⁰⁶ With this bidding process, the plantations department developed a prequalification criteria and delivered it to the department of procurement and supply chain where it was advertised in the daily press.⁵⁰⁷ Due diligence to verify technical, financial and technological capacity in processing and harvesting of logs was conducted on the saw mills.⁵⁰⁸ After which, the saw millers were required to pay a license fee between Kenya Shillings Thirty Thousand and Eighty Thousand only depending on their category once

⁵⁰² Rule 16 (b).

⁵⁰³ Rule 27.

⁵⁰⁴ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 13th October, 2021). P.48-49.

⁵⁰⁵ Kenya Forest Service (2015), Participatory Forest Management Guidelines. Available at: <http://www.kenyaforestservice.org/documents/pfm/PFM%20Guilines%20Final%202016.pdf> (accessed on 13th October, 2021). P3.

⁵⁰⁶ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 13th October, 2021). P.60.

⁵⁰⁷ Ibid n.506.P.61

⁵⁰⁸ Ibid.

prequalified.⁵⁰⁹ Eight Hundred and Fifty Saw Millers were prequalified and were then organized depending on the county and depending on forest stock availability, a bidding request was sent to prequalified saw millers.⁵¹⁰ The bids would then be evaluated by the Accounts personnel and Ecosystems Conservator and recommendations made to the Tender Committee for the final award.⁵¹¹

In the year 2017, this procedure was changed where the Kenya Forest Service indicated that there shall be direct allocation of forest stocks.⁵¹² Noting that the Kenya Forest Service procurement department is not directly involved, the same is prone to abuse.⁵¹³ There is a shortcut in this process as due diligence is not conducted for most saw millers hence resulting in allocation of forest stocks to saw millers who do not have good technology.⁵¹⁴ It is therefore important for the Kenya Forest Service to revert to the procedure provided under the Forests (Participation in Sustainable Forest Management) Rules, 2009 in relation to the issuing of timber licenses and put an end to the direct allocation of forest stocks.⁵¹⁵

In *Joseph Leboo & 2 others v Director KFS & another*⁵¹⁶ the respondents were claimed to have disregarded the procedure provided under the Forest (Participation in Sustainable Forest Management) Rules, 2009 and that the saw millers were harvesting trees not allocated to them, hence irreparable loss would be suffered unless there is court intervention. There was also no

⁵⁰⁹ Ibid.

⁵¹⁰ Ibid.

⁵¹¹ Ibid.

⁵¹² Ibid.

⁵¹³ Ibid.

⁵¹⁴ Ibid.

⁵¹⁵ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 13th October, 2021). P.8.

⁵¹⁶[2013] eKLR Joseph Leboo & 2 others v Director Kenya Forest Services & another

management plan in place and hence the learned Judge restrained the respondents from harvesting trees or timber.⁵¹⁷

Apart from timber licensing, the Forest Conservation and Management Act, requires that any forestry related activities should undergo an Environmental Impact Assessment.⁵¹⁸ In *Joseph Leboo & 2 others v Director KFS & another*⁵¹⁹ it was confirmed that the requirement of an EIA in harvesting of trees is mandatory and in compliance with section 48, 58, 59 and Schedule 2 of the EMCA.⁵²⁰ The requirement of an EIA promotes sustainable development as it ensures that developments do not affect natural resources and their ecological functions and the livelihood of communities.⁵²¹

3.2.5.5. Auditing of timber harvesting activities

NEMA is obligated under Section 68 of the Act to conduct an EA of all activities which could potentially have significant environmental effect.⁵²² The auditor should appraise project activities, adequately consider frameworks of environmental regulation, sustainable resources use and environmental health and safety procedures.⁵²³

⁵¹⁷ Ibid n.516.

⁵¹⁸ Section 58 (1) (4).

⁵¹⁹ [2013] eKLR, *Joseph Leboo & 2 others v Director Kenya Forest Services & another*

⁵²⁰ Ibid n.519.

⁵²¹ Muigua. K. A paper on Environmental Impact Assessment (EIA) in Kenya. Available at: <http://kmco.co.ke/wp-content/uploads/2018/08/A-Paper-on-Environmental-impact-assessment.pdf> (accessed on 12th October, 2021) P.8 & 9.

⁵²² Forest Conservation and Management Act No.34 of 2016, Section 68 (1).

⁵²³ Muigua. K. A paper on Environmental Impact Assessment (EIA) in Kenya. Available at: <http://kmco.co.ke/wp-content/uploads/2018/08/A-Paper-on-Environmental-impact-assessment.pdf> (accessed on 12th October, 2021) P.7.

Conclusion

The regulation of timber harvesting in Kenya and compliance with the Forest harvesting rules is challenged due to failure on the part of the KFS. The KFS should issue timber licenses in accordance with the rules and communicate to the licensees the clear terms and conditions, and should inform the forest officers of the same.⁵²⁴ There should also be the establishment of a verification procedure to monitor compliance by licensees of the licensing conditions.⁵²⁵

As previously highlighted, there is also the major threat of Forgery and duplication of timber related documentation, this facilitates illegal activities related to timber harvesting such as illegal logging activities outside the permitted areas.⁵²⁶ All these activities affect sustainable forest management as it makes it difficult for forestry officials to be able to verify and track the source of timber, hence derailing forest conservation efforts.⁵²⁷

The Enforcement and Compliance division of the Kenya Forest Sector has also been identified as weak. KFS also goes against the law by awarding letters to saw millers that do not stipulate the required terms and conditions to be complied with, instead of issuing timber licenses as required by FCMA.⁵²⁸

⁵²⁴ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 13th October, 2021). P.8.

⁵²⁵ Ibid. n.524.

⁵²⁶ N.T.M.M.J. (1994). *Hard times for hardwood: Indigenous timber and the timber trade in Kenya*. Traffic.Org. <https://www.traffic.org/site/assets/files/9761/timber-trade-in-kenya.pdf>. [Accessed on 9th October, 2021]. P32.

⁵²⁷ ⁵²⁷ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 6th October, 2021). p.63.

⁵²⁸ Ministry Of Environment and Forestry, Draft National Forest Policy, 2020, P.20

What is also still yet to be done is enactment of regulations for grading and valuation of timber, though provision for it is provided under Section 59 (1) of FCMA.⁵²⁹

As for the Environmental Impact Assessment, the mandate of NEMA is broad hence posing the threat of conflict and clashes with other forest related agencies.⁵³⁰ While Environmental Impact Assessment licenses are issued, there is usually no follow up by NEMA to ensure compliance with the license in management of forest plantations, hence does not promote sustainable timber harvesting.⁵³¹

3.2.6. Participation of Communities in public forests Management

3.2.6.1. Why is involvement of local communities in management of forests advanced in Kenya?

The PFMG and the FCMA provide for the inclusion of local populations in management and governance of forests in Kenya.⁵³² When it comes to forest management, inclusion of the local population in making decisions has been advanced as a tool for bettering not only the livelihoods of communities but also the conditions of forests in Kenya.⁵³³ Participatory Forest management involves local communities in forest management through inclusiveness, equity and

⁵²⁹ Ibid, n528.

⁵³⁰ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 23rd October, 2021). P.51.

⁵³¹ Ibid. n.530.

⁵³² Mbeche, Robert & Ateka, Josiah & Herrmann, Raoul & Grote, Ulrike. (2021). "Understanding forest users' participation in participatory forest management (PFM): Insights from Mt. Elgon Forest ecosystem, Kenya. Forest Policy and Economics. 129. 102507. 10.1016/j.forpol.2021.102507. available at: https://www.researchgate.net/publication/351879767_Understanding_forest_users'_participation_in_participatory_forest_management_PFM_Insights_from_Mt_Elgon_forest_ecosystem_Kenya/citation/download (accessed on 23rd October, 2021)..P3.

⁵³³ Ibid n.532. P.2.

decentralization of forest resources governance.⁵³⁴ This was included in Kenya to promote sustainability in the management of forests.⁵³⁵ Escalated deforestation of forests in Kenya had been increasing at an alarming rate in Kenya, and one of the reasons identified for this was the lack of inclusion of communities in the management of forests.⁵³⁶ The involvement of community approach was first used at the Arabuko-Sokoke forest, on a trial basis.⁵³⁷

3.2.6.2.How local communities are included in forest management

KFS is in charge of developing and implementing forest management plans for each nature reserve, public and provisional forests.⁵³⁸ When it comes to forests in counties, the county government is required to prepare the management plan,⁵³⁹ for community forests a community is required to do the same or request the relevant county government to prepare the same on its behalf.⁵⁴⁰ Consultation with the relevant forest conservation committees is required when preparing the forest management plans.⁵⁴¹

Local community participation is done through CFAs, which are registered by communities living adjacent to a forest.⁵⁴² Once the management plan is registered and a management

⁵³⁴ Mutune JM, Wahome RG, Mungai DN (2015). Local Participation in Community Forest Associations: A Case Study of Sururu and Eburu Forests, Kenya. *International Journal of African and Asian Studies* 13:84-94. (Accessed on 1st November, 2021). P. 84.

⁵³⁵ Ibid.

⁵³⁶ Ongugo, P.O., 2007. Participatory Forest Management in Kenya: Is There Anything for the Poor? The Precursor for PFM. *Forestry*, (September), pp.1–10. (accessed on 1st November, 2021).P21.

⁵³⁷ Ibid.

⁵³⁸ The Forest Conservation and Management Act No.34 of 2016, Section 47(2).

⁵³⁹ Ibid. Section 47(3)

⁵⁴⁰ Ibid, Section 47(4).

⁵⁴¹ Ibid. Section 47(5).

⁵⁴² Mbeche, Robert & Ateka, Josiah & Herrmann, Raoul & Grote, Ulrike. (2021). Understanding forest users' participation in participatory forest management (PFM): Insights from Mt. Elgon Forest ecosystem, Kenya. *Forest Policy and Economics*. 129. 102507. 10.1016/j.forpol.2021.102507. available at: https://www.researchgate.net/publication/351879767_Understanding_forest_users'_participation_in_participatory_forest_management_PFM_Insights_from_Mt_Elgon_forest_ecosystem_Kenya/citation/download (accessed on 23rd October, 2021).P.3.

agreement is signed, the CFAs manage the forests with KFS.⁵⁴³ The management agreement grants rights and responsibilities to the CFA while the plan sets out all the activities that the community will take on.⁵⁴⁴ The Community is to be guided by the management plan as they undertake their activities.⁵⁴⁵ It is worth noting that the government in this arrangement still maintains the ownership and all that communities, through CFAs get is user rights, on condition that the CFA is duly registered and an application is made to KFS for inclusion in forests management.⁵⁴⁶

The detailed role of KFS in relation to CFAs is to permit a CFA to take part in public forest conservation, provide conditions of such participation, maintain records of registered CFAs, provide technical support, prepare plans for managing forests, administer the agreements for managing forests and help CFAs in conducting their elections.⁵⁴⁷

3.2.6.3. User rights granted to local communities

User rights that may be delegated to communities include timber or wood fuel harvesting, plantation establishment, and development of community non-wood and wood industries.⁵⁴⁸

With these rights comes the responsibility of establishment of plantations, patrols in forests, payment of charges for use of the forests and attendance of CFA meetings.⁵⁴⁹ Some of these user

⁵⁴³ Ibid.

⁵⁴⁴ Mutune JM, Wahome RG, Mungai DN (2015). Local Participation in Community Forest Associations: A Case Study of Sururu and Eburu Forests, Kenya. *International Journal of African and Asian Studies* 13:84-94. (Accessed on 1st November, 2021). P.84.

⁵⁴⁵ The Forest Conservation and Management Act No.34 of 2016, Section 49 (1).

⁵⁴⁶ Mutune JM, Wahome RG, Mungai DN (2015). Local Participation in Community Forest Associations: A Case Study of Sururu and Eburu Forests, Kenya. *International Journal of African and Asian Studies* 13:84-94. (Accessed on 1st November, 2021) P.84

⁵⁴⁷ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 23rd October, 2021). P.78

⁵⁴⁸ The Forest Conservation and Management Act No.34 of 2016, Section 49 (2).

⁵⁴⁹ Mbeche, Robert & Ateka, Josiah & Herrmann, Raoul & Grote, Ulrike. (2021). Understanding forest users' participation in participatory forest management (PFM): Insights from Mt. Elgon Forest ecosystem, Kenya. *Forest*

rights are provided in the below management plans.

Chuka Participatory Forest Management Plan, 2015-2019⁵⁵⁰

This plan was made by KFS in collaboration with the Chuka forest local population that formed a CFA being the Mt. Kenya East Environmental Conservation Association (MKCEECA).⁵⁵¹ The adjacent communities depend on timber as one of the forest products.⁵⁵² The forest has three zones established by the plan being the Natural Forest Zone, Productive zone and Intervention zone.⁵⁵³ Under the productive zone, the management option provided is establishment of tree plantations for production of timber and poles.⁵⁵⁴

Bunyala Participatory Forest Management Plan, 2015-2019⁵⁵⁵ This plan was prepared by KFS in conjunction with Bunyala Community Forest Association and other stakeholders.⁵⁵⁶ Timber has been identified as one of the wood products that the adjacent communities depend on.⁵⁵⁷ The zones identified in the forest are productive zone, protection zone, subsistence areas and

Policy and Economics. 129. 102507. 10.1016/j.forpol.2021.102507. available at: https://www.researchgate.net/publication/351879767_Understanding_forest_users'_participation_in_participatory_forest_management_PFM_insights_from_Mt_Elgon_forest_ecosystem_Kenya/citation/download (accessed on 23rd October, 2021).P.3.

⁵⁵⁰ Kenya Forest Service. Chuka Participatory Forest Management Plan.2015-2019.Available at: <https://sgp.undp.org/all-documents/country-documents/925-kenya---chuka-participatory-forest-management-plan/file.html> (accessed on 1st November, 2021)

⁵⁵¹ Kenya Forest Service. Chuka Participatory Forest Management Plan.2015-2019.Available at: <https://sgp.undp.org/all-documents/country-documents/925-kenya---chuka-participatory-forest-management-plan/file.html> (accessed on 1st November, 2021).p.iii.

⁵⁵² Ibid.p xiv.

⁵⁵³ Kenya Forest Service. Chuka Participatory Forest Management Plan.2015-2019.Available at: <https://sgp.undp.org/all-documents/country-documents/925-kenya---chuka-participatory-forest-management-plan/file.html> (accessed on 1st November, 2021).p.45.

⁵⁵⁴ Ibid.

⁵⁵⁵ Kenya Forest Service. Bunyala Participatory Forest Management Plan 2015-2019. Available at: https://issuu.com/nature_kenya/docs/bunyala_participatory_forest_mangem/93 (accessed on 1st November, 2021).

⁵⁵⁶ Ibid. pvi.

⁵⁵⁷ Kenya Forest Service. Bunyala Participatory Forest Management Plan 2015-2019. Available at: https://issuu.com/nature_kenya/docs/bunyala_participatory_forest_mangem/93 (accessed on 1st November, 2021).p.25.

intervention zone. Under the productive zone, commercial production and extraction of wood is allowed.⁵⁵⁸

These management plans promote sustainable timber harvesting as communities are authorized to harvest in so far as the same is done sustainably.

3.2.6.4. Structure of a Community Forest Association

The structure of a CFA in Kenya includes an executive committee, management committee and community-based organizations which includes the members.⁵⁵⁹ The structure of CFA is of utmost importance as it is important for the attraction of stakeholders, including investors, hence it has to be formulated to encourage the inclusion of a new member.⁵⁶⁰ The number of CFAs that have been registered across Kenya's conservancies are 325 as at the year 2018. The CFAs that have forest management plans are 156 and those that have signed agreements for management of forests with KFS are 99 only.⁵⁶¹

3.2.6.5. Impact of presidential logging bans on CFAs

Over the years, Kenya has put in place various logging bans. This raises an issue of conflict in the management agreement between CFAs and the KFS which permits timber harvesting in so far as it is done in a sustainable manner and the logging bans.⁵⁶² It is noted that this lack of

⁵⁵⁸ Kenya Forest Service. Bunyala Participatory Forest Management Plan 2015-2019. Available at: https://issuu.com/nature_kenya/docs/bunyala_participatory_forest_mangem/93 (accessed on 1st November, 2021).p.44.

⁵⁵⁹ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 23rd October, 2021). P.77.

⁵⁶⁰ Thenya, Thuita. (2017). High community expectation against low societal transformation through community-based income generating activities. Analysis of Participatory Forest management in Kenya 2005-2013. International Journal of Scientific Research and Management. 10.18535/ijstrm/v5i6.02. (Accessed on 1st November, 2021) P.5364.

⁵⁶¹ Ibid.P.77.

⁵⁶² JN.Keraka. 'An assessment of the adequacy of the moratorium on logging as a sustainable forest management tool: A case study of Eastern-Mau Forest reserve area (Master of Laws, University of Nairobi, 2018).

coordination and harmony of procedures results in resource conflicts especially when the local communities are not taken into consideration.⁵⁶³ With this lack of harmony, a state of confusion is created and illegal logging is thereby fostered, hence undermining sustainable forest management which is the main goal of involving communities in management of forests.

Conclusion

While Participatory Forest Management has been provided for under the law, where CFAs are accorded the right to benefit and co-manage forests with the Kenya Forest Service, the situation on the ground is different as their participation is limited.⁵⁶⁴

There is the concern that only a few registered associations, being about 30%, have met the required legal parameters. For the remaining 70%, a reasonable conclusion is that having no obligation to comply with the existing legislation, they make no contribution towards managing and conserving forests sustainably.⁵⁶⁵ KFS has not taken advantage of this opportunity to ensure all CFAs are registered towards ensuring effective management of forest resources.⁵⁶⁶

⁵⁶³ Violet Matiru.2000. 'Conflict and natural resource management,' available at: <https://www.fao.org/forestry/21572-0d9d4b43a56ac49880557f4ebaa3534e3.pdf> (accessed on 1st November, 2021). P.10.

⁵⁶⁴ Mbeche, Robert & Ateka, Josiah & Herrmann, Raoul & Grote, Ulrike. (2021). Understanding forest users' participation in participatory forest management (PFM): Insights from Mt. Elgon Forest ecosystem, Kenya. Forest Policy and Economics. 129. 102507. 10.1016/j.forpol.2021.102507. available at: https://www.researchgate.net/publication/351879767_Understanding_forest_users'_participation_in_participatory_forest_management_PFM_Insights_from_Mt_Elgon_forest_ecosystem_Kenya/citation/download (accessed on 23rd October, 2021).P.2.

⁵⁶⁵ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 23rd October, 2021). P.77.

⁵⁶⁶ Ibid n.565.

There is a challenge when it comes to monitoring of the activities of CFAs by the Kenya Forest Service and a system to ensure that their activities are well audited should be set by the KFS.⁵⁶⁷ Another challenge involving CFAs is weaknesses in the structure and low literacy levels, hence more resources need to have more resources put in the formation stages of the CFA and in its operations to increase the number of stakeholders who are professionals to come up with new ideas.⁵⁶⁸

3.2.7. Penalties for illegal timber harvesting

Penalties ensure that the various stakeholders comply with the legislation when conducting timber harvesting activities. The penalties provided under some of the forestry laws are considered to be lenient and not proportionate to the grave offences committed.⁵⁶⁹

For instance, under the Forest Harvesting Rules, 2009, anyone who contravenes any of the rules therein is once convicted liable to a fine of not less than ten thousand shillings or to imprisonment for a term not exceeding one year, or to both the fine and imprisonment.⁵⁷⁰

FCMA also prescribes a general penalty for offences not specifically prescribed for under the Act, being, a fine of Kenya Shillings ten thousand, imprisonment for up to three months or both the fine and prison term.⁵⁷¹

⁵⁶⁷ Ibid. P.78.

⁵⁶⁸ Thenya, Thuita. (2017). High community expectation against low societal transformation through community-based income generating activities. Analysis of Participatory Forest management in Kenya 2005-2013. International Journal of Scientific Research and Management. 10.18535/ijstrm/v5i6.02. (Accessed on 1st November, 2021) P.5368.

⁵⁶⁹ 2020. Republic of Kenya, Ministry of Environment and forestry, Third draft National Policy. Available at: <http://www.environment.go.ke/wp-content/uploads/2020/12/Third-Draft-Policy-December-2020.pdf> (accessed: 12th October, 2021). P. 29.

⁵⁷⁰ Forest (Harvesting) Rules, 2009, Section 27.

⁵⁷¹ Forest Conservation and Management Act No.34 of 2016, Section 69.

In my opinion, these sanctions are too lenient and hence affect the sustainable harvesting of timber as persons undertaking illegal forestry activities would rather risk as the commercial value of their crimes exceeds the fines. There is a need for more stringent sanctions for environmental crimes.⁵⁷² In *Robert Wachira v Republic*⁵⁷³ the accused was charged with forest produce transportation without a movement permit in contradiction with Section 14 (1) (a) of the Forest (Charcoal) Rules, 2009. He pleaded guilty and was sentenced to a Kenya Shillings Twenty thousand fine or imprisonment for two (2) months in default of payment of the fine.⁵⁷⁴ In such a case, the lenient sentence is demonstrated as the forest produce being transported exceeded the fine imposed therein. This therefore encourages forest related crimes.

Another gap in the forestry laws in relation to penalties is that there are no codes or regulations in place for disciplinary of officers in the forestry sector which is important that they be included so as to ensure that they conduct their roles as mandated, this will help promote sustainable timber harvesting.⁵⁷⁵

3.2.8. Forest Concessions in establishing timber harvesting rights

3.2.8.1. What is a forest concession?

A forest concession is defined as the user rights accorded to an individual or organization in relation to a particular area in a national or county forest by way of a long-term contract for utilization and commercial forest management.⁵⁷⁶ The Constitution also makes provision for

⁵⁷² Supra n.569, P.89.

⁵⁷³ [2016] eKLR, Robert Wachira v Republic

⁵⁷⁴ Ibid n.573.

⁵⁷⁵ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 23rd October, 2021). P.93.

⁵⁷⁶ The Forest Conservation and Management Act No.34 of 2016, Section 2, Interpretation.

forest concessions.⁵⁷⁷ Generally, for forest concessions, the transfer of rights is usually medium-term to long-term and they pay for timber harvesting rights.⁵⁷⁸ Concession holders are required to perform various services being environmental, social and economic in exchange for their rights, some of which include silviculture, management of biodiversity, forest regeneration and infrastructure such as roads.⁵⁷⁹

3.2.8.2. Requirements and process of Issuance of forest concessions

The private sector is an important link in the forest sector.⁵⁸⁰ Inclusion of private sector in management of forests sustainably may be in the form of a concession agreement.⁵⁸¹ It is required that prior to authorization, technical, financial and capacity to enter into contracts and in the case of foreigners compliance with investment laws must be demonstrated by each person.⁵⁸² Companies such as saw millers and bamboo growers have shown interest in establishing commercial plantations and taking concessions in public plantations as provided under the Forest Conservation and Management Act.⁵⁸³ In granting of concessions, the Kenya Forest Service shall only issue the same once the following requirements have been fulfilled being, an independent environmental impact assessment has been conducted and consultation with the public has been

⁵⁷⁷ The Constitution of Kenya, 2010, Article 71(1).

⁵⁷⁸ Hensbergen, H.J. van. 2018. Rethinking forest concessions - Improving the allocation of state-owned forests for better economic, social and environmental outcomes. Forestry Working Paper No. 4. Rome, FAO. 84pp. (accessed on 2nd November, 2021). p.vii

⁵⁷⁹ Hensbergen, H.J. van. 2018. Rethinking forest concessions - Improving the allocation of state-owned forests for better economic, social and environmental outcomes. Forestry Working Paper No. 4. Rome, FAO. 84pp. (accessed on 2nd November, 2021). p.6.

⁵⁸⁰ Kenya National Forest Programme 2016-2030 | KWCA Kenya National Forest Programme 2016-2030 | KWCA (2017). Available at: <https://kwcakenya.com/download/kenya-national-forest-programme-2016-2030/> (Accessed: 27th October, 2021 P.42.

⁵⁸¹ The Forest Conservation and Management Act No.34 of 2016, Section 56 (2)(f).

⁵⁸² Ibid. Section 57 (1).

⁵⁸³ The Forest Conservation and Management Act No.34 of 2016, Section 44(1).

done.⁵⁸⁴ In *Republic v Kenya Forest Service Ex-parte Clement Kariuki & 2 others*⁵⁸⁵ the KFS made an advertisement in Daily Nation on 14th June, 2012 inviting individuals and institutions to place their applications for concessions in state forests. Forests that were subject of the advert were North Rift, Aberdares, Mt. Kenya and Mt. Elgon. The applicants claimed that an EIA was not conducted, there was no public participation before the notice was issued and that parliament had not created legislation governing concessions to individuals. If granted, the concessions would lead to the depletion of the forests as they would be managed by private individuals who would prioritize the commercialization of the forests and obtaining the most benefits from them. An order of prohibition was issued barring granting of the concessions.⁵⁸⁶

A concession may be issued for a thirty year maximum term.⁵⁸⁷ The granting of concessions is through valuation and bidding, where the Kenya Forest Service is required once every year to offer an opportunity to prequalify for bidding on concession agreements.⁵⁸⁸ The invite should be by advertisement in the service headquarters at a visible place, in their website and in two newspapers of national circulation.⁵⁸⁹ Applications shall thereafter be made to the Kenya Forest Service which shall thereafter submit the application to the forest conservation committee for consideration.⁵⁹⁰ Once pre-qualified, a prequalification certificate is issued for a duration of five years.⁵⁹¹

Once a concession is granted, the grantee shall be required to comply with all the guidelines or management plans stipulated by the Kenya Forest service, protect the concession area and its

⁵⁸⁴ The Forest Conservation and Management Act No.34 of 2016, Section 44(2).

⁵⁸⁵ *Republic v Kenya Forest Service Ex-parte Clement Kariuki & 2 others* [2013] eKLR

⁵⁸⁶ *Republic v Kenya Forest Service Ex-parte Clement Kariuki & 2 others* [2013] eKLR

⁵⁸⁷ Forests (Participation in Sustainable Forest Management) Rules, 2009, Rule 28 (2).

⁵⁸⁸ *Ibid*, Rule 29 (1).

⁵⁸⁹ *Ibid*. Rule 29 (3).

⁵⁹⁰ *Ibid*. Rule 29(6).

⁵⁹¹ *Ibid*, Rule 30.

physical boundaries, prepare a forest management plan for the concession area, prevent forest fires, maintain all structures constructed, and pay all charges related to the use of forest resources.⁵⁹²

For a forest concession to succeed, the concession holders must be able to make a profit from the timber harvested as they provide the other services required of them such as economic and social functions.⁵⁹³

3.2.8.3.Liability in the event of breach of a forest concession

In terms of liability, the concession holder is held liable for all damage or loss in performance of any of their activities in the concession, including all negligent actions of the employees or agents.⁵⁹⁴ In the event of any breach by the grantee, the Kenya Forest Service shall have the right to withdraw the concession through a notice in the Gazette.⁵⁹⁵ Financial security is also required to be provided by the grantee, in the form of a bond for environmental protection,⁵⁹⁶ equivalent to the amount related to the environmental obligations.⁵⁹⁷

3.2.8.4.Impact of forest concessions on sustainable timber harvesting

The goal of forest concessions is to promote sustainable forest management while still benefiting the concession holders and the state financially.⁵⁹⁸ Granting of concessions to private companies will have an impact on sustainable timber harvesting as they come in to fill in the gap between

⁵⁹² The Forest Conservation and Management Act No.34 of 2016, Section 44(3).

⁵⁹³ Hensbergen, H.J. van. 2018. Rethinking Forest concessions - Improving the allocation of state-owned forests for better economic, social and environmental outcomes. Forestry Working Paper No. 4. Rome, FAO. 84pp.(accessed on 2nd November, 2021).p.6.

⁵⁹⁴ The Forest Conservation and Management Act No.34 of 2016, Section 44(5).

⁵⁹⁵ Ibid, Section 44(6).

⁵⁹⁶ Ibid, Section 44(7)

⁵⁹⁷ Ibid, Section 44(8).

⁵⁹⁸ Hensbergen, H.J. van. 2018. Rethinking Forest concessions - Improving the allocation of state-owned forests for better economic, social and environmental outcomes. Forestry Working Paper No. 4. Rome, FAO. 84pp. (accessed on 2nd November, 2021).p.8.

supply and demand which currently stands at 10.3 million cubic meters as a result of poor management practices on plantations.⁵⁹⁹ Concession agreements lay out the rights and responsibilities of concession holders which usually includes safeguards for the protection of the environment, they basically ensure that harvesting impacts are reduced.⁶⁰⁰

Conclusion

As at today, there have been no agreed concession agreements and finalization of regulations that govern them.⁶⁰¹ In order to promote private sector participation, priority needs to be placed on approval of the concession policy and subsidiary legislation geared towards guiding the framework for concession management.⁶⁰²

In Kenya, if the timber concessions are managed well, then the timber supply deficit can be met, hence this will help reduce illegal activities related to timber harvesting that are currently high due to the shortage of timber.

Chapter conclusion

The examination of the, policy, legal and institutional framework regulating timber harvesting above makes it clear that although the same is comprehensive, there are still numerous challenges and gaps as the ten percent forest cover is still yet to be attained. Some of the challenges and gaps are overlap of mandates between various institutions and conflicts, weak law enforcement by the

⁵⁹⁹ Draft Forest Policy, 2020.P.22

⁶⁰⁰ Hensbergen, H.J. van. 2018. Rethinking Forest concessions - Improving the allocation of state-owned forests for better economic, social and environmental outcomes. Forestry Working Paper No. 4. Rome, FAO. 84pp. (accessed on 2nd November, 2021).p.7.

⁶⁰¹ 2020. Republic of Kenya, Ministry of Environment and forestry, Third draft National Policy. Available at: <http://www.environment.go.ke/wp-content/uploads/2020/12/Third-Draft-Policy-December-2020.pdf>(Accessed: 26th October, 2021). P.27.

⁶⁰² Kagombe J., Kiprop J., Langat D., Cheboiwo J., Wekesa L., Ongugo P., Mbuvi M.T. and Leley N. (2020). Socioeconomic Impact of Forest Harvesting Moratorium in Kenya (accessed on 26th October, 2021). P25.

relevant forest institutions, weak forest governance, inadequate integration among forest stakeholders, lenient penalties, lack of coherence of responsibilities and replication of efforts. There is therefore the need to have the laws, policies and institutions dealing with timber harvesting harmonized, by putting in place appropriate laws and amending the existing ones for effective management of timber related activities.

The Land ethic concept by Aldo Leopold and John Stuart Mill and Jeremy Bentham's utilitarianism provide the theoretical framework governing this study. The laws governing timber harvesting in Kenya lean more toward the Land ethic concept as it integrates the balancing of interests in the timber sector. The laws are also geared more towards sustainable development by ensuring that while timber harvesting is done, forests and environment are also preserved and conserved for all generations. Sustainable management of forests has been reflected in the relevant laws especially the Constitution, FCMA, EMCA as amended in 2015 among others. They take a holistic approach by regulating the actions of human beings for the protection of the entire ecosystem as a whole.

CHAPTER FOUR: KEY STRATEGIES THAT COULD IMPACT SUSTAINABLE TIMBER HARVESTING

4.1. Introduction

Timber is an important commodity with high commercial value, however if not harvested in a sustainable manner it could have adverse effects not only to forests but the environment as a whole. The goal is not only harvesting trees for their commercial value but to also implement a proper plan that encourages regeneration, protects the existing forests while still providing income and meeting the needs of the society.⁶⁰³ There are key actions that could impact sustainable timber harvesting and this chapter shall analyse each of them.

4.2. The legal and policy shift to tree growing instead of tree planting

The act of planting a seedling in the ground is known as tree planting. Growing of a tree on the other hand is a long-term investment.⁶⁰⁴ Tree planting focuses on meeting the numbers, without taking into consideration the actual quality of the seedlings, or what species flourish in each environment.⁶⁰⁵ Tree growing on the other hand identified the right quality of seedlings, the appropriate environment to grow them and after care to ensure that they are well managed after planting.⁶⁰⁶ Trees are planted for various reasons either for reforestation or afforestation of a landscape that has been degraded for commercial purposes or to mitigate climate change.⁶⁰⁷ When

⁶⁰³ American Forest Foundation, My Land plan, Managing a Successful, Sustainable Timber Harvest. Available at: <https://mylandplan.org/content/managing-successful-sustainable-timber-harvest> (accessed on 24th October, 2021) Para 2.

⁶⁰⁴ Forget tree planting, start tree growing' available at: <https://forestsnews.cifor.org/61174/forget-tree-planting-start-tree-growing?fnl=en> (accessed on 24th October, 2021).

⁶⁰⁵ Duguma L, Minang P, Aynekulu E, Carsan S, Nzyoka J, Bah A, Jamnadass R. 2020. From Tree Planting to Tree Growing: Rethinking Ecosystem Restoration Through Trees. ICRAF Working Paper No 304. World Agroforestry. DOI: <http://dx.doi.org/10.5716/WP20001.PDF> (accessed on 24th October, 2021). P.11.

⁶⁰⁶ Ibid. n605.

⁶⁰⁷ Regreening Africa, World Vision Ethiopia, June 2020, Seedling Survival Count Guideline, available at: <https://regreeningafrika.org/wp-content/uploads/2020/08/Guideline-for-survival-count-final.pdf> (accessed on 24th October, 2021). P.1 Preamble.

trees are planted for whatever reason, there is usually an expected high survival rate because there is usually a high investment placed in the exercise.⁶⁰⁸ Currently, many nations are still yet to attain their tree cover target yet there are numerous campaigns on tree planting. This is because the rate of seedling survival is poor.⁶⁰⁹ Over the years, the rate of return has been low when it comes to tree planting, hence an indicator that there are challenges and gaps that need to be addressed to ensure that there is a high seedling survival rate.⁶¹⁰ It is important that forest players think about tree growing and not tree planting, where there is a sustained engagement in the growing process from start to finish.⁶¹¹

As highlighted in the previous chapter, there are numerous challenges that affect restoration of forests such as:

- a. a short planning cycle, where most are usually below five years. This is a challenge as most trees usually require 5 or more years to fully mature, hence there needs to be a re-evaluation of the projects to increase the planning cycle. Financing of the projects by the government also need to go further than the planting stage⁶¹²
- b. narrow pre-planting and post-planting management, where certain factors such as the quality and source of seedlings, proper site matching, community involvement and after

⁶⁰⁸ Ibid n.607.

⁶⁰⁹ Duguma L, Minang P, Aynekulu E, Carsan S, Nzyoka J, Bah A, Jamnadass R. 2020. From Tree Planting to Tree Growing: Rethinking Ecosystem Restoration Through Trees. ICRAF Working Paper No 304. World Agroforestry. DOI: <http://dx.doi.org/10.5716/WP20001.PDF> (accessed on 24th October, 2021). P.5.

⁶¹⁰ Ibid.n.609

⁶¹¹ Supra n.609.

⁶¹² Duguma L, Minang P, Aynekulu E, Carsan S, Nzyoka J, Bah A, Jamnadass R. 2020. From Tree Planting to Tree Growing: Rethinking Ecosystem Restoration Through Trees. ICRAF Working Paper No 304. World Agroforestry. DOI: <http://dx.doi.org/10.5716/WP20001.PDF> (accessed on 24th October, 2021). P.12-13.

planting care and management are not taken into consideration yet they are very important to ensure the survival rate of seedlings.⁶¹³

- c. Over reliance on tree planting when growing seedlings. Other modes such as natural regeneration mechanisms should also be taken into consideration when growing trees.⁶¹⁴
- d. Lack of incentives to the communities to participate in the restoration activities, hence affecting the success of restoration projects. There needs to be creation of value to the communities hence encouraging them to be part of the restoration activities as they are required for the long-term management of restoration projects.⁶¹⁵
- e. Preparation and acquiring the knowledge of what is required for a successful restoration project is required as most of the time, the success of projects is affected due to lack of adequate resources or financing that were not taken into consideration prior to any project cycle being implemented.⁶¹⁶

The above challenges can however be addressed by positive actions such as: ensuring that there is an institution specifically tasked with the role of managing planted seedlings; after care after planting seedlings, planned interventions to make sure the trees grow; allocation of enough resources to ensure that restoration is effective and obtaining the right quality of seedlings and matching them to the right site.⁶¹⁷

⁶¹³ Ibid. n612.P.13.

⁶¹⁴ Ibid.P.14.

⁶¹⁵ Ibid.P.15.

⁶¹⁶ Ibid.P.16-18.

⁶¹⁷ Duguma L, Minang P, Aynekulu E, Carsan S, Nzyoka J, Bah A, Jamnadass R. 2020. From Tree Planting to Tree Growing: Rethinking Ecosystem Restoration Through Trees. ICRAF Working Paper No 304. World Agroforestry. DOI: <http://dx.doi.org/10.5716/WP20001.PDF> (accessed on 22nd October, 2021). P.20-24.

Tree growing has a positive impact on the environment as it increases the survival rate of seedlings to reach maturity.⁶¹⁸ Kenya has in its national strategy committed to achieving and maintaining a 10% tree cover by the year 2022.⁶¹⁹ Once the above changes are implemented and tree growing is encouraged, this will play a great role in realizing the United Nations SDGs.⁶²⁰

4.3. Effective use of forest management Plans

4.3.1. What are forest management plans?

According to the KFS, Forest Management plans are a tool used to provide guidance to CFAs so as to meet the objectives set by KFS.⁶²¹ The Constitution, provides that the use or right over or interest in any land may be regulated by the state, in the interest of land use planning, defence, public safety, health, order or morality.⁶²² In Kenya, Forest Management plans are covered in the FCMA.⁶²³ It is defined as a document directing and setting goals for managing, conserving and utilizing of a specific forested area of land, stipulating all silvicultural practices and essential activities to produce a marketable forest product and actions that will lessen negative effects on the environment and improve livelihoods.⁶²⁴

⁶¹⁸ Magaju, C., Ann Winowiecki, L., Crossland, M., Frijia, A., Ouerghemmi, H., Hagazi, N., Sola, P., Ochenje, I., Kiura, E., Kuria, A., Muriuki, J., Carsan, S., Hadgu, K., Bonaiuti, E. and Sinclair, F., 2020. Assessing Context-Specific Factors to Increase Tree Survival for Scaling Ecosystem Restoration Efforts in East Africa. *Land*, 9(12), p.494. PP.17.

⁶¹⁹ Ibid. n.618.P.1-2. (accessed on 24th October, 2021).

⁶²⁰ Ibid.

⁶²¹ KFS. Forest Management plans. Available at:

http://www.kenyaforestservice.org/index.php?option=com_content&view=article&id=496&Itemid=679 (accessed on 2nd November, 2021).

⁶²² The Constitution of Kenya, 2010. Article 66(1).

⁶²³ The Forest Conservation and Management Act No.34 of 2016, Section 47.

⁶²⁴ The Forest Conservation and Management Act No.34 of 2016, Section 2, Interpretation.

4.3.2. The role of forest management plans and their guiding laws

The role of a management plan is to protect forest areas and ensure that they are sustainably used, conserved and managed for all generations to come.⁶²⁵ The KFS should prepare for each state forest a management plan of five years.⁶²⁶ The use of plans for forest administration is important, mostly for production of timber and other forest related products, while minding sustainability.⁶²⁷ With increasing demand for timber, the limits exceed sustainability, this is also due to the illegal activities that are rampant as a result of shortage of supply, hence raising concerns on the future of our forests.⁶²⁸ When a forest is well managed, it can provide timber in a sustainable way while also conserving the environment and the benefits derived therefrom.⁶²⁹

Management plans can be used to guide the growing of plantation forests in Kenya. Forest plantations increase the supply of wood and its products, thereby reducing the pressure on natural forests.⁶³⁰ Plantations are managed so as to produce wood that is of high quality to industries.⁶³¹ Zoning and mapping of areas that have been set aside for development of plantations needs to be done.⁶³² Establishment of plantations in Kenya require a lot of investment, hence to encourage their development, management agreements that are long term such as joint management agreements, concessions and partnerships of the private and public sector need to be encouraged.⁶³³

⁶²⁵ Government of Canada. Forest management planning. Available at: <https://www.nrcan.gc.ca/our-natural-resources/forests-forestry/sustainable-forest-management/forest-management-planning/17493> (accessed on 27th October, 2021).

⁶²⁶ Forests (Participation in Sustainable Forest Management) Rules, 2009, Rule 5.

⁶²⁷ B. Foahom, P. Schmidt and J.P. Fines., 2001. Forest management plan, an implementing instrument for sustainable timber production. (Accessed on 24th October, 2021) P.74.

⁶²⁸ Ibid n.627.

⁶²⁹ Ibid. P.75.

⁶³⁰ 2020. Republic of Kenya, Ministry of Environment and forestry, Third draft National Policy. Available at: <http://www.environment.go.ke/wp-content/uploads/2020/12/Third-Draft-Policy-December-2020.pdf> (Accessed: 24th October, 2021). P.20.

⁶³¹ Ibid n.630.

⁶³² Ibid.

⁶³³ Ibid.

With the increased establishment of forest plantations, the supply deficit for timber in Kenya will be met by them and hence the pressure of illegal timber harvesting from our natural forests will be alleviated.

Forest management plans work by outlining the vision of the forest, describing the current condition of the forest and putting in place an action plan to achieve the management goals stipulated therein.⁶³⁴ They can work for public, community and private forests. For community and private forests, owners can seek guidance from the KFS in the preparation of the plans.⁶³⁵

4.3.3. Examples of forest management plans Kenya and whether they provide timber harvesting rights

4.3.3.1. Londiani Participatory Forest Management Plan 2018-2022⁶³⁶

The Londiani Forest which was gazetted through a legal notice no. 44 of 1932 is located in Kericho county with an area of 9015.50 ha.⁶³⁷ It is separated into three blocks being Kedowa, Londiani and Chebewa and to ensure that management has been made easier, it is further divided into compartments and sub-compartments.⁶³⁸ Together with the support of KFS staff, the forest is managed by the Londiani Forest Manager.⁶³⁹ The plan is guided by the Forest Management Agreement that was signed.⁶⁴⁰

⁶³⁴ Know you forest. Forest Management Planning. Available at: <https://knowyourforest.org/learning-library/forest-management-planning> (accessed on 27th October, 2021).

⁶³⁵ The Forest Conservation and Management Act No.34 of 2016. Section 8(b).

⁶³⁶ Kenya Forest Service. 2018. Londiani Participatory Forest Management Plan 2018-2022. Bogor, Indonesia: Center for International Forestry Research (CIFOR).(accessed on 27th October, 2021).

⁶³⁷ Kenya Forest Service. 2018. Londiani Participatory Forest Management Plan 2018-2022. Bogor, Indonesia: Center for International Forestry Research (CIFOR).(accessed on 27th October, 2021).P.ix.

⁶³⁸ Ibid.

⁶³⁹ Ibid.

⁶⁴⁰ Ibid.

The main species found in the forest are Cypress, Pine, Eucalyptus which are grown under monoculture for industrial timber production.⁶⁴¹ The challenges facing the forest are unsustainable use of the forests due to increased population growth, which has resulted in high demand for forest products, illegal logging activities, lack of financial resources, lack of proper coordination by Kenya Forest Service, weak management skills and structures for management.⁶⁴²

The zonation criteria provided in the plan is natural forest zone, plantation zone, intervention zone, grassland and rehabilitation zone.⁶⁴³

The plan's ultimate purpose is management and conservation of the forest sustainably, with the overall vision of being the leading forest station in sustainability in managing and conserving forests.⁶⁴⁴ It takes on a holistic approach in the management of the forest by requiring an Environmental Impact Assessment to be conducted on all activities planned in the forest.⁶⁴⁵ It also provides for monitoring of activities to keep checks and balances in line with the management plan.⁶⁴⁶

The specific plan on timber harvesting is harvesting of all wrongly sited plantations and to re-afforest with indigenous trees.⁶⁴⁷

⁶⁴¹ Kenya Forest Service. 2018. Londiani Participatory Forest Management Plan 2018-2022. Bogor, Indonesia: Center for International Forestry Research (CIFOR). (accessed on 27th October, 2021).P.29

⁶⁴² Ibid.P.48.

⁶⁴³ Kenya Forest Service. 2018. Londiani Participatory Forest Management Plan 2018-2022. Bogor, Indonesia: Center for International Forestry Research (CIFOR). (accessed on 27th October, 2021).P.38.

⁶⁴⁴ Ibid, P.38

⁶⁴⁵ Kenya Forest Service. 2018. Londiani Participatory Forest Management Plan 2018-2022. Bogor, Indonesia: Center for International Forestry Research (CIFOR). (accessed on 27th October, 2021).P.52

⁶⁴⁶ Ibid.P.53.

⁶⁴⁷ Kenya Forest Service. 2018. Londiani Participatory Forest Management Plan 2018-2022. Bogor, Indonesia: Center for International Forestry Research (CIFOR). (accessed on 27th October, 2021).P.38.

4.3.3.2. Chuka Participatory Forest Management Plan 2015-2019⁶⁴⁸

Chuka forest is a state forest covering an area of 23,492 hectares, was gazetted in the year 1932 and it has been managed over the years for conservation purposes.⁶⁴⁹ There has been increased population hence prompting the high needs for forest resources, hence the necessity to protect the biodiversity of the forest and ecological integrity from the impacts associated with improper utilization of forest resources.⁶⁵⁰ The Participatory Forest Management Plan has identified all the resources in the forest, threats and challenges therein and prescribed measures for addressing the said challenges and benefits enhancement to the community. All stakeholders participated in the formulation of this management plan.⁶⁵¹

The ultimate intended outcome of the plan is to foster sustainability in managing, utilizing and conserving the forest and preserving its biodiversity and intrinsic values.⁶⁵² When it comes to timber harvesting, the plan has the objective of promoting farm forestry for timber production.⁶⁵³ The forest consists of both natural and plantation forest but the natural forests are dominant.⁶⁵⁴ The Forest has been affected by unsustainable harvesting of timber, but the situation has improved over

⁶⁴⁸ Kenya Forest Service. Chuka Participatory Forest Management Plan.2015-2019.Available at: <https://sgp.undp.org/all-documents/country-documents/925-kenya---chuka-participatory-forest-management-plan/file.html> (accessed on 27th October, 2021).p.ix.

⁶⁴⁹ Ibid.

⁶⁵⁰ Ibid.

⁶⁵¹ Ibid.

⁶⁵² Kenya Forest Service. Chuka Participatory Forest Management Plan.2015-2019.Available at: <https://sgp.undp.org/all-documents/country-documents/925-kenya---chuka-participatory-forest-management-plan/file.html> (accessed on 27th October, 2021).p.44

⁶⁵³ Ibid.p.44-45.

⁶⁵⁴ Ibid.

the years.⁶⁵⁵ The zonation of the forest is based on the type of vegetation and land uses and the zones are natural forest zone, productive zone and intervention zone.⁶⁵⁶

The Programme areas of intervention have been identified as: the forest conservation programme to promote the conservation of the forest and ecological integrity; human resources, infrastructure and equipment programme to establish infrastructure and provide equipment for forest management; water resources management programme and development of water infrastructure to enhance water availability by conserving the water catchment areas, rehabilitating the riparian zones; community development programmes to support the implementation of livelihood activities; and link ventures to existing tourism networks for benefit to the community.⁶⁵⁷ A sound monitoring and evaluation system has also been recognized in the plan.⁶⁵⁸

The specific plan on timber harvesting is harvesting of all tree plantations and establishing more tree plantations for timber production⁶⁵⁹

4.3.3.3. Karura Forest Strategic Management Plan 2016-2020⁶⁶⁰

Karura forest, consisting of the Karura and Sigiria blocks, covers an area of 1041.3 ha.⁶⁶¹ The plan is to be implemented for a period of five years and its goal is to plan to achieve sustainable

⁶⁵⁵ Ibid.

⁶⁵⁶ Kenya Forest Service. Chuka Participatory Forest Management Plan.2015-2019.Available at: <https://sgp.undp.org/all-documents/country-documents/925-kenya---chuka-participatory-forest-management-plan/file.html> (accessed on 27th October, 2021).p.45

⁶⁵⁷ Kenya Forest Service. Chuka Participatory Forest Management Plan.2015-2019.Available at: <https://sgp.undp.org/all-documents/country-documents/925-kenya---chuka-participatory-forest-management-plan/file.html> (accessed on 27th October, 2021).Chapter 5.

⁶⁵⁸ Ibid, Chapter 7.

⁶⁵⁹Kenya Forest Service. Chuka Participatory Forest Management Plan.2015-2019.Available at: <https://sgp.undp.org/all-documents/country-documents/925-kenya---chuka-participatory-forest-management-plan/file.html> (accessed on 27th October, 2021).p.45

⁶⁶⁰ Kenya Forest Service. Karura Forest Strategic Management Plan 2016-2020.Available at: <http://www.greenbeltmovement.org/sites/greenbeltmovement.org/files/Management%20Plan%20Karura%20Forest%202021.pdf> (accessed on 27th October, 2021).

⁶⁶¹ Ibid. P.7.

management and conservation through stakeholder participation.⁶⁶² Some of the threats that face the forest have been identified as forest fires, pressure from development and invasive weeds such as Lantana camara which are a danger to the indigenous trees.⁶⁶³ The plan provides for the monitoring and evaluation of all activities being conducted in the forests to ensure that they are being done in compliance with the management plan.⁶⁶⁴ The plan provides for conducting of an EIA for all projected activities in the forest.⁶⁶⁵

The zonation of the forest entails nature reserve, forest area that is indigenous, wetlands and riparian areas, developed areas and productive forest area.⁶⁶⁶

The plan also provides for management programmes such as rehabilitation and management programme, participatory forest management programme, forest safety and security programme, local communities livelihoods programme, human resource programme, environmental education, ecotourism and research programme and infrastructure, vehicles, machinery and equipment programme.⁶⁶⁷

The specific plan on timber harvesting is to harvest all areas under plantation of exotic species for production of timber and convert 70 hectares of plantation into indigenous forests.⁶⁶⁸

⁶⁶² Ibid.

⁶⁶³ Ibid.

⁶⁶⁴ Ibid.

⁶⁶⁵ Kenya Forest Service. Karura Forest Strategic Management Plan 2016-2020. Available at: <http://www.greenbeltmovement.org/sites/greenbeltmovement.org/files/Management%20Plan%20Karura%20For%20est%202.pdf> (accessed on 27th October, 2021). P.79.

⁶⁶⁶ Ibid.P.49.

⁶⁶⁷ Kenya Forest Service. Karura Forest Strategic Management Plan 2016-2020. Available at: <http://www.greenbeltmovement.org/sites/greenbeltmovement.org/files/Management%20Plan%20Karura%20For%20est%202.pdf> (accessed on 27th October, 2021). P.38-59.

⁶⁶⁸ Kenya Forest Service. Karura Forest Strategic Management Plan 2016-2020. Available at: <http://www.greenbeltmovement.org/sites/greenbeltmovement.org/files/Management%20Plan%20Karura%20For%20est%202.pdf> (accessed on 27th October, 2021). P.50

4.3.3.4. The National Mangrove Ecosystem Management Plan⁶⁶⁹

When it comes to mangroves, preparation of their management plans should involve stakeholders such as the local communities and the public⁶⁷⁰ as was seen in the Mombasa mangrove Forest Management Plan that was prepared by the KFS in collaboration with the Mombasa Kilindini CFA.⁶⁷¹

The National Mangrove Ecosystem Management Plan was adopted by KFS in the year 2017 seeking to achieve the overall goal of enhancing the integrity of the ecosystem and its contribution to Kenya's economy through sustainable use and management.⁶⁷² It was developed with the objectives of promoting participation of the community, strengthening the capacity of institutions, promotion of recreational activities, research and education and the sustainable use and management of mangroves.⁶⁷³

Zonation was applied in the management plan where four zones were used to categorize mangroves in Kenya being usage, protection, development and intervention.⁶⁷⁴ It also provided for different programmes such as: the Mangrove Forest Conservation and Usage Programme for correction of management challenges; the Fisheries Development and Management Programme for the conservation of mangroves as breeding grounds and habitat for fauna, including fisheries; the Community Programme for improvement of participation of the community in conservation of

⁶⁶⁹ Kenya (2017). National Mangrove Ecosystem Management Plan, Kenya Forest Service, Nairobi, Kenya.

⁶⁷⁰ Slobodian, L. N., Badoz, L., eds. (2019). Tangled roots and changing tides: mangrove governance for conservation and sustainable use. WWF Germany, Berlin, Germany and IUCN, Gland, Switzerland. xii+280pp.P.101

⁶⁷¹ Ibid. n.670.

⁶⁷² Ibid.

⁶⁷³ Slobodian, L. N., Badoz, L., eds. (2019). Tangled roots and changing tides: mangrove governance for conservation and sustainable use. WWF Germany, Berlin, Germany and IUCN, Gland, Switzerland. xii+280pp.P.102

⁶⁷⁴ Ibid n.673.

mangroves as they enhance their livelihoods and ecological integrity and the tourism development Programme.⁶⁷⁵

With the said programmes a system of verification of the outcomes, identification of key agencies and required budget are provided for during the period of the plan.⁶⁷⁶ Acknowledgment and inclusion of EIA and Strategic Environment Assessment in the conservation of mangroves in Kenya is important, however there is still the need to encourage community initiatives which have a huge part in the governance of mangroves, they however still require support from the government and coordination of institutions with the mangrove ecosystem management plan.⁶⁷⁷

From the above plans, having participatory forest management plans is clearly beneficial in that it involves a number of stakeholders including communities, which increases conservation awareness hence improving conservation of forests in Kenya, as stakeholders actively engage in the conservation activities.⁶⁷⁸

4.3.4. Forest management plans impact on sustainable timber harvesting and conclusion

Forest management plans seek to ensure management of forests for various purposes, so that it not only fulfills the current needs but also future ones, preservation to guarantee sustainability is also at the forefront.⁶⁷⁹ The sustainable forests management, through management plans, results in

⁶⁷⁵ Supra n.673. P.103.

⁶⁷⁶ Ibid.

⁶⁷⁷ Slobodian, L. N., Badoz, L., eds. (2019). Tangled roots and changing tides: mangrove governance for conservation and sustainable use. WWF Germany, Berlin, Germany and IUCN, Gland, Switzerland. xii+280pp. P.ix.

⁶⁷⁸ Nature Kenya. Counting gains of Participatory Forest Management. Available at: <https://naturekenya.org/2020/03/02/counting-gains-of-participatory-forest-management/> (accessed on 27th October, 2021).

⁶⁷⁹ B. Foahom, P. Schmidt and J.P. Fines., 2001. Forest management plan, an implementing instrument for sustainable timber production. (Accessed on 2nd November, 2021) P.74.

sustainable timber harvesting especially as a result of the regeneration practices.⁶⁸⁰ Apart from forest management plans there are still other scientific tools that can be used to sustainably conserve and manage forests in Kenya, such as tree growing instead of tree planting, afforestation and reforestation, silvicultural techniques like pruning, prolonging the rotation age and thinning.⁶⁸¹ These if well implemented can enhance sustainable timber harvesting in Kenya.

While management plans are an effective tool to enhance sustainable timber harvesting as observed above, there is still however a challenge when it comes to the conflicting roles of KFS in this area.⁶⁸² The KFS has the mandate to develop and implement management plans for all public forests, and where a request has been made to assist the owners of private and community land in preparation of the same.⁶⁸³ In addition to this the Kenya Forest Service is still the oversight authority, monitoring and evaluating the implementation of the management plan.⁶⁸⁴ This creates an issue of conflict and to avoid it, it is best to have a separate institution overseeing and monitoring the said activities to ensure that they are compliant with the management plans as opposed to having the KFS which directly manages forests.⁶⁸⁵

⁶⁸⁰ B. Foahom, P. Schmidt and J.P. Fines., 2001. Forest management plan, an implementing instrument for sustainable timber production. (Accessed on 2nd November, 2021) P.75.

⁶⁸¹ UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1 (accessed on 27th October, 2021) P.3.

⁶⁸² Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 27th October, 2021). P.29.

⁶⁸³ The Forest Conservation and Management Act No.34 of 2016. Section 8(b).

⁶⁸⁴ Forests (Participation in Sustainable Forest Management) Rules, 2009, Rule 47(1).

⁶⁸⁵ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 27th October, 2021). P.29.

4.4. Establishment of plantations on community forests

Public land is not enough for Kenya's achievement and maintenance of the target tree cover of at least 10%, hence measures need to be put in place for establishment of forests on private and community land.⁶⁸⁶ Establishing commercial plantations in community lands will provide timber that is sustainable and adequate to meet the needs of the society.⁶⁸⁷

Community land comprises of group ranches, legally transferred land, land that has been designated community land through legislation, land held by county governments as trust land and land that communities use, hold and manage as grazing areas, ancestral lands or community forests.⁶⁸⁸

There are numerous challenges that are faced on community lands and group ranches. These include the community and land rights registration, securing community land rights and determination of identity of the community.⁶⁸⁹ To enhance protection of forest communities in relation to tenure rights, some of the steps that can be taken are: implementing legal mechanisms on the communities participation in forests management;⁶⁹⁰ mapping out community forests which are legally held and managed and used as grazing areas, shrines or ancestral lands, community

⁶⁸⁶ Ministry Of Environment and Forestry, Draft National Forest Policy, 2020, P.33.

⁶⁸⁷ Ministry of Environment and Forestry, 2019, National strategy for achieving and maintaining over 10% tree cover by 2022, available at: <http://www.environment.go.ke/wp-content/uploads/2019/08/Strategy-for-10-Tree-Cover-23-5-19-FINAL.pdf> (accessed on 22nd October, 2021).P.17.

⁶⁸⁸ Kameri-Mbote P, Odote C, Musembi C, Murigi K. 2013 Ours By Right: Law, Politics and Realities of Community Property in Kenya. Nairobi: Srathmore University Press; (accessed on 2nd November, 2021).P.30.

⁶⁸⁹ Kibugi R. 2021. Local communities' and indigenous peoples' land and forestry rights: Assessing the law and practice on tenure security in Kenya. Occasional Paper 222. Bogor, Indonesia: CIFOR. <https://doi.org/10.17528/cifor/008032>.

⁶⁹⁰ Ibid.

forests, and those in use by the hunters and gatherers;⁶⁹¹ and participatory mapping and inventory of community land with a focus of determining customary rights and registering them.⁶⁹²

The FCMA requires KFS to register forests that are on community land.⁶⁹³ Registration of forests in community land helps in combating illegal timber harvesting as it ensures proper monitoring of the forest by KFS and any activities being undertaken therein. In my view, this enhances conservation of forest as the communities have the right to seek guidance from the relevant County government on the best forestry practices and conservation⁶⁹⁴ and apply for funds from the Forest Conservation and Management Fund to develop forests⁶⁹⁵.

ASALs form the bulk of community forests. This offers amazing potential for afforestation in attainment of the Constitution's targeted 10% tree cover.⁶⁹⁶ KFS in these ASALs is not only increasing but maintaining the tree cover, through tree planting and rehabilitating degraded areas to not only enhance environment conservation but also to improve the lives of communities.⁶⁹⁷ Having community forests in ASALs is beneficial not only to the community but to the forestry sector and the economy.⁶⁹⁸ They can sustainably supply various products such as indigenous fruits,

⁶⁹¹ Kibugi R. 2021. Local communities' and indigenous peoples' land and forestry rights: Assessing the law and practice on tenure security in Kenya. Occasional Paper 222. Bogor, Indonesia: CIFOR.
<https://doi.org/10.17528/cifor/008032>.

⁶⁹² Kibugi R. 2021. Local communities' and indigenous peoples' land and forestry rights: Assessing the law and practice on tenure security in Kenya. Occasional Paper 222. Bogor, Indonesia: CIFOR.
<https://doi.org/10.17528/cifor/008032>.

⁶⁹³ The Forest Conservation and Management Act No.34 of 2016, Section 32 (2).

⁶⁹⁴ Ibid, Section 32 (4) (a).

⁶⁹⁵ Ibid, Section 32 (4) (b).

⁶⁹⁶ KFS, Forester A Quarterly Magazine of The Kenya Forest Service: Issue No.12: April - June 2014. Forestry potential in the drylands. Available at:
http://www.kenyaforestservice.org/documents/forester_magazine/Forester%20June%202014.pdf (accessed on 2nd November, 2021). p.4.

⁶⁹⁷ Ibid.

⁶⁹⁸ KFS, Forester A Quarterly Magazine of The Kenya Forest Service: Issue No.12: April - June 2014. Forestry potential in the drylands. Available at:
http://www.kenyaforestservice.org/documents/forester_magazine/Forester%20June%202014.pdf (accessed on 2nd November, 2021). p.2.

timber, materials for thatching, aloe and honey among others⁶⁹⁹, hence to ensure all round benefit of the forests in ASALs it would be prudent to have different zones that cater for different benefits such as the environment, social and economic benefits and conservation of the environment.⁷⁰⁰

The Shamenek forest is a community forest that is located in Laikipia county and it is in a dry area with a per annum rainfall of 900mm.⁷⁰¹ It has both plantation and indigenous forests and is managed by a forest manager who is in the Shamenek CFA for conservation purposes.⁷⁰² Cyprus trees are pruned with the help of the communities for production of high-quality timber as soon as it is harvested.⁷⁰³ Under Section 19 of the Community Land Act, a registered community may submit to a county government a plan to manage, develop and use community land that it administers, for approval.⁷⁰⁴

The registered community in submitting the plan may reserve areas for purposes such as farming, cultural and religious sites, conservation, urban development, settlement areas and such other public interest goals that the community and the government may deem fit.⁷⁰⁵ With this, there can be land use zoning to include forests in community land. Multiple needs of a society may be

⁶⁹⁹ Ibid.

⁷⁰⁰ Ibid.

⁷⁰¹ KFS, Forester A Quarterly Magazine of The Kenya Forest Service: Issue No.12: April - June 2014. Forestry potential in the drylands. Available at: http://www.kenyaforestservice.org/documents/forester_magazine/Forester%20June%202014.pdf (accessed on 2nd November, 2021).

⁷⁰² Ibid.

⁷⁰³ KFS, Forester A Quarterly Magazine of The Kenya Forest Service: Issue No.12: April - June 2014. Forestry potential in the drylands. Available at: http://www.kenyaforestservice.org/documents/forester_magazine/Forester%20June%202014.pdf (accessed on 2nd November, 2021).

⁷⁰⁴ The Community Land Act No.27 of 2016, Section 19(1).

⁷⁰⁵ The Community Land Act No.27 of 2016, Section 29

satisfied through a properly planned forested landscape. To achieve this, zoning is the optimal way to balance social, environmental and economic values, hence sustainable timber harvesting.⁷⁰⁶

An example is in the case of Taita hills, the community living around the forest had associations formed and management plans prepared prior to user rights being conferred. The requirement in the plans was that the forest area should be divided into different zones and their conservation status defined.⁷⁰⁷ These are provided as afforestation protection zone, utilization zone, conservation zone, habitat restoration zone and non-consumptive use.⁷⁰⁸

Other examples of countries that have established community forests as a forest strategy are as below:

The case of Democratic Republic of Congo

Noting the experiences from other countries that have benefited from the establishment of community forestry by attaining sustainable development and achieving a balance between management of forest related resources and benefiting the local communities, Ghana justified the adoption of this strategy⁷⁰⁹. In 2002, there was a priority reform agenda that was initiated in Ghana, which provided for the need for a better model for the forest sector and community forests was identified as one of the approaches.⁷¹⁰ There was however reluctance from the Government to have

⁷⁰⁶ Nitschke, Craig & Innes, John. (2005). The Application of Forest Zoning as an Alternative to Multiple Use Forestry. 10.1079/9780851990026.0097. Available at:https://www.researchgate.net/publication/237045834_The_Application_of_Forest_Zoning_as_an_Alternative_to_Multiple_Use_Forestry (accessed on 24th October, 2021).

⁷⁰⁷ Himberg, Nina & Omoro, Loice & Pellikka, Petri & Himberg, Olavi & Luukkanen, Olavi. (2009). The benefits and constraints of participation in forest management. The case of Taita Hills, Kenya. Fennia. 187.(accessed on 27th October, 2021).P.63.

⁷⁰⁸ Ibid n.707.

⁷⁰⁹ Alison Hoare. Establishing Community Forestry as the basis for a forest strategy in the Democratic Republic of Congo. https://www.cifor.org/publications/pdf_files/events/montpellier/scientific-session/Presentations/Session%204/Alison%20Hoare_paper.pdf (accessed on 3rd November, 2021). P.1.

⁷¹⁰ Ibid.

this achieved as they feared losing control and revenues to the local people.⁷¹¹ Despite this, in the year 2016, pursuant to Ministerial Decree number 025, a law that advances community forestry rights in the DRC was signed. It granted communities that were dependant on forests the right to manage land of up to fifty thousand acres, to benefit from timber extraction, harvesting of non-timber products among others.⁷¹²

The Case of Latin America

A large area in Latin America is under communal forest management.⁷¹³ There are two types of community forestry being either self-generated or ones that respond to project interventions.⁷¹⁴ The access and user rights of communities are acknowledged and enforceable with tenurial rights being stronger than any other region.⁷¹⁵ The success of community forestry lies on a clear legal framework and good governance.⁷¹⁶ Notably, maintenance of forests and their resources in Latin America is hugely dependant on community forestry.⁷¹⁷ The emissions from deforestation in Latin America are extremely high being 47% of global emissions and this has been attributed to increased infrastructure, agriculture and industries.⁷¹⁸ To promote sustainable REDD+ programs, some of the recommendations provided are to increase participation of vulnerable groups and

⁷¹¹ Alison Hoare. Establishing Community Forestry as the basis for a forest strategy in the Democratic Republic of Congo. https://www.cifor.org/publications/pdf_files/events/montpellier/scientific-session/Presentations/Session%204/Alison%20Hoare_paper.pdf (accessed on 3rd November, 2021). P.3.

⁷¹² World Resources Institute. 2016. Democratic Republic of the Congo enables forest-based communities to secure land rights. Available at: <https://www.wri.org/outcomes/democratic-republic-congo-enables-forest-based-communities-secure-land-rights> (accessed on 3rd November, 2021).

⁷¹³ Alcorn, Janis B. 2014. Lessons Learned from Community Forestry in Latin America and Their Relevance for REDD+. USAID-supported Forest Carbon, Markets and Communities (FCMC) Program. Washington, DC, USA.

⁷¹⁴ Ibid.

⁷¹⁵ Ibid.

⁷¹⁶ Alcorn, Janis B. 2014. Lessons Learned from Community Forestry in Latin America and Their Relevance for REDD+. USAID-supported Forest Carbon, Markets and Communities (FCMC) Program. Washington, DC, USA

⁷¹⁷ Ibid.

⁷¹⁸ Alcorn, Janis B. 2014. Lessons Learned from Community Forestry in Latin America and Their Relevance for REDD+. USAID-supported Forest Carbon, Markets and Communities (FCMC) Program. Washington, DC, USA

women, increase public awareness and putting an end to illegal activities.⁷¹⁹ The promotion of community rights in Latin America enables the community to directly engage with the forests and ensure their protection from illegal activities.⁷²⁰

Establishing forest plantations in community land promotes sustainable timber harvesting as seen from the above analysis, this is due to the fact that there is not only increased supply of forests to meet the timber demand in Kenya from the establishment of plantations but also inclusion of communities in managing and conserving forest resources and benefit sharing with communities from exploitation of forest resources is a huge incentive resulting to sustainable harvesting.⁷²¹

4.5. Chain of Custody Rules

To ensure sustainable timber harvesting in Kenya, an efficient chain of custody should be compliant with the Constitution, especially the good governance principles (Article 10) on the rights relating to a healthy and clean environment (Article 42) and state obligations in relation to the environment (Article 69).⁷²² A chain of custody for timber products works if it gives comfort to the consumer that the timber their purchase is from a legal harvesting operation and from a forest that is under sustainable management.⁷²³

There is the need to have proper controls and documentation to ensure that all the processes timber passes through being felling, transporting, sawing, treatment and storage is legal and that there is

⁷¹⁹ Ibid.

⁷²⁰ Ibid.

⁷²¹ Michael Ochieng Odhiambo.2015. Securing Community Land Rights in the Kenyan ASALs: Available Legal Options. Available at: <https://www.adaconsortium.org/images/publications/Comunity%20based%20report-22.pdf> (accessed on 3rd November, 2021). P.19.

⁷²² The Constitution of Kenya, Article 10, Article 24 and Article 69.

⁷²³ASEAN Guidelines for Chain of Custody of Legal Timber and Sustainable Timber, available at: https://asean.org/wpcontent/uploads/images/archive/AMAF%2032%20ASEAN_Guidelines_for_Legal_Sustainable_Timber-%20final.pdf (accessed on 25th October, 2021)P.8.

no timber from illegal sources or there is a mix of legal timber with illegal timber in any of the processes.⁷²⁴

The rules on chain of custody in timber harvesting to be in compliance with Article 10, 42 and 69 of the Constitution would have the following fundamental provisions:

- i. Reporting of quantity of timber throughout the product chain through the use of labels or other identification modes and documentation. This ensures transparency throughout the product chain as the quantities upon entry and exit of the custody chain are recorded and reported.⁷²⁵ Certification of both private and public forests under the Forest Stewardship Council, which is an appropriate process is recommended in Kenya as it will have a good effect on the management quality of the forests.⁷²⁶ The Kenya Forest Service should work on establishing a traceability system of timber from different sources as well as imports, this will have a positive effect as it will reduce timber related illegal activities and simplify law enforcement.⁷²⁷
- ii. All staff who are involved in the chain of custody at whatever stage should be identified and their activities in execution of their responsibilities should be documented.⁷²⁸ This will ensure that there is accountability from the staff in case of any abuse of their roles and it will enhance integrity as they will be afraid to engage in any corrupt activities noting that

⁷²⁴ Office for the coordination of humanitarian affairs. A guide to the planning, use, procurement and logistics of timber as a construction material in humanitarian relief. Available at: https://www.careemergencytoolkit.org/wp-content/uploads/2017/03/35_2.pdf (accessed on 25th October, 2021) P.18.

⁷²⁵ ASEAN Guidelines for Chain of Custody of Legal Timber and Sustainable Timber, available at: https://asean.org/wpcontent/uploads/images/archive/AMAF%2032%20ASEAN_Guidelines_for_Legal_Sustainable_Timber-%20final.pdf (accessed on 25th October, 2021)P.9.

⁷²⁶ Jones R. 2014.Forest Governance and Timber Trade flows within, to and from Eastern and Southern African Countries Available at: [https://europa.eu/capacity4dev/file/21637/download?token=la3jv18O.\(Accessed:](https://europa.eu/capacity4dev/file/21637/download?token=la3jv18O.(Accessed:) 27th October, 2021) P.41.

⁷²⁷ Ibid n.726.

⁷²⁸ Supra n.725. P.15.

their activities can be traced in the event that it is reported. One of the causes of illegal logging and illegal timber trade is corruption which is seen in the entire marketing chain and production.⁷²⁹ Low transparency, lack of accountability and weak governance system fuel the corruption.⁷³⁰ Identification of staff and their activities will therefore help curb corruption in the production and marketing chain.

- iii. Identification and documentation of all timber prior to transportation of the same. This ensures that there is a system of checks and balance as the timber can be easily traced back to the origin or at any stage in the product chain.⁷³¹ Implementation of this will significantly reduce illegal activities relating to timber and increase the supply of wood products from farms as it will encourage on-farming forestry.⁷³²
- iv. To ensure proper governance, there should be appointment of a management representative tasked with the role of management of the chain of custody. The representative should conduct regular chain of custody audits.⁷³³ Efficient management systems are required for a chain of custody system to work. This ensures every stage of the process has been

⁷²⁹ Transparency International EU. January, 2017. Tackling corruption to protect the world's forests. How the EU can rise to the challenge. Available at: <https://transparency.eu/wp-content/uploads/2017/01/TI-GW-Anti-corruption-briefing-January-2017.pdf> (accessed on 27th October, 2021).

⁷³⁰ Ibid n.730

⁷³¹ ASEAN Guidelines for Chain of Custody of Legal Timber and Sustainable Timber, available at: https://asean.org/wpcontent/uploads/images/archive/AMAF%2032%20ASEAN_Guidelines_for_Legal_Sustainable_Timber-%20final.pdf (accessed on 25th October, 2021)P.12.

⁷³² 2013. Analysis of Demand and Supply of Wood Products in Kenya.pdf.kenyaforest.org Available at: <http://www.kenyaforestservice.org/documents/redd/Analysis%20of%20Demand%20and%20Supply%20of%20Wood%20Products%20in%20Kenya.pdf> (Accessed: 27th October, 2021) P.68.

⁷³³ ASEAN Guidelines for Chain of Custody of Legal Timber and Sustainable Timber, available at: https://asean.org/wpcontent/uploads/images/archive/AMAF%2032%20ASEAN_Guidelines_for_Legal_Sustainable_Timber-%20final.pdf (accessed on 25th October, 2021)P.15.

properly audited and the community and land where timber has originated from are well protected.⁷³⁴

- v. There should be maintenance of all records in the chain of custody system, this ensures transparency is fostered.⁷³⁵ Gathering, recording and verifying of information is very important in a chain of custody system as it allows cross-checking at any stage of the supply chain to confirm whether there is any irregularity which can be addressed,⁷³⁶
- vi. Internal audits relating to the chain of custody should be conducted each year and the same should be documented, this ensures transparency and accountability.⁷³⁷ Audits in a Chain of custody system is very important as it ensures that the forest products, being timber in this case meet all the applicable requirements for certification from the point of origin to the finishing point.⁷³⁸

There should be verification of the forests from where the timber is sourced from to ensure that the forest is sustainably managed.⁷³⁹ The establishment of a chain of custody system

⁷³⁴ Marley.2019. Does timber chain of custody really matter? Available at: <https://www.marley.co.uk/blog/does-timber-chain-of-custody-really-matter>(accessed on 27th October, 2021).

⁷³⁵ ASEAN Guidelines for Chain of Custody of Legal Timber and Sustainable Timber, available at: https://asean.org/wpcontent/uploads/images/archive/AMAF%2032%20ASEAN_Guidelines_for_Legal_Sustainable_Timber-%20final.pdf (accessed on 25th October, 2021)P.15.

⁷³⁶ Marais.G.2012. Understanding the forest product chain of custody certification standard. A discussion about the challenges, impacts and opportunities for the forest product chain of custody system. Available at: <https://www.sgs.com/~media/Global/Documents/White%20Papers/SGS-White-Paper-Forest-Product-Chain-of-Custody-EN.ashx> (accessed on 27th October, 2021) P.4.

⁷³⁷ Supra n.735

⁷³⁸ Marais.G.2012. Understanding the forest product chain of custody certification standard. A discussion about the challenges, impacts and opportunities for the forest product chain of custody system. Available at: <https://www.sgs.com/~media/Global/Documents/White%20Papers/SGS-White-Paper-Forest-Product-Chain-of-Custody-EN.ashx> (accessed on 27th October, 2021) P.5.

⁷³⁹ Supra n.735.

showing where the timber materials are from and ensuring that they are from certified forests is important as the movement of timber to saw mills will be tracked efficiently.⁷⁴⁰

The above fosters sustainable timber harvesting as it ensures that the timber is from a legal source, ensures proper governance, transparency and accountability throughout the chain of custody. This helps curb illegal activities relating to timber harvesting that lead to deforestation and degradation of forests, which negatively impact the environment as a whole, thereby affecting the right to a healthy and clean environment. A proper chain of custody system will also help the country towards achieving and maintaining the targeted 10% tree cover because activities such as illegal timber harvesting that are considered direct drivers of deforestation are reduced.

A few examples of other countries that have adopted the chain of custody system and whether it has promoted sustainable timber harvesting is analyzed below:

The case of Ghana

In Ghana, the Chain of custody system is mainly utilized by entities that export timber to Europe and the United States. This is due to the requirement to prove legality of the origin and harvesting of the timber.⁷⁴¹ The chain of custody system is based on volume control and also tracking.⁷⁴² The forms of legality verification are the Lacey Amendment Act of 20018 for United states and European Union Illegal Timber regulation for Europe.⁷⁴³ Under these laws, it is a crime to import

⁷⁴⁰Jones R. 2014. Forest Governance and Timber Trade flows within, to and from Eastern and Southern African Countries Available at: <https://europa.eu/capacity4dev/file/21637/download?token=la3jv18O>. (Accessed: 27th October, 2021) P.41.

⁷⁴¹ KWC Certification program. Chain of custody verification for legality and certification: an introduction for the Ghana timber industry. Available at: http://www.itto.int/files/itto_project_db_input/2950/Promotional/Chain-of-Custody-Brochure.pdf (accessed on 3rd November, 2021).

⁷⁴² Ibid.

⁷⁴³ KWC Certification program. Chain of custody verification for legality and certification: an introduction for the Ghana timber industry. Available at: http://www.itto.int/files/itto_project_db_input/2950/Promotional/Chain-of-Custody-Brochure.pdf (accessed on 3rd November, 2021).

illegal timber into any of the two countries, and where convicted the timber is confiscated and a fine will be imposed on them.⁷⁴⁴ The importer has the duty to prove that the source of timber is legal. The two systems utilized in the timber imports are the FSC and PEFC.⁷⁴⁵

In Ghana, there is a FLEGT license system that is not yet operational, it was assessed by the European Union for legal assurance but was found not to be ready, however, corrections were suggested to improve the said system prior to it being launched.⁷⁴⁶

There are at present two important demands for legality verification. These are the fully implemented 2008 Lacey Act Amendment for the United States of America and the European Union Illegal Timber Regulation, from 3rd March 2013.⁷⁴⁷ For Forest Certification under the two biggest systems FSC and PEFC there are requirements for both Certified and Controlled wood.⁷⁴⁸ Once operational the FLEGT licenses will be based on the wood tracking system in Ghana which tracks the timber from the stump to the export point with the use of documents and electronic means.⁷⁴⁹ According to a study conducted in Ghana, despite the existence of the Chain of Custody system, they are still not being utilized by a majority of the companies due to lack of awareness and economic issues this is despite there being a huge demand from the international market.⁷⁵⁰

This has the impact of weakening the capacity of protection from illegal timber harvesting and

⁷⁴⁴ Ibid.

⁷⁴⁵ Ibid.

⁷⁴⁶ EUFLEGT facility.2021. Ghana and EU finalise assessment of Ghana Timber Legality Assurance System. Available at: https://www.euflegt.efi.int/news-2021/-/asset_publisher/2lI5CgXp5RHP/content/ghana-and-eu-finalise-assessment-of-ghana-timber-legality-assurance-system?inheritRedirect=false (accessed on 3rd November, 2021).

⁷⁴⁷ KWC Certification program. Chain of custody verification for legality and certification: an introduction for the Ghana timber industry. Available at: http://www.itto.int/files/itto_project_db_input/2950/Promotional/Chain-of-Custody-Brochure.pdf (accessed on 1st November, 2021).

⁷⁴⁸ Ibid.

⁷⁴⁹ Ibid.

⁷⁵⁰ Attah, A. & Ioras, Florin & Ratnasingam, Jegatheswaran & Abrudan, Ioan. (2010). Chain of custody certification: An assessment of Ghanaian timber sector. Holz als Roh- und Werkstoff. 69. 113-119. 10.1007/s00107-009-0402-5. p.9.

illegal timber trade, which has greatly impacted sustainable timber harvesting.⁷⁵¹ To improve this situation, there is therefore the need to increase the level of awareness in companies and use of incentives will increase the compliance rate of the Chain of Custody system.⁷⁵²

The Case of Cameroon

When it comes to the timber supply chain, it is a requirement that the following verification stages must be complied with: proof of origin of timber by availing the necessary documentation; in transportation, evidence of licenses and documentation for the companies and carriers must be provided; markings on the timbers and accompanying documents verifying the same should be availed and the proof that the processing company is a legal entity.⁷⁵³

The first system of certification in Cameroon was the FSC, however its usage has been dropping over the years.⁷⁵⁴ As at the year 2019, there were only six FSC certification issued in Cameroon.⁷⁵⁵ This has been attributed to the poor demand in certified products in the local market due to high prices compared to the non-certified products, hence companies are hesitant to obtain this certification and they are also not forced to obtain it.⁷⁵⁶ Without this requirement of certification, illegal timber harvesting has therefore increased in Cameroon, where between the years 2000 and

⁷⁵¹ Ibid.

⁷⁵² Attah, A. & Ioras, Florin & Ratnasingam, Jegatheswaran & Abrudan, Ioan. (2010). Chain of custody certification: An assessment of Ghanaian timber sector. *Holz als Roh- und Werkstoff*. 69. 113-119. 10.1007/s00107-009-0402-5. p.9.

⁷⁵³ TRAFFIC report. 2017. Cameroon timber trade legality training manual. Available at: <https://www.traffic.org/site/assets/files/11844/cameroon-timber-legality-manual-en.pdf> (accessed on 3rd November, 2021).

⁷⁵⁴ Nghobuoche Frankline, Ngoufo Roger, Tatuebu Tagne Claude, Louis Defo, Kiming Ignatius Ngala. Forest Certification for Sustainable Forest Management in Cameroon: Myth or Reality. *International Journal of Environmental Protection and Policy*. Vol. 8, No. 6, 2020, pp. 105-116. doi: 10.11648/j.ijepp.20200806.11 (accessed on 3rd November, 2021).

⁷⁵⁵ European commission. Cameroon country overview to aid implementation of the EUTR. Available at: https://ec.europa.eu/environment/forests/pdf/Cameroon_country%20overview%2019.04.2020.pdf (accessed on 3rd November, 2021). p.106.

⁷⁵⁶ Ibid, P.112.

2012, illegal timber harvesting increased by 65%, hence impacting sustainable timber harvesting.⁷⁵⁷ It is therefore recommended that the FSC needs to place strong mechanisms in Cameroon and collaborate with the relevant ministry of forestry to encourage certification.⁷⁵⁸

When it comes to timber exports, the legality of timber is managed by the Voluntary Partnership Agreement, signed in the year 2010 between Cameroon and the European Union under the FLEGT and came into effect in the year 2011.⁷⁵⁹ The main purpose of this agreement is to ensure any timber that enters the European market from Cameroon is legally sourced.⁷⁶⁰ It is therefore a requirement that any timber imported into Europe from Cameroon should have a FLEGT authorization.⁷⁶¹ The FLEGT Voluntary Partnership Agreement, under Article 9 provides that Cameroon should formulate a system to be used to verify the legality of the timber.⁷⁶² A web-based traceability system is to be developed for purposes of verification of the chain of custody of timber, however due to challenges such as corruption and poor internet connection, the said implementation of the system was held back.⁷⁶³ The difficulty in implementation has had negative effects on the FLEGT Voluntary Partnership Agreement and the action plan.⁷⁶⁴ Without a timber legality verification system to prove the legality of timber, any exports to the EU using an export

⁷⁵⁷ European commission. Cameroon country overview to aid implementation of the EUTR. Available at: https://ec.europa.eu/environment/forests/pdf/Cameroon_country%20overview%2019.04.2020.pdf (accessed on 3rd November, 2021). p.113.

⁷⁵⁸ European commission. Cameroon country overview to aid implementation of the EUTR. Available at: https://ec.europa.eu/environment/forests/pdf/Cameroon_country%20overview%2019.04.2020.pdf (accessed on 3rd November, 2021). p.106.P.114.

⁷⁵⁹ TRAFFIC report. 2017. Cameroon timber trade legality training manual. Available at: <https://www.traffic.org/site/assets/files/11844/cameroon-timber-legality-manual-en.pdf> (accessed on 3rd November, 2021).

⁷⁶⁰ Ibid.

⁷⁶¹ Ibid.

⁷⁶² European commission. Cameroon country overview to aid implementation of the EUTR. Available at: https://ec.europa.eu/environment/forests/pdf/Cameroon_country%20overview%2019.04.2020.pdf (accessed on 3rd November, 2021).p.6

⁷⁶³ Ibid.

⁷⁶⁴ Ibid.

license are not recognized.⁷⁶⁵ This strict requirement for proof of legality of timber before entering the European market is an important tool to promote sustainable timber harvesting as illegal logging for international markets are highly reduced.

The Case of Canada

In Canada's timber supply chain, it is a requirement that for any transportation of timber in land, a mark must be placed on the timber in a clear manner,⁷⁶⁶ and for water transportation a mark using a hammer indentation must be clearly placed.⁷⁶⁷ Other requirements include the proof of origin of the timber, the destination of the timber, license number of the vessel being used to transport the timber, name and signature of the timber operator and a serial number for the timber.⁷⁶⁸

The certification standards used in Canada which provide the chain of custody certification are the SFI, FSC and CSA.⁷⁶⁹ Internationally, standards for FSC in Canada have been endorsed by FSC International while PEFC has endorsed SFI and CSA.⁷⁷⁰

Using the CSA, FSC and SFI certification systems, the total area certified in Canada is 164.3 million hectares as at the year 2021.⁷⁷¹ Under these systems of certification, companies and organizations are required to demonstrate legality of the source of the timber in their supply chain

⁷⁶⁵ Ibid.

⁷⁶⁶ Forest Act, Timber marking and transportation regulation, Section 4. Available at: https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/253_97#section1 (accessed on 3rd November, 2021).

⁷⁶⁷ Forest Act, Timber marking and transportation regulation, Section 5. Available at: https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/253_97#section1 (accessed on 3rd November, 2021).

⁷⁶⁸ Ibid, Section 10 (2).

⁷⁶⁹ Certification Canada. Chain of custody certification. Available at: <https://certificationcanada.org/en/certification/chain-of-custody-certification/> (accessed on 3rd November, 2011)

⁷⁷⁰ Ibid.

⁷⁷¹ CFI.2021 update on forest certification in Canada. Available at: <https://www.woodbusiness.ca/2021-update-on-forest-certification-in-canada/> (accessed on 3rd November, 2021).

and once certified, they can use the various labels offered in the said systems which show corporate responsibility to their buyers.⁷⁷²

The Certification of forests in Canada, has lowered the rate of illegal timber harvesting and illegal timber trade to levels that are negligible.⁷⁷³ Noting that most of the forests in Canada are certified and there is efficient control of timber supply chains as evidenced above, sustainable timber harvesting is sustained in Canada.

4.6. Granting Community Forest Associations rights in Forest concessions

As addressed in the previous chapter, forest concessions are user rights given to individuals or organizations in respect of a particular area through a long-term contract to utilize the said forest and for commercial forest management.⁷⁷⁴ Noting that Community Forest Associations are organizations, they can therefore enter into forest concessions to manage forests that are adjacent to them, however many communities are forced to include the private sector to collaborate with them in the said management.⁷⁷⁵ This is due to the fact that they do not have the full capacity to run these forests on their own, while the private sector is better equipped and have the required techniques to ensure proper management of plantations.⁷⁷⁶ It has also been recommended that the PELIS system which is a non-residential cultivation program should be slowly phased out

⁷⁷² SFI: How to certify to the SFI standards. Available at: https://forests.org/wp-content/uploads/HowtoCertify_SFI_Dec1.pdf (accessed on 3rd November, 2021).

⁷⁷³ Government of Canada. 5 ways Canada prevents illegal logging. Available at: <https://www.nrcan.gc.ca/our-natural-resources/forests-forestry/sustainable-forest-management/canadas-forest-laws/5-ways-canada-prevents-illegal-logging/17479> (accessed on 3rd November, 2021).

⁷⁷⁴ The Forest Conservation and Management Act No.34 of 2016, Section 2, Interpretation.

⁷⁷⁵ KEFRI. C.K.Koech, P.O. Ongugo, M.T.E. Mbuvi and J.O. Maua.2009. Community Forest Associations in Kenya: challenges and opportunities. Available at: https://www.fornis.net/sites/default/files/documents/Community%20Forest%20Associations%20in%20Kenya%20challenges%20and%20oppo-205_0.pdf (accessed on 5th November,2021).

⁷⁷⁶ Ibid.

due to concerns over its sustainability⁷⁷⁷ and for establishment of forest concessions recognizing CFAs role in establishing plantations.⁷⁷⁸

Countries where community forest associations are granted rights in forest concessions include:

The case of Ecuador

Ecuador has a legal framework to allocate concessions through the use of agreements between the communities and the Ministry of Environment and local communities for use of forests.⁷⁷⁹ In this case the said communities are granted rights over the forests, however they are required to observe with the obligations laid out in the concession agreements when it comes to the environment's conservation and protection.⁷⁸⁰ If the community fails to comply with the said terms in the concession agreement especially when it comes to logging, they are a risk of having their agreement terminated.⁷⁸¹

The case of Mozambique

In Mozambique, communities can be granted forest rights through the use of a concession, with a validity of up to fifty years, which is also renewable for areas that are from 20,000 hectares to 100,000 hectares.⁷⁸² Communities are in this case allowed to exploit the forests in the area

⁷⁷⁷ Kibugi R. 2021. Local communities' and indigenous peoples' land and forestry rights: Assessing the law and practice on tenure security in Kenya. Occasional Paper 222. Bogor, Indonesia: CIFOR. <https://doi.org/10.17528/cifor/008032>. (accessed on 5th November, 2021). P.41.

⁷⁷⁸ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 5th November, 2021).

⁷⁷⁹ Slobodian, L. N., Badoz, L., eds. (2019). Tangled roots and changing tides: mangrove governance for conservation and sustainable use. WWF Germany, Berlin, Germany and IUCN, Gland, Switzerland. xii+280pp.P.100

⁷⁸⁰ Ibid.P.48.

⁷⁸¹ Supra n.779.

⁷⁸² Slobodian, L. N., Badoz, L., eds. (2019). Tangled roots and changing tides: mangrove governance for conservation and sustainable use. WWF Germany, Berlin, Germany and IUCN, Gland, Switzerland. xii+280pp.P.100(accessed on 5th November, 2021). P.164.

provided in the concession exclusively.⁷⁸³ In Mozambique, these forest concessions have the potential of promoting not only the growth of the national economy but also local communities through revenue sharing and employment opportunities.⁷⁸⁴ There are however challenges that face the forest concessions, being weak law enforcement and implementation of laws governing forest concessions.

Community rights in forest concessions are important in promotion of sustainable timber harvesting as they not only contribute to environment conservation but also financial empowerment of the said communities.⁷⁸⁵ Apart from the benefit aspect to the communities, obligations are also placed on them in the concession agreements which they are required to comply with especially in relation to environment protection, hence ensuring the impacts of harvesting are heavily decreased, as they risk having the agreements terminated in case of breach.

Chapter conclusion

If the above key strategies are properly implemented, they will have a positive impact on sustainable timber harvesting. Timber is an important commodity in our country as it serves various industries and its demand has increased tremendously over the years. Noting the importance of timber, sustainable harvesting is paramount in ensuring that while its demand is being met, the environment is conserved and preserved not only for the present but future

⁷⁸³ Ibid.P.165.

⁷⁸⁴ Siteo, Almeida & Wertz-Kanounnikoff, Sheila & Ribeiro, Natasha & Guedes, Benard & Givá, Nícia. (2014). Community rights and participation in the face of new global interests in forests and lands: The case of Mozambique. (accessed on 5th November, 2011).P.349.

⁷⁸⁵ Hensbergen, H.J. van. 2018. Rethinking Forest concessions - Improving the allocation of state-owned forests for better economic, social and environmental outcomes. Forestry Working Paper No. 4. Rome, FAO. 84pp.(accessed on 2nd November, 2021).p.8.

generation. This will also ensure that Kenya can focus on not only achieving and maintaining the 10% minimum tree cover targeted by the Constitution.⁷⁸⁶

⁷⁸⁶ The Constitution of Kenya, 2010, Article 69(1)(b).

CHAPTER FIVE: FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Findings of this Study

The research questions that this study set out to answer are:

- a. What is the current status and impact of timber harvesting on sustainable management of natural and plantation forests in Kenya?
- b. What is the institutional, policy and legal framework regulating timber harvesting in natural and plantation forests in Kenya?
- c. What are the challenges and gaps in the regulation of timber harvesting in Kenya?
- d. What strategies and legal options can be recommended to regulate timber harvesting in a manner that promotes sustainable management of plantation and natural forests in Kenya?

To address the above research questions this study relied heavily on primary and secondary sources to undertake a theoretical assessment of the Kenyan institutional, legal and policy framework relating to regulation of timber harvesting in natural and plantation forests and the adequacy or inadequacy of any such laws, policies and institutions.

The gaps and challenges that the forest sector faces in regulation of sustainable timber harvesting in Kenya, were identified by this study as:

- a. Poor forest governance which has resulted in high corruption rates and illegal logging;
- b. Overlap of mandates and functions of forestry institutions leading to replication of efforts;
- c. Weak law enforcement and regulations;
- d. Lenient penalties for illegal timber harvesting resulting in high rates of forest degradation and deforestation;

- e. Lack of co-ordination and cooperation by the mandated forestry institutions, which is necessary to ensure sustainable timber harvesting; and
- f. Inadequate stakeholder integration among forest stakeholders.

The above identified challenges and gaps proved the hypothesis that the existing framework of law regulating timber harvesting in natural and plantation forests, is not adequate for protection and administration of Kenya's forests and does not provide sufficient solutions to deal with the challenges faced in that regard.

The objectives set out in this study were also met by the findings. Therefore, to address the challenges and gaps that have been identified, recommendations have been suggested below.

5.2. Conclusion of the study

The primary goal of this study was to assess the present policy, legal and institutional framework regulating timber harvesting and draw a conclusion on whether the same is adequate to ensure sustainable timber harvesting and protect, conserve and preserve the environment not only for the current but our future generations.

From the study, several issues and weaknesses are highlighted in the existing legal, policy and institutional framework regulating timber harvesting in Kenya as identified above, this is not to say that Kenya has not made good strides towards regulating timber harvesting for the environment's preservation and protection.

Some of the good strides that Kenya has made in safeguarding our forests is the enactment of the Constitution. It is the most powerful instrument which guides other statutes in the forestry sector. It has laid out various principles of governance of the environment, provided a foundation on how

forests should be utilized and managed for their preservation and also affirmed the environmental rights that are accorded to human beings.

When the Constitution was enacted, it required that all laws were to conform to it and as a result the relevant laws in the forestry sector such as the EMCA and FCMA among others did conform.

While there are numerous laws, policies and institutions governing the forestry sector to ensure that timber harvesting is well regulated as have been set out in this study, the problem of deforestation and destruction of our forests is still persistent in Kenya, where timber harvesting is highlighted as a significant cause of the same. Our forests are being depleted at a high rate despite their importance not only to the environment, but the economy and the society as a whole, hence necessitating the need to ensure that they are well protected and preserved not only for the current but future generations.

Noting the persistent destruction and deforestation of our forests due to timber harvesting, the competence of the institutional, legal and policy framework came into question and this study identified the various challenges and gaps being: poor forest governance which has resulted in high corruption rates; overlap of mandates and functions of forestry institutions leading to replication of efforts; weak law enforcement and regulation; lenient penalties; lack of coordination and cooperation by the mandated forestry institutions; and inadequate integration among forest stakeholders..

These weaknesses and issues in our institutional, legal and policy framework need to be urgently addressed so that we can save our remaining forests and also achieve the set tree cover target of ten percent. A review of our legal, policy and institutional framework needs to be done and this

study therefore suggest recommendations on how timber harvesting in Kenya can be better regulated.

5.3. Recommendations

For there to be effective regulation of timber harvesting in Kenya, an assessment of the existing institutional, legal and policy framework has to be done. This will ensure that while the said activities are being conducted the environment as a whole is protected and preserved for all generations. The short, medium and long-term suggestions are provided below.

5.3.1. Short-term recommendations

5.3.1.1. Timber licensing changes to promote compliance in timber harvesting

From this study, it is observed that the practice on the ground when it comes to issuance of timber licenses by the KFS is not in accordance with the FCMA. It is required under the said law that timber licenses should be issued, however, the practice is that KFS currently issues award letters. This is not enough as they do not stipulate any terms or conditions that are to be complied with by licensees hence proper timber licenses should be issued by the KFS in compliance with the laws. The same should stipulate clear terms and conditions, with this sustainable timber harvesting will be promoted as licensees will have a guide on what is and is not allowed as they undertake the said activities. KFS should implement this change to be in compliance with the FCMA.

5.3.1.2. Opportunity on Community land

From this study, a good strategy to promote the achievement of the 10% minimum tree cover set by the Constitution is to establish forests on community lands. It is therefore recommended that the Kenyan forestry sector should address the current wood deficit by establishing forests on communal lands. The Ministry of Environment and Forestry should focus on this. There should be proper planning of the forest to meet environmental, economic and social needs, where forest

management and conservation is promoted but the community also benefit therefrom. Participation of the community should not be limited; they should be granted user and management rights where they engage directly with the forests to prevent any illegal activities hence promoting sustainable timber harvesting.

5.3.2. Medium-term recommendations

5.3.2.1. Providing hefty penalties for timber harvesting related offences

The study observed that one of the factors that inhibit the achievement of sustainable timber harvesting is the current lenient penalties provided in our laws for timber related offences. It is important that the laws should be revised by parliament to have hefty penalties for illegal timber harvesting in the country. This will have a positive effect as it will deter people from undertaking the said illegal activities due to fear of the consequences therein. Currently, the offenders weigh their options and prefer to undertake in the illegal activities as their profits exceed any penalties that are provided in the law, hence to them it is definitely worth the risk. For sustainable timber harvesting to be achieved by reducing any illegal activities related to timber, having hefty penalties in place is definitely an important factor.

5.3.2.2. Legalization of the logging bans imposed by the President

As observed in the study, logging bans have been put in place over the years prohibiting the harvesting of timber in public and community forests. While this is seen as a positive move to protect our tree cover through prevention of illegal timber harvesting and related activities, it has however also had negative effects especially as observed on CFAs as it contradicts with their management agreements which allow for sustainable timber harvesting. This study therefore recommends that there should be regulations on logging bans made by Cabinet secretary of Ministry of Environment and Forestry, which specify instances which will necessitate the issuance

of the said directive for example if a certain threshold of logging in a certain forest is exceeded, a timeline for the bans should also be placed and where there is still lack of compliance, then an extension of the logging ban shall be implemented, it should also be forest specific or region specific where areas that are not affected by illegal logging are not included, and in relation to CFA agreements with the KFS on management of forests, they should be excluded as their activities are to be governed by the said agreements. This will help promote sustainable timber harvesting as illegal activities such as illegal timber harvesting and illegal timber trade due to the placement of the logging bans in the entire country will be reduced as there will still be supply of timber in the country from other regions or forests not included in the ban as long as it is done in a sustainable manner.

5.3.2.3. Promotion of sustainable forest and tree growing and effective use of forest management plans in that regard

As highlighted in this study, there are numerous tree planting programs in Kenya where a lot of money has been invested. Despite this, Kenya is yet to meet the tree cover of 10% as set by the Constitution. The focus in Kenya is mainly on planting trees as opposed to growing them. The benefits of growing trees as provided in this study hence leads to recommendation that Kenya should lean towards tree growing where it is not just about placing a seed in soil, but putting in appropriate measures such as ensuring seed quality, compatibility of the planting area and the seedlings to be planted, provision of investment throughout the growing cycle hence this will require proper planning and budgeting prior to planting any seedlings, implementing regeneration mechanisms, increasing the length of growing cycle to allow for maturity of trees and providing incentives to communities to provide after care to the seedlings as they shall be personally invested

in the survival rate of the seedlings. The Ministry of Environment and Forestry should implement growing of trees as opposed to planting them.

From this study, we have noted that if management plans are used effectively, they can be used as a guide for establishment of forest plantations. While there are forest management plans in Kenya that have plantation zones for establishment of forest plantations especially for timber production, they are however not detailed as they provide for the acreage of the plantation zone and establishment and use of the same. This study therefore recommends that the plantation zones in management plans should provide: specific targets for the acreage that should be established especially through private public partnership; measures of management of existing plantations through silvicultural practices such as beating up, pruning, carrying out inventories to determine the growth rate; provide for regeneration mechanisms; inclusion of use of silvicultural practices; for new plantations provide a specific plan on when site preparation will be done and by who, when seedling plantation will start and end and how and when the plantation will be tended to and monitored. KFS should implement this and if done will encourage sustainable management and development of forest plantation which will have the benefit of meeting the wood deficit that is currently in the country.

5.3.2.4. Promoting good governance in the forestry sector to enhance sustainable timber harvesting

5.3.2.4.1. Strict enforcement of good government practices

This study recommends that proper government procedures be strictly enforced by KFS, especially when it relates to the relevant forestry officers. Forest officials at the KFS are responsible for ensuring that relevant laws are followed, particularly laws on timber harvesting which is the subject of this study. They are required to ensure that anyone who conducts timber harvesting

should do so with an issued license from the KFS, provide proof of origin of the said timber, proper markings are on the said timber, production of a delivery note when transporting the timber and requisite fees have been paid. From the study, it was identified that some forest officers have been involved in corrupt dealings and have abused their responsibilities which ensure timber harvesting is done sustainably. To curb this, it is critical that any forest officers who engage in any corrupt practices or abuse of offices, face severe consequences under the law, this will help deter them and promote the enforcement of timber harvesting laws hence promote sustainable timber harvesting in Kenya.

5.3.2.4.2. Separation of the management and monitoring mandate of KFS relating to forests

From the study, we have observed that the KFS is not only involved in forest management but also monitoring of the same. This study recommends that these two mandates should be separated, to have the KFS retain the management role while another independent institution is established by parliament and given the mandate of monitoring the forests in Kenya. This is also observed in the case of forest management plans, where KFS is still tasked with the same roles. Having another institution take on the role of monitoring of forests and any activities therein will help improve compliance of the relevant stakeholders in the forestry sector especially relating to timber harvesting, as there will be proper law enforcement. It has also been observed in this study that the KFS is understaffed and having another institution take on the monitoring role will help reduce the pressure off of KFS that comes with having the two roles, and it can hence use all its machinery to ensure that forests are well managed. This will in the long run have positive impacts such as promotion of sustainable timber harvesting in the country.

5.3.2.4.3. Streamlining of functions and mandates of forestry institutions

This study has observed that the mandates and duties of forestry institutions in the country overlap, hence resulting in efforts being replicated. For instance, in the coastal region, there is an overlap in management of forests there for instance the Arabuko Sokoke forest is not only managed by KFS but also KWS this could therefore cause conflicts between the two institutions. Another example is KFS and NLC where the former is tasked with the role of managing public forests while the latter's role is management of public land. KFS and KWS also have conflicting roles as KWS is responsible for management and conservation of forests that have wildlife in them. This study therefore recommends that there should be streamlining of functions and mandates by parliament when it relates to management, licensing, oversight, monitoring and auditing in the forestry sector and this will help in the proper regulation of timber harvesting as institutions will be clear on their roles, proper governance and accountability will be promoted resulting in sustainable timber harvesting.

5.3.2.4.4. Integration of stakeholders in the forestry sector to enhance sustainable timber harvesting

This study recommends that all stakeholders in the forestry sector should be integrated to promote sustainable timber harvesting. A collaborative and mutually beneficial relationship of the relevant forest stakeholders with the inclusion of incentives to increase participation is also important for timber harvesting to be conducted in a way that is environmentally friendly. Parliament should therefore provide legislation that promotes stakeholder participation in all levels through the inclusion of incentives in forestry laws. With incentives in place for stakeholders at various levels, management and monitoring of timber harvesting activities is enhanced as they will all have an

interest to ensure that the benefits derived therefrom are always secured for all generations. Equality in the economy will also be enhanced as the needs of all stakeholders will be met.

5.3.2.4.5. Promoting coordination in the forestry institutions to promote sustainable timber harvesting

This study observed that coordination of mandated institutions was lacking in the forestry sector. It is therefore recommended by this study that activities of the relevant forestry institutions should be coordinated by parliament through formulation and implementation of laws and policies that foster the same. When this is done, performance will be enhanced, bureaucracy will be reduced, and there will also be accountability. Coordination of forestry institutions will promote sustainable timber harvesting as there will be synergy of the institutions to ensure that the said timber related activities are conducted in accordance with the law hence yielding better results.

5.3.3. Long-terms recommendations

5.3.3.1. Improvement of the chain of custody system to enhance timber tracking

As seen from this study, the use of a chain of custody system is a good strategy to enhance sustainable timber harvesting and this is due to the fact that it tracks the timber from the origin to the end user, where proof at every stage in the timber supply chain either in the form of documentation or identification marks. Currently in Kenya, the chain of custody system is marred with corruption hence derailing the system and not only that there is no verification system in place which can verify the documents issued in the process. This study therefore recommends a more sophisticated chain of custody system should be put in place in Kenya by KFS so that transparency and accountability can be enhanced. This can be done through the use of a verification system software and bar code technology where every tree has a unique bar code and details of every log can be found in the said software through scanning of the bar code. The software should be able

to be used either online or offline noting issues of poor internet connection being one of the reasons why the verification system in Cameroon as seen in this study has still not been implemented. While it may seem complicated and capital intensive, investment in the same would be worthwhile as it would improve traceability hence helping to promote sustainable timber harvesting as activities such as logging illegally and illegal trade in timber will be curbed. Traceability of revenue from logging will also be enhanced and practices such as bribes and illegal payments will be reduced hence preventing loss of revenue from the harvesting activities.

5.3.3.2. Rights to CFAs in forest concessions to enhance community participation in sustainable timber harvesting

From this study, we have seen the importance of CFAs having rights in forest concessions to enhance sustainable timber harvesting. It is critical for promotion of community participation which is key in promoting the achievement of the 10% minimum tree cover provided under the Constitution. It is therefore important that this should be encouraged, as it not only benefits the communities through revenue generation and employment opportunities, it also enhances conservation of the environment and reduction of illegal activities hence promoting sustainable timber harvesting rules. This study therefore recommends the revision of the 2009 forest harvesting regulations by the Cabinet secretary of the Ministry of Environment and Forestry to include concessions as part of agreements to enhance community participation as for now under Rule 42 it only provides for a community forest management agreement and a cultivation permit for undertaking non-resident cultivation. Which according to a government task force report, non-

resident cultivation should slowly be phased out for establishment of forest concessions that provide a role for Community Forest Associations in plantation establishment.⁷⁸⁷

5.4. Further research areas recommended

Noting the limitation of the study being limited time hence resulting in conducting a theoretical analysis of the legal, policy and institutional framework, more research should be done to identify other key strategies that could impact sustainable timber harvesting for a balance between societal needs, economical needs and safeguarding and conservancy of the environment so as to meet the needs of all generations. There should also be further research on the effectiveness of Government logging bans in Kenya as a tool for regulating timber harvesting.

⁷⁸⁷ Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 5th November, 2021).P.44.

BIBLIOGRAPHY

BOOKS AND BOOK CHAPTERS

Bongers, F. and Tennigkeit, T., 2010. *Degraded forests in Eastern Africa: Management and Restoration*. USA and Canada: Earthscan.

J. Douglas Brodie, C. Tattersall (Tat) Smith, J.C. Tappeiner, J.R. Boyle, Economic considerations for sustainable forestry, Reference Module in Earth Systems and Environmental Sciences, Elsevier, 2016.

Kamweti, D., Osiro, D. and Mwiturubani, D., 2009. *Nature and extent of environmental crime in Kenya*.

Dr. Robert Kibugi, is entitled "The Constitutional Basis of Public Participation in Environmental Governance: Framing Equitable Opportunities at National and County Government Levels in Kenya." It is a chapter in the Book "Fostering Development through Opportunity, Inclusion and Equity, 2013.

Faure, MG & du Plessis, W 2011, *The balancing of interests in environmental law in Africa*. Pretoria University Law Press, Pretoria. P.167.

LEOPOLD, A., & SCHWARTZ, C. W. (1949). *A Sand County almanac, and Sketches here and there*. New York, Oxford Univ. Press.

Michael D. Bayles, ed. *Contemporary Utilitarianism*. Garden City: Doubleday, 1968. Ten essays that debate act vs. rule utilitarianism as well as whether a form of utilitarianism is correct.

Muigua, DK, Didi Wamukoya, Kariuki F. 2015. Natural Resources and Environmental Justice in Kenya. Natural Resources and Environmental Justice in Kenya., Nairobi: Glenwood Publishers Limited.P167.

Slobodian, L. N., Badoz, L., eds. (2019). Tangled roots and changing tides: mangrove governance for conservation and sustainable use. WWF Germany, Berlin, Germany and IUCN, Gland, Switzerland. xii+280pp.P.100.

Tladi, D., *Sustainable Development in International Law: An Analysis of Key Enviro-Economic Instruments* (Pretoria University Law Press, 2007) P.40.

Wass, P., 1995. *Kenya's indigenous forests status, management and conservation*. Gland: IUCN.

ONLINE JOURNALS AND JOURNAL ARTICLES

Abednego Osindi Birundu, Yasushi Suzuki, Jun'ichi Gotou & Mika Matsumoto (2017) Analysis of the role of forest, biomass policy legislation and other factors that may affect the future of Kenya's forests: Use of Japanese forestry as a model, *Journal of Sustainable Forestry*, 36:1, 90-105, DOI: 10.1080/10549811.2016.1260037(accessed on 17th September, 2021).

Alcorn, Janis B. 2014. Lessons Learned from Community Forestry in Latin America and Their Relevance for REDD+. USAID-supported Forest Carbon, Markets and Communities (FCMC) Program. Washington, DC, USA.

Alison Hoare. Establishing Community Forestry as the basis for a forest strategy in the Democratic Republic of Congo. https://www.cifor.org/publications/pdf_files/events/montpellier/scientific-session/Presentations/Session%204/Alison%20Hoare_paper.pdf (accessed on 3rd November, 2021).

Analysis of demand and supply of Wood Products in Kenya, (2013) Kenyaforests-service.org.

Available at:

<http://www.kenyaforests-service.org/documents/redd/Analysis%20of%20Demand%20and%20Supply%20of%20Wood%20Products%20in%20Kenya.pdf> (Accessed: 9 August 2021).

Attah, A. & Ioras, Florin & Ratnasingam, Jegatheswaran & Abrudan, Ioan. (2010). Chain of custody certification: An assessment of Ghanaian timber sector. *Holz als Roh- und Werkstoff*. 69. 113-119. 10.1007/s00107-009-0402-5.

Baumgartner, R., 2019. Sustainable Development Goals and the Forest Sector—a Complex Relationship. *Forests*, 10(2), p.152.(accessed on 1st October, 2021).

B. Foahom, P. Schmidt and J.P. Fines., 2001. Forest management plan, an implementing instrument for sustainable timber production. (Accessed on 24th October, 2021).

Brain Rotich, Staley Makindi and Moses Esilaba, (2020). Communities' attitudes and perceptions towards the status, use and management of Kapolet Forest Reserve in Kenya. *International Journal of Biodiversity and Conservation*, Vol. 12(4), pp. 363-374(accessed on 16th September, 2021).

Chapter 1: Environment and Vision 2030 Available at: https://na.unep.net/atlas/datlas/sites/default/files/unepsiouxfalls/atlasbook_1135/Kenya_Screen_Chapter1.pdf (accessed on 30th August, 2021).

Cabinet Secretary of the Ministry of Environment and Forestry, 'Moratorium on logging in Public and Community Forests,' Press Release (23rd November, 2020) accessed on 6th October, 2021).

Chisika, S. and Yeom, C., 2021. Enhancing Ecologically Sustainable Management of Deadwood in Kenya's Natural Forests. *International Journal of Forestry Research*, 2021, pp.1-20. (Accessed on 12th October, 2021).

CIC KENYA, June 2017, The Kenyan Constitution's Enhanced Focus on Protecting Environmental Rights, available at: <https://www.cickenya.org/kenyan-constitutions-enhanced-focus-protecting-environmental-rights/> (accessed on 12th October, 2021).

C. McGrath. (2010) Does environmental law work? How to evaluate the effectiveness of an environmental legal system. Available at: <http://www.envlaw.com.au/delw.pdf> [accessed on 31st August, 2021].

D. K. Langat, E. K. Maranga, A. A. Aboud, J. K. Cheboiwo, "Role of Forest Resources to Local Livelihoods: The Case of East Mau Forest Ecosystem, Kenya", *International Journal of Forestry Research*, vol. 2016, Article ID 4537354, 10 pages, 2016. <https://doi.org/10.1155/2016/4537354>.

Duguma, Lalisa A., Joanes Atela, Peter A. Minang, Alemayehu N. Ayana, Belachew Gizachew, Judith M. Nzyoka, and Florence Bernard. 2019. "Deforestation and Forest Degradation as an Environmental Behavior: Unpacking Realities Shaping Community Actions" *Land* 8, no. 2: 26. <https://doi.org/10.3390/land8020026>(accessed on 16th September, 2021).

Duguma L, Minang P, Aynekulu E, Carsan S, Nzyoka J, Bah A, Jamnadass R. 2020. From Tree Planting to Tree Growing: Rethinking Ecosystem Restoration Through Trees. ICRAF Working Paper No 304. World Agroforestry. DOI: <http://dx.doi.org/10.5716/WP20001.PDF> (accessed on 22nd October, 2021).

Forests and climate change (2017). Available at: <https://www.iucn.org/resources/issues-briefs/forests-and-climate-change> (Accessed: 31 August 2021).

Friends of Karura Forest, 'Karura Forest - Secure, Safe, Serene' available at https://www.friendsofkarura.org/wp-content/uploads/2018/05/Final_Report_29Apr2018_17h.pdf (accessed June, 22,2021).

GATSBY Charitable Fund. 2014. Meeting the wood supply challenge: The need for commercial forestry in Kenya. Available at: https://beamexchange.org/uploads/filer_public/70/ac/70ac4b96-646a-4879-8c15-286e2eee418f/pwc_study_meeting_the_wood_supply_challenge_060514_compressed.pdf

(accessed on 11th October, 2021)

Global Forest Resources Assessment 2005, Chapter 7: socio-economic functions P.107-108
Available at: <http://www.fao.org/3/A0400E/A0400E00.pdf>,(accessed 19 June, 2021).

G. Muthike, J. Githiomi, " Review of the Wood Industry in Kenya; Technology Development, Challenges and Opportunities ", International Journal of Research Studies in Agricultural Sciences (IJRSAS), vol. 3, no. 10, p. 8, 2017.Available at: <http://dx.doi.org/10.20431/2454-6224.0310005>

(accessed on 17th September, 2021).

Hensbergen, H.J. van. 2018. Rethinking Forest concessions - Improving the allocation of state-owned forests for better economic, social and environmental outcomes. Forestry Working Paper No. 4. Rome, FAO. 84pp. (accessed on 2nd November, 2021).

Himberg, Nina & Omoro, Loice & Pellikka, Petri & Himberg, Olavi & Luukkanen, Olavi. (2009). The benefits and constraints of participation in forest management. The case of Taita Hills, Kenya. Fennia. 187.(accessed on 27th October, 2021).

Imo, M., 2012. *Social, Environmental and Political Issues. Forest Degradation in Kenya: Impacts of Social, Economic and Political Transitions*. 1st ed. Kenya, pp.pp.1-38.Available at: https://www.researchgate.net/publication/257869577_Forest_Degradation_in_Kenya_Impacts_of_Social_Economic_and_Political_Transitions (accessed on 17th September, 2021).

Ingram JC, Whittaker RJ, Dawson TP. Tree structure and diversity in human-impacted littoral forests, madagascar. *Environ Manage.* 2005 Jun;35(6):779-98. doi: 10.1007/s00267-004-0079-9. PMID: 15977086. (Accessed on 1st October, 2021).

Jane Mutune, Christian Hansen, Raphael Wahome and David Mungai in What Rights and Benefits? The Implementation of Participatory Forestry Management in Kenya: The Case of Eastern Mau Forest Reserve (2017) *Journal of Sustainable Forestry*, Vol 36(230-249), (accessed on 16th September, 2021).

Jones R. 2014. "Forest Governance and Timber Trade flows within, to and from Eastern and Southern African Countries." Available at: <https://europa.eu/capacity4dev/file/21637/download?token=Ia3jv18O> (Accessed on 9 August 2021).

Kagombe J., Kiprop J., Langat D., Cheboiwo J., Wekesa L., Ongugo P., Mbuvi M.T. and Leley N. (2020). Socio-economic Impact of Forest Harvesting Moratorium in Kenya. Executive summary, P.IX (accessed on 28th September, 2021).

Kahana. L and Cassian. February 2017. overview of the timber trade in East and Southern Africa: National Perspectives and Regional Trade Linkages. Available at: (2021) *Trafficj.org*. Available at: https://www.trafficj.org/publication/17_Timber-trade-East-Southern-Africa.pdf (Accessed: 31 August 2021).

Kameri-Mbote P, Odote C, Musembi C, Murigi K. 2013 *Ours By Right: Law, Politics and Realities of Community Property in Kenya*. Nairobi: Srathmore University Press; (accessed on 2nd November, 2021).

Kamweti, D., Osiro, D. and Mwiturubani, D., 2009. *Nature and extent of environmental crime in Kenya*. [online] Files.ethz.ch. Available at: <<https://www.files.ethz.ch/isn/111770/M166FULL.pdf>> [Accessed 31 August 2021].

KEFRI. C.K.Koech, P.O. Ongugo, M.T.E. Mbuvi and J.O. Maua.2009. Community Forest Associations in Kenya: challenges and opportunities. Available at: https://www.fornis.net/sites/default/files/documents/Community%20Forest%20Associations%20in%20Kenya%20challenges%20and%20oppo-205_0.pdf

Kibria, Golam. (2013). Mangrove Forests- Its Role in Livelihoods, Carbon Sinks and Disaster Mitigation. 10.13140/RG.2.1.1848.8800. (Accessed: 31 August 2021).

Kibugi R. (2017) 'Evaluating the Role of Private Land Tenure Rights in Sustainable Land Management for Agriculture in Kenya' In: Ginzky H., Heuser I., Qin T., Ruppel O., Wegerdt P. (eds) '*International Yearbook of Soil Law and Policy*' International Yearbook of Soil Law and Policy, vol 2016. Springer, Cham. (P.P 219-235).

Kibugi R. 2021. Local communities' and indigenous peoples' land and forestry rights: Assessing the law and practice on tenure security in Kenya. Occasional Paper 222. Bogor, Indonesia: CIFOR. <https://doi.org/10.17528/cifor/008032>.

Kiefer, S. & Bussmann, R.W. (2008) Household energy demand and its challenges for forest management in the Kakamega area, western Kenya. *Journal of Ethnobotany Research and Applications*, 6,363-371(accessed on 16th September, 2021)

Kipkoech, D., Mogaka, D., Cheboiywo, D. and Kimaro, D., 2011. *THE TOTAL ECONOMIC VALUE OF MAASAI MAU, TRANS MARA AND EASTERN MAU FOREST BLOCKS, OF THE*

MAU FOREST, KENYA. [online] Nairobi: Environmental Research and Policy Analysis (K). [Accessed 9 October 2021]. P. 24.

Lopes, A.A, Nandi. S and Murugesab.A. (2006) Delhi Sustainable Development Summit, Linking Across MDGs Towards Innovative Partnership and governance Available at: <https://wsds.teriin.org/2006/backgroundpaper.pdf> (accessed June,22,2021).

Lubia I.K., Kyalo S.N., Mukonyi K.W. Lusweti A.M. Situma C.A(2008) Strategy for Conservation and Management of Commercial Aloe Species in Kenya. (accessed on 1st November, 2021).

Lukumbuzya, K. and Sianga, C. (2017). Overview of the Timber Trade in East and Southern Africa: National Perspectives and Regional Trade Linkages. 53 pp. TRAFFIC and WWF. Cambridge, UK. TRAFFIC. (Accessed on 9th August, 2021).

Magaju, C., Ann Winowiecki, L., Crossland, M., Frija, A., Ouerghemmi, H., Hagazi, N., Sola, P., Ochenje, I., Kiura, E., Kuria, A., Muriuki, J., Carsan, S., Hadgu, K., Bonaiuti, E. and Sinclair, F., 2020. Assessing Context-Specific Factors to Increase Tree Survival for Scaling Ecosystem Restoration Efforts in East Africa. *Land*, 9(12), p.494. PP.17.

Makanji, L. and Mochida, H., 2004. Logging Ban in Kenya: Convergence or Divergence from the Forest Law and Policy and Impacts on Plantation Forestry. *Journal of Forest Planning*, 10(1), pp.21-30. (Accessed on 17th September, 2021).

Mbeche, Robert & Ateka, Josiah & Herrmann, Raoul & Grote, Ulrike. (2021). Understanding forest users' participation in participatory forest management (PFM): Insights from Mt. Elgon Forest ecosystem, Kenya. *Forest Policy and Economics*. 129. 102507. 10.1016/j.forpol.2021.102507. available at:

https://www.researchgate.net/publication/351879767_Understanding_forest_users'_participation

[in participatory forest management PFM Insights from Mt Elgon forest ecosystem Kenya /citation/download](#) (accessed on 23rd October, 2021).

M. Fredrick, Kairo.J.2019.Hot Spot Analysis of Mangrove Degradation in Mangroves in Lamu County, Kenya. Available at: <https://symposium.wiomsa.org/wp-content/uploads/2019/06/39.Mburu-F.-J.-Kairo.-Hot-Spot-Analysis-of-Mangrove-Degradation-in-Mangroves-in-Lamu-County-Kenya.pdf>.P.1 (accessed on 9th October, 2021).

Marais.G.2012.understanding the forest product chain of custody certification standard, A discussion about the challenges, impacts and opportunities for the Forest Product Chain-of-Custody (CoC). Available at: <https://www.sgs.com/~media/Global/Documents/White%20Papers/SGS-White-Paper-Forest-Product-Chain-of-Custody-EN.ashx> (accessed on 1st November, 2021).

Martin. P, Boer. B and Lydia S (IUCN) Framework for Assessing and Improving Law for Sustainability, a Legal Component of a Natural Resource Governance Framework IUCN Environmental Policy and Law Paper No. 87, available at: https://www.iucn.org/sites/dev/files/framework_for_assessing_and_improving_law_for_sustainability_0.pdf (accessed on 22nd October, 2021)

Mathu, W. and Ng'ethe, R., 2011. FOREST PLANTATIONS AND WOODLOTS IN KENYA. *African Forest Forum*, [online] 1(13). Available at: <<https://www.sifi.se/wp-content/uploads/2012/02/Forest-plantations-and-woodlots-in-Kenya.pdf>> [Accessed 28 September 2021].

Michael Ochieng Odhiambo.2015. Securing Community Land Rights in the Kenyan ASALs: Available Legal Options. Available at:

<https://www.adaconsortium.org/images/publications/Community%20based%20report-22.pdf>

(accessed on 3rd November, 2021).

Muigua. K. ‘National Environment Tribunal, Sustainable Development and Access To Justice In Kenya’ available at: <http://kmco.co.ke/wp-content/uploads/2020/03/National-Environment-Tribunal-Sustainable-Development-and-Access-to-Justice-in-Kenya-1.pdf> (accessed on 1st November, 2021).

Muigua. K. A paper on Environmental Impact Assessment (EIA) in Kenya. Available at: <http://kmco.co.ke/wp-content/uploads/2018/08/A-Paper-on-Environmental-impact-assessment.pdf> (accessed on 26th October, 2021).

Muigua. K. Reconceptualizing the Right to Clean and Healthy Environment in Kenya, available at: <http://kmco.co.ke/wp-content/uploads/2018/08/RIGHT-TO-CLEAN-AND-HEALTHY-ENVIRONMENT-IN-KENYA.docx-20th-November-2017.pdf> (accessed on 12th October, 2021).

Muigua, K. [2019] The Role of Courts in Safeguarding Environmental Rights in Kenya: A Critical Appraisal. Available at: <http://kmco.co.ke/wp-content/uploads/2019/01/The-Role-of-Courts-in-Safeguarding-Environmental-Rights-in-Kenya-A-Critical-Appraisal-Kariuki-Muigua-17th-January-2019-1.pdf> (accessed on 12th October, 2021).

Muthiani, D., 2017. 70,000 hectares of forests is lost to illegal logging every year – UN Report. [online] Eawildlife.org. Available at: <https://eawildlife.org/archive/index.php/membership/new-membership/104-conservation-news-articles/conservation-news-articles-kenya/181-70-000-hectares-of-forests-is-lost-to-illegal-logging-every-year>
[ureport#:~:text=A%20new%20report%20has%20shown,to%20blame%20for%20the%20predicament](http://www.eawildlife.org/archive/index.php/membership/new-membership/104-conservation-news-articles/conservation-news-articles-kenya/181-70-000-hectares-of-forests-is-lost-to-illegal-logging-every-year). [Accessed June,23, 2021].

Mutune JM, Wahome RG, Mungai DN (2015). Local Participation in Community Forest Associations: A Case Study of Sururu and Eburu Forests, Kenya. *International Journal of African and Asian Studies* 13:84-94. (Accessed on 1st November, 2021).

Mwenda, A. and Kibutu, T., 2012. IMPLICATIONS OF THE NEW CONSTITUTION ON ENVIRONMENTAL MANAGEMENT IN KENYA. *LEAD Journal (Law, Environment and Development Journal)*, [online] 8(1), p.80. Available at: <http://lead-journal.org/content/12076.pdf> [Accessed 12 October 2021].

National Environmental Management Authority, 2011. Integrated National Land use guidelines for a sustained societal attributes-infrastructure, environmental resources and public safety.

Available at:

<https://www.nema.go.ke/images/Docs/Guidelines/national%20landuse%20guidelines-nema.pdf>

(accessed on 26th October, 2021).

Ndegwa G, Sola, P., Iiyama M, Okeyo I, Njenga M, Siko I., Muriuki, J.2020. Charcoal value chains in Kenya: a 20-year synthesis. Working Paper number 307. World Agroforestry, Nairobi, Kenya. DOI <http://dx.doi.org/10.5716/WP20026.PDF> (accessed on 23rd September, 2021).

Nghobuoche Frankline, Ngoufo Roger, Tatuebu Tagne Claude, Louis Defo, Kiming Ignatius Ngala. Forest Certification for Sustainable Forest Management in Cameroon: Myth or Reality. *International Journal of Environmental Protection and Policy*. Vol. 8, No. 6, 2020, pp. 105-116. doi: 10.11648/j.ijepp.20200806.11 (accessed on 3rd November, 2021).

Nitschke, Craig & Innes, John. (2005). The Application of Forest Zoning as an Alternative to Multiple Use Forestry. 10.1079/9780851990026.0097. Available at:

https://www.researchgate.net/publication/237045834_The_Application_of_Forest_Zoning_as_an_Alternative_to_Multiple_Use_Forestry (accessed on 24th October, 2021).

Njenga Hakeenah (2018), Kenya's multibillion timber industry gets support with Nairobi GLF meeting. Available at: <https://theexchange.africa/industry-and-trade/kenyas-multibillion-timber-industry-gets-support-with-nairobi-glf-meeting/> (accessed on 12th September, 2021).

N.T.M.M.J. (1994). Hard times for hardwood: Indigenous timber and the timber trade in Kenya. Traffic.Org. <https://www.traffic.org/site/assets/files/9761/timber-trade-in-kenya.pdf>. [Accessed June,23, 2021].

Office for the coordination of humanitarian affairs. A guide to the planning, use, procurement and logistics of timber as a construction material in humanitarian relief. Available at: https://www.careemergencytoolkit.org/wp-content/uploads/2017/03/35_2.pdf (accessed on 25th October, 2021).

Ongugo PO, Langat D, Oeba VO, Kimondo JM, Owuor B, Njuguna J, Okwaro G and Russell AJM. 2014. A review of Kenya's national policies relevant to climate change adaptation and mitigation: Insights from Mount Elgon. Working Paper 155. Bogor, Indonesia: CIFOR. Available at: https://www.cifor.org/publications/pdf_files/WPapers/WP155Russell.pdf (accessed on 31st August, 2021).

Ongugo, P.O., 2007. Participatory Forest Management in Kenya: Is There Anything for the Poor? The Precursor for PFM. *Forestry*, (September), pp.1–10. (accessed on 1st November, 2021)

Paluš, H., Parobek, J., Dudík, R. and Šupín, M., 2017. Assessment of Chain-of-Custody Certification in the Czech and Slovak Republic. *Sustainability*, 9(10), p.1898.(accessed on 1st November, 2021).

P. Kameri-Mbote., 'The use of the Public Trust Doctrine in Environmental Law', 3/2 Law, Environment and Development Journal (2007), p. 195, available at <http://www.lead-journal.org/content/07195.pdf> [Accessed 23rd October 2021].

Programme, U. (2012) *The Role and Contribution of Montane Forests and Related Ecosystem Services to the Kenyan Economy*, *Wedocs.unep.org*. Available at: <https://wedocs.unep.org/handle/20.500.11822/8513> (Accessed: 30 August 2021).

2020. Republic of Kenya, Ministry of Environment and forestry, Third draft National Policy. Available at: <http://www.environment.go.ke/wp-content/uploads/2020/12/Third-Draft-Policy-December-2020.pdf>(Accessed: 31 August, 2021).

Sigi Lang'at, Kipkorir & Kairo, J.G (2013). Conservation and management of mangrove forests in Kenya. Available at: <https://legacy.oceandocs.org/bitstream/handle/1834/6989/ktf0069.pdf?sequence=1> (Accessed: 31 August 2021).

Sitoe, Almeida & Wertz-Kanounnikoff, Sheila & Ribeiro, Natasha & Guedes, Benard & Givá, Nícia. (2014). Community rights and participation in the face of new global interests in forests and lands: The case of Mozambique. (accessed on 5th November, 2011).

Teketay D., Mbolu A. M. M., Kalonga S. K. and Ahimin O. 2016. Forest certification in Africa: achievements, challenges and opportunities. African Forest Forum, Nairobi, Kenya. 157 p.

Teucher, M., Schmitt, C., Wiese, A., Apfelbeck, B., Maghenda, M., Pellikka, P., Lens, L. and Habel, J., 2020. Behind the fog: Forest degradation despite logging bans in an East African cloud forest. *Global Ecology and Conservation*, 22, p.e01024.(Accessed on 17th September, 2021).

Thenya, Thuita. (2017). High community expectation against low societal transformation through community-based income generating activities. Analysis of Participatory Forest management in Kenya 2005-2013. International Journal of Scientific Research and Management. 10.18535/ijstrm/v5i6.02. (Accessed on 1st November, 2021) P.5368.

Ullah, S.; Noor, R.S.; Abid, A.; Mendako, R.K.; Waqas, M.M.; Shah, A.N.; Tian, G. Socio-Economic Impacts of Livelihood from Fuelwood and Timber Consumption on the Sustainability of Forest Environment: Evidence from Basha Valley, Baltistan, Pakistan. Agriculture 2021, 11, 596 available at <https://doi.org/10.3390/agriculture11070596> (accessed 22 June, 2021).

UN Environment (2017) Improving efficiency in forestry operations and forest product processing in Kenya: A viable REDD+ policy and measure? Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/23022/efficiency_forestry_kenya.pdf?sequence=1 (accessed on 31st August, 2021).

UNEP Division of Environmental Law and Conventions, Advancing Justice, Governance and Law for Environmental Sustainability, available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/9969/advancing_justice_governance_law.pdf?sequence=1&isAllowed=y (accessed on 22nd October, 2021).

UNEP. Right to a Healthy environment, good practices. Available at: <https://wedocs.unep.org/bitstream/handle/20.500.11822/32450/RHE.pdf?sequence=1&isAllowed=y> (accessed on 22nd October, 2021) Chapter III(c).

Vanessa. P (2019) » *How Mangroves Protect People in Kenya?* (. Available at: <https://atlascorps.org/how-mangroves-protect-people-in-kenya/> (Accessed: 31 August 2021).

Violet Matiru.2000. ‘Conflict and natural resource management,’ available at: <https://www.fao.org/forestry/21572-0d9d4b43a56ac49880557f4ebaa3534e3.pdf> (accessed on 1st November, 2021).

Zhao, Y., 2016. An Analysis of Aldo Leopold’s Land Ethics. *International Journal of Humanities, Social Sciences and Education*, [online] 3(12), PP 21-25. Available at: <<https://www.arcjournals.org/pdfs/ijhsse/v3-i12/3.pdf>>. (Accessed on 23rd September, 2021).

THESIS

Jennifer, C,1988. An ecological approach to Environmental Law. An LLB (Hons)Dissertation University of Auckland. Available at: <http://www.nzlii.org/nz/journals/NZLRFOP/1988/29.pdf> (accessed on 23rd September, 2021).

JN. Keraka. ‘An assessment of the adequacy of the moratorium on logging as a sustainable forest management tool: A case study of Eastern-Mau Forest reserve area (Master of Laws, University of Nairobi, 2018).

Rashid Abubakar, ‘The evolution of Differentiation in International Climate Change Law and its implications for the effectiveness of the Paris Agreement’ (2019) LLM Thesis submitted to The University of Nairobi.

WEBISTES AND NEWS ARTICLES

American Forest Foundation, My Land plan, Managing a Successful, Sustainable Timber Harvest. Available at: <https://mylandplan.org/content/managing-successful-sustainable-timber-harvest> (accessed on 1st November, 2021).

Andrews, L., 2016. *Ethics and the Environment - A Focus on Aldo Leopold's Land Ethic*. [online] LinkedIn.com. Available at: <https://www.linkedin.com/pulse/ethics-environment-focus-aldo-leopolds-land-ethic-lisa-andrews> [Accessed 23rd September, 2021].

ASEAN Guidelines for Chain of Custody of Legal Timber and Sustainable Timber, available at: https://asean.org/wpcontent/uploads/images/archive/AMAF%2032%20ASEAN_Guidelines_for_Legal_Sustainable_Timber-%20final.pdf (accessed on 25th October, 2021).

(Brack, n.d.) Background Analytical Study 4 Sustainable consumption and production of forest products (2018) *Un.org*. Available at: https://www.un.org/esa/forests/wpcontent/uploads/2018/04/UNFF13_BkgdStudy_ForestsSCP.pdf (Accessed: 22 June, 2021).

Certification Canada. Chain of custody certification. Available at: <https://certificationcanada.org/en/certification/chain-of-custody-certification/> (accessed on 3rd November, 2011)

CFI.2021 update on forest certification in Canada. Available at: <https://www.woodbusiness.ca/2021-update-on-forest-certification-in-canada/> (accessed on 3rd November, 2021).

(2018) *Environment.go.ke*. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (Accessed: 9 August 2021).

EUFLEGT facility.2021. Ghana and EU finalise assessment of Ghana Timber Legality Assurance System. Available at: https://www.euflegt.efi.int/news-2021/-/asset_publisher/2II5CgXp5RHP/content/ghana-and-eu-finalise-assessment-of-ghana-timber-legality-assurance-system?inheritRedirect=false (accessed on 3rd November, 2021).

(2021) *Fao.org*. Available at: <http://www.fao.org/3/am723e/am723e00.pdf> (Accessed: 19 June, 2021).

European commission. Cameroon country overview to aid implementation of the EUTR. Available at:https://ec.europa.eu/environment/forests/pdf/Cameroon_country%20overview%2019.04.2020.pdf (accessed on 3rd November, 2021). p.106.

FAO. Current status of Forestry Sector and the Vision for the year 2020. Available at: <https://www.fao.org/3/ab569e/AB569E04.htm> (accessed on 1st November, 2021).

Forests Sustainable Development Knowledge Platform Available at <https://sustainabledevelopment.un.org/topics/forests> United Nations, (accessed June, 22, 2021).

Forget tree planting, start tree growing’ available at: <https://forestsnews.cifor.org/61174/forget-tree-planting-start-tree-growing?fnl=en> (accessed on 24th October, 2021).

Friends of Karura Forest, ‘Karura Forest - Secure, Safe, Serene’ available at https://www.friendsofkarura.org/wp-content/uploads/2018/05/Final-Report_29Apr2018_17h.pdf (accessed June, 22,2021).

Government of Canada. Forest management planning. Available at: <https://www.nrcan.gc.ca/our-natural-resources/forests-forestry/sustainable-forest-management/forest-management-planning/17493> (accessed on 27th October, 2021).

Government of Canada. 5 ways Canada prevents illegal logging. Available at: <https://www.nrcan.gc.ca/our-natural-resources/forests-forestry/sustainable-forest->

[management/canadas-forest-laws/5-ways-canada-prevents-illegal-logging/17479](https://www.globalforestwatch.org/dashboards/country/KEN/?category=summary&dashboardPrompts=) (accessed on 3rd November, 2021).

Kenya Deforestation Rates & Statistics | GFW. Available at: <https://www.globalforestwatch.org/dashboards/country/KEN/?category=summary&dashboardPrompts=> (Accessed: 31 August 2021).

Kenya Forest Service, Clarification on the use of Movement Permits to regulate harvesting of trees in the Country, available at: http://www.kenyaforestservice.org/index.php?option=com_content&view=article&id=665:clarification-on-the-use-of-movement-permits-to-regulate-harvesting-of-trees-in-the-country&catid=173&Itemid=755 (accessed on 23rd October, 2021).

Kenya Forest Service (2007) Forest Law Enforcement and Governance in Kenya. Available at: https://www.profor.info/sites/profor.info/files/AFR_2007_Forest%20Law%20Enforcement%20and%20Governance%20in%20Kenya_0.pdf (accessed on 31st August, 2021).

2014. Kenya Forest Service-Dire Shortage of Timber Forcing Merchants To Import Commodity, Kenyaforestservice.org. Available http://www.kenyaforestservice.org/index.php?option=com_content&view=article&id=144:dire-shortage-of-timber-forcing-merchants-to-import-commodity&catid=81:news&Itemid=538 [Accessed June,23 2021].

Kenya Forest Service, 2014. NEMA demands action to save forests. Available at: http://www.kenyaforestservice.org/index.php?option=com_content&view=article&id=123:nema-demands-action-to-save-forests&catid=81:news&Itemid=538 (accessed on 26th October, 2021).

KFS, Forester A Quarterly Magazine of The Kenya Forest Service: Issue No.12: April - June 2014. Forestry potential in the drylands. Available at:

http://www.kenyaforestservice.org/documents/forester_magazine/Forester%20June%202014.pdf
(accessed on 2nd November, 2021).

Kenya Forest Service (2015), Participatory Forest Management Guidelines. Available at:
<http://www.kenyaforestservice.org/documents/pfm/PFM%20Guilines%20Final%202016.pdf>
(accessed on 13th October, 2021).

KFS. Wesonga.B. Laws that protect our forests-The Forest Conservation and Management Act,
2016.Available
at:http://www.kenyaforestservice.org/index.php?option=com_content&view=article&id=530&Itemid=187 (accessed on 26th October, 2021).

KFS. Forest Management plans. Available at:
http://www.kenyaforestservice.org/index.php?option=com_content&view=article&id=496&Itemid=679 (accessed on 2nd November, 2021).

Know your forest. Forest Management Planning. Available at: <https://knowyourforest.org/learning-library/forest-management-planning> (accessed on 27th October, 2021).

KWC Certification program. Chain of custody verification for legality and certification: an
introduction for the Ghana timber industry. Available at:
http://www.itto.int/files/itto_project_db_input/2950/Promotional/Chain-of-Custody-Brochure.pdf (accessed on 1st November, 2021).

2018. Illegal logging and charcoal burning.necc.go.ke. Available at:
<https://www.necc.go.ke/2018/11/12/illegal-logging-charcoal-burning/> (Accessed: 9 August
2021).

Mangroves in the spotlight (2017). Unep.org. Available at: <https://www.unep.org/news-and-stories/story/mangroves-spotlight>(Accessed: 31 August 2021).

Marley.2019. Does timber chain of custody really matter? Available at: <https://www.marley.co.uk/blog/does-timber-chain-of-custody-really-matter>(accessed on 27th October, 2021).

Mwangi.M.2006 ‘Kenya loses Kshs.3 billion annually following 7-year Ban on logging. *Daily Nation* 27th March, 2006. Available at: <https://allafrica.com/stories/200603270720.html> accessed on 28th September, 2021).

Nature Kenya. Counting gains of Participatory Forest Management. Available at: <https://naturekenya.org/2020/03/02/counting-gains-of-participatory-forest-management/> (accessed on 27th October, 2021).

Protecting mangroves in Kenya: See Daily Nation: <https://www.nation.co.ke/lifestyle/health/conservation-of-mangroves> [Accessed on 21/03/2020].

Regreening Africa, World Vision Ethiopia, June 2020, Seedling Survival Count Guideline, available at: <https://regreeningafrika.org/wp-content/uploads/2020/08/Guideline-for-survival-count-final.pdf> (accessed on 24th October, 2021).

Rhode Island Woods, ‘Sustainable harvesting’ available at: <https://rhodeislandwoods.uri.edu/landowner-toolbox/sustainable-harvesting/>(accessed on 1st November, 2021).

SFI: How to certify to the SFI standards. Available at: https://forests.org/wp-content/uploads/HowtoCertify_SFI_Dec1.pdf (accessed on 3rd November, 2021).

Sola. P. & Omar.P.2021. Kenya has been trying to regulate the charcoal sector: why it’s not working. Available at: <https://pim.cgiar.org/2021/03/03/kenya-has-been-trying-to-regulate-the-charcoal-sector-why-its-not-working/>: (Accessed: 30th September, 2021).

2014. Stanford encyclopedia philosophy. The history of utilitarianism. Available at: <https://plato.stanford.edu/entries/utilitarianism-history/> (accessed on 31st August, 2021).

2010. Timber shortage forces Kenya to import more. ccpitgx.org. https://www.ccpitgx.org/webcpitgx/en/webcpitgx/2010/ccpitnews_1119/4407.html (Accessed: 9 August 2021).

Timber Harvesting: Available at: <https://www.nrs.fs.fed.us/fmg/nfmg/docs/mn/harvesting.pdf> (accessed on 12th September, 2021).

Transparency International EU. January, 2017. Tackling corruption to protect the world's forests. How the EU can rise to the challenge. Available at: <https://transparency.eu/wp-content/uploads/2017/01/TI-GW-Anti-corruption-briefing-January-2017.pdf> (accessed on 27th October, 2021).

UN General Assembly, *United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189*, available at: <https://www.refworld.org/docid/3b00f2770.html> [accessed 31 August 2021].

World Resources Institute. 2016. Democratic Republic of the Congo enables forest-based communities to secure land rights. Available at: <https://www.wri.org/outcomes/democratic-republic-congo-enables-forest-based-communities-secure-land-rights> (accessed on 3rd November, 2021).

REPORTS

Kenya National Forest Programme 2016-2030 | KWCA Kenya National Forest Programme 2016-2030 | KWCA (2017). Available at: <https://kwcakenya.com/download/kenya-national-forest-programme-2016-2030/> (Accessed: 18 August 2021).

Kenya National Bureau of Statistics, 2021, *Economic Survey, 2021*, available at: <https://www.knbs.or.ke/wp-content/uploads/2021/09/Economic-Survey-2021.pdf> (accessed on 28th September, 2021).

Ministry of Environment and Forestry (2018), Taskforce Report on Forest Resources Management and Logging Activities in Kenya. Available at: <http://www.environment.go.ke/wp-content/uploads/2018/08/Forest-Report.pdf> (accessed on 31st August, 2021).

The National Assembly, (2018) report on the inquiry into forest resource management and logging activities in Kenya, Available at: http://www.parliament.go.ke/sites/default/files/201909/REPORT%20ON%20LOGGING_compressed.pdf (accessed on 31st August, 2021).

Ministry of Environment and Forestry, (2020) The National Forest Reference Level for REDD+ Implementation, Available at: https://redd.unfccc.int/files/kenya_national_frl_report_august_2020.pdf (accessed on 31st August, 2021).

Ministry of Environment, Water and Natural Resources, 2013. Final Legal Report, Forest governance, REDD + and Sustainable development in Kenya. Available at: <http://www.kenyaforestservice.org/documents/redd/Forest%20Governance,%20REDD+%20and%20Sustainable%20Development%20in%20Kenya.pdf> (accessed on 31st October, 2021).

Ministry of Forestry and Wildlife. 2013. An analysis of drivers and underlying causes of forestry cover change in the various forest types of Kenya. Ruri Consultants, Nairobi, Kenya. Available at: <http://www.kenyaforestservice.org/documents/redd/Analysis%20of%20Drivers%20of%20Deforestation%20&forest%20Degradation%20in%20Kenya.pdf> (accessed on 31st August, 2021).

Ministry of Environment and Forestry, 2019, National strategy for achieving and maintaining over 10% tree cover by 2022, available at: <http://www.environment.go.ke/wp->

<content/uploads/2019/08/Strategy-for-10-Tree-Cover-23-5-19-FINAL.pdf> (accessed on 22nd October, 2021)

TRAFFIC report. 2017. Cameroon timber trade legality training manual. Available at: <https://www.traffic.org/site/assets/files/11844/cameroon-timber-legality-manual-en.pdf> (accessed on 3rd November, 2021).

MANAGEMENT PLANS

Kenya Forest Service. Bunyala Participatory Forest Management Plan 2015-2019. Available at: https://issuu.com/nature_kenya/docs/bunyala_participatory_forest_mangem/93 (accessed on 1st November, 2021).

Kenya Forest Service. Chuka Participatory Forest Management Plan.2015-2019.Available at: <https://sgp.undp.org/all-documents/country-documents/925-kenya---chuka-participatory-forest-management-plan/file.html>.

Kenya Forest Service. Karura Forest Strategic Management Plan 2016-2020.Available at: <http://www.greenbeltmovement.org/sites/greenbeltmovement.org/files/Management%20Plan%20Karura%20Forest%202.pdf>.

Kenya Forest Service. 2018. Londiani Participatory Forest Management Plan 2018-2022. Bogor, Indonesia: Center for International Forestry Research (CIFOR).

Kenya (2017). National Mangrove Ecosystem Management Plan, Kenya Forest Service, Nairobi, Kenya.