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INSTITUTE OF DIPLOMACY AND INTERNATIONAL STUDIES

MA RESEARCH PROJECT

**THE EFFICACY OF THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE
(UNFCCC) IN PROMOTING ENVIRONMENTAL SECURITY IN AFRICA; A CASE
OF PARIS AGREEMENT IN KENYA**

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DECLARATION

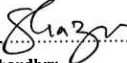
With guidance of my supervisors, I worked tirelessly to produce original work which has never been presented in any college for an award of a degree. This document should never be reproduced, copied or used for any purpose without permission of the author, University of Nairobi, IDIS or the National Defence College, Kenya.

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DEDICATION

I dedicate this work to all the scholars in Climate change, policy makers and implementers of the MEAs including the UNFCCC and the Paris Agreement. I further dedicate it to my husband, Engineer Kirabui, all my children and family members who were very supportive and indeed the source of my inspiration.

LIST OF ABBREVIATIONS

COP	Conference of Parties
CCAFS	Climate Change, Agriculture and Food Security
CCA	Climate Change Act
FAO	Food and Agricultural Organization
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Green House Gas
INDCs	Intended Nationally Determined Contributions
CSO	Civil Society Organizations
KCSAP	Kenya Climate Smart Agriculture Project
HFLCs	Hydrofluorocarbons
LTWP	Lake Turkana Wind Power
MEAS	Multilateral Environmental Agreements
M&E	Monitoring and Evaluation
MRV	Monitoring, Reporting and Verification
NCCAP	National Climate Change Action Plan
NAP	National Action Plan
NGOs	Non-Governmental Organizations
NDCs	Nationally Determined Contributions
SBSTA	Subsidiary body for Scientific and Technological Advice
SPSS	Statistical package for social sciences

SDGs	Sustainable Development Goals
USA	United States of America
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNFCCC	United Nations Framework Convention on Climate Change
UNEP	United Nations Development Program
UNCBD	United Nations Convention on Biological Diversity
POPs	Persistent Organic Pollutants
IPCC	Intergovernmental Panel on Climate Change
PFCs	Perfluorocarbons

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ABSTRACT

The research study looks at the efficacy of the UN Framework Convention on Climate Change (UNFCCC) in promoting environmental security in Africa; a case of Paris agreement in Kenya. The following three research questions were answered by the study: 1) What frameworks do African states like Kenya follow in the domestication of the UNFCCC and its protocols to attain environmental security? 2) How has the Paris agreement contributed towards environmental security in Kenya? 3) What are the challenges and opportunities in adopting Paris agreement towards attaining Environmental security in Kenya? A case study was used for this research to demonstrate the status of the implementation of UNFCCC and Paris agreement in Kenya and to show the context in the entire Africa, with regards to promotion of environmental security. The study adopted a qualitative approach in data collection, whereby eleven people including policy makers, researchers, environmentalists, CSOs and international NGO representatives were engaged in an in-depth interview session to share their observations and opinions. All the focal points of UNFCCC secretariat in Paris agreement were well represented in the interviews. Secondary data was used to complement the findings of the study. The sectors that were highlighted by the study as most vulnerable to climate change were Agriculture, tourism and wildlife, health and energy, natural resources and environment. The environmental insecurities highlighted were drought, floods, rising temperatures, erratic rainfall, poor agricultural productivity, death of wildlife, migration of wildlife, dumping of hazardous wastes and extreme wind patterns. The study found out that Kenya, as a signatory to UNFCCC has made progressive milestones towards its implementation. Kenya has intended Nationally Determined Contributions in response to the adoption of COP22. The country also has a participatory approach towards attainment of vision 2030 and the sustainable development goals. Other actions are in tree planting campaigns intended to increase tree cover by 10%. Kenya is adopting low carbon by embracing green energy technologies. There is investment in scientific research to come up with sound innovations. To achieve this, Kenya has partnered with the developed countries for funding, technology and transfer of innovations. Amongst the frameworks and guidelines that Kenya has put in place are Kenya Climate Change Act 2016, Energy Act 2019, National Climate Change Action plan 2018-2022, the Agricultural sector Development Strategy 2010-2020, among others. The challenges identified to be slowing down the implementation of UNFCCC and Paris agreement were inadequate financing, inadequate technologies weak governance systems and poor coordination of institutions. For effective implementation of UNFCCC and the Paris agreement towards enhancement of environmental security, the study recommends that needs assessment should be undertaken before any research work so as to inform the point of action in implementation of projects aimed at combating climate change. African countries should be more innovative in securing and managing funds for such projects. Currently, there are many policies and guidelines which have not been well utilized. There should be action plans for their implementation. Countries should deliberately go for participatory approaches by state and non-state actors and faith organizations in climate actions. There should be hard laws so that countries that do not implement the UNFCCC and Paris agreement as they committed are penalized. There is need to enhance co-ordination of implementing agencies on Climate change adaptation in Kenya. Awareness creation on climate change adaption and Paris agreement initiatives should be emphasized by all implementing agencies for support and participation by all stakeholders.

Chapter One

Introduction to the Study

1.1 Introduction

Today every state has witnessed and experienced climate change effects such as food insecurity, diseases and environmental pollution. This is a clear evidence that mankind has never been excellent stewards of the environment. The world has experienced environmental disasters such as floods, earth quake, hurricanes and tsunami among others. Globally, people complain about industrialization as the major source of environmental pollution and fail to take precautions. In the third world, people do not take care of their environment, they still engage in vices such as logging¹, poaching², pollution of rivers, environment, oceans and water sources.

Africa faces several environmental challenges such as changes in climatic conditions that are caused by discharge of greenhouse gases into the atmosphere. The impacts of such climatic changes are extreme weather conditions including drought, floods, and abruptly rising temperatures.³ To deal with the consequences, countries have formulated and adopted policies such as levies on carbon emissions, adopting low carbon technologies, emphasizing on green

¹ Burivalova, Z., Şekercioglu, Ç. H., & Koh, L. P. (2014). Thresholds of logging intensity to maintain tropical forest biodiversity. *Current Biology*, 16(24), 1893-1898.

² Estrada, Orietta. 2019. *One Green Planet*. January 26. Accessed 10, 17, 2019. <https://www.onegreenplanet.org/animalsandnature/the-devastating-effects-of-wildlife-poaching/>.

³ Evans Osabuohien Uchenna R. Efobi Ciliaka M. Gitau, (2015), "Environment challenges in Africa: further dimensions to the trade, MNCs and energy debate", *Management of Environmental Quality: An International Journal*, Vol. 26 Iss 1 pp. 118 - 137

growth and economy, adjusting price of biofuels and renewable energy technologies.⁴ Currently the frameworks and systems to provide environmental security have not been well implemented.

Due to their weak institutional framework, African countries are still facing challenges in adopting the right mechanisms to protect their environment.⁵ For instance, there is a series of oil spillage by multinationals that do oil drilling, improper waste disposal, flaring gas, and toxic discharge that are persistent especially in Africa. This can be attributed to the rising trend of environmental challenges in Africa. According to the Intergovernmental panel on climate change (IPCC)⁶ the increasing environmental challenges in Africa shall lead to 50% decline in agricultural production by 2020. This has been witnessed with inadequate or lack of rains, drought, decreased crop production, which have resulted to food insecurity.

Globalization has nullified the boundaries across African countries thus enhancing trade, technology, processing, manufacturing and trade. Multinational cooperation and other business companies have invested in African countries and continue to do business. In the light of industrialization and globalization, there is increasing environmental pollution by discharge of carbon during manufacturing, transporting of manufactured goods, and during natural resource exploration.⁷ Countries in Africa have trailed behind other countries in the world in terms of broad measures of formal frameworks and institutions to solve the environmental challenges. The macroeconomic policies in Africa are geared towards attracting foreign capital and trade

⁴ Resnick, D. Tarp, F. and Thurlow, J. (2012), "The political economy of green growth: illustrations from Southern Africa", UNU-WIDER Working Paper No. 2012/11, United Nations University-World Institute for Development Economics Research, Helsinki.

⁵ Osabuohien, E.S. and Efobi, U.R. (2013), "Africa's money in Africa", South African Journal of Economics, Vol. 81 No. 2, pp. 292-306.

⁶ Intergovernmental Panel on Climate Change (2007), Summary for Policymakers. Working Group II Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability, IPCC, Geneva

⁷ Resnick, et al (2012), "The political economy of green growth."

competitiveness. The continent has recounting trade protocols and agreements that have been signed, an indication of their desire to improve their trade and competitiveness.⁸

The population in Africa depends on the environment for their livelihoods; they derive water, minerals, fuel, building and construction materials, agriculture and settlement. In order to control pollution of the environment and unsustainable exploitation of the natural resources, states have had concerted efforts to develop and implement policies within and without their boundaries. To date, several Multilateral Environmental Agreements (MEAs) that establish common patterns of institutional regimes have been concluded and signed. The MEAs give regulatory arrangements recognized by each treaty to oversee the implementation and adherence to the protocols.⁹

The MEAs play an important role in the framework of environmental guidelines, laws and conventions. They complement national laws and bilateral agreements thus forming the overarching legal basis for the world to deal with environmental issues.¹⁰ Effective implementation of MEAs depends on domestic capacity which also differ from state to state depending on the resources. Whereas some conventions rely on the goodwill of signatory countries others have created international mechanisms for enforcement and to deal with non-compliance of the signatories.

The Paris Agreement builds up on the United Nations Framework Convention on Climate Change and aims at strengthening the global response to climate change threats. The parties are

⁸ Schaefer, B.D. Kim, A.B. and Florence, C. (2013), "Congress should pave the way for a U.S.-Africa free trade agreement", The Heritage Foundation Working Paper, available at: www.heritage.org/research/reports/2013/08/congress-should-pave-the-way-for-a-usafrica-fretrade-agreement (accessed 25 November 2019).

⁹ UNEP (2016) Enhancing cooperation among the seven biodiversity related agreements and conventions at the national level using national biodiversity strategies and action plans. United Nations Environment Programme (UNEP), Nairobi, Kenya.

¹⁰ Balakrishna Pisupati, 2012, Biodiversity Governance: Lessons for International Environmental Governance, National Biodiversity Authority (Chennai, Government of India).

encouraged to take part in keeping global temperature rise below 2 degrees Celsius and to limit temperature increase by even a further 1.5 degree Celsius. This study is therefore investigating how the UNFCCC has been implemented to promote environmental security in Africa, using a case of domestication challenges of the Paris Agreement in Kenya as a party.

1.2 Statement of the Research Problem

The environment is the refuge for human life. Its fast degradation has been due to exhaustion of resources such as water, minerals, loss of wildlife both vegetation and animals, destruction of ecosystem and pollution. With globalization and development, technology and trade brings more environmental concerns because of increased manufacturing, use of fossil fuels, application of unconventional farming practices and overexploitation of natural resources. These acts have posed numerous environmental security challenges, impacting negatively to humans. For instance, polluting of water sources and decreased agricultural production have impacted on human security domains. Moreover, climate change has been caused by greenhouse gases which are emitted due to human activities such as industrialization, dumping, deforestation and poor farming practices. The increased environmental insecurity in this age calls for urgent attention internationally by UN, all governments and scholars. Environmentalists and enthusiasts for conservation believe that the environmental degradation challenge can be addressed through a multidisciplinary approach by designing effective strategies.

The first MEAs were enacted in the 1970s before coming of the United Nations Development Program (UNEP) in 1972. Since then, several MEAs have been signed and enacted by different countries in Africa, including Kenya. In December 2015, parties met at Katowice and agreed to fight climate change and hasten climate actions for low carbon future. Parties negotiated

on how the Paris agreement can be implemented in a transparent and fair manner. After countries adopted the Paris agreement.¹¹

The willingness of countries to fulfil their commitments under UNFCCC depends on the established institutional systems and how the systems are organized to synergize in the operations. In Kenya, there has been weak institutions at governance level, inadequate coordination and inefficient cooperation amongst the institutions and inadequate funds which has hindered the implementation of climate change related MEAs such as UNFCCC amongst other MEAs. The concerns are ineffectiveness, international regulatory congestion, replication and overlap of institutional mandates.¹² This study intends to analyze the implementation of UNFCCC in Kenya and how the instruments like the Paris Agreement promotes national environmental security.

1.3 Research Questions

- 1.3.1 What frameworks do African states like Kenya follow in the domestication of the UNFCCC and its protocols to attain environmental security?
- 1.3.2 How has the Paris Agreement contributed towards environmental security in Kenya?
- 1.3.3 What are the challenges and opportunities in adopting Paris agreement towards attaining Environmental security in Kenya?

1.4 Objectives

The study aimed at analyzing the efficacy of the un framework convention on climate change (UNFCCC) in promoting environmental security in Africa; a case of Paris Agreement in Kenya.

¹¹ Faure, M. & Jurgen, L. (2009). Compliance with international Environment Agreements, In: Vig, Norman J., and Regina S. Axelrod, *The Global Environment: Institutions, Law and Policy*, London: Earthscan, 138-156.

¹² UNEP (2001) *International Environmental Governance: Multilateral Environmental Agreements (MEAs)*, Nairobi: UNEP.

Specifically, the study is looking in to the following objectives;

1.4.1 To examine the domestication process of UNFCCC towards attaining environmental security in Africa broadly and in Kenya specifically.

1.4.2 To evaluate the frameworks used by African states like Kenya in the domestication of Paris Agreement to attain national environmental security.

1.4.3 To assess the challenges and opportunities in adopting the Paris Agreement towards attaining environmental security in Kenya.

1.5 Justifications of the study

1.5.1 Academic Justification

The research findings will thus be used as a foundation for future research because it endeavored to fill the knowledge gap as envisaged in the research problem. Policy gaps and challenges towards effective implementation of Paris agreement in Kenya have been pointed out. The study is a good proof of the happenings in the African countries that have signed the conventions.

The findings shall be helpful to researchers and scholars. They shall add significance to the already current literature and will provide a background for more research by the scholars and researchers. The study shall give more insights on the implementation of Paris Agreement in promoting environmental security in Kenya.

1.5.2 Policy Justification

The study shall pinpoint the structures that Kenya has put in place in the implementation of UNFCCC. The study findings and recommendations shall be valuable to policy makers such as

UN, Parliamentary commissions and county governments in developing strategies, putting needed structures and institutions in place to proper implementation. The research shall enhance the knowledge of environmental enthusiasts on implementation of Paris Agreement amongst other MEAs. The study recommendations shall offer suggestions for dealing with the challenges faced in the implementation of Paris Agreement for promotion of environmental security in Kenya and Africa at large.

1.6 Literature Review

1.6.1 An Analysis of Environmental Security

Environmental issues are becoming part of the broadened concept of security and has been seen to play a role in the rapidly increasing causes of violent conflicts. There are empirical examples of scuffles over water resources, pasture, conflicts associated with environmental refugees and disagreements about who is responsible for climate change. These aspects illustrate the causal linkages between environment and conflicts; they have proved evidence by facts. Environmental issues can cause conflicts; the causal link between physical processes in nature have risen violent conflicts amongst societies and in the international borders.¹³

Arthur Westing has illustrated that during the wars of decolonization (for example the first and second world wars, Algerian war and several others) the common denominator over the wars was natural resources such as fuels, minerals, land itself, fish stocks and others which played an important role. The access to and management of natural resources has been an object of disagreement and fierce conflicts between various social groups and countries during the existence

¹³ Homer-Dixon, Thomas F. "Environmental Scarcities and Violent Conflict: Evidence from Cases." *International Security* 19, no. 1 (1994): 5-40. doi:10.2307/2539147.

of humanity. The linkage between environment and conflict is not just the struggle for limited natural resources but again, environmental fights can manifest themselves as conflicts over resources.

In this study, environment shall refer to ecosystem and environmental change. Ecology is the canon of interrelations between living things and the environment while ecosystem is the rounded feedback control comprising living things and their biotic and abiotic environment. Environmental change destabilizes the interference in ecosystems equilibrium. The ecosystem is thus forced to change the equilibrium to a new level, amending the supporting environments it offers to human life and activities.¹⁴

Carbon dioxide pollution causes accumulation of the greenhouse gases lead to global warming and consequently rise in the sea level. Deforestation and overuse of soil causes desertification. Environmental degradation has a human made environmental change that negatively impacts on the human society.¹⁵ Environmental insecurity is as a result of environmental crisis that are common in the world today. The eye openers of environmental insecurity were the Stockholm Conference of 1972, Rio Summit of 1992 and the Brundtland Report of 1986. That point the growing environmental awareness. The environmental crisis is man-made. Harmful activities by man to the environment include deforestation which cause death of forests, destruction of ecosystems, forest devastation and defoliation and soil erosion. Emissions such as Sulphur acid and Carbon monoxide affect air quality in all major cities in the world. The pollution results from the combustion of engine technology and use of carbon-based energy sources which emit the harmful particulate matter in to the atmosphere. Land degradation, damage

¹⁴ Marie- Louise Larson. *Legal Definitions of the Environment and Environmental Damage*. Stockholm Institute for Scandinavian Law. 2009

¹⁵ Stephan Libiszewski. *What is environmental conflict?* Centre for Security Studies, 2004.

to oceans, food insecurity, epidemics, hazardous waste and epidemics are some of the environmental insecurities.¹⁶ Environmental conflicts can therefore be defined as conflicts that manifest as political, economic, social, ethnic religious or territorial conflicts over resources and national interests. The conflicts are characterized by abuse of renewable resources, overstraining the environments sink capacity and impoverishing of the living space.

There are several types of environmental wars in Kenya. Biodiversity conflicts between people and wildlife comprises wars relating to conservation of threatened areas, green technologies and protecting constitutional rights in relation to biodiversity and indigenous traditional knowledge. Clearing land for development, industrialization and agricultural production and introduction of genetically modified crops are significant contemplations. These conflicts have occurred globally and have had serious governing and strategy implications.¹⁷ Conflicts have been as a result of poor implementation of conservation and environment management policies. For instance, in Kenya, the policies on environmental security and management have created circumstances where people have become sufferers of animals and hit back by poaching and killing the animals to guard their crops and livestock from diseases and predators.¹⁸ Conflicts may include violence in natural resources and have been on increase and complex because of several actors and issues in strategic management. Conflicts over environmental resources can transcend to nation-state boundaries.

¹⁶ IDRC. Human Security and Mutual Vulnerability. 1995

¹⁷ White and E. Van der Wal 2009. Developing an integrated conceptual framework to understand biodiversity conflicts. *Land Use Policy*, 26, pp. 242–253.

¹⁸ Omollo, N.A. 2010. Gender and climate change induced conflict in pastoral communities: case study of Turkana in north-western Kenya. *African Journal on Conflict Resolution*, 10 (2), p. 81–102.

The orientation of institutions in the states such as intergovernmental organizations towards short term and precise interests stands against a long term and universal nature of the threats raised by environmental change. The concept of 'environmental security' can be understood in both environmental security and state security terms as it is an essential challenge to state actors because of state interests. Scarcity leads to conflicts; countries and international organizations pay attention to socio-economic problems but the traditional positioning towards security sees it in a relative short-term of underlying values which are a sharp contrast of the fundamental environmental issues.¹⁹ This shows the need aim at a cooperation in the comparative long term. Due to political interests, it is better to concentrate on ecological values rather than threats; the former determines the significance of the latter. The notion of environmental security means secure environmental paybacks or an extension of state security benefits. It may also mean anything, depending on the set values it is linked to.²⁰

In 1798, Thomas Malthus published an essay on the principle of population. The theory showed the dynamics of population and the relationship with the available natural resources. Malthus argued that food and passion are essential for humans' existence and that the population grows faster if food is available. Whereas population grows at a geometric rate, the production capacity only grows arithmetically. Therefore, in the absence of consistent checks on population growth, Malthus made the gloomy prediction that in a short period of time, scarce resources will have to be shared among an increasing number of individuals.²¹

¹⁹ UN. 1992. *United Nations Framework Convention on Climate Change (UNFCCC)*. Geneva: UN.

²⁰ Eileen Petzold-Bradley, Alexander Carius and Arpad Vincze (eds.), *Responding to Environmental Conflicts: Implications for Theory and Practice*, 67-81. © 2001 Kluwer Academic Publishers.

²¹ Thomas Malthus, 1798. *An Essay on the Principle of Population as it affects the future improvement of society with Remarks on the Speculations of Mr. Godwin +, M. Condorcet, and other Writers*. Retrieved from <http://www.esp.org/books/malthus/population/malthus.pdf> on 29th January, 2020.

Malthus' argument regarding the relationship between population growth and production capacity has been subject to considerable criticism. Furthermore, economists began to look for alternative explanations, attempting to close the gap between Malthus' prediction and the new reality that has been revealed to them. Malthus claimed that with a fixed amount of land and a growing population, diminishing marginal productivity would result in individuals living constantly at a subsistence level. A frequently heard critique was that he ignored the possibility that technological improvements and capital accumulation are strong enough forces and may relax the population pressure and improve the condition of individuals, even in the presence of a growing population.

With the populations in Africa increasing at a fast rate and the limited resources being exploited unsustainably, the actors are confronted with environmental changes which further worsen the situation. States have therefore come up with meaningful strategies to help governing of the environment.

1.6.2 Multilateral Environmental Agreements

Today, countries are putting efforts to collaborate on global environmental challenges under the international law. The instruments used in powering the collaboration are the international conventions and treaties on environment and natural resources known as Multilateral Environmental Agreements. MEAs between states can take a form of a soft law that sets out non legally-binding principles which parties are obligated to consider before they take actions to address occurring environmental issues.²² A hard law specifies legally binding actions that need to be undertaken towards an environmental objective. All MEAs address different environmental

²² EAC 2019. Multilateral Environmental Agreements

problems; protection of physical commons outside national control like oceans and the atmosphere or protection of assets or resources that exist within the territory of a country although the decisions of a country may be felt elsewhere e.g. transboundary pollution.²³ In 1972, the United Nations held a conference on human Environment in Stockholm and came up with "only one Earth" report which argued that ecological realities made national boundaries irrelevant. As Maurice Strong gave his opening remarks for the conference, he insisted that there was the need to advance with a greater understanding, wisdom and wisdom. He further posited that 1960s were full of unprecedented revolution, economic depression, war destruction and affluence and this was the start of new movements for civil rights and feminism. Towards the starting of the next decade, concerns about environmental issues became international, led by some few developed countries which agreed to have an intergovernmental meeting. The 1972 conference was the first UN environment conference and the first time when governments agreed that environmental problems did not stop at the country's borders.²⁴

On realization that loss of environment was assured in the absence of intervention, some governments started to enact policies aimed at checking the plunder in environmental issues. Enacting a policy is one thing, but ensuring compliance is another thing which has proved to be a challenge. It also takes time for the law enforcement departments in a country to enact laws therefore increasing the time between enactment and implementation.

As part of the concept to promote sustainable development, Kenya has signed four Multilateral Environmental Agreements that are formulated by the international community. The first one is the United Nations Convention on Biological Diversity (UNCBD), which is dedicated

²³ Nazli Choucri. 1995. *Global Accord Environmental Challenges and International Responses*. MIT Press. Pp 72-92.

²⁴ Felix Dodds & Michael Straus. 1972. *Only one Earth- The Long Road, Via Rio, to Sustainable Development*.

to promoting conservation of plants, animals and micro-organisms and their ecosystems.²⁵ The second one is the UNFCCC, whose crucial aim is to reduce greenhouse amounts at a level that would prevent dangerous anthropogenic interference with the climate system.²⁶ The United Nations Convention on Combating Desertification (UNCCD) focusses on those countries experiencing serious drought or desertification. Lastly, the Stockholm Convention on Persistent Organic Pollutants (POPs) is a global agreement to safeguard human health and the environment against chemicals that remain intact in the environment for many years.²⁷

1.6.3 The United Nations Framework Convention on Climate Change (UNFCCC)

During the 1992 RIO Earth Summit, three conventions were birthed; the United Nations Framework Convention on Climate Change, the UN Convention on Biological Diversity and the convention to Combat desertification. These three are intrinsically linked, and have a joint liaison group to boost their cooperation to develop synergies on activities of mutual concern. This also incorporates the Ramsar convention on wetlands. The UNFCCC took effect in 1994, during a time when there was not much scientific evidence on climate change. The Convention has borrowed from Montreal protocol, which bounds parties to act and embrace development with a human face.²⁸ Article 22 of the convention states that the convention is subject to approval, recognition, approval and compliance by states and regional economic incorporation organizations that sign it. Today, there are 197 parties that have signed and ratified the convention.²⁹

²⁵ UN. (1992). *Convention on Biological Diversity*. UN

²⁶ UN. (1992). *United Nations Framework Convention on Climate Change (UNFCCC)*. Geneva: UN.

²⁷ UNEP. 2009. *Stockholm Convention on Persistent Organic Pollutants (POPs)*. Geneva: Secretariat of the Stockholm Convention on Persistent Organic Pollutants.

²⁸ UN. *United Nations Framework Convention on Climate Change*. 1992.

<https://unfccc.int/resource/docs/convkp/conveng.pdf>

²⁹ UN. *Status of Ratification of the UNFCCC*. New York, 1992.

The UNFCCC is aimed at stabilizing the green House gases so that their concentration level does not interfere with the climate system. This level should be achieved within a time frame, to allow ecosystems to adapt to climate change naturally, and ensure that production of food is not threatened, and economic development is promoted. According to the convention, the developed countries still emit the most of the greenhouse gases because of industrialization. The countries, majority in Central and Eastern Europe were expected to reduce their emission, many of which have taken actions whereas others have succeeded.³⁰

Under Article 11 of the convention, the developed and industrialized nations agreed to support climate change mitigation and adaptation activities in the developing countries through financial support for action. This is a system of loans and grants that has been set up through the agreement and is managed through the Global Environment Facility. The Kyoto protocol also, under its article 12 recognizes the need for financial mechanism to fund the developing countries to act on climate change. The developed countries committed to share technology with the developing countries. The developed countries are required to report often on their climate change policies and measures, as well as issues highlighted in the Kyoto protocol. They are also supposed to submit a data of their emissions since 1990. The Climate change funding mechanisms were launched at COP 17 and extended to COP 18.³¹

The convention acknowledges that all countries are vulnerable to effects of climate change and calls for actions by each party to ease the consequences; more so, in the countries that are still developing and lack the resources and technology. In the first years after the ratifying of the convention, the parties concentrated more on mitigation than in adaptation of climate change.

³⁰ IPCC. AR6 Climate Change 2021: Impacts, Adaptation and Vulnerability. 2019

³¹ UN. Climate Finance in the Negotiations. 2019. <https://unfccc.int/topics/climate-finance/the-big-picture/climate-finance-in-the-negotiations>

Climate change adaptation gained attraction after the Intergovernmental Panel on Climate Change-IPCC'S Assessment report, whereby the parties now agreed to deal with the effects and come up with funding mechanism for adaptation. There are now different convention bodies where adaptation is keenly observed. There is an adaptation committee that set up an agreed Cancun Adaptation Framework, a major approach towards adaptation.

Article 9 of the Paris Agreement says that the developed countries should finance the developing ones to act on climate change. It recognizes that the efforts towards mitigation and adaptation should continue and encourages parties to support voluntarily. The developed countries are encouraged to take lead in mobilizing for resources, through supporting country strategies, and take in to consideration the development needs of the developing countries. The financing mechanisms should balance between mitigation and adaptations per the country driven strategies especially in the vulnerable countries.³²

1.6.4 Challenges in the Implementation of Paris Agreement

195 nations adopted the Paris Agreement in 12th December 2015 to address the negative impacts of Climate Change. This was during the 21st Conference of Parties Meeting (COP 21) held in Paris.³³ The agreement has a deal to reduce the emission of greenhouse gases to limit increase in global temperature during the 21st century by 2 degrees Celsius and bound increase by 1.5 degree Celsius.³⁴ All the major parties have committed to cut their emission that pollute the environment and release greenhouse gases. It also has a pathway for the developed nations to assist developing

³² UN. Adoption of the Paris Agreement. 2020

³³ Denchak Melissa. Paris Climate Agreement: Everything you need to know; NRDC 12th December 2018. Retrieved from <https://www.nrdc.org/stories/paris-climate-agreement-everything-you-need-know#sec-what-is-on> 12th April, 2020.

³⁴ Ibid p.1

ones in curbing climate change. This provides a framework for monitoring, evaluation, research, reporting and ratcheting states in a transparent way and through collective climate goals.³⁵

During the COP 21 meeting, world leaders from 195 nations agreed on an accord and committed to combat to climate change and adopt to its effects. The agreement went in to force on 4th November 2016, after 55 nations had joined to represent 55% of the global emissions. Today, there 197 nations that have committed to Paris agreement, with USA and Syria being the last to join. Russia, Iran and Turkey are yet to join.

The developing and developed countries have faced challenges in the Paris agreement implementation process. Firstly, through the US president who refers to climate change as a hoax together with China announced that America would withdraw from Paris Agreement in June 2017. This is already a big blow because America has technology, specialist and the resources required in supporting developing countries in their fight against climate change. America is the world's second biggest emitter of Green House gases after China.³⁶

Secondly, there is a challenge in monitoring, evaluation and reporting of the climate actions by the developing countries. The Paris agreement has a series of compulsory measures for monitoring, confirmation and reporting of each country 'emission reduction targets. The framework is standard for all parties and there is a provision for the countries that lack capacity to be strengthened over time. Developing countries notably have not yet adopted the M&E frameworks and streamlined them to the county level yet the countries are expected to revisit their pledges every year and put new targets after every five years.³⁷ Developing countries lack the

³⁵ Ibid p.2

³⁶ Ibid p.2

³⁷ Ibid p.3

capacity, skills, technology and financial resources to implement the Paris agreement and have to rely on developed countries for these provision.³⁸ Developed countries have pledged their financial support to developing countries. It is expected and has already been observed that the least developed countries will suffer dire consequences as a result of climate change. Other challenges faced by developing countries are ineffective institutional structures, poor governance, corruption and non-commitment by leaders.

A lot has been researched and documented on climate change effect, mitigation and adoption, the needed skills, technology and financing of the process. There is still inadequate information of how the challenges facing the implementation of MEAs can be tackled. There is need for research to gather information from stakeholders on what they needed checked or changed so that they can deliver on their Monitoring, evaluation and reporting of their climate actions according to their nationally determined contributions. There is need to research further to know how best to engage and motivate the developed countries to fund the implementation of the Paris agreement and other Climate change accords despite the fact that they lead in the emission of the greenhouse gases as compared to the developing countries. The parties that have ratified the Paris agreement need to document on how they can best assist the developing countries to improve on their institutional frameworks, governance and leadership to reduce their corruption index and participate in climate action without hindrances.

1.7 Hypotheses

1.5.1 Strong frameworks in Africa have contributed to effective domestication of UNFCCC

³⁸ Achala Abeysinghe, Brianna Craft, Janna Tenzing. The Paris Agreement and the LDCs Analyzing COP21 outcomes from LDC positions. IIED Climate Change group 2016. Retrieved from <https://pubs.iied.org/pdfs/101591IIED.pdf> on 12th April, 2020.

1.5.2 Effective domestication of UNFCCC has significantly contributed to increased environmental security in Kenya

1.5.3 Kenya faces multiple challenges in the adoption of Paris Agreement-

1.8 Theoretical Framework

Since the Renaissance, the world politics has taken the shape of political realism, focusing on state power, national interests and decision making. Liberalism is characterized by Parsimony and longevity, more reason why decision makers should go for it.³⁹ Liberalism defines modern democracy- as nations that conduct fair and free elections, the existence of statutes of law and civil freedoms. Liberalists offer an optimistic world view that is grounded in history. The liberalism theory argues that a person's right to life, liberty and property must be the highest goal of the government. It further argues that a political system must have a power that is not associated with dictatorship, and the one that minds protection and liberty of citizens. Liberalism aims at fashioning institutions that protect the freedom by limiting and controlling the political power. Political systems that are rooted in liberalism limits their military power and ensures that civilians control the military. Liberalism opposes imperialism. Liberals advocates for states to develop their own political systems that can protect them from foreign states without subverting the liberty of the citizens. Liberal states exercise free and fair elections; they can remove rulers from power, hence checking on the behavior of the government.⁴⁰

³⁹ Moravcsik, Andrew. *Liberalism and international relations theory*. No. 92. Cambridge, MA: Center for International Affairs, Harvard University, 1992.

⁴⁰ Jeffrey W. Meiser, *Introducing Liberalism in International Relations Theory*. Retrieved from <https://www.e-ir.inD.fo/2018/02/18/introducing-liberalism-in-international-relations-theory/> on 29th Jan, 2020

In the world, there is a nationalist mindset that sees international institutions and globalization as threats to national security, identity and sovereignty even as this is supposed to be seen in the lens of opportunities. Nation states need to have a liberal vision to cooperate in achieving security and prosperity. This is the only solution in dealing with the problems of modernity and globalization. With economics, security and environmental matters which have continued to grow, people and governments need a liberal approach to solve the problems, otherwise they might suffer a grievous harm.⁴¹

Liberalism has been articulated as the most theoretical approach in international relations. This does not mean that the theory has not been criticized. Republican Liberalism believes that democracies are specific than other forms of government. Pluralist liberalism claims that unequal distribution of social power create avenues international conflict. Commercial liberals have it that economic interdependence creates incentives for peace and cooperation. Regulatory liberalism asserts that international law promotes international accommodation. All these criticisms are treated as hypotheses rather than variant distinct of liberal theory.

The assumption of liberalism is that all governments signify some section of domestic society, understood in voluntary groups or autonomous individuals. According to the theory, domestic institutions are linked to the state and society and therefore represent social interests. When underlying social interests converge, international conflict may be influenced by partial representation of social interests. Unsatisfactory representation allows concentration of power which they use to extract private gains.⁴²

⁴¹ Daniel Deudney & John Ikenberry. Why Liberalism Explains the World- Foreign Affairs. Retrieved from <https://www.foreignaffairs.com/articles/world/2018-06-14/liberal-worldon> on 29th August, 2020.

⁴² E.E Schattschneider, The Semi-Sovereign People: A realist View of Democracy in America. Hinsdale: Dryden, 1975.

Liberal theory investigates international relations with respect to terms of the pattern of conflicting and convergent state preferences. Liberals are interested in state purpose and not state power in solving institutional and geopolitical constraints brought about by the international political system. As such, liberalism is concerned with the security of individuals, institutions and the state at large. Liberalism evaluates institutions according to how they serve individuals to attain their goals. Liberal states can choose to create and sustain international conditions under which they can feel secure.⁴³ Multinational Environmental Agreements are one of those international conditions set and committed by nations to secure their environment. Sustaining liberalism and such international systems requires attention and feedback from the parties in question. This is because the internal system under liberalism permits state choices.

Regime theory is another theoretical framework that the researcher intends to employ in the analysis of this study. In the 21st century environment continues to be faced with pressing challenges which pose threat to peace and security, locally and internationally. International relations is the strategic and diplomatic interaction by two or more states, politically, economically and culturally.⁴⁴ As such, there is a lot of trans-border transactions of goods and services which come along with all sorts of problems to the social, political, cultural, financial and environmental status of the countries. The interactions can also be a solution to the problems in these sectors. International relations promote solutions to global problems that are faced by the countries in question. It is because of international relations that international communities join forces to develop solution to emerging challenges such as environmental security, climate change, and socioeconomic dynamics.

⁴³ John Owen. Liberalism and Security. *Journal of Security Studies*, 2017.

⁴⁴ McGlichey, Walters and Scheinplug. *International Relations Theory*. E-international relations publishing, 2017.

Environmental security and economics play a very critical agenda in the international political agenda. Various international fora such as the upcoming cop25 meeting in Spain, G20 summits⁴⁵, World Economic Forum⁴⁶, China-US Climate agreement is a good evidence that environmental issues are very critical in the international stage. Pollution, deforestation, climate change, drug wars, water wars, diamond wars and such have given proliferation of resource wars in the world. Generally, environmental issues are highly interlinked with security, a very controversial concept in international politics.⁴⁷

Environmental change, climate change and other related politics are taking place in a complex environment where ecological processes are interlinked. The several changes and happening in the environment such as climate change, land use, biodiversity, and other processes are interlinked with social processes by human beings. These are processes involved in food supply, economic, financial and political crisis. People responsible for governing such institutions have their role in addressing the challenges linked to human social processes and the environment. Political institutions can support global environmental governance through socioeconomic and political developments.

Perhaps, environment is the most global multidimensional issue which benefits from science and technology in the international relations. International relations is an appropriate discipline to develop because it can provide stakeholders from national and international perspectives with a framework towards understanding the global dynamics and their implications

⁴⁵ Viola, Eduardo, Matias Franchini and Thais Lemos Ribeiro. *Sistema Internacional de Hegemonia Conservadora. Governança Global e Democracia na Era da Crise Climática*. São Paulo: Annablume, 2013

⁴⁶ World Economic Forum. "World Economic Forum Annual Meeting 2014. The Reshaping of the World: Consequences for Society, Politics and Business". Geneva: World Economic Forum, 2014.

⁴⁷ Collins, Alan. "Introduction: What is Security Studies?" In *Contemporary Security Studies*, edited by Alan Collins, 2-11. New York: Oxford, 2010

to the international community. International relations can contribute towards solving the environmental and others faced in the 21st century. IR helps in encouraging collective response for challenges that affect us all so that there is a common solution. This is so because what happens in one state influences other states and the domestic domain. Avoiding conflicts and benefitting from state relations is important to promote cooperation and the concerted efforts in the international system.

Likewise, international relations can pose problems to environmental security. Globalization has created climate tension and conflicts in the international arena which has further created a chance to grow a regime of a unique multilateral cooperation. Industrialization in the global North has caused a lot of pollution and contributed to the greatest percentage of climate change globally. As such, the global south will be the mostly affected in future because they lack resources and the technology to adapt to climate change. Emerging markets such as China have found a fair ground in Africa to dump their low quality products which contribute to environmental pollution. To solve the challenges, there is need for researchers to in international relations to study and come up with new ways of political integration and new institutions that can solve the global challenges as they embrace technology and the new powers.

As the Western countries devote their resources and technology to solve the challenges in the global south, they cannot achieve the goal unless they join forces with the other developed countries in the north. World leaders should therefore rethink on the basis of capitalism.⁴⁸ The

⁴⁸ Leggett, Jeremy. *The Energy of Nations: Risk Blindness and the Road to Renaissance*. Routledge: New York, 2013.

leaders must come together and commit resources to advance the path to green economy, a major priority in globalization.⁴⁹

1.9 Research Methodology and Design

1.9.1 Research design

The research adopted a case study research design⁵⁰, where in-depth study were conducted to the chosen group in Kenya. Quantitative and qualitative data were collected and used in validating the hypotheses of the study. As a signatory to UNFCCC, Kenya has made progressive milestones towards implementation. The target population was policy makers, researchers, environmentalists, CSOs national and international NGOs and government institutions.

A case study was adopted for this study because it is less costly as compared to other designs. It is less time consuming and appropriate when the data needed seems expensive and hard to obtain. It allows the researcher to get a detailed and in-depth data that cannot be physically created. However, a researcher may be subjective to their feelings and influence the outcome of a case study.

1.9.2 Data collection

The primary data for this study was collected from focal points of UNFCCC secretariat at the Paris agreement. The respondents were derived from Kenya Wildlife Service, Climate change Units and the ministries of Agriculture and Environment, United Nations Development Program,

⁴⁹ Joana Castro Pereira. Environmental issues and international relations, a new global (dis)order - the role of International Relations in promoting a concerted international system. Rev. Bras Polít. int. vol.58 no.1 Brasília Jan. /June 2015

⁵⁰ Schell Charles. Value of Case study as a research strategy. 2004

and representatives from Non-governmental organizations. These are people that have also conducted wide research on the subject matter and also participated in the various party meetings and conventions held at various part of the world at different times.

. The secondary data sources used by the researcher included electronic journals, books, websites, convention proceedings and publications on conflicts and food security.⁵¹

1.9.3 Data Analysis and Presentation

The data collected was qualitative and therefore was analyzed qualitatively. People shared stories and facts which could not be quantified but quoted. Data was examined to get a meaningful and symbolic content. The results have been interpreted and incorporated with the literature review to bring the desired meaning. The findings relate to the domestication of the UNFCCC and the Paris agreement, the frameworks adopted by Kenya and the challenges faced by Kenya and other African countries in the implementation of the Paris agreement dealing with environmental security. The conclusion and recommendations have been given based on the objectives of the study.

1.10 Chapter Outline

Chapter one introduces the study by giving the background which is followed by the statement of the problem. Other parts of this section are justification and the conceptual framework. The literature review delves into UNFCCC and the Paris Agreement and show how their implementation have helped promote environmental security. The study has three objectives, three research questions and two hypotheses. The last section of the chapter is about the

⁵¹ Daas, Piet, and Judit Arends-Tóth. 2012. *Secondary Data Collection*. Hague: Statistics Netherlands.

methodology adopted in undertaking the study. Chapter two shall delve in to examining the domestication process of UNFCCC towards attaining environmental security in Africa Broadly and in Kenya specifically. Chapter three shall evaluate the frameworks used by African states like Kenya in the domestication of Paris Agreement to attain national environmental security.

Chapter four shall assess the challenges and opportunities in adopting the Paris Agreement towards attaining Environmental security in Kenya. Chapter five gives the summary, conclusion and recommendations.

1.11 Study Limitations

The study was intended to show the context in the African countries. However, due to limited time, resources and the interruptions by the COVID - 19 pandemic, it was not possible to interview the focal points from other African countries. However, the local focal points interview has an international experience in the implementation of UNFCCC and Paris agreement in Africa.

Chapter Two

The UNFCCC and Attainment of Environmental Security

2.0 Introduction

This chapter is going to delve in to deeper understanding of UNFCCC and the Paris agreement, their implementation and how they have been or are being streamlined into Kenyan Climate change and other policies.

2.1 Climate Change: Causes and Impacts

It is important that we first understand “what is climate”? This is the average weather conditions at a particular point on earth. It can be expressed in terms of expected temperature, rainfall and wind based on historical observations. When this climate changes or becomes invariable over a persistent period of time, this is what is known as climate change. The earth experiences natural climate change because of rotation of the earth along its orbit. This natural climate change is described by relatively warm or cold stable climate which has been observed for many years. This is not harmful to humans but rather a natural process.⁵² Climate change is a worldwide issue evidenced by increasing surface temperatures or global warming. This causes melting glaciers leading to a rise in sea level and shifting weather patterns.⁵³ Climate change also causes extreme weather events and has affected wildlife and their habitats across the world.

⁵² Chris Riedy. Climate Change. Institute for Sustainable Futures, University of Technology Sydney. 2018.

⁵³ <https://www.nationalgeographic.com/environment/global-warming/global-warming-effects/>

Anthropogenic climate change is that caused by human activities. Since industrial revolution, humans have engaged in activities such as deforestation (clearing forests for farms and settlement and for use of timber), agricultural practices (mostly rearing livestock) and fuel combustion (natural gas, coal and oil) all of which cause release of greenhouse gases that further lead to global warming and consequently, climate change.⁵⁴ Such gases are carbon dioxide, halocarbons (Perfluorocarbons – PFCs, and Hydrofluorocarbons – HFLCs), methane and nitrous oxide. Accumulation of such gases in the atmosphere does not allow suns radiation to the earth but rather radiates back. This is referred to as the greenhouse gas effect because it is similar to the principle of greenhouse where the glass roof allows sunlight in but traps heat to be utilized by growing plants. The greenhouse gas effect has caused global warming, which is one type of climate change that drives other forms of climate change.⁵⁵ Over a period of time, there have been observed changes in climatic conditions e.g. changes in rainfall patterns, higher temperatures, droughts, storms, heat waves, floods, and rising of the sea level which have impacted negatively on humans and natural systems. It challenges global governance institutions as well. It has already been observed that climate change is very devastating for natural and human systems and poses a threat to human civilization.

According to the Fifth Assessment Report of IPCC, strong evidence suggests that surface temperatures have increased across the African continent by 0.5-2°C over the past 100 years.⁵⁶

⁵⁴ Ook, J., Nuccitelli, D., Green, S. A., Richardson, M., Winkler, B., Painting, R., Way, R., Jacobs, P. and Skuce, A. (2013) 'Quantifying the consensus on anthropogenic global warming in the scientific literature', *Environmental Research Letters*. IOP Publishing, 8(2), p. 024024. doi: 10.1088/1748-9326/8/2/024024.

⁵⁵ FAO. Good Agricultural Practices for greenhouse vegetable production in the South East European countries. In the Principles for sustainable intensification of smallholder farms. 2017.

⁵⁶ Niang, I., O.C. Ruppel, M.A. Abdrabo, A. Essel, C. Lennard, J. Padgham & P. Urquhart (2014). Africa. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Barros, V.R., C.B. Field, D.J. Dokken, M.D. Mastrandrea, K.J. Mach, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge and New York: Cambridge University Press, page 7.

This makes the African continent vulnerable to the negative effects of climate change including shifting rainfall patterns that has affected the agricultural productivity of many countries. This coupled with poverty levels in the continent makes Africa's situation with climate change dire.

To realize climate change, there has been a long term monitoring and recording of temperature, rainfall and wind, and projection of future climate using models. The modern scientific view of climate change emerged in the 19th Century due to the evidence of glaciation which made scientists realize that climate on earth was not stable and was changing substantially.⁵⁷ With the realization of the natural climate change, it was also realized that human activities could also alter climate change. In 1896, Svante Arrhenius, a chemist proposed that humans emit carbon dioxide that could strengthen the natural gas effect and raise the earth's temperature.⁵⁸ In 1960s to 1970s, the idea of anthropogenic climate change gained momentum. By the 1980s, global warming was a dominant scientific opinion and the United Nations (UN) established the IPCC and based at the world Meteorological organization in the year 1988. IPCC's role is to review and assess scientific, technical and socioeconomic information that is relevant to the understanding of climate change globally. The panel does not conduct its own research but rather produces summaries that are assessment reports.⁵⁹

With time, scientists have documented the indirect effects of climate change which impact negatively to humans. There has been increasing incidences of hunger and water crisis, health risks through rising air temperature and heat - waves, increased pests and pathogens, loss of biodiversity

⁵⁷ Le Treut, H., R. Somerville, U. Cubasch, Y. Ding, C. Mauritzen, A. Mokssit, T. Peterson and M. Prather, 2007: Historical Overview of Climate Change. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

⁵⁸ Rodhe, Henning, Robert Charlson, and Elisabeth Crawford. "Svante Arrhenius and the Greenhouse Effect." *Ambio* 26, no. 1 (1997): 2-5. Accessed May 7, 2020. www.jstor.org/stable/4314542.

⁵⁹ Ippc. History of the IPCC. IPCC website. <https://www.ipcc.ch/about/history/>

because they cannot adapt to the changes, acidification of the oceans due to increased concentration of carbon dioxide amongst other.⁶⁰ For instance, the Food and Agricultural Organization-FAO says that the desert locusts invading Somalia, Ethiopia and Kenya may increase and spread to other countries in East Africa because the recent weather conditions are favorable for rapid reproduction of the locusts. The locusts devour their weight in food per day- two grams and can move for 150 km per day devastating livelihoods due to their drive to eat and reproduce.⁶¹ The developing countries have been worst hit by the effects due to low an inadequate technology, skills and resources to adapt or mitigate to climate change whose effects can span over millions of years and it's not possible to decipher. It is a threat to all fabrics of social, economic and environmental strides that has deterred livelihoods and development.

Climate change is real and a threat to live systems. However, the threats can to an extend be managed but depending on levels of preparedness and the capacity to adapt and mitigate against them. Many efforts have been put in place to help assist reverse the impacts, but has achieved very little. We still continue to experience the impacts and worse still, creating a balance between development (industry and infrastructure) is a toll order. As a result, the world continues to experience changes especially in natural systems, with those that can mutate/change their natural systems doing so to fit in the changing ecosystem. A lot still remains to be done at the global, regional and country level to try and stabilize the rapidly changing natural/environmental system. The process is worsened by the increasing human population, whose demand, especially for food and infrastructure must be attained and sustained. Worse still, the impact of man to the

⁶⁰ Myclimate. What are the effects of climate change? retrieved from <https://www.myclimate.org/information/faq/faq-detail/detail/News/what-are-the-effects-of-climate-change/> on 7th May, 2020

⁶¹ FAO. Desert locust outbreak in Kenya. Retrieved from <http://www.fao.org/emergencies/resources/photos/photo-detail/en/c/1258345/> on 7th May, 2020.

environment has imbalances to ecosystem with some of the organisms which play crucial ecosystem functions being extinct thereby creating dysfunctional or less functional ecosystems.

Climate scientists have devised two ways of responding to climate change, these are adaptation and mitigation. Climate change adaptation is adjustment to climate change where humans take actions to escape the bad impacts of climate change and maximize opportunities to accrue benefits. This may include shifting to resistant crops, building coastal defenses to protect against the rising sea level, diversifying sources of livelihoods amongst other strategies.⁶² Mitigation to Climate change entails the efforts to reduction of GHG emissions primarily by replacing fossil fuels with renewable or low-emission alternatives, protecting and planting our forests and shifting to agricultural practices such as minimum tillage.⁶³

Climate change is global in nature and more challenging to respond to it. Global institutions have emerged to coordinate effective response. In 1988 the first meeting of intergovernmental panel on climate change was held on Toronto, Canada and called for a reduction in emission of greenhouse gases by 2005. In 1992, the Rio Summit adopted the United Nations Framework Convention on climate Change (UNFCCC).

2.2 Effects of Climate Change in Kenyan Sectors

Climate change is now a reality in Kenya and the world at large. This has been depicted recently by changes in climatic patterns leading to volatile levels of water in lakes and rivers. This has also been depicted by frequent and prolonged occurrence of droughts and floods among other

⁶² Bosello, Francesco, Carlo Carraro, and Enrica De Cian. Report. Copenhagen Consensus Center, 2012. Accessed May 7, 2020. www.jstor.org/stable/resrep16370.

⁶³ Kosloff, Laura H. "Climate Change Mitigation and Sustainable Development." *Natural Resources & Environment* 12, no. 2 (1997): 93-145. Accessed May 7, 2020. www.jstor.org/stable/40924351.

environmental calamities which are disastrous to the environment and the living things.⁶⁴ Climate change is a major concern in Kenya as it is entwined with the country's achievement of long-term sustainable economic growth. Climate change influences almost all key sectors in the country and hence the economy.⁶⁵ In Kenya, the rise in temperature has been observed across all seasons particularly between March and May. Surface temperature trends have also shown warming of more than 2.5°C in Nairobi over the past 50 years.⁶⁶ Rainfall patterns have also changed in that the long rainy season has become shorter and drier while the short rainy season has become longer and wetter. These variances have therefore caused low annual rain causing prolonged and intense droughts. On the other hand, flooding has also increased in years when above-normal rainfall is observed.⁶⁷

2.2.1 Agriculture Sector

Agriculture is the mainstay of Kenya and contributes substantially to the economy. Agricultural production in Kenya mainly depends on rainfall. Rainfall amount, quantity and distribution have been negatively impacted by climate change, hence food insecurity. Vulnerable populations such as pastoral and marginalized communities are most affected who live in areas that experience extended periods of drought.⁶⁸ Increasing incidents of crop diseases and insect pests has led to excessive use of chemicals by farmers, which increases the cost of farm inputs, thereby reducing crop productivity especially for the poor farmers. In addition, these chemicals have their detrimental impacts to the environment.

⁶⁴ Mukonyi Kavaka Watai. July 2020. Senior Scientist- Bioprospecting. Kenya wildlife service.

⁶⁵ Solomon Kyalo. July 2020. Head-Research Authorization and Conventions. Kenya Wildlife Service.

⁶⁶ Funk, C. et al. (2017). *Climate Change Vulnerability, Impacts and Adaptation Assessment for East Africa: Summary for Policy Makers*. Arusha: East African Community.

⁶⁷ Government of Kenya (2013). National Climate Change Action Plan (Kenya) 2013-2017. Ministry of Environment and Mineral Resources, Nairobi, Kenya

⁶⁸ Ibid. p 10

2.2.2 Tourism and Wildlife Sector

Tourism is a high foreign exchange earner for Kenya. However, as it is largely nature-based, wildlife and their habitats are highly vulnerable to the impacts of climate variability. Climate change impacts directly on wildlife abundance as well as diversity.⁶⁹ Wildlife sector is threatened by loss and degradation of wildlife habitats, spread of wildlife new and emerging diseases to areas not known to have occurred before, changing weather patterns making prediction of seasons and planning difficult. Increased frequency of droughts/floods leading to loss of wildlife, wildlife habitats, displacement of wildlife into community areas leading to human-wildlife conflicts and loss of livelihoods. For instance, in early 1970s, thousands of elephants and other wildlife died due to severe drought in both Tsavo East and West National Parks. Floods and droughts have significant effect on biotic and abiotic conditions. Climate change affects food productivity based on seasonality change, ecological quality and ecosystem functionality.⁷⁰

2.2.3 Energy Sector

The energy sector in Kenya has for a long time depended on hydro-power. This contributes to about 50% of the total energy production in the country. Due to unreliable rainfall and prolonged drought, generation of hydropower is affected therefore hindering reliable generation of electricity.⁷¹

2.2.4 Health

Extreme climate events such as drought and floods can lead to health problems and even death. Between 1997 and 2016, Kenya experienced on average 57.95 deaths per year due to

⁶⁹ Ibid p.14

⁷⁰ Sharon Kili. Assistant Research Scientist-Climate Change. July 2020.

⁷¹ Ibid p. 20

extreme climatic events.⁷² Drought is the leading cause of malnutrition and effects on average 4.8 million people in Kenya.⁷³ Floods also cause outbreak of diseases like cholera, diarrhea, dengue fever and malaria. In 2018, floods killed 183 people and displaced over 225,000 people including school-going children. As a result, over 700 schools were closed.⁷⁴ Climate change has caused invasive pests and diseases which has led to farmers to use chemicals. Increased use of chemical farm inputs has led to the ingestion by man, animals, microorganism of chemical residues through leaching in downstream waters, inhaling them in air and also residues on harvested food. This in return has negative effects to the health of humans.

Kenya is therefore vulnerable to climate-sensitive disease outbreaks as it increases the magnitude and occurrence of vector-borne diseases and food-borne illnesses.

2.2.5 Natural Resources and Environment

Kenya is endowed with rich natural resources such as flora and fauna. Climate change however influences the availability of these important resources. Water resources from rivers and lakes are affected due to shifting water levels. Increasing temperatures causes increased evaporation of water in lakes and rivers affecting the supply of water to the country. Increasing water levels lead to flooding causing health problems and affects water bird populations. Shift in ecosystems including changes in wildlife habitats can lead to extinction of vulnerable and endangered species.⁷⁵ Biodiversity loss due to climate change is therefore a major problem in the country. Environment is the worst hit by climate change. Loss of species, mutations of existing

⁷² Eckstein D., Kunzel, V. & Schafer, L. (2017). Global Climate Risk Index 2018: Who Suffers Most from Extreme Weather Events? Weather -related Loss Events in 2016 and from 1997 to 2016. Bonn: German watch.

⁷³ Emergency Events Database (2015).

⁷⁴ Relief web (2018). Kenya: Drought – 2014-2018.

⁷⁵ Reid, H. (2004). Climate change – biodiversity and livelihood impacts. In D. Roe (ed.) The Millennium Development Goals and Conservation. IIED, London. pp. 37-54.

species and other effects like flooding and severe spells of drought, all which affect the environment.

2.3 Understanding United Nations Framework Convention on Climate Change (UNFCCC)

The UNFCCC acknowledges that climate change has got adverse effects on human kind and that human activities have contributed towards climate change. Increasing human activities has caused GHG's in the atmosphere to increase, resulting into increased warming of the earth's surface which negatively affects ecosystems and human kind. The biggest share of greenhouse gases is contributed by the developed countries, the developing countries are still low in their emissions, a share that is likely to grow as these countries meet their social and development needs.⁷⁶ In climate change predictions, there are uncertainties especially in timing, regions and magnitude of the effects. Climate change is a challenge that calls for cooperation by all countries in the world as per their resources, economic conditions and capabilities. Even with such the principles of international law, the United States are allowed to exploit their natural resources as per their environmental and development policies and without causing damage to the environment of other countries and areas beyond their state authority.⁷⁷

UNFCCC reaffirms the principle of sovereignty of states to cooperate in addressing climate change and recognizes that the states should have environmental regulations, priorities, standards and objectives that reflect the environmental and developmental context under which they apply. Some countries have standards that are inappropriate and have economic and social cost to others,

⁷⁶UN. United Nations Convention on Climate Change. 1992.

⁷⁷ UN. Declaration of Principles of International Law Friendly Relations and Cooperation among States in Accordance with the Charter of United Nations. 1962.

especially the developing countries. The treaty is mindful of the prized analytical work that is being conducted by world meteorological organization, UNEP and other UN bodies so that they can exchange their scientific research findings and further coordinate research in climate change. This is so because climate change challenges on environment, social and economic aspects can only make sense if based on relevant scientific findings. There are many actions that can address climate change and be justified economically to address the environmental problems being experienced.⁷⁸

Countries classified by UNFCCC as the most vulnerable are the Islands and those with small lying coastal areas. Equally, developing countries that have ASALs and those predisposed to drought, floods, famine, and desertification, those with fragile ecosystems, landlocked countries are also vulnerable to adverse climatic conditions, especially those with delicate mountainous areas. These countries are more vulnerable because they depend on fossil fuel production and have inadequate technology and capacity to fight climate change. The climate change should be coordinated with a view of social, environmental and economic growth and development and in an integrated manner as the needs of the developing countries are prioritized so that they achieve economic growth as well as eradicate poverty.⁷⁹ Countries in the world and especially the developing ones need resources to achieve sustainable development. They need to attain energy efficiency and control emission of greenhouse gases. The countries should commit to safeguard the environment and the climate for the betterment of present and future generations.

The ultimate objective of UNFCCC was to stabilize greenhouse gas concentrations in the atmosphere to a level that cannot interfere with anthropogenic climate system. To attain such a

⁷⁸ UN. UNFCCC. 1992.

⁷⁹ Ibid p.6

level, there must be a time frame so that ecosystems are given a sufficient time to naturally adapt to climate change. To attain this objective, the parties should protect their climate system for the benefit of the present and the future generation. In this, there should be equity in respective capabilities where the developed states should take charge in combating the negative impacts of climate change. The developing countries that may bear disproportionate burden should be considered fully.⁸⁰

According to the UNFCCC, the parties should be careful to prevent and minimize causes and mitigate all the effects of climate change. The measures should be taken at the lowest cost possible by considering the socio-economic contexts of the parties in question, their reservoirs and sinks of greenhouse gases and without compromising economic sectors. The parties should have policies and measures to protect climate system from human induced actions. However, each country has a right to sustainable development and should always take into account economic development while addressing climate change. In this respect, the parties should be cooperative and support each other towards sustainable economic growth and development. This would enable them to address climate change challenges in a better way where none is discriminated or restricted based on international trade.⁸¹

The convention requires that every party should apprise, publish and avail to the COP their national records of their greenhouse gas discharges and the efforts they have in removing them as controlled by the Montreal protocol.⁸² The parties are also supposed to implement, publish and regularly update on the regional programs that contain measures to mitigate climate change by addressing the source of their emissions and removal by sinks of greenhouse gases that are not

⁸⁰ *ibid* p9.

⁸¹ *ibid* p.10.

⁸² UN. Montreal Protocol on Substances that Deplete the Ozone layer. 1989.

controlled by Montreal protocol. The parties are committed to endorse and collaborate in development and technology sharing in energy, agriculture, forestry, waste management and transport sectors. They agreed to endorse sustainable management and promote conservation, prepare for adaptation to the harms of climate change, promote learning, and public awareness on climate change and communicate all of these to the conference of parties as per article 12 of the treaty.⁸³

In the treaty, the developed countries are committed to take the lead in limiting emission of greenhouse gases and safeguarding their sinks and reservoirs. They are also supposed to report them on their policies and take measures in limiting anthropogenic emissions together with their sources. They are expected to calculate their emissions by the source and greenhouse gas removals by the sinks. The methodology in doing these calculations is reviewed by the conference of parties on regular basis.⁸⁴

According to the UNFCCC, the developed countries are committed to provide more funds that shall be used by the third world states to cater for the full costs incurred in complying with the obligations thereof. They shall also cater for transfer of technology and assist the vulnerable developing countries in meeting adaptation costs. The effectiveness of the developing countries in implementing their commitments as documented in the convention shall depend on the commitment of the developed countries in funding the initiatives, and technology transfer which shall also account for poverty eradication and development priorities in the developing countries.⁸⁵

⁸³ Ibid p. 11

⁸⁴ Ibid p.13

⁸⁵ Ibid p. 14

In carrying out their commitments, all the parties agreed to support each other in development in international and intergovernmental programs, networks, assessing financial research, data collection and minimizing duplication efforts. They also need to support each other in strengthening systematic observation, scientific and technical research capacities. They must take in to account the requirements of developing countries and join efforts to improve their capacities.⁸⁶

According to article 7, COP was started as the highest body to review the implementation of the treaty and related legal instruments. The COP is mandated with examining obligations of the parties and their institutional arrangements, promoting and facilitating passage and utilization of information on strategies taken to deal with climate change and its impacts, facilitate coordination measures as requested by more than two parties, assess implementations, make recommendations, review reports, mobilize financial resources, and exercise other functions as per the objectives of UNFCCC.⁸⁷

The UNFCCC has a secretariat which functions in arranging for sessions of COP meetings, compiling reports and communication information, preparing reports on activities, ensuring coordination of secretariats, offering administrative arrangements and discharging of functions and performing other functions.⁸⁸ Other components of UNFCCC are: scientific and technological advisory⁸⁹, implementation body⁹⁰, financial mechanisms⁹¹, communication of information with regards to implementation⁹², and how disputes should be resolved within the convention.

⁸⁶ Ibid. p16.

⁸⁷ UN. UNFCCC. Article 7: Conference of Parties. 1992.

⁸⁸ Article 8 of UNFCCC. 1992.

⁸⁹ Article 9

⁹⁰ Article 10

⁹¹ Article 11

⁹² Article 12

2.4 The Kyoto Protocol

Emanating from the UNFCCC, the Kyoto protocol was the very first agreement that nations made to aid in the reduction of greenhouse gas emissions. In 1992, the Kyoto protocol was signed by almost all nations during the Earth Summit, which pledges to stabilize greenhouse gases to a level that prevents anthropogenic interference with the climate system. To put teeth in this pledge, a new treaty was needed, which is now the Kyoto protocol that was finalized in Japan in 1997. The Kyoto protocol went in to force in 2005. It called for reduction of the six greenhouse gases in 41 countries and the European countries. The commitment period for the treaty was 2008-2012. It committed the signatories to develop national programs to reduce emission of greenhouse gases. All nations have ratified to the Kyoto protocol, except the United States. In the treaty, developing countries such as China and India were not mandated to reduce their emissions because they contributed a relatively small share of the CO₂ as compared to the developed countries. Under Kyoto protocol, the 41 developed countries including the European Union pledged to cut their emissions of greenhouse gases by 5.2% by 2012. This is an equivalent of 29% cut in total. The Protocol provided for means for the countries to reach their targets. One important approach was to use natural processes to remove greenhouse gases e.g. by planting trees to sequester carbon dioxide. Another approach was the clean growth aspect which encouraged developed countries to invest in technology and infrastructure in the least developed countries as an opportunity to reduce emissions through use of natural gas and emissions trading. Besides the pledges and efforts for the period 1990-1992, the Kyoto protocol did not become an international law and global emissions increased substantially. For instance, the European Union were on track to meet their Kyoto protocol goals whereas large nations were falling woefully. The European countries initiated an emission trading market where they paid those making efforts to mitigate climate change.

Countries that failed were required to make a difference of their target and actual emissions and were given 30% penalty.⁹³ In 2012, European countries were prevented from emissions trading and emissions targets for commitment periods were to be established in future protocols.

During the first two years after the treaty was effected, a report indicated that many parties would fail to meet their target emissions and that even if the targets were met, they would not be significant. For instance, the United States and China produced more Greenhouse gases than European nations and other dedicated countries had cut. Another challenge faced during implementation of the Kyoto protocol was that China, which is the leading emitter of greenhouse gases was not bound by the treaty because of its status as a developing country. Additionally, the United States, which is the second largest producer of the greenhouse gases was not bound by the treaty because it has not ratified. The global emissions of Greenhouse gases rose by 40% between 1990 and 2009.⁹⁴

During cop 18 meeting in Doha, Qatar in 2012, delegates agreed to extend the Kyoto protocol to 2020 and reaffirmed their pledge from cop 17 (held in Durban South Africa in 2011) to create a legally binding climate treaty by 2015. The new treaty would bind all major emitters including India, China and the United States to limit their emissions. This followed a series of disagreements but in 2015, during cop 21 that was held in Paris the delegates signed a global binding document. The document was referred to as the Paris Agreement and was signed by 196 signatories to effectively replace the Kyoto protocol and was agreed that it should be replaced after

⁹³ Britannica. Kyoto Protocol to the United Nations Framework Convention on Climate Change. Retrieved from <https://www.britannica.com/event/Kyoto-Protocol> on 7th May, 2020

⁹⁴ Netherlands Environmental Assessment Agency. Trends in Global Co2 and Total Greenhouse Gas Emissions: 2019 Report. Retrieved from <https://www.pbl.nl/en/publications/trends-in-global-co2-and-total-greenhouse-gas-emissions-2019-report> on 7th May, 2020

every five years and must have a development fund amounting to 100 billion dollars by 2020 to help the developing countries to adopt and mitigate climate change.⁹⁵

2.4 Paris Agreement

Goal 13 of 2030 Agenda for Sustainable Development calls for urgent action to combat climate change and its impacts. To address climate change, countries adopted the Paris Agreement to limit global temperature rise to well below 2 degrees Celsius.⁹⁶ The Paris agreement builds up on the UNFCCC and focuses majorly on decreasing greenhouse gases production as well as adapting to the impacts of climate change, and providing funds for the affected developing countries.

It brings all countries together to undertake efforts in combating climate change and adapt to the effects. Adopted on 12th December 2015 at Paris during cop 21, the Paris agreement charts a new direction towards global climate struggle.⁹⁷

The Paris agreement aims to reinforce the combined efforts of the parties in responding to climate change with the purpose of keeping global temperature increase below 2 degrees Celsius and preventing temperature increase by 1.5 degrees Celsius. Secondly, the Paris agreement purposes at increasing the ability of countries so that they can handle the effects of climate change and increase financial resources, technology enhancement, capacity building and supporting the most vulnerable in the developing countries. The idea is to have a transparent framework to guide action and support. To accomplish this, all parties must do what they can through Nationally

⁹⁵ Ibid, p. 3

⁹⁶ UN. *Climate Action. United National Sustainable Development Goals*. UN. 2015

⁹⁷ UN. What is Paris Agreement? Retrieved from <https://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement> on 23rd April, 2020.

Determined Contributions (NDCs). In the NDCs, all parties must report their emissions and implementation efforts on regular basis. After every five years, there is a global stock take to assess the collection action and progress towards achieving the NDCs and inform further action by other parties.⁹⁸ The Paris agreement was released for states to sign on 22nd April 2016, during the Earth day. It entered into force on 4th November of the same year after 5 countries which accounted for 55% emission had signed the document. The agreement has a work plan with procedures, modalities and guidelines. COP 22 took place in November 2016 in Marrakesh in, where the Paris agreement assumed to decisions.

According to article 2 of the agreement, it aims at long-term temperature goal.⁹⁹ It also aims at reaching global peaking of greenhouse gas emissions, as soon as possible.¹⁰⁰ The developing countries may take much longer. Thirdly, the pact has introduced binding pledges by all signatories to prepare, share and maintain their NDCs every five years. the information should be providing with clarity and transparency. In its article five, the Paris agreement urges signatories to conserve and have more enhanced reservoirs for greenhouse gases.¹⁰¹ It encourages parties to adopt both market and non-market based approaches for ambitions, environmental integrity, transparency, accountability and cooperation.¹⁰² The agreement identifies the need of averting and *minimizing losses and harm linked to climate change effects.*¹⁰³ It reaffirms the obligations of the developed countries in funding implementation, availing technology and building capacity and awareness creating to enhancing climate resilient futures. The Green Climate Fund (GCF) created by UNFCCC has provided a funds path that allocates resources to low-emission and climate-

⁹⁸ Ibid P. 2

⁹⁹ UN. Adoption of the Paris Agreement. Article 2. 2015.

¹⁰⁰ UN. Adoption of the Paris Agreement. Article 4. 2015.

¹⁰¹ UN. Adoption of the Paris Agreement. Article 5. 2015.

¹⁰² UN. Adoption of the Paris Agreement. Article 6. 2015.

¹⁰³ UN. Adoption of the Paris Agreement. Article 8. 2015.

resistant projects in the developing countries. This helps weak societies adapt to the inevitable effects of climate change. Other areas that the Paris agreement emphasizes on are the transparency in the implementation and compliance as per the parties' commitments in mitigation and adaption and global stock take of emissions after every five years.

The Paris agreement has set out measures to enhance implementation. Firstly, it aims to strengthen the technical examination process, provision of finance urgently, technological support, and high level engagements. By 2018, they had a successful dialogue discussing the progress towards long term emission fall goal. It welcomes all non-party members to address and respond to climate change. They include the civil society, financial institutions, private sector, cities and sub-national authorities. Their efforts are showcased via the non-state actor zone for climate action platform. The parties aim at strengthening knowledge and efforts of local communities and indigenous people and ensure provision of incentives through carbon pricing and effective domestic policies.¹⁰⁴

2.4 Implementation of the UNFCCC in Kenya

Since ratification of the UNFCCC in 1994, Kenya has undertaken research for development in climate change adaptation and mitigation. In October 2002, Kenya launched the first Communication to the Conference of Parties to the UNFCCC. As the country conducts needs assessment, it has embraced technology and has been in the frontline. Kenya has experienced challenges in developing strategies to promote sustainable development without emitting greenhouse gases. In the first national communication plan, four thematic areas were identified. A national Greenhouse Gas inventory was designed, vulnerability and adaptation plan, research

¹⁰⁴ Ibid. p. 5.

systems, awareness creation campaigns on climate change, clean development, transfer of technology, climate change mitigation policies and convention negotiation capacity.¹⁰⁵ In addition, Kenya has conducted various studies in these areas.

Kenya has developed a five-year National Climate Change Action Plan NCCAP 2018-2022. The plan is derived from climate change Act, No. 1 of 2016, which requires the government to develop an action plan to guide the mainstreaming of climate change into sector functions. Measures taken in line with the action plan include: constitutional recognition of social economic rights, sustainable development and public participation in environment decision making. Development of Kenya Climate Smart Agriculture Strategy and Kenya Climate Smart Agriculture Implementation Framework and the Kenya Climate Smart Agriculture Project (KCSAP) is ongoing.

The Government has also sponsored the concept of green economy by fostering innovation in the financial sector by developing domestic green bond markets in collaboration with various players in the private sector. Kenya's first green bond in December 2019 raised 4.3 billion Kenya Shillings to build environment friendly student accommodation in public educational institutions. Kenya has developed the Kenya Climate Change Knowledge Portal to provide easy access to all information pertaining to climate change to the public.

There is increased government focus on green energy projects and technologies aimed at mitigating climate change. There is also an increasing trend of technologies and innovations towards green products and green economy, increased emphasis on greening the country through tree planting and sustainable forest management, formulation of new legislation to respond to

¹⁰⁵ GEF. A Guide for self-Assessment of Country Capacity Needs for Global Environmental Management.

needs for climate change mitigation and enhanced budget allocation from treasury and mobilization of funds from global funding mechanisms such as GEF- Funding directed at climate change adaptation and mitigation projects.¹⁰⁶

Kenya submitted to the UNFCCC Secretariat the INDCs for the implementation of the Agreement. The INDCs have been mainstreamed into sector planning of both national and county governments. The Climate Change Act, 2016, established the National Climate Change Council. It coordinates all climate change mechanisms. Other policy and legal institutional structures that are in place in Kenya are National Adaptation Plan 2015-2025, sectoral climate change policies and action plans, county based laws and policies, Climate Finance budgeting and coding at treasury. There are also climate change courses being offered at all level of education in Kenya and beyond.¹⁰⁷

2.5 Implementation of Paris Agreement in Kenya

In 2015, Kenya welcomed Paris agreement because she hoped that it provided the roadmap towards dealing with challenge of climate change hitting the country. When the Paris Agreement was adopted during COP 22 in Marrakech, Morocco, the then president of Kenya, His Excellency Uhuru Muigai Kenyatta and the cabinet secretary then for Ministry of Environment and Forestry, Prof. Judy Wakhungu were present. The president approved Kenya's ratification of the Paris agreement because it was highly linked to the Sustainable Development Goals (SDGs) such as taking action to combat climate change, zero hunger, fighting inequality and injustice, poverty, among other goals. Kenya had submitted her NDCs prior to COP 22 which showed that the

¹⁰⁶ Solomon Kyalo. Head-Research Authorization and Conventions. Kenya Wildlife Service. July 2020.

¹⁰⁷ Veronicah Ndetu. Director, Climate Change Unit, Ministry of Agriculture. August 2020.

country's emission was 0.15 of the total global emissions. Since the ratification and implementation of the Paris agreement, Kenya has had various approaches towards domesticating the agreement. Kenya has a Climate Change Act 2016¹⁰⁸ that strengthens climate change governance and all institutional arrangements in mainstreaming climate change to sectoral planning and budgeting. The country also has the National Adaptation Plan and the two documents were developed by multiple stakeholders. Their involvement in developing these two documents marked their contribution to the implementation of the Paris Agreement. The two documents in Kenya build on the foundation of the Kenya Climate Change Action plan. Kenya also has sector strategic adaptation actions which takes into account all the sectors that are vulnerable to climate change.¹⁰⁹

2.5.5 Stakeholder Participation and Engagement

Kenya has committed the implementation of the Paris Agreement to combat climate change by having policies and plans that help in enhancing climate rigidity and low carbon development. Kenya has a strong body of development organizations that are pertinent to climate change issues. The Consultative Group on International Agricultural Research has membership of such development partners. The group has a Climate Change, Agriculture and Food Security (CCAFS) East Africa Program that has been working closely and in collaboration with the Climate Change Directorate at the Ministry of Environment and Natural resources in matters UNFCCC and Paris Agreement to identify the actions to be taken going forward.

¹⁰⁸ GoK. The Kenya Climate Change Act 2016.

¹⁰⁹ GOK. Kenya Ratifies Paris Agreement on Climate Change. Retrieved from the ministry of environment website <http://www.environment.go.ke/?p=3001> on 23rd April, 2020.

The group of researchers, private sector, policy makers and civil society organizations agreed that Civil Society Organizations (CSOs) need to be involved in implementation of the INDCs. The implementation should be done in such a way that it reaches the grassroots and focus on rural development to address GHG emissions. As Kenya continues to unpack the INDCs, there are chances for the private sector, researchers and CSOs to work with the government in the implementation of CSOs.

The stakeholders call for transparency and accountability at national level, which is critical for implementation of the Paris Agreement and the INDCs. Research institutions keep on generating data and evidence and tools used in implementation of NDCs. Kenya has engaged on capacity building of members and representatives on gender and youth engagement to focus on implementing INDCs in the lines of Paris Agreement. There are various technological innovations in the in the development of efficient energy solutions as per community needs and preferences. The National Action Plan in Kenya has allowed it to access the GCF funding. Kenya has also nominated specialists to participate in the climate change Technical Expert Group (TEG) which is a subsidiary body for Scientific and Technological Advice (SBSTA). The country also has appointed a national gender focal points for negotiations. The country has a gender action plan and has already developed and submitted their proposal on carbon markets to UNFCCC.¹¹⁰

Is Paris Agreement Effective as an International Law?

The Kyoto Protocol came into force at a time when industrialization was at its peak and so were its impacts. The Protocol placed a heavy burden on developed nations as they were

¹¹⁰ CCAFS. Post COP22 roadmap: Kenyan Stakeholders explore implementation of the Paris Agreement.

recognized as responsible for the high levels of GHG emissions. This was met with resistance as countries with high emissions such as the US believed that the agreement was unfair and would affect its economy. The US and China therefore didn't ratify the agreement and became bigger polluters to the point of canceling out the efforts made by those nations that ratified the agreement.¹¹¹

The Paris Agreement was adopted in 2015 in Paris where all the participants ratified the convention that would reduce global emissions. This time the US under Barack Obama leadership, was one of the drivers for the agreement. The agreement has a provision for the developed nations to assist developing ones in efforts to mitigate against and adapt to climate change. It also creates a framework for transparency in monitoring a countries individual climate goal. This makes the Paris agreement further effective than the Kyoto Protocol.¹¹²

The Paris agreement is still in its inception Stage and the rule book for operationalizing it is yet to be concluded. However, the Paris Agreement, different from the Kyoto Protocol includes and has given mandates to all 192 member states of the UNFCCC an obligation to contribute towards addressing climate change in the hope that full inclusion will lead to better action on emission reduction. This is unlike the Kyoto Protocol that gave reduction emission targets to Annex I countries which was considered unfair.¹¹³ The Kyoto protocol was only giving responsibility to the developed countries to cut down on their emission and was not giving them any milestones.¹¹⁴ The Paris agreement has given each country including the low emitters a

¹¹¹ Jane Franciscah Wambui. June 2020. She is the Head of Ecosystem and Land Landscape Conservation and Management at Kenya Wildlife Service.

¹¹² Jared. Scientist Climate Change and Carbon Finance. Kenya Wildlife Service. July 2020.

¹¹³ <http://www.met.gov.sb/who-is-a-annex-i-country>. 15th September, 2020.

¹¹⁴ Christoph Böhringer. The Kyoto Protocol: A Review and Perspectives. Discussion Paper No. 03-61 Centre for European Economic Research (ZEW), Mannheim. Retrieved from <http://ftp.zew.de/pub/zew-docs/dp/dp0361.pdf>

responsibility of addressing climate change. Each country has developed their nationally determined contributions and the activities they will undertake to reduce the emissions. The countries are mandated to report on their milestones towards their commitments.¹¹⁵

However, Paris agreement has not been proved as an effective international by the countries in the world to cut down on their emissions of greenhouse gases. It will all depend on commitment of individual Parties signatory to the Agreement, on implementation. It will also depend on commitment of the industrially developed Parties to cut down gas emissions and also support less industrially developed Parties with Carbon credits.¹¹⁶ The Paris agreement has a legal force to implement the agreed upon aspects of the Kyoto protocol by parties. However, countries have sovereign rights and the said legal force may not guarantee its full implementation. The law does not state what actions should be undertaken against a country that fails to deliver. Some countries concentrate on building their economies at the expense of climate change which in turn negatively impacts on the economy.¹¹⁷

¹¹⁵ UN Climate Change. 2020 UNFCCC. Nationally Determined Contributions. Retrieved from <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/nationally-determined-contributions-ndcs> on 15th September 2020.

¹¹⁶ Fiona Harvey and Jenifer Rankin. 4th December 2019. Paris Climate Deal: World not on Track to Meet Goal amid Continuous Emissions. Retrieved from <https://www.theguardian.com/environment/2019/dec/04/paris-climate-deal-world-not-on-track-to-meet-goal-amid-continuous-emissions> on 15th September, 2020

¹¹⁷ Larry West. 24th July 2017. What is the Kyoto Protocol? Cons. Retrieved from <https://www.thoughtco.com/what-is-the-kyoto-protocol-1204061> on 15th September, 2020.

Chapter Three

Frameworks Used by African States like Kenya in The Domestication of the Paris Agreement

3.1 Introduction

Scientific evidence has shown that global ecosystems are overwhelmed and policy makers need to wake up to the call for action. Key global ecosystems such as mangroves, forests, coral reefs are on decline. Environmental degradation coupled with natural and man-made disasters have costed global economy millions of dollars. Life support systems are at risk of damage. Increasing population, unsustainable economy and greenhouse gases make it more dangerous. It is because of these concerns that international community agreed on multilateral environmental agreements that were reinforced. A set of principles on protection of the earth and improvement of life quality were established through sustainable development which is ideal in strengthening environmental governance. Kenya has therefore taken actions to implement the MEAs jointly to address issues crosscutting many sectors in cost-effective measures, as they utilize the available resources sustainably. Kenya has created international linkages with international protocols to adopt a holistic approach in handling environmental governance. This chapter highlights how Kenya has adopted and domesticated MEAs for proper mechanisms in environmental governance.

3.2 Kenya's Intended Nationally Determined Contributions

Kenya has the intended Nationally Determined Contributions in response to the adoption of the COP 22.¹¹⁸ Kenya has a participatory approach for stakeholders in the development of the tools towards delivery of the constitution, vision 2030¹¹⁹ and the sustainable development goals.¹²⁰ As the country is very susceptible to the negative effects of climate change, Kenya has developed INDCs for both mitigation and adaptation. With regards to mitigation, Kenya is in the process of expanding geothermal¹²¹, wind and solar energy and other sources of renewable and clean energy.¹²² In the same sector, Kenya is advocating for adoption of energy efficiency across all sector.

There have been several deliberate efforts in tree planting campaigns to increase the tree cover to at least 10%.¹²³ State and non-state actors have taken action on this with the agenda being to grow trees rather than planting the trees. The actions are a notch higher with the eviction of the families that had grabbed and started residing in Mau conservancy, a gazette land that is also an important water tower in Kenya.¹²⁴ There are a lot of clean energy technologies to reduce overreliance on biomass. Kenya is gradually adopting low carbon and efficient transportation

¹¹⁸ GoK. Ministry of Environment and Natural Resources. 2015. Kenya's Nationally Determined Contribution.

Retrieved from https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Kenya%20First/Kenya_NDC_20150723.pdf on 15th September 2020.

¹¹⁹ GoK. Kenya Vision 2030. Retrieved from <https://vision2030.go.ke/> on 15th September 2020.

¹²⁰ UN Department of Global Communications. SDGs. Retrieved from https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/01/SDG_Guidelines_AUG_2019_Final.pdf on 15th September 2020.

¹²¹ Amy Yee. 23 Feb 2018. New York Times. Geothermal Energy Grows in Kenya. Retrieved from <https://www.nytimes.com/2018/02/23/business/geothermal-energy-grows-in-kenya.html> on 15th September 2020.

¹²² The Star. Kenya Keen to Prioritize Clean, Renewable Energy. Retrieved from <https://www.the-star.co.ke/sasa/technology/2020-04-24-kenya-keen-to-prioritise-clean-renewable-energy/> on 15th September 2020.

¹²³ Hallygan Agade. 11 April 2019. Kenya Launches Greening 'Greening Kenya' tree planting campaign. <https://www.kbc.co.ke/kenya-launches-greening-kenya-tree-planting-campaign/>

¹²⁴ Mercy Njane. September, 11 2019. Evictions best way to Save Mau Forest. Retrieved from <https://nation.africa/kenya/blogs-opinion/opinion/evictions-best-way-to-save-mau-forest-202686> on 15th September 2020.

systems, for example the electric cars. To support the idea, the government has reduced the tax on importation of electric cars and increased that of petrol and diesel. Other initiatives adopted by Kenya are in Climate smart agriculture. There is already a Climate Smart Agriculture Framework in place and other initiatives in sustainable waste management. Kenya is working to abate greenhouse gas emissions by 30% by 2030, in line with the SDGs. However, this is subject to backing in terms of financial support, technology transfer and capacity building as they get this support from the developed countries and other parties.¹²⁵

Under adaptation, Kenya is working to increase the resilience of energy systems and support for innovation of technologies. This with the objective of promoting climate resilient development, involve private sector, enhance adaptive and resilience capacity of the private sector, mainstream climate change in policies and county integrated development plans and have all the sectors taken care of.¹²⁶

3.3 Climate Change Act 2016

The laws of Kenya have climate change act that was signed by the head of state on 6th May 2016, published in the Kenya Gazette on 13th May and came in to force on 27th May of the same month. The law was developed through a collaborative process between the Executive, Legislative Arms and the Government of Kenya with support from the private sector, development partners and civil society. The Act of parliament provides for regulatory framework to enhance response to Climate Change, provide for mechanism and measures to achieving low carbon climate development and for connected purposes.¹²⁷ The CCA 2016 has provisions for several institutions:

¹²⁵ The Kenya's nationally determined contribution (NDC) highlights the emission projections and what Kenya should do to reduce them and greenhouse gases.

¹²⁶ Ibid pp 5-6

¹²⁷ The National Climate Change Act, 2016

The National Climate Change Council coordinates and guides the implementation of obligations and functions of the climate change Act, 2016.¹²⁸The Act also has a provision for Climate Change Directorate that works in supporting Monitoring and Evaluation of GHG emissions system.¹²⁹ Other provisions of the Act are Climate change Fund and Climate Change Units.

The state and the non-state actors have been brought together so that all the stakeholders can evaluate themselves and come up with ways of contributing towards climate change adaptation and mitigation. The COP meetings, the latest being COP 24, held between 2 and 15 December 2018 in Katowice, Poland aimed at tracking whether each country is committed to their Nationally Determined Contributions and reporting of their climate change mitigation strategies. The ministry of planning is the custodian of the monitoring and evaluation framework which should be distributed to the counties to enhance reporting online.

3.4 Energy Act 2019

Energy forms an important component for supporting livelihoods and it is a major driver of development in our country. Despite the efforts that have been deployed by the government to enhance access to energy by all Kenyans, there have many setbacks experienced towards its realization such as accessibility, affordability and explorations of alternative sustainable energy sources. Despite the challenges, Kenya has been able to achieve 75% access to electricity with a goal to realize 100% electricity access country-wide by 2022.¹³⁰ Kenya is also currently the largest

¹²⁸ Operationalization of the National Climate Change Council, 2016, Draft Working Document was developed with support from UKaid and STARCK+

¹²⁹ Retrieved from <http://www.environment.go.ke/?p=5826> on 29th March, 2019

¹³⁰ IEA. November 2019. SDG7: Data and Projections. Access to affordable, reliable, sustainable and modern energy for all. Retrieved from <https://www.iea.org/reports/sdg7-data-and-projections/access-to-electricity> on 15th September 2020.

producer of geothermal energy in Africa with a potential to produce over 10,000 megawatts.¹³¹ The Total renewable energy capacity stands at 60%, with most of this coming from Hydro-Power. In July 2019, Kenya opened Lake Turkana Wind Power (LTWP) which is the largest wind power plant in Africa.¹³² This project is part of the country's ambitious plan of reaching 100% green energy by 2020.¹³³ With all this and more prospects in the energy sector, it is prudent to have in place policies and legislations that will govern various operations.

The 2019 Energy Act in Kenya came into effect on 28 March 2019. It cancelled the Energy Act, 2006 the Kenya Nuclear Electricity Board Order No. 131 of 2012 and the Geothermal Resources Act, 1982.¹³⁴ The Act was enacted in response to calls to consolidate the laws relating to energy; promote renewable energy; promote exploration, recovery and commercial utilization of geothermal energy; regulate midstream and downstream petroleum and coal activities; regulation, production, supply and use of electricity and other energy forms; and for connected purposes. The Act has been subdivided into 10 broad sections. Some of the key highlights in the Act include; The Energy Policy and Integrated Energy Plan, The National Energy Entities, Renewable Energy, Electrical Energy, Downstream Coal and Energy Efficiency and conservation. Under the new Act, the new energy sector entities have been created to substitute those existing below the repealed laws with restated and increased mandates.

¹³¹ Patrick Hanson. 26th June 2019. Geothermal Country Overview: Kenya. GeoEnergy Marketing Services. <https://www.geoenergymarketing.com/energy-blog/geothermal-country-overview-kenya/>

¹³² AFDB. 15th Set 2015. Lake Turkana Wind Power Project: The Largest Wind farm Project in Africa. <https://www.afdb.org/en/projects-and-operations/selected-projects/lake-turkana-wind-power-project-the-largest-wind-farm-project-in-africa-143>

¹³³ GBA. 14 Nov 2018. Kenya Targets 100% Transition to Green Energy by 2020. <https://www.greenbuildingafrica.co.za/kenya-targets-100-transition-to-green-energy-by-2020/> on 15th September 2020.

¹³⁴ GoK. 2019. The Energy ACT.

3.5 National Climate Change Action Plan 2018-2022

According to the Kenya climate change ACT 2016, the government of Kenya developed the National Climate Change Action Plan (NCCAP) 2018-2022 which is a five-year plan to enable Kenya implement her climate change action. The action plan is meant to be utilized to guide in the mainstreaming of climate change into sector functions. The action plan provides mechanisms to realizing low carbon climate resilient development by prioritizing adaptation and enhanced climate resilience for the vulnerable groups such as women, the minority and the marginalized and persons with disabilities.¹³⁵

Kenya is a country that suffers climate related disaster such as droughts, floods, famine whose negative impacts greatly affect the economy and livelihoods of a country that depends on climate sensitive sectors: agriculture, energy, tourism, water, wildlife and health. The impacts of climate change are a threat to the well-being.¹³⁶ Kenya has a small global responsibility towards climate change since her greenhouse gas emissions are less than 1% of the total global emissions. The UNFCCC has set out six mitigation sectors: forestry, energy, transport, industry and waste as the priority climate actions. Kenya has committed to mitigation and to lower greenhouse gas emission and meet her nationally determined contribution goal of reducing GHGs by 30% by 2030.¹³⁷ The NCCAP 2018-2022 aligns the six priority sectors in Kenya to support the goal.¹³⁸

¹³⁵ Government of Kenya (2018). National Climate Change Action Plan (Kenya): 2018-2022. Nairobi: Ministry of Environment and Forestry.

¹³⁶ Lamhaug Nicolina and Lanzi Elisa. 26th June 2013. The Use of Indicators for Monitoring and Evaluation of Adaptation: Lessons from development Cooperation agencies. Climate and Development. Vol. 5. 10.1080/17565529.2013.801824

¹³⁷ The Kenya's nationally determined contribution (NDC) highlights the emission projections and what Kenya should do to reduce them and greenhouse gases.

¹³⁸ Government of Kenya (2015). Kenya's Intended Nationally Determined Contribution (NDC): Ministry of Environment and Natural Resources.

The NCCAP documented has been formatted into four chapters all of which constitute 110 pages. The introductory chapter highlights the goals of NCCAP, the situational analysis of climate change in Kenya, the impacts and how Kenya has contributed to climate change. It also gives a summary of the implementation of NCCAP in terms of adaptation, mitigation, enabling actions and the lessons that Kenya continues to learn. The second chapter outlines the legal and policy frameworks that have to be in place for effective implementation of the action plan. Chapter three is about the priority climate change actions by Kenya which are in disaster risk management (flood and drought), food and nutrition, water and the blue economy, forests, wildlife and tourism, health, sanitation and human settlements, the manufacturing sector and lastly, energy and transport. It also describes the priority actions in the 47 counties of Kenya. Chapter four is about how the action plan should be delivered through enabling policy and regulatory framework, capacity development and knowledge management, technology and innovation, climate finance, monitoring, reporting and verification. Section two of chapter four describes the roles and responsibilities of different institutions, the coordination and monitoring & evaluation mechanisms.¹³⁹

3.6 The Agricultural Sector Development Strategy (2010-2020)

This policy guarantees food and nutritional security for Kenyans. It focuses at changing agriculture in to contemporary and profitable feasible sector. The policy aims to restructure and realign inquiries, and governing organizations to raise their effectiveness so that food insecurity is decreased by 35% and the number of people living below absolute poverty line reduced to less than 25%. The strategy aims to raise agricultural yield and returns for small holder farmers, address agricultural exploration, skill propagation and implementation, refining rural substructure and

¹³⁹ Government of Kenya (2018). National Climate Change Action Plan (Kenya): 2018-2022. Nairobi: Ministry of Environment and Forestry.

trade-related abilities and hence increase market accessibility, administration of water and land by way of extending the zone beneath viable land management and water control systems.¹⁴⁰

The strategy stresses on reduction of over-reliance on rain-fed farming in the face of limited high potential agricultural land for irrigation. The strategy encourages diversification in to non-traditional agricultural commodities and value addition to reduce vulnerability. Other crucial concern dealt by the strategy is improving food security and reduce the number of suffering population from starvation and hence realize the sustainable development goals. The government of Kenya is trying to implement this policy through offering subsidized farm inputs, building dams for irrigated agriculture and negotiating for export market of the locally produced products such as avocado, tea, coffee and other cash crops.¹⁴¹

Proper enactment of the agricultural sector development need that the government invests in research for development, empower the communities and hold advocacy sessions with the communities, more so farmers to understand the sustainable agricultural practices.

3.7 Chapter Summary

With the current trends in global ecosystems reaching thresholds, the policy makers need to wake up. With the various environmental components, a lot has been done but still more needs to be done to tackle land degradation, loss of biodiversity, pollution, and other challenges which have accelerated climate change besides the various economic contests as posed by inadequate job opportunities, population growth among others. Kenya needs to strike a balance between economic growth and environmental goals. Kenya has signed and ratified several MEAs that have also been

¹⁴⁰ Government of Kenya. *Agricultural Sector Development Strategy (2010-2020)*. Ministry of Agriculture, 2010.

¹⁴¹ GOK. *Agricultural Sector Transformation and Growth Strategy (2019-2029)*. MoALF&I, 2019

reinforced by the United Nations Conference on Environment and Development (UNCED). The agreements are built around the obligations under the MEAs. Challenges such as inadequate capacity, resources, skills and awareness creation needs to be addressed to achieve the goal on sustainable environmental governance.

Chapter Four

Challenges and Opportunities in Adoption of the Paris Agreement

4.1 Introduction

The global environmental challenges require a long-lasting sound solutions because they threaten human security. Several countries are working together to address the global challenges of climate change, desertification and pollution, among other challenges. These countries have collaborated by adopting various tools such as UNFCCC and the Paris Agreement. Countries especially the developing ones face challenges in the implementation of these treaties. Some of the challenges faced by these countries are limited resources, weak governance systems (both at national and local level) and ineffective coordinating institutions. Kenya has already entered in to several Multilateral Environmental agreements, but there is inadequate coordination amongst the agencies.¹⁴² It is because of this reason and challenges that Kenya has achieved less results. This chapter delves into Challenges and opportunities faced in the implementation of Paris Agreement in the developing countries, using Kenya as a case.

4.2 Inadequate Funding

The emission of greenhouse gases from industrialized nations arose the argument on negotiations to stop climate change. As a result, the global Environment facility was formed so as to provide grants for projects aimed at addressing challenges of climate change, biodiversity, land degradation, international waters, ozone layer and such. A number of financial mechanisms for

¹⁴² Kariuki Eddy G. Global Strategy Implementation Challenges of Kenya's Multilateral Environmental Agreements with the United Nation's Environment Programme in Kenya.

specific mechanisms were formed.¹⁴³ The Green Climate Fund (GCF) is one of the financial mechanisms. GCF helps developing countries to reduce greenhouse gas emissions and adapt to climate change. Established by UNFCCC in 2010, the GCF serves the Paris agreement and supports the goal of keeping global temperature rise below 2 Degrees Celsius. GCF channels climate finance funds to developing countries that have committed to climate action.¹⁴⁴

The advanced economies in the developing countries have come together to mobilize financial resources to deal with needs of combating climate change. Since the launching of GCF in 2014, the fund has gathered pledges from developed countries and some few developing countries. The activities that can be funded by GCF should be aligned with the priorities of the developing countries. There is a direct access of national and sub-national organizations so that they can receive the funds directly and not via international mediators. The fund aims to address the wishes of societies that are susceptible to effects of climate change. The less developed countries have got the greatest number of vulnerable people. Therefore, the developed countries pledge and contribute to the GCF kitty from their private finance to unlock the power of climate-friendly investment for low carbon emission and development that is climate resilient. GCF has been working hard to achieve maximum impact and open markets to new investments.¹⁴⁵

Setting the GCF mechanism and pledges by developing countries has been a great achievement. However, the developed countries have failed to perform in their commitment on financial aid, technology transfer and environmental development.¹⁴⁶ Most organization and

¹⁴³ <https://www.thegef.org/assembly/overview>

¹⁴⁴ Green Climate Fund. Achieving the Paris Agreement: How GCF Raises climate ambition and empowers climate action. 2019. Retrieved from <https://www.greenclimate.fund/sites/default/files/document/achieving-paris-agreement-how-gcf-raises-climate-ambition-and-empowers-climate-action.pdf> on 26th March, 2020

¹⁴⁵ GCF. About GCF. <https://www.greenclimate.fund/about>

¹⁴⁶ Antonich Beate. GCF Conference Offers Opportunity for Developed Countries to Contribute to Collective Pledge. IISD 2019. Retrieved from <https://sdg.iisd.org/commentary/policy-briefs/gcf-conference-offers-opportunity-for-developed-countries-to-contribute-to-collective-pledge/> on 26th March 2020.

governments in the developing countries continue to depend on voluntary funding from independent donors and the government themselves to execute their programs in climate change mitigation and adaptation. The Paris Agreement secretariat finds it challenging to execute their mandate when there is limited or no funding. There have been short run projects because of limited financing. Increasing the main funding would avail more funds and improve efficiency on all organizations implementing projects to combat climate change.

In Kenya for a long time, the budgeting process has not favored implementation of MEAs. MEAs are not considered as a national priority and are not well integrated into the national development policies and strategies. Periodic review of national development frameworks and the budgeting process in a participatory process allows integration of emerging issues and priorities. The process is conducive for mainstreaming and prioritizing MEAs in national planning and budgeting process to increase resource allocation for implementation of MEAs. The decentralized system in Kenya allows distribution of resources to reach targeted local areas and effective inclusion of all stakeholders.¹⁴⁷

The Climate Change Act, 2016 required among its objectives the establishment of a climate change fund as a financing mechanism for priority climate change actions. Since 2011, only five counties have established county climate change funds (CCCFs); Isiolo, Wajir, Makueni, Kitui and Garissa. These funds given by Green Climate Fund (GCF) and Global Environmental Facility (GEF) among other financing institutions have gone ahead to change the lives of over 500,000 people through 99 community climate resilience projects. However, this is just but a drop in the ocean for the country.¹⁴⁸ Improper or lack of adequate allocation of resources in the climate change

¹⁴⁷ Ibid p. 20.

¹⁴⁸ <https://www.iied.org/supporting-adaptation-through-local-level-climate-finance-lessons-kenya>

sensitive sectors is posed by the challenge of Kenya not being able to strike a balance between development, sustainability of food production mechanisms and achievement of the targets in the face of a rapidly growing population.

Similarly, other countries in East Africa have limited funding to enhance implementation of the Paris agreement to reduce emission of greenhouse gases. Even if one state is putting efforts of mitigation and adaptation while the other nation is not, the other nations will still be affected by climate change. It requires concerted efforts by all parties. Every country has an opportunity to showcase their efforts in greening economy and mobilizing funds through carbon credit. African states should take advantage of the potentiality of key sectors such as the agricultural and energy sectors.¹⁴⁹ Sustainable harnessing of natural resources such as solar for solar power generation or using sustainable agricultural practices will achieve food security and therefore help eradicate poverty which are the hindrances faced in the continent in trying to achieve the SDGs and therefore the Paris Agreement. African countries need to utilize their resources to create wealth and gain resources to combat climate change. This will help curb dependence syndrome which has made the country a slave to the Westerns. It will also spur development and sustainability.

4.3 Weak Governance Systems and Poor Coordination of Institutions

Currently, there are many MEAs that Kenya and other developing countries are a signatory. The main burden now lies in the implementation and strengthening. The national level is the primary party in this and should ensure that they understand their obligation and take appropriate measures towards implementation. The parties should put in place institutional systems and have

¹⁴⁹ <https://www.un.org/africarenewal/magazine/may-july-2017/paris-agreement-climate-change-one-year-later-how-africa-faring>

laws and policies and regulations to strengthen their objectives.¹⁵⁰ National institutions should be strengthened and given capacity building regarding environmental legislation, there must be environmental authorities in place. Environmental authorities may focus on projects that do not necessarily solve environmental projects. This results in to wastage of the already scarce resources. These nations will continue to be dependent on foreign aid to fund their environmental projects to solve climate change issues.¹⁵¹

There are missing links between the various MEAs institutions in policy making and implementation. The institutions apply disjointed and fragmented approaches. Different MEAs are handled in different departments, an approach that does not promote coordinated implementation. This approach does also not allow addressing of cross-sectional issues in a multi-sectorial context. Kenya does not have a system to ensure a coordinated approach with legal reforms to ensure consistency and harmonized implementation of MEAs, and enforcement of rules and regulations.¹⁵²

The international system is uncoordinated and do not exploit their synergies fully. Different parties have been given a specific mandate, which they have not optimally utilized the resources and opportunity. UNEP has the mandate of coordinating and steering the policy guidance on matters environmental policy. UNEP faces the challenge of inadequate resources to execute their mandate. Besides this, there is no adequate monitoring, strengthening and enforcement measures that are in place. National political commitment and leadership are very key. They must be backed up by governance structures that trickle down to the local level for instance, budget allocations at the national level should prioritize the local level. Some countries like Kenya already have

¹⁵⁰ UNEP. Compliance with and Enforcement of Multilateral Environmental Agreements. 2009.

¹⁵¹ Kal Raustiala. Reporting and Review Institutions in 10 Multilateral Environmental Agreements. UNEP, 2001.

¹⁵² NEMA. NCSA Action Plan for the Implementation of Multilateral Environment Agreements in Kenya. 2006.

coordination structures and are still in the process of adapting them to support implementation of the Multilateral Environmental agreements. Kenya is still establishing new institutions and coordination frameworks to support the implementation.¹⁵³

Kenya faces managerial and technical capacity of human resources in the implementation of MEAs. The staffing and training facilities that are available are limited and cannot provide diverse skills, to address the diverse nature of environmental challenges. The government departments have budget constraints which affects their ability to train manpower. The national expenditure is stringent and continues to restrict recruitment of manpower in all government sectors. This has resulted to reduction of available manpower.¹⁵⁴

The Multilateral Environmental agreements have an obligation to collect, analyze and report to the responsible secretariats on the progress of implementation. The MEAs should assess and monitor the environment to determine status and rates of change in the conditions. This takes place at the individual MEAs and thus there is a possibility of duplication and wastage of resources. There is need for joint information gathering to encourage efficiency and cost effectiveness. There is need for greater public awareness especially for policy makers to promote an informed decision making process.¹⁵⁵

4.4 Inadequate Technologies

Technology transfer and capacity building are paramount in combating climate change in the developing countries. African governments and non-state actor have a task to support and

¹⁵³ UNDP 2017. Institutional and Coordination Mechanisms. Guidance Note on Facilitating Integration and Coherence for SDG Implementation.

¹⁵⁴ Ibid p.21

¹⁵⁵ Ibid p. 21.

encourage transfer of clear technologies to Africa. The countries should also invest in research and simulate it in to future technologies through public funding. The technology diffusion should be appropriate, with robust and verifiable measures and incorporated with capacity building.

4.5 Chapter Summary

Implementation of Multilateral Environmental agreements has been faced with challenges ranging from inadequate resources, weak governance structures, uncoordinated departments and poor implementation of policies and guidelines. There is need of an action plan that needs to be coordinated by a universal body and involve all MEA units and the key national institutions, the private sector and Civil Society Organizations (CSOs). The process must entail capacity building, monitoring, evaluation and reporting progress. For instance, in Kenya, there is the National Environment Management Authority (NEMA), a body established under Environmental Management and Co-ordination Act (EMCA) 1999 for inter-sectorial coordination of environment issues in Kenya. NEMA is involved in policy formulation and monitoring implementation of MEAs. NEMA does this through inter- Ministerial Steering committee composed of government and NGOs. The committee provides technical support to NEMA and has national consultation mechanisms. Kenya has an action plan with a timeline of 5 years. They put much emphasis on capacity building and research. The primary source of funding is the government of Kenya with support from GEF and UNDP.

Chapter Five

Summary, Conclusion and Recommendations

5.1 Introduction

This section is going to give a summary of the study, which is basically an overview of the entire study. It is also going to give conclusions drawn from the study based on the study hypothesis and also as per the specific objectives. It shall then give recommendations for further research as per the specific objectives of the study.

5.2 Summary

The study looks at the efficacy of the Multilateral Environmental agreement in Promoting Environmental security in Africa and specifically investigates the Kenyan context. The need to conduct the study emanated from effects of climate change that have been experienced in Kenya and other African countries. These challenges range from food insecurity, human, livestock and crop diseases to environmental pollution. Vices such as logging, poaching, industrialization, pollution of air, oceans and water sources, excessive use and poor disposal of chemicals such as pesticides, have and improper was disposal acerbated the situation. These human activities have caused emission of Greenhouse gases in to the atmosphere. This in turn has caused global warming that has driven other forms of climate change. Climate change has in turn caused environmental insecurities such as food insecurity, water insecurity, floods, pests and diseases, droughts and conflicts. All these factors of environmental security are key growth and development.

To deal with environmental insecurity and other challenges being experienced a s result of climate change, countries have put efforts to collaborate in dealing with global environmental challenges under the international law. There are a set of agreed and ratified international

conventions and treaties to guide the protection and exploitation of natural resources. The treaties are a soft law that sets out non-legally binding principles that the parties are obligated to consider in addressing environmental issues. There are also hard laws that specify legally binding actions that should be undertaken towards achieving an environmental objective.

The United Nations Framework Convention on Climate Change was effected in 1994 and ratified by 197 parties. The objective of this treaty was to stabilize greenhouse gases so that their level of concentration does not interfere with the climate system or threaten food production and economic development. To put teeth in the UNFCCC, The Kyoto protocol was adopted as the first agreement by nations to aid in the reduction of greenhouse gases. Different Nations developed programs to work on reduction of greenhouse gases. European countries agreed to cut 29% of greenhouse gas production by use of natural process, green infrastructure and planting of trees. The Kyoto protocol was not adopted as international law and global emissions increased significantly. The Paris Agreement was adopted during COP 18 in Doha, Qatar in 2012. With 196 signatories, the Paris Agreement calls for urgent action in combating climate change and its impacts.

Kenya has undertaken research and development, developed guidelines and policies and frameworks to help in the implementation of the conventions. Kenya has further committed to the implementation of UNFCCC and the Paris Agreement by putting in place policies and plans to help enhance climate resilience and low carbon development. Stakeholder participation has been very key in the entire process.

Challenges faced in the implementation of UNFCCC and the Paris Agreement include inadequate resources, weak governance systems, poor coordination of institutions and inadequate technologies. There is therefore need for action plan coordinated by a universal body and also

have capacity building sessions, Monitoring and Evaluation and reporting progress. With good funding, Kenya could achieve high in the mitigation and adaptation to climate change.

5.3 Conclusion

Kenya has undertaken significant steps towards domestication of UNFCCC in attaining environmental security. Since UNFCCC was ratified in 1994, the state in collaboration with non-state actors and academic institutions have been undertaking research for development in combating climate change based on the country's needs. The country is embracing technology and fundraising stakeholders to implement development projects that aim at climate change mitigation and or adaptation. Kenya has a greenhouse gas inventory, climate change vulnerability and adaptation plan for the people, awareness creation campaigns, frameworks and climate change mitigation policies. The Kenya Climate Change Action Plan is in place. To enhance food security, development of the Kenya Climate Smart Agriculture Strategy and the Kenya Climate Smart Agriculture Implementation framework have been done. Innovation and green energy projects are being supported and more people getting trained and sponsored to engage.

With regards to frameworks used by Kenya in the domestication of Paris Agreement to attain national environmental security, Kenya has created international linkages with international protocols to adopt a holistic approach in handling environmental governance. Kenya has come up with Intended Nationally Determined Contributions for combating climate change. They show the Kenya's pathway of low carbon climate resilient development. This has been coupled with tree planting activities and green energy initiatives. Other frameworks that the country has put in place include the Climate Change Act 2016, the Energy Act 2019, the National Climate Change Action Plan 2018-2022, agricultural policies amongst others.

The journey towards the implementation of the UNFCCC and Paris Agreement by the African countries has not been without challenges. Inadequate funding and weak governance institutions have been pinpointed as the greatest obstacles. There have been missing links between various convention institutions in policy making and implementation. The institutions in various states apply disjointed and fragmented approaches. There is need for coordinated implementation. Pool funding and deliberate allocation of funds to climate change mitigation and adaptation projects by governments is important to implemented sound projects. Developed countries are committed to support the implementation process through funds and technology transfer.

5.4 Recommendations

The study has the following recommendations.

1. Needs assessment should be undertaken before carrying out a research so that it appropriately informs point of action in the implementation of projects to combat climate change.
2. African countries need to secure more funding to support campaigns geared at climate change mitigation and adaptation
3. There is need for action plans for implementation of policies, frameworks and guidelines in domestication of climate change.
4. Countries should deliberately go for participatory approaches by state and non-state actors and faith organizations in climate actions
5. There should be hard laws so that countries that do not implement the UNFCCC and Paris Agreement as they committed are penalized.
6. There is need to enhance co-ordination of implementing agencies on climate change adaptation in Kenya.

7. Awareness creation on climate change adaption and Paris Agreement initiatives should be emphasized by all implementing agencies for support and participation by all stakeholders.

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Appendices

Appendix 1: Interviewees

Name	Position	Organization
Mukonyi Kavaka Watai	Senior Scientist - Bioprospecting	Kenya Wildlife Service
Anonymous	Biotechnologist	Kenya Forestry Research Institute
Solomon Kyalo	Head – Research Authorization and Conventions	Kenya Wildlife Service
Lolem Lokolile Bosco	Head- Health care Waste Management	Ministry of Health
John Kioli	Chairman	Kenya Climate Change working Group
Jane Franciscah Wamboi	Head- Ecosystem & Landscape Conservation and Management	Kenya Wildlife Service
Sharon Kili	Assistant Research Scientist- Climate change	Kenya Forest Service
Veronica Ndetu	Head – Climate Change Unit	Ministry of Agriculture
Jared Lumbasi	Scientist- Climate Change & Carbon Finance	Kenya Wildlife Service
Dr. James G Njogu	Deputy Secretary General	UNESCO
Hannah Wanjiru Muroki	Senior Officer - Energy	SNV- Netherlands Development Organization

Appendix 2: Research Permit

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 455870	Date of Issue: 23/March/2021
RESEARCH LICENSE	
<p>This is to Certify that MR. MARY NJERI KIRABUI of University of Nairobi, has been licensed to conduct research in Nairobi on the topic: THE EFFICACY OF MULTILATERAL AGREEMENTS IN PROMOTING ENVIRONMENTAL SECURITY IN AFRICA; A CASE OF KENYA for the period ending : 23/March/2021.</p>	
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Appendix 3: Research Questionnaire

Questionnaire

Introduction.

My name is Mary Kirabui, a senior officer working with the Kenya Wildlife Service. I am currently undertaking my master's degree in International Relations at the National Defence College, Kenya after I was seconded by KWS. Part of my course requires that I do a research project. I am looking at 'the efficacy of the UN Framework Convention on Climate Change (UNFCCC) in promoting environmental security in Africa; a case of Paris Agreement in Kenya'. I would therefore like to get your opinion. This interview will take approximately 45 minutes. Would you like to participate now? Or would you like to give me another appointment? Please note that your response will be treated with a lot of confidentiality. Your name will not be mentioned without your consent.

SECTION A: General Information

1. Name of the respondent
2. Gender of the respondent
 - a. Male
 - b. Female
3. Age of the respondent
 - a. 15-34 years
 - b. 34-55 years
 - c. 56-70 years
 - d. Over 70 years
4. Occupation

SECTION B: UNFCCC and the Attainment of Environmental Security

5. What are your perspectives of Climate change in the world, Africa and Kenya?
6. Kindly, in your opinion who do you think are the effects of climate change being experienced today. (Ensure they Link the causes and effects to humans and livelihoods.

Let them give their insights based on the various sectors in Kenya i.e. Agriculture, health, environment etc.)

7. Both the Kyoto Protocol and Paris Agreement emanated from UNFCCC. The Kyoto Protocol was not effective an international law for countries to cut down on their emissions of greenhouse gases. Do you think that Paris Agreement will? Explain
8. Please give us some insights on how Kenya is Implementing the UNFCCC (probe in terms of research, funding, innovations, laws, policies, guidelines)

SECTION C: Frameworks Used by African States in the Domestication of UNFCCC and the Paris Agreement

9. How is Kenya and other countries committed to implementation of the Paris Agreement? Are there any achievements so far? (probe in the lines of NDCs, NAPS, funds allocation, devolution, laws, policies, Acts)

SECTION D: Challenges in the Implementation of UNFCCC and the Paris Agreement

10. What are some of the challenges experienced by Kenya and other developing countries in the implementation of the UNFCCC and the Paris Agreement? Are their opportunities for Kenya and Africa to shine in this?
11. What initiatives do you have towards attaining environmental security? Do you also have other initiatives such as environmental awareness campaigns in terms of:
 - a. Forest restoration to attain 10% forest cover by 2022,
 - b. Waste management
 - c. Increasing agricultural productivity
 - d. Green energy initiatives, green building standards
 - e. Conservation of endangered species
 - f. Protection of wetlands
 - g. Conserving our culture
 - h. Others
12. Do you have any other comments concerning the interview?

Thank you