

Journal of Conflict Management & Sustainable Development



Fostering Climate Justice for Sustainable Development

Hon. Prof. Kariuki Muigua

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Editor's Note

Welcome to Volume 11 issue 3 of the Journal of Conflict Management and Sustainable Development. The Journal is an interdisciplinary publication that focuses on key and emerging themes in Conflict Management, Sustainable Development and other related fields of knowledge.

Sustainable Development has been embraced at both the global and national levels as the blue print for socio-economic development and governance. The Journal interrogates and offers solutions to some of the current concerns in the Sustainable Development Agenda. It also explores the role of Conflict Management in the attainment of Sustainable Development.

The Journal is peer reviewed and refereed so as to ensure credibility of information and validity of data.

This volume contains papers on various themes including: *Fostering Climate Justice for Sustainable Development; The Proposed Regulation of Artificial Intelligence and Robotics in Kenya: An Appraisal of the Kenya Robotics and Artificial Intelligence Association Bill, 2023; Towards Net Zero Carbon Construction in Africa: A Systems Thinking; Realizing Equitable Benefit Sharing in Kenya; The Case for Reform of Kenya's Firearms Licensing Law: Lessons from Comparative Experience; The Land Acquisition Tribunal, Kenya-Mandate and Jurisdiction; Carbon Credits Trading: A New Frontier in Climate Change; and The Case for Decriminalization of Attempted Suicide in Kenya: Lessons from Comparative Experience*. The Journal also contains a book review of *Actualizing the Right to a Clean and Healthy Environment*.

We welcome feedback, comments and critique from our readers to enable us to continue improving the Journal.

I wish to thank all those who have made this publication possible including reviewers, editors and contributors.

The Editorial Team also welcomes the submission of articles to be considered for publication in subsequent issues of the Journal. Submissions can be channeled to editor@journalofcmsd.net and copied to admin@kmco.co.ke.

Our readers can access the Journal online at <https://journalofcmsd.net>.

Prof. Kariuki Muigua Ph.D, FCIArb, Ch.Arb, OGW

**Editor, Nairobi,
March, 2024.**

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Fostering Climate Justice for Sustainable Development

By: Hon. Prof. Kariuki Muigua*

Abstract

The paper explores the concept of Climate Justice. It highlights and discusses some of the justice concerns arising from the effects of climate change. The paper further examines global, regional and national efforts towards fostering Climate Justice. It also considers the challenges affecting the attainment of Climate Justice and proposes measures towards fostering Climate Justice for Sustainable Development.

1.0 Introduction

Climate change is the defining global development challenge of our time, with significant implications for the achievement of the 2030 Agenda for Sustainable Development¹. Climate change has been defined as change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods ² .

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¹ International Development Law Organization., 'Climate Justice: A Rule of Law Approach for Transformative Climate Action.' Available at <https://www.idlo.int/publications/climate-justice-rule-law-approach-transformative-climate-action> (Accessed on 29/07/2023)

² United Nations Framework Convention on Climate Change (United Nations, 1992), Article 1 (2), Available at <https://unfccc.int/resource/docs/convkp/conveng.pdf> (Accessed on 28/07/2023)

The consequences of climate change such as intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity are being witnessed across the world³. Climate change can affect human health, food security, housing, safety and work⁴. Further, conditions like sea-level rise and saltwater intrusion have advanced to the point where whole communities have had to relocate, and protracted droughts are putting people at risk of famine⁵. It is expected that the number of climate change refugees across the globe will continue to rise due to the effects of climate change⁶. Climate change impacts the attainment of the Sustainable Development agenda⁷. It affects the availability of basic necessities like freshwater, food, and energy, while efforts to redress climate change, both through adaptation and mitigation similarly inform and shape the global development agenda⁸. It has also been observed that climate change results in food insecurity, water scarcity, depletion of natural resources, displacement of people, health hazards, social inequity and unemployment thus hindering the attainment of Sustainable Development⁹.

³ United Nations., 'What is Climate Change?' Available at <https://www.un.org/en/climatechange/what-is-climate-change> (Accessed on 28/07/2023)

⁴ Ibid

⁵ European Commission., 'Consequences of Climate Change.' Available at https://climate.ec.europa.eu/climate-change/consequences-climate-change_en (Accessed on 28/07/2023)

⁶ Ibid

⁷ International Development Law Organization., 'Climate Justice: A Rule of Law Approach for Transformative Climate Action.' Op Cit

⁸ United Nations Sustainable Development Goals., 'Climate Change.' Available at <https://sustainabledevelopment.un.org/topics/climatechange> (Accessed on 28/07/2023)

⁹ Muigua.K., 'Nurturing Our Environment for Sustainable Development.' Glenwood Publishers Limited, 2016

The global threat of climate change has led to concerted efforts through various legal instruments geared towards mitigating and adapting to its effects. *The United Nations Framework Convention on Climate Change* (UNFCCC) is geared towards combating climate change by achieving stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system¹⁰. The *Paris Agreement* is aimed at strengthening the global response to the threat of climate change towards Sustainable Development¹¹. It seeks to achieve this goal through measures such as holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change and increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production¹². Further, the *United Nations 2030 Agenda for Sustainable Development*¹³ urges the global community to take urgent action to combat climate change and its impacts through measures such as strengthening the resilience and adaptive capacity to climate-related hazards and natural disasters in all countries; integrating climate change measures into national policies, strategies and planning; and improving education, awareness-raising and human and institutional capacity on climate change mitigation,

¹⁰ United Nations Framework Convention on Climate Change., Available at <https://unfccc.int/resource/docs/convkp/conveng.pdf> (Accessed on 28/07/2023)

¹¹ United Nations Framework Convention on Climate Change., 'Paris Agreement.' Available at https://unfccc.int/sites/default/files/resource/parisagreement_publication.pdf (Accessed on 28/07/2023)

¹² Ibid

¹³ United Nations., 'Transforming Our World: The 2030 Agenda for Sustainable Development.' Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 28/07/2023)

adaptation, impact reduction and early warning¹⁴. In Kenya, the *Climate Change Act*¹⁵ is an Act of Parliament that provides a regulatory framework for enhanced response to climate change and sets out mechanisms and measures to enhance climate change resilience and low carbon climate development for the Sustainable Development of Kenya¹⁶.

However, despite these global and national efforts to respond to the threat of climate change, the effects of climate change continue to persist resulting in justice concerns¹⁷. It has been observed that some people and communities are more vulnerable to climate impacts, such as people living in small island nations and developing countries¹⁸. Further, the communities that have contributed the least to climate change are the ones that are the most affected by its impacts¹⁹. The concept of Climate Justice has thus emerged to deal with the justice concerns brought about by climate change. Climate Justice seeks to address the causes and impacts of climate change in a manner that recognizes and fosters the rights and concerns of vulnerable people, communities and countries²⁰.

The paper explores the concept of Climate Justice. It highlights and discusses some of the justice concerns arising from the effects of climate change. The paper further examines global, regional and national efforts towards fostering Climate Justice. It also considers the challenges

¹⁴ Ibid, Sustainable Development goal 13

¹⁵ Climate Change Act, No. 11 of 2016, Laws of Kenya

¹⁶ Ibid

¹⁷ International Development Law Organization., 'Climate Justice: A Rule of Law Approach for Transformative Climate Action.' Op Cit

¹⁸ United Nations., 'What is Climate Change?' Op Cit

¹⁹ Sultana. F., 'Critical Climate Justice' Available at

<https://www.farhanasultana.com/wpcontent/uploads/Sultana-Critical-climate-justice.pdf> (Accessed on 28/07/2023)

²⁰ Schlosberg. D & Collins. L., 'From Environmental to Climate Justice: Climate Change and the Discourse of Environmental Justice.' WIREs Clim Change 2014

affecting the attainment of Climate Justice and proposes measures towards fostering Climate Justice for Sustainable Development.

2.0 Defining Climate Justice

It has been pointed out that climate change has had uneven and unequal burdens across the globe with nations and communities that contribute the least to climate change suffering the most from its consequences²¹. Recently, Pakistan which contributes less than 1 % of global greenhouse gases which lead to climate change suffered extreme flooding which resulted in the deaths of over 1,700 people, destroyed around 2 million homes, and swept away almost half the country's cropland²². There is a general consensus in the scientific community that the flooding was made worse by climate change since global warming makes air and sea temperatures rise resulting in more evaporation taking place thus increasing the intensity of rainfall²³. The melting of glaciers in the country's northern region, again due to the increase in global temperatures, compounded the problem by releasing even more water and debris into the floods²⁴. Further, it has been observed that the Horn of Africa, a region with very little contribution to the climate change problem, is facing a severe drought following the worst performing rains in 73 years and five successive failed rainy seasons²⁵. Further, it has been

²¹ Sultana. F., 'Critical Climate Justice' Op Cit

²² Giles. M., 'The Principles of Climate Justice at CoP27.' Available at <https://earth.org/principles-of-climatejustice/#::~:~:text=That%20response%20should%20be%20based,the%20consequences%20of%20climate%20change>. (Accessed on 28/07/2023)

²³ Ibid

²⁴ Ibid

²⁵ United Nations Development Programme., 'Can Groundwater act as a Catalyst for Sustainable Development in Africa's borderlands?' Available at https://www.undp.org/africa/africa-borderlands-centre/blog/can-groundwater-act-catalyst-sustainable-development-africasborderlands?gclid=EAIaIQobChMIpM6GnoGxgAMV1uZ3Ch0bkAPOEA MYAyAAEgLKg_D_BwE (Accessed on 28/07/2023)

pointed out that the frequency and severity of the drought is likely to increase affecting more than 36 million people due to food insecurity, with women and girls disproportionately affected by the direct and indirect impacts of the drought²⁶. Further, small island nations in the Caribbean and Pacific islands such as Vanuatu and the Solomon Islands have suffered from severe impacts of climate change cyclone that killed residents, displaced thousands and damaged infrastructure²⁷. Despite their little contribution to climate change, sea level rise, increasing temperatures and frequency and intensity of tropical cyclones, and storm surges are some of the climate change impacts facing island nations, some of which are in low-lying areas of just 5 meters above sea level at the highest point making them more vulnerable to these impacts²⁸.

It is thus evident that the climate change has adverse impacts especially on nations and communities that contribute the least to its threat. The concept of Climate Justice acknowledges this concern. It recognizes that some countries mainly the large industrialised economies of Europe and North America have benefitted much more from the industries and technologies that cause climate change than have developing nations in places such as Africa, Asia, the Caribbean Islands and the Pacific Islands which due to an unfortunate mixture of economic and geographic vulnerability, continue to shoulder the brunt of the burdens of climate change despite their relative innocence in causing it²⁹. It seeks to promote justice in climate related concerns. Climate justice links human rights and development to achieve a human-centred approach, safeguarding the rights of the most vulnerable people and sharing the burdens and benefits

²⁶ Ibid

²⁷ Bafana. B., 'Climate Change is No 'Future Scenario' for Pacific Island Nations; Climate Change is 'Real' Available at <https://reliefweb.int/report/world/climate-change-no-future-scenario-pacific-island-nations-climate-change-real> (Accessed on 28/07/2023)

²⁸ Ibid

²⁹ Giles. M., 'The Principles of Climate Justice at CoP27.' Op Cit

of climate change and its impacts equitably and fairly³⁰. It entails understating climate change as an issue that relates to equity, fairness, ethics and human rights and not just an environmental phenomena³¹. Climate Justice is a framework that focuses on the intersection between climate change and social inequalities³². This is achieved by linking the effects of climate change to the notions of justice particularly environmental and social justice by examining the concepts of equality and human rights within the lens of climate change³³. It focuses on how climate change impacts people differently, unevenly and disproportionately and seeks to address the resultant injustices in fair and equitable ways³⁴.

Climate Justice encapsulates various facets of justice including distributive justice, procedural justice and justice as recognition³⁵. Distributive justice concerns itself with the disproportionate impact that climate change has on the people, communities and countries that are least responsible for climate change and its impacts³⁶. Climate Justice seeks to ensure the just distribution of the burdens and benefits of climate change among nations³⁷. It further insists on redressing the imbalances caused by the effects of climate change by imposing what is sometimes referred to as a climate debt on those nations primarily responsible for

³⁰ Mary Robinson Foundation Climate Justice., 'Principles of Climate Justice.' Available at <https://www.mrfcj.org/principles-of-climate-justice/> (Accessed on 28/07/2023)

³¹ United Nations Environment Programme., 'Climate Justice.' Available at <https://leap.unep.org/knowledge/glossary/climate-justice> (Accessed on 28/07/2023)

³² Ibid

³³ Sultana. F., 'Critical Climate Justice' Op Cit

³⁴ Ibid

³⁵ Monica. T & Bronwyn. L., 'Community Lawyering and Climate Justice: A New Frontier.' *Alternative Law Journal* (47) 3 pp 199-203

³⁶ Ibid

³⁷ Giles. M., 'The Principles of Climate Justice at CoP27.' Op Cit

causing climate change³⁸. Procedural justice on the other hand is aimed at addressing distributive climate injustices by creating processes that are participatory, fair, inclusive and accessible³⁹. Procedural justice requires that citizens be informed about and involved in decision-making on climate change matters⁴⁰. Justice as recognition on its part seeks to give a voice to people who have been traditionally marginalized in climate change matters as a result of structural inequality⁴¹. Climate Justice is thus a multidimensional idea that requires the various facets of justice to be recognized and upheld simultaneously⁴².

The idea of Climate justice is therefore significant for the entire world since it stands seeks to achieve an agenda that links the struggle for a prosperous, safe future for all with a fight against inequalities and exclusion⁴³. It envisages linking human rights with development and climate action, having a people centred approach to climate action, understanding that not everyone has contributed to climate change in the same way and combatting injustices resulting from climate change social, gender, economic, intergenerational and environmental injustices⁴⁴. It seeks to achieve equal access to natural resources, fair and effective

³⁸ Ibid

³⁹ Monica. T & Bronwyn. L., 'Community Lawyering and Climate Justice: A New Frontier.' Op Cit

⁴⁰ Ibid

⁴¹ Sultana. F., 'Critical Climate Justice' Op Cit

⁴² Ibid

⁴³ Foundation for European Progressive Studies., 'United for Climate Justice.' Available at <https://feps-europe.eu/wpcontent/uploads/downloads/publications/short%20united%20for%20climate%20justice%20-%204.pdf> (Accessed on 28/07/2023)

⁴⁴ UNICEF., 'What is Climate Justice? and What can we do Achieve it?' Available at <https://www.unicef.org/globalinsight/what-climate-justice-and-what-can-we-do-achieve-it#:~:text=Utilizing%20a%20climate%20justice%20approach,vulnerability%20to%20the%20climate%20crisis.> (Accessed on 28/07/2023)

solutions in response to climate change and the assigning of responsibility for those who contribute most to the global threat of climate change⁴⁵.

Climate Justice is thus guided by several principles including the protection and empowering of vulnerable individuals and communities, promoting public participation in decision making, fostering global collaboration in the response to climate change, achieving intergeneration equity in order to protect future generations from the effects of climate change and assigning of responsibility to nations that contribute most to global greenhouse gas emissions⁴⁶. Climate Justice is thus vital in ensuring effective climate change mitigation and adaptation towards Sustainable Development.

3.0 Fostering Climate Justice: Prospects and Challenges

Various attempts have been made towards fostering Climate Justice at the global, regional and national levels. The *Rio Declaration on Environment and Development*⁴⁷ encapsulates fundamental principles of Climate Justice. It enshrines the principles of access to information, participation in decision making and access to effective remedies in all environmental matters including those concerning climate change⁴⁸. The Declaration is important in fostering Climate Justice at the global level. *The United Nations Framework Convention on Climate Change (UNFCCC)*⁴⁹ calls for *cooperation and participation* by all countries in combating climate change. The Convention also calls upon state parties to promote and facilitate *public access to information* on climate change and its effects and *public*

⁴⁵ New Internationalist., 'Four Principles for Climate Justice.' Available at <https://newint.org/features/2009/01/01/principles-climate-justice> (Accessed on 28/07/2023)

⁴⁶ Giles. M., 'The Principles of Climate Justice at CoP27.' Op Cit

⁴⁷ Report of the United Nations Conference on Environment and Development., 'Rio Declaration on Environment and Development.' A/CONF.151/26 (Vol. I),

⁴⁸ Ibid, Principle 10

⁴⁹ 'United Nations Framework Convention on Climate Change.' Op Cit

participation in addressing climate change and its effects and the development of adequate responses⁵⁰. The UNFCCC thus upholds the principles of *access to information* and *public participation* which are key elements of procedural justice in the climate justice debate. The *Paris Agreement*⁵¹ also affirms the importance of public awareness, public participation, public access to information and cooperation at all levels in combating climate change⁵². In addition, the Paris Agreement recognizes the specific and special needs of developing countries which are most vulnerable to the adverse effects of climate change⁵³. It thus calls for equity and the promotion of the principle of Common but Differentiated Responsibilities and capabilities in light of different national circumstances in combating climate change⁵⁴. This is key towards promoting distributive justice in climate change matters.

At the regional level, the *Africa Union Agenda 2063*⁵⁵ to promote environmentally sustainable and climate resilient economies and communities through sustainable natural resource management; biodiversity conservation; promoting renewable energy and climate resilience and natural disasters preparedness and prevention⁵⁶. Agenda 2063 is vital in fostering Climate Justice in Africa. In Kenya, the *Climate Change Act*⁵⁷ seeks to facilitate capacity development for public participation in climate change responses through awareness creation, consultation, representation and access to information⁵⁸. The Act further

⁵⁰ Ibid, Article 6 (a)

⁵¹ 'Paris Agreement', Op Cit

⁵² Ibid, Preamble

⁵³ Ibid

⁵⁴ Ibid, Article 2 (2)

⁵⁵ African Union., 'Agenda 2063: The Africa We Want.' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 28/07/2023)

⁵⁶ Ibid

⁵⁷ Climate Change Act, No. 11 of 2016, Laws of Kenya

⁵⁸ Ibid, S 3 (2) (h)

seeks to mainstream the principle of Sustainable Development into the planning for and decision making on climate change response⁵⁹. The Climate Change Act is integral in attaining Climate Justice in Kenya.

In addition to the above mentioned legal instruments, there have been various actions and decisions adopted by the global community and individual countries towards fostering Climate Justice. The United Nations Climate Change Conferences which serve as the formal meeting of the UNFCCC parties (Conference of the Parties i.e COP) have been vital in assessing global progress in responding to climate change⁶⁰. At the COP 27 (Sharm El-Sheikh Climate Change Conference – 6 November-20 November 2022) held in Egypt, the UNFCCC agreed on several issues that are vital in enhancing Climate Justice⁶¹. These include establishing a dedicated fund to cater for loss and damage for vulnerable countries hit hard by floods, drought and other climate disasters; holding businesses and institutions accountable for actions which contribute to climate change; mobilizing more financial support for developing countries and implementation of climate change mitigation and adaptation measures across the world⁶². Implementing the outcome of COP 27 will foster Climate Justice.

There has been an increase in climate change funding where developed countries, multilateral development banks and multilateral climate funds have provided funding to developing and underdeveloped countries to

⁵⁹ Ibid, S 3 (2) (k)

⁶⁰ United Nations Framework Convention on Climate Change., 'Conference of the Parties (COP).' Available at <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop> (Accessed on 28/07/2023)

⁶¹ United Nations Framework Convention on Climate Change., 'Sharm El-Sheikh Climate Change Conference - November 2022.' Available at <https://unfccc.int/cop27> (Accessed on 28/07/2023)

⁶² Ibid

aid in their climate change mitigation and adaptation measures⁶³. It has been asserted that financial resources and sound investments are needed to address climate change, to both reduce emissions, promote adaptation to the impacts that are already occurring, and to build resilience⁶⁴. The World Bank which is the largest multilateral funder of climate investments in developing countries notes that climate finance is crucial in fostering Climate Justice through investments in programs that reduce or avoid greenhouse gas emissions such as clean technology, renewable energy and sustainable forestry⁶⁵. Climate finance is thus essential in fostering Climate Justice by enhancing the capacity of vulnerable countries and communities to respond to the effects of climate change.

Finally, Climate Justice has also been promoted through climate change litigation. Climate change litigation entails filing of lawsuits pertaining the causes and consequences of climate change⁶⁶. Through climate change litigation, courts and tribunals are able to adjudicate upon pertinent issues in climate change such mitigation and adaptation measures as well as climate change-related loss and damage⁶⁷. It has been used as a tool to enforce the principles of Climate Justice across the world such as public

⁶³ Hong, H., 'Climate Finance.' *Review of Financial Studies*, Volume 33, No. 3, 2020

⁶⁴ United Nations., 'Financing Climate Action.' Available at <https://www.un.org/en/climatechange/raising-ambition/climate-finance> (Accessed on 28/07/2023)

⁶⁵ The World Bank., '3 Things You Need to Know About Climate Finance.' Available at <https://www.worldbank.org/en/topic/climatechange/brief/3-things-you-need-to-know-about-climate-finance> (Accessed on 28/07/2023)

⁶⁶ Setzer, J., 'Climate Change Litigation: A Review of Research on Courts and Litigants in Climate Governance.' Available at https://www.researchgate.net/profile/JoanaSetzer/publication/331499727_Climate_change_litigation_A_review_of_research_on_courts_and_litigants_in_climate_governance/links/5e89690d92851c2f527f820d/Climate-change-litigation-A-review-of-research-on-courts-and-litigants-in-climate-governance.pdf (Accessed on 28/07/2023)

⁶⁷ Ibid

participation, access to information, access to justice and access to remedies⁶⁸. Climate change litigation has consequently become a tool to enforce or enhance climate commitments by countries across the globe⁶⁹. It can be used to foster Climate Justice by promoting its principles and holding countries accountable in respect of laws and policies on climate change⁷⁰.

From the foregoing discussion, it is evident that there has been progress towards fostering Climate Justice across the world. However, despite these efforts, climate injustices are still prevalent. Geographical injustices are evident from the demonstrable fact that many of the countries least responsible for the current climate crisis are, nevertheless, those feeling its effects most acutely⁷¹. The studies have highlighted the example of countries of Pakistan, countries in the Horn of Africa, countries in the Caribbean and Pacific Islands among others⁷². Further, it has been pointed out that gender inequalities are evident in the climate change discourse with women often bearing the brunt of climate disasters since they depend more heavily on natural resources like water and firewood, meaning that if these items become scarce, they may need to travel further for them⁷³. Further, gender inequalities within communities may leave women more vulnerable to the immediate aftermath of natural disasters occasioned by the effects of climate change, or excluded from the decision-making table when disaster risk reduction solutions and other climate

⁶⁸ Setzer, J. & Higham, C., 'Global Trends in Climate Change Litigation: 2022 Snapshot' Available at <https://www.cccep.ac.uk/wp-content/uploads/2022/06/Global-trends-in-climate-change-litigation2022-snapshot.pdf> (Accessed on 28/07/2023)

⁶⁹ Ibid

⁷⁰ Setzer, J., 'Climate Change Litigation: A Review of Research on Courts and Litigants in Climate Governance.' Op Cit

⁷¹ Concern Worldwide., '10 Climate Injustices and How to Fight Them.' Available at <https://www.concern.net/news/climate-injustices> (Accessed on 28/07/2023)

⁷² Bafana, B., 'Climate Change is No 'Future Scenario' for Pacific Island Nations; Climate Change is 'Real' Op Cit

⁷³ Pearse, R., 'Gender and Climate Change.' *WIREs Climate Change*, 2016

change responses are designed and implemented⁷⁴. Climate change has also resulted in other injustices such as economic inequalities, intergenerational injustices with future generations predicted to bear the most burden due to the effects of climate change, discrimination, environmental racism and displacement of people resulting in climate refugees⁷⁵. There is need to address these problems in order to realize Climate Justice.

4.0 Way Forward

In order to foster Climate Justice there is need to promote access to information and public and community participation and access to in decision making processes including the design and implementation of projects and formulation of laws, policies and guidelines concerning climate change⁷⁶. Access to information and public participation are fundamental principles of Climate Justice and have been captured in various legal instruments on climate change⁷⁷. Public participation is fundamental in climate change mitigation and adaptation since it enhances the capacity to cope with climate change risks and further ensures that decisions reflect local values⁷⁸. It can also foster investment in people-centered laws and institutions to promote transformative climate action and adoption of customary, informal and indigenous approaches to protect biodiversity and promote sustainable use of natural

⁷⁴ Ibid

⁷⁵ Concern Worldwide., '10 Climate Injustices and How to Fight Them.' Op Cit

⁷⁶ Brower. A., 'Fighting Climate Injustice: 10 Strategies for Action.' Available at <https://www.gensler.com/blog/fighting-climate-injustice-10-strategies-for-action> (Accessed on 29/07/2023)

⁷⁷ See for example Principle 10 of the Rio Declaration; Article 6 (a) of the United Nations Framework Convention on Climate Change (UNFCCC); The Preamble to the Paris Agreement and , S 3 (2) (h) of the Climate Change Act, No. 11 of 2016 Laws of Kenya.

⁷⁸ Hugel. S., & Davies. A., 'Public Participation, Engagement, and Climate Change Adaptation: A Review of the Research Literature.' *WIREs Climate Change*, 2020

resources⁷⁹. Public participation should thus be embraced in order to realize Climate Justice.

There is also need to eliminate structural inequalities in climate action including gender and intragenerational inequalities⁸⁰. It has been asserted that women often bear the brunt of climate disasters since they depend more heavily on natural resources like water and firewood, meaning that if these items become scarce, they may need to travel farther for them⁸¹. However, women, youth and person with disabilities among other marginalized groups are often excluded from the decision-making table when disaster risk reduction solutions and other climate change responses are designed and implemented contributing to climate injustices⁸². Unequal participation in decision-making processes and labour markets by these groups compound inequalities and often prevent them from fully contributing to climate-related planning, policy-making and implementation⁸³. Women can and do play a critical role in response to climate change due to their local knowledge of and leadership in areas such as sustainable resource management and leading sustainable practices at the household and community level⁸⁴. It has also been asserted that the voice of the youth is pertinent in climate action since the younger generation, will suffer the consequences of climate change more greatly than their parents and grandparents⁸⁵. In addition, people with

⁷⁹ International Development Law Organization., 'Climate Justice: A Rule of Law Approach for Transformative Climate Action.' Op Cit

⁸⁰ Ibid

⁸¹ Pearse. R., 'Gender and Climate Change.' Op Cit

⁸² Ibid

⁸³ United Nations Framework Convention on Climate Change., 'Introduction to Gender and Climate Change.' Available at <https://unfccc.int/gender> (Accessed on 29/07/2023)

⁸⁴ Ibid

⁸⁵ United Nations Children's Fund., 'What is Climate Justice? And what can we do Achieve It?' Available at <https://www.unicef.org/globalinsight/what-climate-justice-and-what-can-we-do-achieve-it> (Accessed on 29/07/2023)

disabilities may be severely affected by the effects of climate change due to the difficulty in accessing vital resources in case of food insecurity and water scarcity and difficulties in responding to emergencies in case of disasters associated with climate change such as floods⁸⁶. It is thus imperative to foster the participation of women, youth, person with disabilities and other marginalized groups in climate action in order to realize Climate Justice.

It is also essential to increase funding to developing countries and regions of the world in order to enhance their ability to respond to the effects of climate change⁸⁷. It has been observed that developing countries in Africa, Asia, the Caribbean Islands and the Pacific Islands which due to an unfortunate mixture of economic and geographic vulnerability, continue to shoulder the brunt of the burdens of climate change despite their relative innocence in causing it⁸⁸. Consequently, these countries have suffered from catastrophic consequences of climate change including severe storms, tropical cyclones, flooding and drought resulting in loss of lives, destruction of property and vital infrastructure and food insecurity among others⁸⁹. Due to their geographical vulnerability and low economic development, most of these countries are unable to effectively respond to the effects of climate change thus compounding the problem⁹⁰. Therefore, it is imperative for developed countries and international financial institutions such as the World Bank to increase climate funding to these countries in order to enhance their climate resilience through measures

⁸⁶ Almomani. S., 'Climate Justice for People with Disabilities.' Available at <https://www.worldforgottenchildren.org/blog/climate-justice-for-people-with-disabilities/154> (Accessed on 29/07/2023)

⁸⁷ Hong. H., 'Climate Finance.' Op Cit

⁸⁸ Giles. M., 'The Principles of Climate Justice at CoP27.' Op Cit

⁸⁹ United Nations Development Programme., 'Can Groundwater act as a Catalyst for Sustainable Development in Africa's borderlands?' Op Cit

⁹⁰ Giles. M., 'The Principles of Climate Justice at CoP27.' Op Cit

such as investments in food security, clean technology, renewable energy and sustainable forestry⁹¹.

There is also need for developed countries which are the largest contributors to global greenhouse emissions to comply with their climate commitments under the Paris Agreement⁹². At the heart of the Paris Agreement are national pledges to contribute to global mitigation and adaptation goals⁹³. The Paris Agreement sets out a mechanism under which each country produces a Nationally Determined Contribution (NDC), which must be submitted at a maximum of five-yearly intervals⁹⁴. These NDCs are determined unilaterally and are expected to include targets for greenhouse gas emission reductions and adaptation⁹⁵.

Consequently, countries such as the United States of America (USA), which accounts for 12.74% of global greenhouse gas emissions have committed to reducing their net greenhouse gas emissions by 50-52 % below 2005 levels by the year 2030⁹⁶. Further, China which accounts for 27.79% of global greenhouse gas emissions has set various targets under its NDC including having CO₂ emissions peak before 2030; achieving carbon neutrality before 2060 and lowering CO₂ emissions per unit of

⁹¹ The World Bank., '3 Things You Need to Know About Climate Finance.' Op Cit

⁹² Mace. M., 'Mitigation Commitments under the Paris Agreement and the Way Forward.' *Climate Law*, No. 6 of 2016, pp 21-39

⁹³ European Bank for Reconstruction and Development., 'The Paris Agreement.' Available at <https://www.ebrd.com/paris-agreement> (Accessed on 29/07/2023)

⁹⁴ Paris Agreement, Article 4

⁹⁵ Mace. M., 'Mitigation Commitments under the Paris Agreement and the Way Forward.' Op Cit

⁹⁶ United Nations Framework Convention on Climate Change., 'The United States of America Nationally Determined Contribution.' Available at <https://unfccc.int/sites/default/files/NDC/202206/United%20States%20NDC%20April%202021%20Final.pdf> (Accessed on 29/07/2023)

GDP by over 65% from the 2005 level⁹⁷. It is important for developed countries to comply with their commitments under NDCs in order to foster Climate Justice.

Finally, it is vital to enhance climate litigation in order to realize Climate Justice. Climate litigation has become a tool to enforce or enhance climate commitments by countries across the globe⁹⁸. It can be used to foster Climate Justice by promoting its principles such as public participation, access to information, access to justice and access to remedies and holding countries accountable in respect of laws and policies on climate change⁹⁹. Climate litigation can also strengthen prospects for sustaining peace and stability by preventing and resolving climate-related disputes¹⁰⁰. The public, environmental activists, Non-Governmental Organizations and members of the legal profession can foster Climate Justice through climate litigation¹⁰¹. Climate litigation should thus be embraced as a tool to promote Climate Justice.

Through these measures, the idea of Climate Justice will be fostered.

⁹⁷ United Nations Framework Convention on Climate Change., 'China's Achievements, New Goals and New Measures for Nationally Determined Contributions.' Available at <https://unfccc.int/sites/default/files/NDC/202206/China%E2%80%99s%20Achievements%2C%20New%20Goals%20and%20New%20Measures%20for%20Nationally%20Determined%20Contributions.pdf> (Accessed on 29/07/2023)

⁹⁸ Setzer.J & Higham. C., 'Global Trends in Climate Change Litigation: 2022 Snapshot' Op Cit

⁹⁹ Setzer. J., 'Climate Change Litigation: A Review of Research on Courts and Litigants in Climate Governance.' Op Cit

¹⁰⁰ International Development Law Organization., 'Climate Justice: A Rule of Law Approach for Transformative Climate Action.' Op Cit

¹⁰¹ Muigua. K., 'Redefining the Role of Lawyers in Climate Justice.' Available at <http://kmco.co.ke/wp-content/uploads/2023/06/Redefining-the-Role-of-Lawyers-in-Climate-Justice-.pdf> (Accessed on 29/07/2023)

5.0 Conclusion

The effects of climate change and the ensuing mitigation and adaptation measures have resulted in justice concerns including economic inequalities, gender inequalities, inter and intra generational inequalities, discrimination, environmental racism and displacement of people resulting in climate refugees¹⁰². Climate Justice seeks to address the causes and impacts of climate change in a manner that recognizes and fosters the rights and concerns of vulnerable people, communities and countries¹⁰³. It seeks to achieve the ideal of public participation, access to information, access to justice and access to remedies in climate action¹⁰⁴. There have been efforts to foster Climate Justice through measures such as adoption of the principles of Climate Justice in laws and policies, climate funding and climate litigation¹⁰⁵. However, in the wake of continued climate injustices, there is need to foster Climate Justice through promoting public participation and access to information, giving voice to women, youth and person with disabilities in climate action, increasing climate funding to developing countries, complying with NDCs especially for developed countries and enhancing climate litigation¹⁰⁶. Through these measures, the ideal of Climate Justice will be fostered at the national, regional and global levels in the quest towards Sustainable Development.

¹⁰² Concern Worldwide., '10 Climate Injustices and How to Fight Them.' Op Cit

¹⁰³ Schlosberg. D & Collins. L., 'From Environmental to Climate Justice: Climate Change and the Discourse of Environmental Justice.' Op Cit

¹⁰⁴ Sultana. F., 'Critical Climate Justice' Op Cit

¹⁰⁵ United Nations., 'Financing Climate Action.' Op Cit

¹⁰⁶ International Development Law Organization., 'Climate Justice: A Rule of Law Approach for Transformative Climate Action.' Op Cit

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<https://unfccc.int/sites/default/files/NDC/202206/China%E2%80%99s%20Achievements%2C%20New%20Goals%20and%20New%20Measure%20for%20Nationally%20Determined%20Contributions.pdf>

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<https://unfccc.int/sites/default/files/NDC/202206/United%20States%20NDC%20April%202021%202021%20Final.pdf>

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The Proposed Regulation of Artificial Intelligence and Robotics in Kenya: An Appraisal of the Kenya Robotics and Artificial Intelligence Association Bill, 2023

*By: Michael Sang **

Abstract

This paper provides a comprehensive exploration of the regulatory landscape for artificial intelligence (AI) and robotics, focusing on the proposed "Kenya Robotics and Artificial Intelligence Association Bill, 2023." The analysis begins with an examination of the inherent challenges in adapting legal frameworks to the dynamic nature of technology, followed by a review of global regulatory trends to inform the Kenyan context. The proposed bill's merits, such as the establishment of a professional body, are scrutinized, alongside identified demerits, including limited regulatory scope and enforcement powers. Drawing inspiration from international best practices, the paper proposes amendments to fortify the bill, encompassing clear regulatory guiding principles, enhanced enforcement mechanisms, mandatory AI system inventory and disclosure, and mandatory inter-agency collaboration. This discussion contributes to the ongoing dialogue on responsible AI governance in Kenya, recognizing the significance of striking a balance between innovation and ethical considerations.

Key Words: Artificial-Intelligence; Robotics; Regulation; Kenya; Technology; Robotics-And-Artificial-Intelligence-Association-Bill-2023

1. Introduction

In the rapidly advancing landscape of artificial intelligence (AI) and robotics, the regulatory frameworks governing their development and

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deployment have become increasingly crucial in shaping ethical, secure, and accountable practices.¹ This discussion delves into the critical examination and appraisal of the proposed legislation in Kenya, namely the "Kenya Robotics and Artificial Intelligence Association Bill, 2023." As I navigate through this analysis, I scrutinize the challenges inherent in regulating AI and robotics through legal means, explore global regulatory trends, and evaluate the merits and demerits of the proposed Kenyan bill. The intricacies of adapting existing legal frameworks to accommodate the dynamic nature of AI and robotics pose a considerable challenge. The paper delves into the nuances involved in aligning legal statutes with the swift advancements in technology, highlighting the need for agile and adaptive regulatory approaches. An exploration of regulatory trends on the global stage sheds light on the diverse approaches taken by nations in grappling with the complexities of AI and robotics governance. Drawing insights from international initiatives, this discussion aims to distill best practices and benchmarking standards that may inform and enrich the Kenyan regulatory landscape.

Turning my focus to the proposed Kenya Robotics and Artificial Intelligence Association Bill, 2023, I examine its provisions, functions, and powers, with an emphasis on its role in advising the government on emerging trends and formulating industry standards. Additionally, I scrutinize the bill's merits, such as the establishment of a professional body and the delineation of the Association's functions, and delve into potential demerits, including limitations in regulatory scope and the absence of guiding principles, enforcement power, and provisions for inventory and disclosure.

¹ Jackline Akello (2022) 'Artificial Intelligence in Kenya' Policy Brief *Paradigm Initiative* <https://paradigmhq.org/wp-content/uploads/2022/02/Artificial-Intelligence-in-Kenya-1.pdf> accessed 17 November 2023

Armed with insights from global regulatory paradigms, this discussion proposes enhancements to fortify the Kenya Robotics and Artificial Intelligence Association Bill, 2023. Recommendations span from clearly defined regulatory guiding principles to bolstered enforcement mechanisms, mandatory inventory and disclosure of AI use, and the promotion of mandatory inter-agency collaboration. This comprehensive exploration aims to contribute to the ongoing dialogue surrounding the responsible governance of AI and robotics in Kenya and beyond.

2. The Challenge of Regulating Artificial Intelligence and Robotics through Law

2.1 The Challenge of Adapting the Law to New Technology

One significant challenge is the rapid pace of technological advancements in the field of AI and robotics.² Laws and regulations often struggle to keep up with the speed at which new technologies emerge and evolve.³ This can result in outdated regulations that may not effectively address the unique characteristics and risks associated with AI and robotics.⁴

AI and robotics technologies are often complex and multifaceted.⁵ Understanding and regulating these technologies require a deep

² IMF, "I. Introduction," 2021 166 IMF Staff Papers A001 <https://www.elibrary.imf.org/view/journals/001/2021/166/article-A001-en.xml> accessed 19 November 2023

³ Bennett Moses, Lyria, "Recurring Dilemmas: The Law's Race to Keep Up With Technological Change" (April 11, 2007) UNSW Law Research Paper No. 2007-21, available at SSRN: <https://ssrn.com/abstract=979861> or <http://dx.doi.org/10.2139/ssrn.979861> (accessed 19 November 2023)

⁴ Ibid

⁵ Demetris Vrontis et al, "Artificial intelligence, robotics, advanced technologies and human resource management: a systematic review" (2022) 33 International Journal of Human Resource Management

understanding of not only the technology itself but also its potential societal impacts. Lawmakers may find it challenging to create regulations that strike a balance between encouraging innovation and addressing potential ethical, privacy, and security concerns.⁶

AI and robotics involve a convergence of various disciplines, including computer science, ethics, law, and philosophy. Developing comprehensive regulations requires collaboration among experts from different fields, and traditional legal frameworks may struggle to accommodate such interdisciplinary considerations.⁷

Technology often transcends national borders, and AI and robotics are no exception. The challenge lies in creating regulations that are not only effective within a specific jurisdiction but also capable of addressing global challenges and ensuring a harmonized approach to ethical and legal standards. In addition, the potential impacts of AI and robotics on society are still unfolding, and some consequences may be unpredictable. This uncertainty makes it challenging to draft laws that anticipate and effectively address all potential risks and benefits associated with these technologies.⁸

AI and robotics raise significant ethical and moral questions, such as issues related to bias in algorithms, the potential for job displacement, and the use of autonomous systems in critical decision-making processes.⁹ Crafting laws that navigate these complex ethical landscapes is a

⁶ Ibid

⁷ Ibid

⁸ Ibid

⁹ Harvard Gazette, "Ethical Concerns Mount as AI Takes Bigger Decision-Making Role" (2020) Harvard Gazette <https://news.harvard.edu/gazette/story/2020/10/ethical-concerns-mount-as-ai-takes-bigger-decision-making-role/> accessed 18 November 2023.

formidable task. Effective regulation requires an informed public and policymakers. Ensuring that lawmakers, regulators, and the general public have a sufficient understanding of AI and robotics is crucial to developing well-informed and balanced regulations.¹⁰

2.2 Regulatory Trends Relating to AI and Robotics Across the World

The regulatory landscape for AI and robotics is evolving globally, with several countries and regions taking steps to address the challenges associated with these technologies.

1. Ethical Guidelines and Principles:

Many countries and organizations are adopting ethical guidelines and principles to govern the development and use of AI and robotics. These guidelines often emphasize transparency, fairness, accountability, and human-centric design.¹¹

2. Sector-Specific Regulations

Some jurisdictions are focusing on sector-specific regulations rather than overarching AI laws. For example, regulations might be tailored to address AI applications in healthcare, finance, or autonomous vehicles, recognizing the unique challenges and considerations in each domain.¹²

3. Data Protection and Privacy Laws

Given the importance of data in training AI systems, data protection and privacy regulations are becoming increasingly relevant. General Data

¹⁰ Ibid

¹¹ Akanksha Sharma, Sam Ajadi, Andreas Beavor, 'Artificial Intelligence and Start-Ups in Low-and Middle-Income Countries: Progress, Promises, and Perils' (GSM Association 2020) 6 <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/10/Artificial-Intelligence-and-Start-Ups-in-Low-and-Middle-Income-Countries-Progress-Promises-Perils-Final.pdf> accessed 17 November 2023

¹² Ibid

Protection Regulation (GDPR) in the European Union is a notable example that impacts AI applications by emphasizing data subjects' rights and the need for transparent data processing.¹³

4. Transparency and Explainability

There is a growing emphasis on transparency and explainability in AI systems. Regulations may require companies to provide clear explanations of how their AI algorithms operate, especially in contexts where automated decision-making affects individuals.¹⁴

5. AI Impact Assessments

Some regulatory frameworks propose the implementation of AI impact assessments to evaluate the potential social, economic, and ethical implications of deploying AI systems. This approach aims to proactively identify and mitigate risks associated with AI technologies.¹⁵

6. International Collaboration

Recognizing the global nature of AI, there is a trend towards international collaboration on regulatory frameworks. Efforts such as the OECD's AI Principles and collaborations between countries aim to create common standards and guidelines for responsible AI development and deployment.¹⁶

7. Robotics-Specific Laws

Some regions are considering or implementing laws specifically addressing robotics. These laws may cover issues such as liability for

¹³ Ibid

¹⁴ Ibid

¹⁵ Ibid

¹⁶ Ibid

autonomous systems, safety standards for robotic devices, and the ethical use of robots in various applications.¹⁷

2.3 The Regulatory Approach in Kenya

The Kenya Robotics and Artificial Intelligence Association Bill, 2023, represents a legislative effort in Kenya to address the challenges associated with the development and application of robotics and artificial intelligence (AI) technologies. The bill aims to establish the Kenya Robotics and Artificial Intelligence Association and outlines its functions and powers¹⁸.

The bill proposes the creation of the Kenya Robotics and Artificial Intelligence Association as a regulatory body,¹⁹ indicating a recognition of the need for a dedicated entity to oversee and govern activities related to robotics and AI in the country. The bill outlines the specific functions and powers of the Kenya Robotics and Artificial Intelligence Association.²⁰ A key emphasis of the bill is on promoting responsible and ethical development and application of robotics and AI technologies within Kenya.²¹ This reflects a commitment to ensuring that advancements in these fields align with ethical principles and contribute positively to society.

¹⁷ Ibid

¹⁸ The Kenya Robotics and Artificial Intelligence Association Bill, 2023, Long title

¹⁹ Ibid

²⁰ Ibid

²¹ Ibid

3. Merits and Demerits of Kenya's Robotics and AI Association Bill, 2023

3.1 Merits of the Robotics and AI Association Bill, 2023

3.1.1 Establishment of a professional body

The provisions outlined in Clause 4 of the Kenya Robotics and Artificial Intelligence Association Bill, 2023, highlight the establishment and powers of the proposed Association. ²²This clause formalizes the creation of a dedicated professional body, the Kenya Robotics and Artificial Intelligence Association, indicating a proactive approach by the government to address the challenges and opportunities presented by robotics and AI technologies.

3.1.2 Mixed Approach of Regulation, Standard-Setting and Education

The functions outlined in Clause 11(a), (g), (i), and (j) of the Kenya Robotics and Artificial Intelligence Association Bill, 2023, indicate a mixed approach of regulation, standard-setting, and education within the proposed regulatory framework.

Function (a) ²³: "Regulate and promote the development of the robotics and artificial intelligence (AI) industry."

This function reflects the regulatory aspect of the Association. It implies the establishment of guidelines, rules, and oversight mechanisms to ensure the responsible and ethical development of the robotics and AI industry in Kenya. The regulatory role aims to address potential risks and promote positive contributions of these technologies to society.

Function (g): ²⁴ "Formulate robotics and artificial intelligence (AI) national standards acceptable internationally."

²² Ibid, clause 4

²³ Ibid, clause 11 (1) (a)

²⁴ Ibid, clause 11 (1) (g)

This function emphasizes the importance of setting national standards for robotics and AI technologies. By formulating standards that align with international best practices, the Association aims to ensure interoperability, quality, and ethical considerations in the development and deployment of these technologies.

Function (i):²⁵ "Establish linkages with local and international training and research institutions to conduct scientific research and investigations in all areas pertaining to the development of the robotics and artificial intelligence (AI)."

This function highlights the educational and research-oriented aspect of The Association. By establishing linkages with institutions, The Association aims to foster scientific research and investigations. This collaboration can contribute to the continuous improvement of knowledge and skills in the field of robotics and AI.

Function (j):²⁶ "Undertake technology transfer and provide technical assistance to county governments on matters relating to robotics and artificial intelligence (AI) industry."

This function underscores The Association's role in knowledge transfer and capacity building. By providing technical assistance to county governments, The Association can contribute to the responsible integration of robotics and AI technologies at the local level. This may include supporting the implementation of AI applications and ensuring that county governments have the necessary expertise.

The mixed approach represented by these functions recognizes the multifaceted nature of regulating robotics and AI. It involves not only regulatory oversight but also the establishment of standards, collaboration with educational and research institutions, and the

²⁵ Ibid, clause 11 (1) (i)

²⁶ Ibid, clause 11 (1) (j)

facilitation of technology transfer for broader societal benefits. This integrated approach reflects a comprehensive strategy to address the challenges and opportunities presented by robotics and AI technologies in Kenya.

3.1.3 Provision for County-Specific Legislation

Clause 32 of the Kenya Robotics and Artificial Intelligence Association Bill, 2023, addresses the provision for county-specific legislation, allowing individual counties to enact their own regulations pertaining to the robotics and artificial intelligence (AI) industry²⁷.

Criteria for Registration and Licensing

This provision grants county governments the authority to establish specific criteria for the registration of robotics and AI industries within their respective jurisdictions. It includes the criteria for the issuance of licenses to applicants operating within the county.²⁸ This recognizes the diverse nature of counties and allows for tailored regulations that consider local contexts and needs.

2. Information Required for Registration and Licensing

County-specific legislation may specify the information that applicants need to submit for the registration or issuance of a license. This ensures transparency and clarity for industry participants, outlining the documentation and details required by the county authorities.²⁹

3. Process of Determination and Renewal

Counties are empowered to define the process for determining applications for registration or license issuance, as well as the process for

²⁷ Ibid, clause 32

²⁸ Ibid

²⁹ Ibid

the renewal of licenses. This provides a framework for procedural aspects, including timelines, review processes, and conditions for renewal, contributing to the effective and consistent administration of regulations.³⁰

4. Conditions for Issuance or Renewal

County-specific legislation outline conditions that must be met for the issuance or renewal of a license under the Act. This includes compliance with certain standards, ethical considerations, or other factors deemed important by the county government to ensure responsible industry practices.³¹

5. Grounds for Rejection or Cancellation

The legislation allows counties to specify the grounds for the rejection of an application or the cancellation of a license.³² This provides clarity on the circumstances under which an application may be denied or a license may be revoked, promoting accountability and fairness in regulatory processes.

6. Process of Renewal and De-registration

Counties have the authority to define the process for the renewal of registration and the de-registration of entities. This ensures that there are clear procedures in place for ongoing compliance and, if necessary, the removal of entities from the registry.³³

3.1.4 Collaboration with Other Agencies

Clause 11(n) of the Kenya Robotics and Artificial Intelligence Association Bill, 2023, emphasizes the importance of collaboration with other key

³⁰ Ibid

³¹ Ibid

³² Ibid

³³ Ibid

agencies, specifically the ICT Authority of Kenya and the Office of the Data Protection Commissioner.³⁴

This provision highlights the recognition that the development and enforcement of standards in the robotics and AI industry require a collaborative effort involving multiple stakeholders. By explicitly naming the ICT Authority and the Data Protection Commissioner, the bill acknowledges the expertise and authority these agencies bring to the regulatory landscape.

Given the sensitivity of data in AI applications, collaboration with the Data Protection Commissioner is crucial. This collaboration implies a commitment to ensuring that standards and practices in the robotics and AI industry align with data protection regulations, promoting responsible and ethical use of data.

The mention of collaboration with "other relevant government agencies" indicates a broader scope of engagement. This collaborative approach ensures that the standards and code of practice are developed in consultation with various governmental bodies, fostering a well-rounded and inclusive regulatory framework.

Collaboration with multiple agencies contributes to the coherence and consistency of regulatory efforts. By working together, these agencies can align their approaches, reduce redundancy, and create a more unified regulatory environment for the robotics and AI industry.

³⁴ Ibid, clause 11 (n)

3.2 Demerits of the Robotics and AI Association Bill, 2023

3.2.1 Limited Regulatory Scope

The bill may not cover all relevant aspects of the robotics and artificial intelligence (AI) industry or may lack the necessary depth to address emerging challenges comprehensively. Rapid advancements in AI and robotics may outpace the regulatory framework, leading to gaps in addressing new technologies and their associated risks.

The bill focuses on specific areas, such as industry standards or ethical considerations, while overlooking other crucial aspects like cybersecurity, privacy, or the societal impact of AI applications. The regulatory scope may unintentionally exclude certain actors within the industry or specific AI applications, potentially leaving regulatory blind spots.

If the regulatory framework lacks interdisciplinary considerations, it may not effectively address the complex interplay of technological, ethical, legal, and societal factors associated with AI and robotics.

Limited regulatory scope poses the risk of leaving gaps in oversight, potentially allowing for unethical practices, inadequate safety measures, or insufficient protection of stakeholders.³⁵ If the bill does not cover a broad range of relevant issues, enforcement challenges may arise, as regulators might struggle to address unforeseen developments or emerging risks not explicitly covered in the legislation.

³⁵ Maya Medeiros, 'Artificial Intelligence and the Future of Agriculture' (Norton Rose FullBright 2018) 10
<https://www.nortonrosefulbright.com/en-us/knowledge/publications/6400e1ea/artificial-intelligence-and-the-future>
accessed 17 November 2023

The lack of a comprehensive regulatory approach may hinder the framework's adaptability to evolving technologies and industry dynamics, potentially rendering it outdated relatively quickly.

3.2.2 No Guiding Regulatory Principles

The absence of guiding regulatory principles in the Robotics and AI Association Bill, 2023, may present a potential demerit. There is a lack of overarching principles or fundamental guidelines that should inform the development and application of regulations within the bill. Without explicit guiding principles, the bill may lack a clear ethical foundation, raising concerns about the ethical considerations that underpin the regulatory decisions and actions. The absence of guiding principles may result in unclear policy objectives, making it challenging for stakeholders to understand the rationale behind specific regulatory measures.

The lack of overarching principles may lead to inconsistencies in decision-making, potentially creating confusion among industry players, regulators, and the public. The absence of guiding principles may make it challenging to strike a balance between encouraging innovation in the robotics and AI industry and ensuring responsible and ethical development.

The absence of guiding principles may leave ethical considerations open to interpretation, potentially leading to varying ethical standards or perceptions within the industry. Stakeholders may face uncertainty about the regulatory direction and the criteria used for decision-making, hindering their ability to proactively comply with regulations. In the absence of clear guiding principles, regulatory measures may be reactive rather than proactive, addressing issues as they arise rather than preventing potential problems.

3.2.3 Lack of Enforcement Power

The provisions in Clauses 33, 27, and 29 of the Kenya Robotics and Artificial Intelligence Association Bill, 2023, raise concerns about the potential lack of enforcement power, which could limit the effectiveness of the regulatory framework.

Clause 33 - Penalties:³⁶

The prescribed penalties in Clause 33 may be considered relatively weak, potentially not serving as a sufficient deterrent for non-compliance or offenses under the Act. The minimum fine of twenty thousand shillings may not be proportionate to the potential economic gains or risks associated with violations of the Act. The maximum imprisonment term of six months may be perceived as lenient, and it may not effectively deter serious offenses. The relatively low penalties may not effectively discourage individuals or entities from engaging in activities that contravene the provisions of the Act.

Clause 27 - Renewal of License:³⁷

The procedures outlined in Clause 27 for the renewal of a license do not explicitly address stringent criteria or ongoing compliance assessments, potentially allowing for automatic renewals without adequate scrutiny. The criteria for license renewal are not explicitly detailed, leaving room for ambiguity and potential oversight in assessing ongoing compliance. While a notice period is provided before revoking a license, the fourteen-day period may be considered relatively short for licensees to address and rectify compliance issues. The lack of robust renewal procedures may result in the continuation of licenses even if there are persistent compliance issues.

³⁶ Ibid, clause 33

³⁷ Ibid, clause 27

Clause 29 - Effects of Revocation:³⁸

While the clause addresses the revocation of a license, it may lack specific provisions for immediate or interim measures to address potential harms or risks associated with the revoked license. The clause does not specify interim measures or actions that The Association can take in case of immediate risks or harms resulting from the revoked license. In the absence of clear provisions for interim measures, there may be delays in addressing potential negative consequences resulting from the revocation of a license.

3.2.4 No Provision on Inventory and Disclosure of AI uses

The absence of provisions related to the inventory and disclosure of AI uses in the Robotics and AI Association Bill, 2023, presents a potential demerit. This suggests that the bill may lack specific requirements for entities utilizing AI technologies to maintain an inventory of their AI systems and disclose relevant information regarding their deployment. Without provisions for inventory and disclosure, there may be a lack of transparency regarding the extent and nature of AI applications in various sectors. The absence of disclosure requirements may result in the potential misuse or unintended consequences of AI systems, as stakeholders, including the public and regulators, may be unaware of the technology's scope and implications.

Regulators may face challenges in monitoring and regulating the diverse uses of AI if there is no mandatory inventory or disclosure mechanism in place. Limited visibility into AI applications may hinder the ability to assess and mitigate potential ethical, legal, or societal risks associated with these technologies. Stakeholders, including the public and regulatory bodies, may lack crucial information needed for informed decision-making and oversight.

³⁸ Ibid, clause 29

3.2.5 Limited Focus on Inter-Agency Collaboration

This suggests that the bill may not adequately emphasize or provide mechanisms for collaboration between different government agencies involved in regulating or overseeing aspects of AI and robotics. Lack of emphasis on inter-agency collaboration could lead to fragmented oversight, where different agencies operate independently, potentially resulting in inconsistencies or gaps in the regulatory framework. Without clear provisions for collaboration, agencies may duplicate efforts, resources, and processes, leading to inefficiencies and redundancies in regulating the robotics and AI industry.

Collaboration among agencies with diverse expertise is crucial for addressing the multidisciplinary nature of AI and robotics. Limited focus on collaboration may miss opportunities for synergy in addressing complex challenges.

4. Proposals for Strengthening Kenya's Robotics and AI Association Bill, 2023

4.1 Enhance and better define Scope of Regulation

4.1.1 European Union AI Act

To enhance and better define the scope of regulation in Kenya's Robotics and AI Association Bill, 2023, one can draw inspiration from the European Union AI Act and propose amendments that align with best practices in AI regulation.

Kenya should define key terms such as "artificial intelligence," "high-risk AI systems," and other relevant terms to provide clarity on the scope of the regulation. This can help avoid ambiguity and ensure a common understanding among stakeholders. Kenya should adopt a risk-based approach similar to the European Union AI Act, which categorizes AI

systems based on risk levels³⁹. Kenya should identify and define high-risk AI applications that require specific regulatory scrutiny, such as those in critical infrastructure, healthcare, and biometric identification.

Kenya should clearly outline exemptions for low-risk AI systems to avoid unnecessary regulatory burdens on applications that pose minimal risks. This can promote innovation in less critical areas while focusing regulatory efforts on high-risk applications. Kenya should introduce provisions requiring human oversight and transparency for certain AI systems. We should consider specifying circumstances where human intervention is necessary, especially in high-risk applications that impact fundamental rights or safety.

In addition, Kenya should incorporate provisions addressing data governance and privacy concerns associated with AI systems. We should align regulations with existing data protection laws and ensure that AI applications comply with principles of data minimization, purpose limitation, and user consent. We should establish clear conformity assessment procedures for high-risk AI systems. This includes defining the criteria for assessing conformity, including technical documentation, third-party audits, and ongoing monitoring to ensure compliance.

Kenya should strengthen oversight and enforcement mechanisms, providing the regulatory authority with the necessary powers and resources to enforce compliance. We should specify penalties for non-compliance, taking into account the severity of the violation.

³⁹ Arthur Gwagwa, Recommendations on the Inclusion of sub-Saharan Africa in Global AI Ethics (Research ICT Africa 2019) <https://researchictafrica.net/wp/wp-content/uploads/2020/11/RANITP2019-2-AI-Ethics.pdf> accessed 17 November 2023

4.2 Articulate the Regulatory Guiding Principles

4.2.1 US Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence

Kenya should draw inspiration from the U.S. Executive Order and its Section 2, which outlines guiding principles for AI development and use.⁴⁰ Kenya should introduce a section in the Robotics and AI Association Bill explicitly articulating the guiding principles that will underpin the regulation of AI technologies in Kenya.

The US Executive Order emphasizes on the importance of fostering public trust and confidence in AI technologies.⁴¹ Kenya should articulate principles that prioritize transparency, accountability, and mechanisms for building and maintaining public trust in the deployment and use of AI.

The US Executive Order emphasizes public participation in the development of AI regulatory policies.⁴² Kenya should include provisions that encourage public engagement, ensuring that diverse perspectives are considered in the formulation and review of AI regulations.

US Executive Order acknowledges the importance of international collaboration in AI development and governance.⁴³ Kenya should introduce language that promotes collaboration with international

⁴⁰US Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence available at <https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/> accessed 17 November 2023

⁴¹ Ibid, Section 2(a)

⁴² Ibid, Section 2(b)

⁴³ Ibid, Section 2(c)

entities, aligning Kenya's AI regulations with global best practices and fostering interoperability.

US Executive Order Reference highlights the need for AI systems to be designed and used ethically.⁴⁴ Kenya should explicitly incorporate ethical considerations, emphasizing fairness, equity, and the avoidance of discriminatory practices in AI applications.

In addition, the US Executive Order stresses the importance of risk assessment and mitigation in the deployment of AI systems.⁴⁵ We should introduce provisions that mandate thorough risk assessments for AI applications, especially in high-risk contexts, and outline mechanisms for risk mitigation.

4.3 Bolster Enforcement

4.3.1 US Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence

Kenya should acknowledge the importance of strong enforcement mechanisms to ensure the safe and secure development and use of AI. We should introduce provisions in the Robotics and AI Association Bill that enhance the enforcement capabilities of regulatory authorities, providing them with the necessary tools and authority to oversee compliance.

Kenya should refer to the penalties outlined in the U.S. Executive Order as a benchmark for addressing non-compliance. We should clearly define penalties for violations of AI regulations, considering both monetary fines and potential criminal sanctions based on the severity of the offense.

⁴⁴ Ibid, Section 2(d)

⁴⁵ Ibid, Section 2(e)

Kenya should consider the graduated approach to enforcement outlined in the U.S. Executive Order.⁴⁶ We should establish a tiered enforcement system that takes into account the nature and severity of AI-related violations. This can include warnings, fines, suspension of licenses, and other appropriate measures.

Kenya should consider provisions for whistleblower protections, as highlighted in the U.S. Executive Order.⁴⁷ We should introduce measures to protect whistleblowers who report violations of AI regulations. This can include safeguards against retaliation and mechanisms for reporting violations anonymously. Kenya should also include provisions for regular audits and inspections of entities involved in AI development and deployment. This can help identify and rectify potential compliance issues.

4.4 Requirement to inventory and disclose AI use

4.4.1 USA Approach

Kenya should consider the U.S.A approach, where certain federal agencies are required to maintain an inventory of AI systems.⁴⁸ We should introduce a provision in the Robotics and AI Association Bill mandating entities deploying AI systems to maintain an inventory. This inventory

⁴⁶ US Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence available at <https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/> accessed 17 November 2023

⁴⁷ Ibid

⁴⁸ Nicole Turner Lee, Paul Resnick, Genie Barton, Algorithmic bias detection and mitigation: Best Practices and Policies to Reduce Consumer Harm (Brookings 2019) <https://www.brookings.edu/research/algorithmic-bias-detection-and-mitigation-best-practices-and-policies-to-reduce-consumer-harms/> accessed 17 November 2023

should include details such as the purpose, capabilities, and potential risks associated with each AI system.

Kenya should implement transparency requirements that mandate entities to disclose information about their AI systems. This may include making information accessible to the public, regulatory bodies, or other relevant stakeholders.

4.5 Mandatory Inter-Agency Collaboration

4.5.1 UK Approach

Kenya should draw inspiration from the UK approach, which emphasizes the importance of collaboration between different government agencies involved in AI oversight⁴⁹. Kenya should introduce a specific section in the Robotics and AI Association Bill mandating inter-agency collaboration. This can involve relevant government bodies, regulatory authorities, and specialized agencies to work together on AI regulation and oversight. We should clearly define the roles and responsibilities of each participating agency in the collaborative framework. This ensures that there is a clear understanding of the contributions and expectations of each agency involved.

We should establish mechanisms for coordination, including regular meetings, joint working groups, and information-sharing platforms. This ensures that agencies are well-informed and coordinated in their approach to AI regulation. We should also emphasize the importance of harmonizing standards and practices related to AI regulation. This ensures consistency and avoids duplication of efforts among collaborating agencies.

⁴⁹ Ibid

Conclusion

The discourse on the proposed "Kenya Robotics and Artificial Intelligence Association Bill, 2023" provides a comprehensive examination of the challenges and opportunities associated with regulating artificial intelligence (AI) and robotics in Kenya. The global landscape of AI governance serves as a backdrop, offering insights into diverse regulatory trends and practices that have informed the development of this proposed legislation. The challenges of adapting legal frameworks to the dynamic nature of technology underscore the need for agile and adaptive regulatory approaches. While the proposed bill marks a significant step forward by establishing the Kenya Robotics and Artificial Intelligence Association, its merits and demerits warrant careful consideration.

The merits of the bill, including the establishment of a professional body with defined functions and powers, showcase a commitment to fostering responsible and ethical development of AI technologies in Kenya. The proposed functions of The Association, such as advising the government on emerging trends and formulating industry standards, reflect a proactive approach to staying abreast of technological advancements.

However, the demerits, such as limited regulatory scope and the absence of guiding principles and enforcement powers, point to areas that require attention and enhancement. The discussion on global regulatory trends and practices provides a valuable resource for proposing amendments to fortify the bill, incorporating elements such as clear regulatory guiding principles, strengthened enforcement mechanisms, mandatory inventory and disclosure of AI use, and mandatory inter-agency collaboration. In shaping the regulatory landscape for AI and robotics, the proposed amendments draw inspiration from international best practices, aligning the Kenyan framework with the evolving global standards. The emphasis on transparency, accountability, and collaboration underscores the

importance of responsible AI governance that considers the interests of the public, industry stakeholders, and the government.

As Kenya moves forward in navigating the intricate terrain of AI regulation, the proposed amendments stand as catalysts for fostering an environment that encourages innovation while safeguarding ethical considerations. This discourse contributes to the ongoing dialogue on the responsible and effective regulation of AI and robotics in Kenya, recognizing the pivotal role these technologies play in shaping the future of the nation.

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Towards Net Zero Carbon Construction in Africa: A Systems Thinking

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Abstract

Climate Change remains a poignant challenge, significant and urgent threat to humankind. While effort is being made to counter the phenomena, carbon emissions from the construction industry remain high and counterproductive to climate action initiatives. This paper accentuates strategies towards achieving net zero carbon construction in Africa. It's the position of this paper, that in the fight against climate change, Africa has to be intentional, robust and dynamic in its approach on construction practices. The paper propounds five strategies that should operate indistinguishably for a Net Zero carbon construction in Africa by 2050. By elucidating the intricacies of carbon emissions, proposing viable pathways to achieve net zero, and advocating for a systems thinking perspective, this paper seeks to contribute to the advancement of sustainable construction practices in Africa aligned with international benchmarks and, ultimately, support climate action campaign. To this end, its recommended that Africa should enact appropriate environmental, Net Zero Carbon construction policies, regulations and progressively fortify them with enforcement measures.

Keywords: *Carbon emission, Net Zero carbon construction, Systems thinking, Africa*

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1.0 Introduction

Admittedly, Greenhouse gases (GHGs) emitted by human activities are considered one of the biggest causes of climate change and one of the biggest threats of the 21st century when it comes to sustainability.¹ The greenhouse effect was first mentioned in a report called "Restoring the Quality of Our Environment"², by a group of scientists on the US President's Science Advisory Committee who proposed that increasing temperatures in the atmosphere was caused by a buildup of carbon dioxide but it wasn't until 1975 that the term "global warming" was coined by geoscientist Wallace Broecker³ and it took years before the issue reached mainstream understanding. Meanwhile "climate change," which describes a long-term change in the Earth's climate, appeared a few years later in a 1979 National Academy of Science study on carbon dioxide⁴. Relatedly, extreme natural events such as extreme heat leading to wild fires and droughts necessitated numerous reports such as one presented by the United Nations' Intergovernmental Panel on Climate Change (IPCC)⁵ which estimated that the global average land and sea surface temperature had increased by $0.6 \pm 0.2^\circ\text{C}$ since the mid-19th century, with most change occurring since 1976. This report was then used, arguably, as a reference point in several international climate negotiations.

Undoubtedly, moving forward, numerous events occurring globally has highlighted the global imperative for achieving net-zero carbon

¹ Mora, C., Spirandelli, D., Franklin, E.C., Lynham, J., Kantar, M.B., Miles, W., Smith, C.Z., Freel, K., Moy, J., Louis, L.V. and Barba, E.W., 'Broad Threat to Humanity from Cumulative Climate Hazards Intensified by Greenhouse Gas Emissions' (2018) 8 Nature Climate Change 1062

² Restoring the quality of our environment: Report of the Environmental pollution panel on president's science advisory committee 1965.

³ Climatic Change: Are We on the Brink of a Pronounced Global Warming? By Wallace Broecker 1975

⁴ Carbon dioxide and climate change: A scientific assessment 1979

⁵ Climate change 2001: The scientific basis for the United Nations' Intergovernmental Panel on Climate Change (IPCC)

emissions. Some of these catastrophic events include hurricane Ida whose damage was valued at a whopping seventy five billion dollars⁶, flooding in China which recorded a year's worth of rainfall in twenty four hours⁷ and a total of four hundred and thirty two catastrophic events were recorded in 2021 alone, which is considerably higher than the average of 357 annual catastrophic events for 2001-2020.⁸ Consequently, according to the IPCC, its exquisitely observed, that to stabilize global temperatures and keep global warming to 1.5°C, the world must achieve net zero carbon emissions by 2050 and net zero GHG emissions at the latest by 2070, followed by negative emissions. It's the viewpoint of this paper, that the global construction industry is, preponderantly, at the center stage to achieving the above targets.

From the upshot, to limit climate change to 1.5°C, GHG emissions essentially need to peak immediately, and drop by nearly half (43%) by 2030⁹. A 2 °C target still requires a peak in emissions before 2025 and a 50% reduction by 2050, Importantly, the latest science also highlights that there is increased danger of passing critical biological and climatic tipping points that accelerate warming trends the longer we delay curbing emissions¹⁰. Interestingly, despite having contributed the least to global

⁶ Comstock, O. (2021). Hurricane Ida caused at least 1.2 million electricity customers to Lose Power. In Homepage—U.S. Energy information administration (EIA).

⁷ Extreme historical droughts and floods in the Hanjiang River Basin, China, since 1426 by Xiaodan Zhang et al 2022

⁸ 2021 disasters in numbers Emergency Event Database (EM-DAT) (2022)

⁹ IPCC. 2021a. Climate Change 2021: The Physical Science Basis. Working Group I contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Intergovernmental Panel on Climate Change.

¹⁰ IPCC. 2021b. IPCC AR6 WGI: Summary for Policymakers. In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. V. Masson-Delmotte, P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R.

warming and having the lowest emissions, Africa faces exponential collateral damage, posing systemic risks to its economies, infrastructure investments, water and food systems, public health, agriculture, and livelihoods, threatening to undo its modest development gains and slip into higher levels of extreme poverty. Worrisomely, massive infrastructural developments and investments in Africa, though spur economic growth, unwillingly catapult the continent to high carbon emissions¹¹. To this end, it's not hyperbolic to surmise that time is not at large for African continent to embrace sustainable construction practices for its survival.

The above, necessitates drastic steps to reduce carbon emission in Africa which is largely attributed to development and especially the African construction industry. The construction industry is considered to be among the major sectors that contribute significantly toward the emission of GHGs in our environment, which have a major effect on the climate change, and is approximately responsible for about 19 percent of the overall GHG emission globally¹², rendering it a pollution hotspot requiring urgent mitigation measures. Recent research shows, explicably, that the building industry is responsible for about 40%¹³ of the total energy used globally and over one-third of GHG emissions in all developed or developing countries.¹⁴ Accordingly, there exists a great

Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, & B. Zhou, Eds. Cambridge, UK: Cambridge University Press. 41.

¹¹ Awad, A., & Warsame, M.H. (2017). Climate Changes in Africa: Does Economic Growth matter?. A semi-parametric approach. *International Journal of Energy Economics and Policy*, 7(1), 1-8

¹² The carbon footprint of construction industry: A review of direct and indirect emission Mathur Vivek et al (2021)

¹³ Cao, X., Dai, X. & Liu, J., (2016). Building energy-consumption status worldwide and the state-of-the-art technologies for zero-energy buildings during the past decade. *Energy and buildings*, 128, pp.198-213.

¹⁴ Wen, T.J., Siong, H.C. & Noor, Z.Z., (2015). Assessment of embodied energy and global warming potential of building construction using life cycle analysis

opportunity in Africa's building industry to deliver long-term and sustainable GHG emission goals for the continent, the complex challenges notwithstanding. This is a great opportunity for the industry players to play a centerpiece role in addressing the unique challenges and opportunities in advancing sustainable construction practices across the continent.

2.0 Carbon emission: Construction Industry viewpoint

Evidentially, human activities are the primary contributors to all the greenhouse gas emissions¹⁵ through the consumption of fossil fuels and desertification, which increases the amount of greenhouse gasses in the atmosphere at an immense rate.¹⁶ Carbon dioxide (CO₂) is one of the dominant compound elements of the greenhouse gases and the principal causal factor of global warming¹⁷. It accounts for almost 82% of overall global warming, with the remainder coming from active greenhouse gases, methane, and nitrous oxide¹⁸. There have been numerous attempts at defining carbon emission,¹⁹ generally, it can be summarized as the release of carbon into the atmosphere through human activities in the construction industry such as combustion of fossil fuel and cement

approach: Case studies of residential buildings in Iskandar Malaysia. *Energy and Buildings*, 93, pp.295- 302

¹⁵ David John Jackson, (2020). Addressing the challenges of reducing greenhouse gas emissions in the construction industry: a multi-perspective approach (Doctor of dissertation).

¹⁶ Edeoja Joy Acheyini, Edeoja Alex Okibe, (2015). Carbon Emission Management in the Construction Industry – Case Studies Of Nigerian Construction Industry. *American Journal of Engineering Re-search (AJER)*, 4 (7), 112-122.

¹⁷ I. C. Ezema, A. P. Opoko, and A. A. Oluwatayo, (2016). De-carbonizing the Nigerian Housing Sector: The Role of Life Cycle CO₂ Assessment. *Inter-national journal of applied environmental science.*, 11(1), 325–349

¹⁸ United nation environment programme, (2015). UN environment “walk the talk” on carbon neutrality

¹⁹ Mark Lallanilla (2019), Corinne Le Quéré et al., (2018), CP Ramesh et al., (2018), Makoto et al., (2015), J. Watkins, (2012), F. Ascuí et al., (2012), M. Brander, (2012), T. Wiedmann, (2007), B. Mertz et al., (2005),

production where it is stored thereby increasing the concentration of greenhouse gas emission.

Proportionately, as a major sector with high development and pollution, the construction industry accounts for approximately 36% of global emissions²⁰. In recent research, the industry has been named as one of the major drivers toward the persistent rise in temperature and global warming in general.²¹ moreover, construction has particularly impacted the environment through the production of waste, Carbon dioxide emissions, change of land use, loss of biodiversity, depletion of wetlands and climate changes.²² The “U.S. energy information and administration” reported that the Carbon dioxide emission globally will increase, by the year 2035, to 42.7% higher than that of 2007.

From the foregoing, there is a predicted increment of greenhouse gases in many countries²³. Interestingly, almost 40% of the total amount of these emissions is from the construction sector²⁴. The “Sustainable Building and

²⁰ Yan, J., Zhao, T., Lin, T., Li, Y., 2017a. Investigating multi-regional cross-industrial linkage based on sustainability assessment and sensitivity analysis: a case of construction industry in China. *J. Clean. Prod.* 142, 2911–2924.

²¹ M. Ö. Arıoğlu Akan, D. G. Dhavale, and J. Sarkis, (2017). Greenhouse gas emissions in the construction industry: an analysis and evaluation of a concrete supply chain. *J. Clean. Prod.*, 167, 1195–207.

²² Z. Alwan, P. Jones, and P. Holgate, (2016). Strategic sustainable development in the UK construction industry, through the framework for strategic sustainable development, using Building Information Modelling. *J. Clean. Prod.*, 140, 349–358.

²³ Q. Shi, T. Yu, and J. Zuo, (2017). What leads to low-carbon buildings? A China study. *Renew. Sustain. Energy Rev.*, 50, 726–73

²⁴ Tathagat D., and Dod R.D., (2015). Role of Green Buildings in Sustainable Construction- Need, Chal

lenges, and Scope in the Indian Scenario. *Journal of Mechanical and Civil Engineering*, 12 (2) Ver. II, 01-09.

Construction Initiative (SCBI) of the United Nations Environment Program (UNEP)" reported that 30-40% of global energy demand is from the construction industry, which is expected to grow at an average of 1.5% to 3.4% rate in the next coming 20 years. In practical terms, the buildings contribute annually to the atmospheric emission with about 8.1 Gt of carbon dioxide²⁵. Buildings account for 33 percent or 7.85 Gt of all the global Carbon Dioxide emissions related to energy, and the emissions are forecasted to rise by 2030 to about 11 Gt or even much higher value of 15.6 Gt²⁶.

Worrisomely, Africa is laboring under the weight of burgeoning numbers as these problems are exemplified in African developing countries. For example, in Nigeria, the emission from the construction and manufacturing industries increased from 2557 to 23714 Gg of Carbon dioxide which is equivalent to the total emissions between 2000 and 2015 reflecting approximately 827% increase as observed which is

A. Mastrucci, A. Marvuglia, E. Leopold, E. Benet-to, (2017). Life Cycle Assessment of building stocks from urban to transnational scales: a review. *Renew. Sustain. Energy Rev.*, 74, 316-332, 10.1016/j.rser.2017.02.060Article

Judit Nyári, (2015). Carbon footprint of construction products (a comparison of application of individual Environmental Product Declarations and Building Information Modeling software) (Bachelor Dissertation).

B. Lin, O. E. Omoju, and J. U. Okonkwo, (2015). Impact of industrialization on CO2 emissions in Ni-geria. *Renew. Sustain. Energy Rev.*, 52, 1228-1239. DOI: 10.1016/j.rser.2015.07.164

²⁵ Jennings M., Hirst N., and Gambhir A., (2011). Reduction of Carbon Dioxide Emissions in the Global Building Sector to 2050. Report GR3, Grantham Institute for Climate Change, Imperial College London

I. C. Ezema, A. P. Opoko, and A. A. Oluwatayo, (2016). De-carbonizing the Nigerian Housing Sec-tor: The Role of Life Cycle CO2 Assessment. *Inter-national journal of applied environmental science.*, 11(1), 325-349

²⁶ Tathagat D., and Dod R.D., (2015). Role of Green Buildings in Sustainable Construction- Need, Challenges, and Scope in the Indian Scenario. *Journal of Mechanical and Civil Engineering*, 12 (2) Ver. II, 01-09.

exponentially above normal²⁷. In Kenya, increasing population has led to the creation of government development policy framework which was dubbed “Vision 2030” whose main focus of development was in the construction sector²⁸. Research by the United Nations framework convention on climate change (UNFCCC) asserts that such developments, if not done sustainably, will quickly enhance the country’s contribution of GHG emissions to unprecedented levels leading to advanced effects on climate change²⁹. It is worth noting that Kenya continues to suffer immensely as a result of climate change caused by global warming. Frequent floods, droughts, and changing weather patterns associated with global warming have altered the country’s economic and social fabric³⁰

The main sources of Carbon Emission in the construction industry are energy consumption³¹, on-site transportation³², cement production³³,

²⁷ BUR1 (2018). Federal Republic of Nigeria First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC)

²⁸ Kenya Vision 2030 flagship programmes and projects progress reports(FY 2020/2021/0

²⁹ UNFCCC, (2021) United nations framework convention on climate change: Compendium on greenhouse gas baselines and monitoring, building and construction sector, UN COP26

³⁰ Lunga and Zwaan Do Kenya’s climate change mitigation ambitions necessitate large-scale renewable energy deployment and dedicated low-carbon energy policy? (2017)

³¹ Nissen J. et al (2007), Upton B et al (2008), H. Yan et al (2010), Purnell (2012), C. Mao et al (2013), J. Hong et al (2012), T.J Wen et al (2015), X. Zhao et al (2015), B. Lin et al (2016), M. Sandana Yala et al (2018), Y.L. Li et al(2019)

³² Nissen J. et al (2007), Upton B. et al (2008), Hui Yan, Lein Zhang (2009), Hui Yan et al (2010), C. Mao et al (2013), J. Hong et al, (2015), T.J Wen et al (2015), X. Zhao et al (2015), M. Sandana Yala et al (2018), C.P Ramesh et al (2018), Y.L. Li et al(2019)

³³ Hui Yan, Lein Zhang (2009), J. Hong et al (2015), T.J Wen et al (2015), X. Zhao et al (2015), B. Lin et al (2016), M. Sandana Yala et al (2018), Y.L. Li et al(2019)

manufacturing of building materials³⁴ followed by burning of fossil fuel³⁵ and construction waste disposal³⁶. Nevertheless, there are other factors leaking carbon in atmosphere such as mining³⁷, plant machineries³⁸, off-site transportation (transportation of workers)³⁹, construction works (maintenance and demolishing)⁴⁰, workers & staff activities⁴¹ and on and off-site waste production and discharge⁴².

Globally, prevalent practices contributing to the carbon footprint in the construction industry such as high energy consumption during building material production, transportation, and on-site construction activities are a threat to the world's sustainability⁴³. The Inter-National Energy Agency has obtained terrifying information on developments in energy consumption with estimates that show that urban areas, mainly due to buildings, consume more than 67% of global energy and release more than 70% of global Carbon emissions⁴⁴. Carbon emissions from buildings

³⁴ Nissen J. et al (2007), Upton B. et al (2008), Hui Yan et al (2010), J. Hong et al (2015), M. Sandana Yala et al (2018), Y.L. Li et al(2019), C.P Ramesh et al (2018)

³⁵ C. Mao et al (2013), J. Hong et al, (2015), B. Lin et al (2016), M. Sandana Yala et al (2018), Y.L. Li et al(201

³⁶ G. Gerilla et al (2008), Hui Yan et al (2010), C. Mao et al (2013), J. Hong et al, (2015), M. Sandana Yala et al (2018), Y.L. Li et al(2019), C.P Ramesh et al (2018)

³⁷ Hui Yan et al (2010), Purnell (2012), Y.L. Li et al(2019)

³⁸ J. Hong et al, (2015), T.J Wen et al (2015)

³⁹ Hui Yan et al (2010), J. Hong et al, (2015), X. Zhao et al (2015)

⁴⁰ G. Gerilla et al (2008), C.P Ramesh et al (2018)

⁴¹ J. Hong et al, (2015)

⁴² J. Hong et al, (2015), T.J Wen et al (2015)

⁴³ David John Jackson, (2020). Addressing the challenges of reducing greenhouse gas emissions in the construction industry: a multi-perspective approach (Doctor of dissertation).

⁴⁴ Shaojian Wang, Xiaoping Liu, Chunshan Zhou, Jincan Hu, Jinpei Ou, 2017. Examining the impacts of socioeconomic factors, urban form, and transportation networks on CO2 emissions in China's megacities

are projected to grow faster than any other sector - 1.8% annually by 2030. Consequently, buildings last 50 to 100 years and consume energy continuously which then produces carbon emissions, affecting the climate and provoking global warming⁴⁵. Widespread use of carbon-intensive materials, such as cement and steel, also significantly contributes to carbon emissions. In Africa, challenges include limited access to sustainable materials, reliance on traditional construction methods, and often insufficient regulations to promote eco-friendly practices⁴⁶. This paper postulates that understanding these global and regional dynamics is crucial for formulating effective strategies toward net-zero carbon construction in Africa. Additionally, the impending doom of drought and flooding due to carbon emissions, which will affect over 80% of Africans who depend on low-yield rain fed agriculture for food and livelihood⁴⁷, underscores the urgency of adopting sustainable approaches in construction activities.

3.0 Strategies to achieving net zero carbon construction in Africa

Cognizant of the impact the building industry has on carbon emissions; this paper delves into the strategies towards low Carbon Construction in Africa. These strategies are calls to move away from boilerplate arguments on climate action to an engaging anecdote about sustainability in construction hence Africa's preparedness to achieve net zero carbon construction by 2050.

⁴⁵ Abergel, T.; Dean, B.; Dulac, J. Towards a Zero-Emission, Efficient, and Resilient Buildings and Construction Sector: Global Status Report 2017; UN Environment and International Energy Agency: Paris, France, 2017.

⁴⁶ Gao, T., Shen, L., Shen, M., Chen, F., Liu, L., Gao, L., 2015. Analysis on differences of carbon dioxide emission from cement production and their major determinants. J. Clean. Prod. 103, 160-170.

⁴⁷ Hermans, K., & McLeman, R. (2021). Climate Change, drought, land degradation and migration. Exploring the linkages. Current Opinion Environmental Sustainability, 50, 236-244

3.1 Sustainable Planning and Design

Literature is replete with evidence that the energy consumption and emissions of the construction sector are influenced by building type, type of structure, type of product and source of fuel⁴⁸. This is proof of the pivotal role of sustainable design in mitigating carbon emissions. Sustainable design calls for the integration of environmentally conscious architectural practices which involves incorporating design strategies that prioritize sustainability and minimize the environmental impact of construction.

Sustainable design entails designing buildings to optimize natural light, ventilation, temperature regulation, reducing the reliance on artificial lighting and heating, ventilation and air conditioning (HVAC) systems⁴⁹. This is because most emissions by buildings come from fossil fuel combustion to provide heating, cooling and lighting, as well as power & electrical appliances. Research shows buildings account for 39% of carbon emission and consume 70% of electricity⁵⁰.

Moreover, planning construction projects to consider the site's natural features, optimizing solar exposure, wind patterns, and landscaping to enhance energy efficiency and reduce the need for additional resources is an essential part of sustainable design. Incorporating green spaces, planting native vegetation and creating habitats for local wildlife to enhance biodiversity within the built environment.⁵¹

⁴⁸ Peñaloza, D., Erlandsson, M., Berlin, J., Walinder, M., Falk, A., 2018. Future scenarios for climate mitigation of new construction in Sweden: effects of different technologies

⁴⁹ GIZ,N (2014). Energy efficiency in Buildings (EEB) in selected sub-sectors of the Nigerian Building Sector.

⁵⁰ Weihong Li (2011), *Procedia Environmental Sciences* 5 (2011), 173-177

⁵¹ Dowd, R.M. and Mourshed, M, 2015. Low carbon buildings: Sensitivity of thermal properties of opaque envelope construction and glazing. *Energy Procedia*. 75, pp 1284-1289

Additionally, repurposing existing structures and materials to minimize waste and extend the lifespan of building components, contributing to a circular economy is also a feature of sustainable design. Conducting a lifecycle analysis of materials and building systems to evaluate their environmental impact from extraction to disposal, helping architects make informed decisions⁵².

The sustainable design principles discussed above should be adapted to diverse environments to foster a resilient and ecologically sensitive approach to construction across the continent. Sustainable design should also entail context-specific design solutions tailored to Africa's unique climate, available resources and cultural aspects therefore addressing the practical aspects of Africa's climate and resources while respecting and celebrating the rich cultural diversity of the continent, fostering a harmonious integration of the built environment with its surroundings. The significance of context-specific design includes: climate adaptation, resource efficiency, cultural relevance, social inclusivity, economic viability and environmental stewardship. From the foregoing, it's incumbent upon the design team to produce sustainable designs that promote low carbon construction.

3.2 Low Carbon Materials

Proportionately, the production of building materials contributes largely to Carbon emissions where nearly 2/3 of all emissions are produced by steel and concrete⁵³. Cement is the basic and most commonly used building material in civil engineering, the quantity of which due to

⁵² Chou, J.S, and Yeh, K.C, 2015, Life cycle Carbon dioxide emissions simulations and environmental cost analysis for building construction. Journal of cleaner production, 101, pp 137-147

⁵³ Hammond, G.P. and Jones, C.I., 2008. Embodied Energy and Carbon in Construction Materials. Proceedings of the Institution of Civil Engineers-Energy, 161 (2) pp 87-98

massive and rapid urbanization has increased drastically. One of the most widely carbon emitters is also the cement industry^{54,55}. Construction sector is the world's largest user of materials, and buildings are the world's largest single energy consumption industry⁵⁶ hence the need for low carbon materials in construction.

Low carbon materials in the context of construction are those that have a significantly reduced carbon footprint throughout their life cycle, from raw material extraction to production, transportation, use and eventual disposal or recycling⁵⁷. Low carbon materials are known to minimize the amount of greenhouse gas emissions associated with their production. This involves selecting materials with lower embodied carbon content, such as recycled or rapidly renewable resources. In addition to this, materials made from recycled content help divert waste from landfills and reduce the demand for new raw materials. Examples include recycled steel, glass, or plastic. Utilizing materials derived from rapidly renewable resources, which have shorter growth cycles, helps reduce the environmental impact⁵⁸. Examples of these materials include: bamboo and cork. It is also worth noting that materials sourced locally contribute to lower transportation-related emissions. Therefore, prioritizing local materials not only supports regional economies but reduces the carbon footprint associated with long-distance transportation.

⁵⁵ Donald Huisingh, Zhihua Zhang, John C. Moore, QiQiao , Qi Li, 2015. Recent advances in carbon emissions reduction: policies, technologies, monitoring, assessment and modeling

⁵⁶ F Krausmann, S Gingrich, N Eisenmenger, KarlHeinz Erb, Helmut Haberl and Marina FischerKowalski, 2009. Growth in global materials use, GDP and population during the 20th century

⁵⁷ Knoeri, C., Binder, C. R & Althaus, H.J (2011). Decisions on recycling: Construction Stakeholders decisions regarding recycled materials.

⁵⁸ Addis, B., 2012. Building with reclaimed components and materials: a design handbook for reuse and recycling. New York: Routledge

Low carbon materials are also often produced using energy-efficient processes, minimizing energy consumption and associated emissions during manufacturing and have longer lifespans and greater durability contributing to reduced replacement needs and, consequently, lower overall carbon impact. A comprehensive life cycle assessment that considers the environmental impact of materials from cradle to grave is also often carried out⁵⁹. Materials with lower overall carbon emissions, as determined by LCA, are considered more sustainable. Materials such as these usually have eco-labels or certifications, such as Cradle to Cradle, Forest Stewardship Council (FSC), or Leadership in Energy and Environmental Design (LEED).

Undoubtedly, Construction sector is the world's largest user of materials, and buildings are the world's largest single energy consumption industry ⁶⁰ , therefore, prioritizing these characteristics in material selection, construction projects can significantly contribute to the reduction of carbon emissions and promote a more sustainable and environmentally friendly built environment. On the same point, ways in which low carbon materials can be integrated into the construction industry include exploring the use of traditional building materials that are abundant and have a low environmental impact. Indigenous materials such as bio waste and anthill soil can be sourced sustainably as alternatives to conventional concrete. Other ways of incorporating low carbon materials are: recycled and upcycled materials, carbon friendly alternatives for materials, incorporating life cycle assessments for

⁵⁹ Orsin, F; Masrom, P, (2019), Approaches for a low-carbon production of building materials: A review. *J. Clean.Prod.* 241,18380

⁶⁰] F Krausmann, S Gingrich, N Eisenmenger, KarlHeinz Erb, Helmut Haberl and Marina Fischer Kowalski, 2009. Growth in global materials use, GDP and population during the 20th century

materials and ensuring that materials are locally sourced⁶¹. It's clear from the foregoing, that the choice of construction materials is at the center of things hence, a deal breaker in the pursuit of Net Zero carbon construction in Africa, its, therefore, a call for the built industry players to be deliberate in this score.

3.3 Energy Efficient Technologies

The third strategy focuses on the use of energy efficient technologies. The rapidly increasing worldwide use of energy has already raised concerns about difficulties in production, exhaustion of energy resources and severe environmental impacts such as depletion of ozone layers, global warming, and climate change.⁶² There is an urgent need for energy-efficient technologies in buildings which encompass a range of innovations aimed at reducing energy consumption and promoting sustainability.

Accordingly, several examples are possible in this regard. Light-Emitting Diode (LED) lighting is more energy-efficient and longer-lasting than traditional incandescent bulbs, contributing to reduced electricity consumption in buildings and is one of the energy efficient technologies that can be used for net zero carbon building⁶³. Furthermore, automated lighting systems that adjust based on occupancy, natural light levels, and time of day, optimizing energy usage and minimizing unnecessary lighting is an important adoption in the building industry.

In addition to this, High-efficiency heating, ventilation, and air conditioning (HVAC) systems use advanced technologies to regulate

⁶¹ Chan, M.; Masrom, M.A.N, Yasin, S.S (2022). Selection of Low-Carbon Building Materials in Construction Projects: Construction Professionals Perspective: Buildings 2022, 12, 486.

⁶² L Pérez-Lombard, J Ortiz, C Pout, 2008. A review on buildings energy consumption information

⁶³ Vishwakarma, S.K., Upadhyaya,P.,Kumari., B & Mishra, A.K (2019). Smart Energy Efficient home automation System using iot. IEEE

temperature, airflow, and humidity while consuming less energy hence reducing overall building's carbon emission⁶⁴. Integration of Building Automation Systems (BAS) allows for centralized control and monitoring of various building systems, optimizing energy use, and identifying areas for improvement also ensures energy efficiency⁶⁵.

Moreover, harnessing solar energy through Solar Photovoltaic (PV) panels to generate electricity also ensures reduction on dependence on conventional power sources and lowering carbon emissions⁶⁶. Other technologies include: smart thermostats, occupancy sensors, building-integrated renewable energy systems like wind turbines or geothermal systems, energy management Software. Implementing a combination of these technologies not only enhances energy efficiency in buildings but also contributes to a more sustainable and environmentally friendly built environment.

3.4 Smart, Innovative Construction Practices

Smart and innovative construction practices are cardinal for achieving net zero carbon construction, hence addressing the environmental impact of the building industry⁶⁷. In the context of sustainability and net-zero carbon goals, innovative construction practices refer to forward-thinking methodologies, technologies, and approaches that aim to revolutionize the construction industry towards minimizing environmental impact and

⁶⁴ Belyaev V S 2014: Energy saving when choosing translucent external fences. Housing Construction 8 PP 6-11

⁶⁵ Komkov V A, Timakhova N, S., 2014: Energy Saving in the housing and utilities sector 2nd ed (M.INFRA-M) 204p

⁶⁶ Lin, G.T. (2011): The promotion and development of Solar photovoltaic industry: Discussion of its Key factors. Distribution Generation & Alternative Energy Journal, 26 (4), 57-80

⁶⁷ Wang Dongfeng (2021): The development and application of intelligent materials in civil engineering. Construction Technology Development

achieving carbon neutrality⁶⁸. These practices prioritize resource efficiency, reduce carbon emissions, and enhance the overall sustainability of construction projects. For example, Prefabrication and Modular Construction promises benefits that are supportive of carbon neutrality. Including reducing on-site waste, accelerating project timelines, and enhancing overall construction efficiency⁶⁹.

Secondly, 3D printing for construction has the potential to revolutionize the use of sustainable materials while reducing material waste⁷⁰. Furthermore, digital fabrication technologies contribute to precision and resource optimization. This makes it an essential feature of innovative construction practices. Furthermore, the incorporation of nature-based solutions, such as green roofs, vertical gardens and permeable surfaces, to enhance sustainability and promote biodiversity would lead to increased sustainability of the built environment both in urban and rural areas⁷¹. Preferably, technologies and methods for capturing and storing carbon emissions generated during construction processes such as pre and post combustion capture can also be used to mitigate the impact of fossil fuel use on climate change by preventing carbon emissions from entering the atmosphere.

⁶⁸ Hong, W.Y., 2022. A techno-economic review on carbon capture, utilization and storage systems for achieving a net-zero CO₂ emissions future. *Carbon Capt. Sci. Tech.*, 100044.

⁶⁹ McGraw Hill Construction Report (2009): Prefabrication & Modularization, Increasing Productivity in the construction industry.

⁷⁰ Zhang, J., Wang, J., Dong, S., Yu, X., Han, B 2019. A review of the current progress and application of 3D Printed Concrete. *Compos. Appl. Sci. Manuf*, 125, 105533.

⁷¹ Qaidi, S.M., Dinkha, Y.Z., Haido, J.H., Ali, M.H., Tayeh, B.A., 2021. Engineering properties of sustainable green concrete incorporating eco-friendly aggregate of crumb rubber; a review. *J. Clean. Prod.* 324, 129251

Thirdly, the integration of smart sensors, building management systems, and Internet of Things (IoT) devices to optimize resource usage and enhance energy efficiency should be explored⁷². equally, data analytics are important in improving building performance. This paper posits that the use of Drone Technology, Robotics and automation in construction processes, from site preparation to assembly has the potential to reduce labor-intensive tasks and improving construction precision and should be encouraged. The principles of a circular economy in construction, which emphasizes the reuse, recycling, and repurposing of materials is an innovative way of reducing carbon emission in the African construction industry⁷³.

3.5 Policy and Regulation Frameworks

Policy and regulation as a strategy play a crucial role in steering the construction industry towards sustainable and low-carbon practices⁷⁴. It's the argument in this paper, that appropriate policy and regulatory frameworks in support of low carbon construction will, nevertheless, anchor the building industry in Africa on a growth trajectory towards Net Zero Carbon Construction by 2050. Though effort has been done to this end, its insufficient, low starter on implementation and weak enforcement mechanisms. Using Kenya as exemplifying case, the National Climate Change Action Plan of 2013 (NCCAP)⁷⁵ provides a perfect blue-print towards climate action, generally. The NCCAP is a plan started in 2013 to

⁷² Oke, A.E. Arowoiyi, V.A., 2021. Evaluation of Internet of things (IoT) application areas for sustainable construction. *Smart Sustain. Built Environment*. 10 (3) 387-402

⁷³ Ogunmakinde, O.E., Egbelakin, T., Sher, W., 2022. Contributions of the circular economy to the UN Sustainable development goals through sustainable construction. *Resource conservation. Recycl*, 178, 106023.

⁷⁴ Aldieri et al., 2021: Evaluation of energy resilience and adaptation policies: An energy efficiency analysis.

⁷⁵ Government of Kenya (2018). National Climate Change Action Plan (Kenya): 2018-2022. Nairobi: Ministry of Environment and Forestry

ensure Kenya's development goals are anchored firmly in law geared towards low carbon emissions and sustainability and is revised every five years with a potential of reducing GHG emissions by 40% but is yet to show results because it lacks precise policy instruments that can be relied upon by the industry's stakeholders to align with the country's climate change and sustainable development goals. Therefore, it is evident that policies and regulations are needed in aligning the African construction industry's behavior with net-zero carbon objectives.

To ensure that effective policies and regulations are put in place, the industry should ensure that some practices are incorporated. For example, the existing national policies related to climate change and energy transition in African countries should be examined because they set the tone for sustainable construction practices and contribute to net-zero goals. Furthermore, effective building codes and standards that promote energy efficiency and environmentally friendly construction should be implemented. The existing codes and standards should also undergo updates or revisions needed to align with net-zero carbon targets. Importantly, Policies that incentivize the integration of renewable energy sources in construction projects should also be created and government initiatives that support the use of solar, wind, or other renewable technologies made a priority. To supplement this, government incentives and subsidies that encourage the adoption of sustainable construction practices to encourage reduced carbon emissions can be implemented. Features such as financial or tax benefits for using low-carbon materials or energy-efficient technologies can also be explored.

On a similar wavelength, Carbon pricing mechanisms should be implemented, such as carbon taxes or cap-and-trade systems, to incentivize carbon reduction in construction⁷⁶. Suffice to say, policies play

⁷⁶ Augustine S.K.K., Xiaohua.J, Robert Osei-Kyei, and Srinath Perera (2022) : A Conceptual Framework for Carbon Trading in the construction industry. 45th

an important role in fostering public awareness and stakeholder engagement in sustainable construction practices. Critical to the foregoing, is the monitoring and enforcement mechanisms that ensure compliance with sustainability regulations. This being a weak link, should be explored including penalties or incentives in driving adherence to net-zero carbon construction standards. Regulations related to construction waste management, encouraging recycling, and minimizing landfill contributions should be created using successful waste reduction strategies implemented in other regions as blueprint.

As part-strategies on environmental stewardship, Environmental Impact Assessments (EIAs) that play a crucial role in ensuring that construction projects consider and mitigate potential environmental impacts can be made mandatory towards net zero carbon building⁷⁷.

4.0 The Concept of Systems Thinking

The economic boom and industrial development after World War II led to the necessity of “Systems Thinking” and “Systems Approach”⁷⁸. The new technologies that were being developed involved interaction between heterogeneous technologies such as mechanical, electrical, chemical and physical. The systems approach contrasts with the analytical method, whereby an entity is examined primarily from the viewpoint of its constituent elements or components. All the same, the systems thinking supplements rather than replaces the analytical thinking⁷⁹. A

Australasian Universities Building Education Association Conference, 23-25 Nov, 2022, Western Sydney University.

⁷⁷ Kukah, A.S.K., Blay Jnr, A.V. and Opoku, A. (2022): Strategies to reduce the impact of resource consumption in the Ghanaian construction industry. *International Journal of Real Estate Studies*, 16(1), 51-59

⁷⁸ Thomas and Agatha Hughes, (2000) *Thinking Systematically: Systems, Experts, and Computers*

⁷⁹ Russell L Ackoff and Jamshid Gharajedaghi (2003) *On the mismatch between systems and their models*

systems view of construction activity can therefore be coupled with the analytical (un-systems-like) views that have hitherto been embraced. Viewing an entity as a system assists in solving problems within that entity, from a broader perspective; the problem solving adopts a broad look at the organization rather than an overly obsessive scrutiny of the particular problem in question. This holistic view is considered to be most realistic for the solution of present-day problems because of their increasing complexity ⁸⁰. Systems thinking considers the interaction among people, materials, processes and the environment and provides a perspective that is crucial for addressing multifaceted aspects of sustainability which makes it extremely relevant in addressing complex challenges such as achieving net zero carbon construction. Key principles of Systems Thinking that will steer the race towards net zero carbon construction include the recognition of the interdependence of different elements in the construction sector, including design, materials, energy use, and waste management and emphasizes the need to consider the entire lifecycle of construction projects.

⁸⁰ Naudé Scribante, Leon Pretorius (2020) Establishing a Reference Model for Requirements Elicitation Behavior

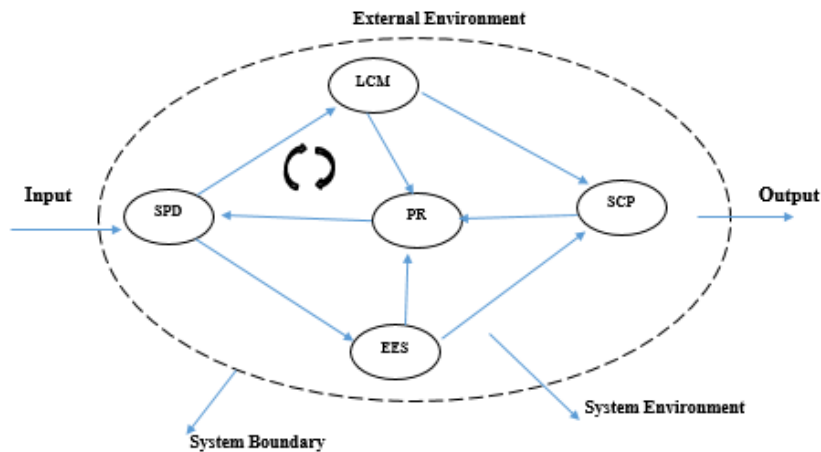


Figure 4.1: Net Zero Carbon Construction System:

Source: Author's formulation. 2024.

Key:
○ Element, → Relationship, --- Boundary, ↻ feedback loop
SDP--- Sustainable Planning & Design, LCM--- Low Carbon Materials, SCP---Smart Construction Practices, EES---Efficient Energy Systems, PR---Policy and Regulations

This paper conceptualized Net Zero Carbon Construction as a system consisting of five elements (SDP, LCM, SCP, EES, and PR) which should operate as a whole. The concept of feedback loops and dynamic complexity in this system suggests that changes in one element can impact the entire system and understanding these dynamics is essential for effective decision-making on carbon construction. It's imperative that the planners and designers of construction projects set the tone from the onset with regards implementing net zero carbon principles, this informs materials selection, construction practices as well as the need for energy efficient systems within a development. Importantly, the Net Zero Carbon Construction should be anchored on appropriate policies, regulations and enforcement measures framework.

From the above, considering Net Zero Carbon Construction as a system, helps identify leverage points where policy interventions can have the

most significant positive impact. Examples of leverage points in the construction industry are: materials selection and specification, energy efficient design standards, lifecycle assessment integration, green building certification, construction waste management policies, decentralized renewable energy mandates, training and certification programs and adaptive reuse and historic preservation incentives among others. To this end, Systems thinking facilitates the integration of sustainability principles across these dimensions.

In sum, viewing net zero carbon construction as a system, allows for the recognition of emergent patterns and behaviors in the construction industry and identifying these patterns can inform strategies for achieving net-zero carbon goals. Equally, there is need for transdisciplinary collaboration within the construction sector, which can be facilitated by systems thinking as collaboration across disciplines enhances the effectiveness of sustainability efforts.

5.0 Global Best Practices

Globally, effort has been made, albeit, on a case basis, to develop Net Zero Carbon projects where exemplary approaches, strategies and methodologies have been used to demonstrate outstanding success in promoting environmental responsibility, social equity and economic viability within the construction industry. These practices are recognized at an international level and are considered benchmarks for achieving sustainable development in the built environment.

Firstly, In Sydney, Australia, One Central Park is an iconic development that has incorporated sustainable features like green walls and roofs, along with on-site renewable energy generation. Consequently, it achieved a 5-star Green Star rating and is an excellent example of

integrating nature into urban spaces while minimizing carbon footprint⁸¹. Secondly, The Masdar City, Abu Dhabi, UAE is designed to be a carbon neutral and zero waste city. The City utilizes renewable energy sources, smart grid technologies and sustainable building practices. It aims to be a model for future urban developments in terms of energy efficiency and environmental responsibility ⁸² . On Similar score, The Edge, in Amsterdam, Netherlands is a development renowned for its innovative design, one of the greenest and most energy-efficient developments globally. It utilizes advanced technologies like smart sensors, rain water harvesting, and efficient heating/cooling systems, achieving both LEED Platnum and BREEAM outstanding certifications for sustainability⁸³. From the foregoing, its testament that there exists diverse approaches to achieving net zero carbon construction globally which Africa can benchmark.

From the Case studies, it can be deduced, that Environmental Stewardship is one of the global best practices proving fruitful for the race towards net-zero carbon emissions therefore; integration of these practices can minimize the environmental impact of construction activities. This can be done through adoption of resource-efficient processes, waste reduction measures, and the use of renewable materials to enhance environmental stewardship. Significantly, the practice of integration of renewable energy sources, such as solar or wind power, to promote a shift towards low-carbon and sustainable energy solutions can be effective to reduce carbon emission. Additionally, embracing a circular economy approach by prioritizing material reuse, recycling, and

⁸¹ Jean Nouvel, Ateliers Jean, Bertram Beissel, and Ateliers Jean, (2014): Case Study: One Central Park Sydney. International Journal on Tall Buildidngs and Urban Habitat.

⁸² Venkatanarayan Sankaran and Ashok Chopra (2020): Creating global sustainable Smart Cities (A case of Masdar City)

⁸³ World Green Business Council (2013): The Business Case of Green Buildings, a review of costs, benefits for developers. Toronto, WGBC

minimizing waste generation throughout the construction lifecycle has the potential to reduce the demand for new resources.

Notably, adherence to globally recognized green building certification systems, such as LEED (Leadership in Energy and Environmental Design) or BREEAM (Building Research Establishment Environmental Assessment Method), underscores compliance with rigorous sustainability standards hence best practice that should be implemented globally. To this end, implementation of integrated design processes that involve collaboration among architects, engineers, contractors, and stakeholders from the early stages of project planning is a practice that has shown great results in specific parts of the world. This calls for holistic decision-making that considers environmental, social, and economic aspects throughout the construction project. Active engagement with local communities to understand their needs, priorities, and cultural considerations has also shown great result in the reduction of carbon emission. This involves the integration of social responsibility practices that prioritize the well-being and inclusivity of local communities affected by construction projects.

To supplement the above best practices, adoption of innovative technologies, such as Building Information Modeling (BIM), 3D printing, and advanced construction materials, to enhance efficiency and sustainability in construction processes has been adopted in a few areas in the world and remarkably increased energy efficiency⁸⁴. Utilization of smart infrastructure and IoT technologies to optimize resource management, enhance energy efficiency, and improve overall performance of constructed assets has also been used. Another innovation is the implementation of lifecycle assessment methodologies to evaluate

⁸⁴ D.N.Raut (2017): A review paper on 3D Printing aspects and various processes used in the 3d printing. International Journal of Engineering Research & Technology, ISSN 2278-0181 Vol. 6 issue 06

the environmental impact of construction materials and processes and ensure that sustainability goals are maintained throughout the operational phase.

6.0 Conclusion

The sum total of this paper is a call for Net Zero Carbon construction in Africa. The paper posits that in the fight against climate change, Africa has to be intentional, robust and dynamic in its approach on construction practices. By elucidating the intricacies of carbon emissions, proposing viable pathways to achieve net zero, advocating for a systems thinking perspective, and drawing insights from global best practices, this paper has established a roadmap for fostering environmentally responsible construction in Africa and anchor it on growth trajectory towards achieving Net Zero Carbon goals by 2050. To this end, its recommended that Africa should enact appropriate environmental, Net Zero Carbon construction policies and regulations and progressively fortify them with enforcement measures. It is imperative that stakeholders collaborate, integrating these principles into local policies and practices, to pave the way for a resilient and ecologically mindful construction landscape on the continent.

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Realizing Equitable Benefit Sharing in Kenya

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Abstract

This paper critically appraises the concept of equitable benefit sharing in Kenya. It examines the legal framework governing equitable benefit sharing at the international, regional and national levels. The paper further discusses how the concept of equitable benefit sharing has been embraced in Kenya and explores the challenges thereof. The paper also proposes interventions aimed at realizing equitable benefit sharing for Sustainable Development in Kenya.

1.0 Introduction

Natural resources play a fundamental role in the life of human beings which may be classified as economic, social and cultural¹. Economically, natural resources are not only a source of food and raw materials but are also a source of income for individuals and the state². Socially, natural resources like water bodies play recreational role amongst others and also contribute to the improvement of the quality of life of individuals³. Culturally, different Kenyan communities attach importance to some natural resources that may be revered as shrines, dwelling places for

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¹ Muigua. K., Wamukoya. D & Kariuki. F., 'Natural Resources and Environmental Justice in Kenya.' Glenwood Publishers Limited, 2015

² Costanza. R., 'The Ecological, Economic, and Social Importance of the Oceans.' *Ecological Economics*, Volume 31, No. 2 (1999)

³ Muigua. K., Wamukoya. D & Kariuki. F., 'Natural Resources and Environmental Justice in Kenya.' Op Cit

ancestors and sacred sites where rites of passage and other cultural celebrations take place⁴. The importance of natural resources therefore demands the effective use, access and management of natural resources for the benefit of present and future generations⁵. However, it has been observed that several challenges hinder effective natural resources management including failure to ensure equitable sharing of the benefits that accrue from natural resource exploitation⁶. This has led to the emergence of the concept of equitable benefit sharing⁷.

Equitable benefit sharing can be defined as the fair access to benefits that accrue from natural resources by all stakeholders including indigenous communities⁸. It has also been defined as the way in which natural resources including genetic resources may be accessed, and how the benefits that result from their use are shared between the people or countries using the resources (users) and the people or countries that provide them (providers)⁹. The international recognition of the right to benefit from natural resources wealth may be predicated upon such recognized rights of communities as the right to self-determination, right to development and the right of peoples to freely dispose of their wealth and natural resources¹⁰. Equitable access and benefit sharing is based on

⁴ Ibid

⁵ Child. B., et al. 'Zimbabwe's CAMPFIRE Programme: Natural Resource Management by the People.' *IUCN-ROSA Environmental Issues* Series No. 2, (1997)

⁶ Muigua. K., 'Securing Our Destiny through Effective Management of the Environment.' Glenwood Publishers Limited, 2020

⁷ Ibid

⁸ Jonge, B., 'What is Fair and Equitable Benefit Sharing?' *Journal on Agricultural and Environmental Ethics*, Vol. 24, issue 2, (2011)

⁹ Convention on Biological Diversity., 'Introduction to Access and Benefit-Sharing.' Available at <https://www.cbd.int/abs/infokit/revise/web/all-files-en.pdf> (Accessed on 17/08/2023)

¹⁰ Muigua. K., 'Securing Our Destiny through Effective Management of the Environment.' Op Cit

Free Prior and Informed consent (FPIC) being granted by a provider to a user and negotiations between both parties to develop mutually agreed terms to ensure the fair and equitable sharing of natural resources and associated benefits¹¹.

FPIC has been described as concept that requires indigenous people and local communities to be adequately informed and participate in environmental decision making including the use and management of natural resources in order to foster Environmental Justice¹². It is a specific right granted to indigenous people recognised in the *UN Declaration on the Rights of Indigenous Peoples* (UNDRIP), which aligns with their universal right to self-determination¹³. FPIC allows Indigenous Peoples to provide or withhold/ withdraw consent, at any point, regarding projects impacting their territories¹⁴. It also allows Indigenous Peoples to engage in negotiations to shape the design, implementation, monitoring, and evaluation of projects¹⁵. It has been argued that free and prior informed consent of local communities and transparent and equitable benefit-sharing mechanisms can bring affected communities into the mainstream of a natural resource dominant development model¹⁶.

The concept of equitable benefit sharing envisages sharing of both monetary benefits such as sharing royalties when the resources are used

¹¹ Ibid

¹² Muigua. K., 'Maximising the Right to Free, Prior, and Informed Consent for Enhanced Environmental Justice in Kenya.' Available at <http://kmco.co.ke/wp-content/uploads/2019/03/Maximising-the-Right-to-FPIC-in-Kenya-Kariuki-Muigua-29th-March-2019.pdf> (Accessed on 17/08/2023)

¹³ Food and Agriculture Organization of the United Nations., 'Free, Prior and Informed Consent.' Available at <https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/> (Accessed on 17/08/2023)

¹⁴ Ibid

¹⁵ Ibid

¹⁶ Muigua. K., 'Reflections on Managing Natural Resources and Equitable Benefit Sharing in Kenya.' *Law Society of Kenya Journal*, Vol. 15, No. 1 (2019)

to create a commercial product and non-monetary benefits such as the development of research skills and knowledge¹⁷. Concrete benefits to be shared have been identified as both monetary and non-monetary ones, such as revenue, information scientific and commercial cooperation, joint management of natural resources, and technical support¹⁸.

This paper critically appraises the concept of equitable benefit sharing in Kenya. It examines the legal framework governing equitable benefit sharing at the international, regional and national levels. The paper further discusses how the concept of equitable benefit sharing has been embraced in Kenya and explores the challenges thereof. The paper also proposes interventions aimed at realizing equitable benefit sharing for Sustainable Development in Kenya.

2.0 Legal Framework on Equitable Benefit Sharing

The concept of benefit sharing was first mentioned in the *Universal Declaration of Human Rights*¹⁹ which stipulates the right of everyone to share in scientific advancement and its benefits²⁰. Further, the 1986 *United Nations Declaration on the Right to Development*²¹ referred to states' duty to ensure the active, free and meaningful participation in the fair distribution of the benefits resulting from national development for their entire population and all individuals. It has been asserted that these human rights are connected to international environmental law, notably

¹⁷ Convention on Biological Diversity., 'Introduction to Access and Benefit-Sharing.' Op Cit

¹⁸ Morgera. E., 'The need for an International Legal Concept of Fair and Equitable Benefit-Sharing.' *European Journal of International Law*, Volume 27, No. 2 (2016)

¹⁹ United Nations., 'Universal Declaration of Human Rights.' Available at https://www.un.org/en/udhrbook/pdf/udhr_booklet_en_web.pdf (Accessed on 17/08/2023)

²⁰ Ibid, Article 27 (1)

²¹ United Nations Declaration on the Right to Development., GA Res 41/128, 4 December 1986, Article 2(3)

technology transfer obligations²². The idea of benefit sharing is also captured in the 1989 *International Labour Organization's Indigenous and Tribal Peoples Convention* which provides that indigenous and tribal people shall, wherever possible participate in the benefits arising from the exploration and exploitation of natural resources pertaining to their lands²³.

The notion of benefit sharing in natural resources was first formalised in international law in 1992 through the *Convention on Biological Diversity*²⁴ (CBD), a move that was at the time expected to address problems with the governance of socio-ecological systems in developing countries²⁵. The CBD is geared towards promoting the conservation and sustainable use biological diversity for the benefit of present and future generations²⁶. It recognizes the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components²⁷. The aim of the CBD is the conservation of biological diversity, the sustainable use of its components and *the fair and equitable sharing of the benefits* arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies²⁸. The CBD requires states to take legislative, administrative or policy measures, as appropriate towards

²² Morgera. E., 'The need for an International Legal Concept of Fair and Equitable Benefit-Sharing.' Op Cit

²³ International Labour Organization's (ILO) Convention no. 169 Concerning Indigenous and Tribal Peoples in Independent Countries 1989, 28 ILM 1382

²⁴ Convention on Biological Diversity., Available at <https://www.cbd.int/doc/legal/cbd-en.pdf> (Accessed on 17/08/2023)

²⁵ Pham, T.T., et al, 'Approaches to Benefit Sharing: A Preliminary Comparative Analysis of 13 REDD+ Countries,' Working Paper 108, 2013, CIFOR, Bogor, Indonesia, p. 1

²⁶ Convention on Biological Diversity., Op Cit

²⁷ Ibid

²⁸ Ibid, Article 1

realizing the idea of fair and equitable benefit sharing²⁹. Actualizing the provisions of the CBD is imperative in realizing equitable benefit sharing. The *Nagoya Protocol*³⁰ is an international agreement which aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way. It seeks to pursue implementation of the objective of the CBD on fair and equitable sharing of benefits arising from the utilization of genetic resources³¹. The Protocol seeks to pursue this objective through measures such as promoting appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components³². With regards to fair and equitable benefit sharing, the Protocol stipulates that benefits arising from the utilization of genetic resources as well as subsequent applications and commercialization shall be shared in a *fair and equitable way (emphasis added)* with the party providing such resources that is the country of origin of such resources or a party that has acquired the genetic resources in accordance with the Convention³³. The Protocol further requires each party to take legislative, administrative or policy measures, as appropriate, with the aim of ensuring that benefits arising from the utilization of genetic resources that are held by indigenous and local communities, in accordance with domestic legislation regarding the established rights of these indigenous and local communities over these

²⁹ Ibid, Article 15 (7)

³⁰ Convention on Biological Diversity., 'Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to The Convention on Biological Diversity.' Available at <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf> (Accessed on 17/08/2023)

³¹ Ibid

³² Ibid

³³ Ibid, 5 (1)

genetic resources, are shared in a fair and equitable way with the communities concerned, based on mutually agreed terms³⁴.

The Nagoya Protocol is limited to genetic resources within the scope of Article 15 of the CBD and to the benefits arising from the utilization of such resources, as well as to traditional knowledge associated with genetic resources within the provisions of the Convention and to the benefits arising from the utilization of such knowledge³⁵. It, however, also offers important guidelines on benefit-sharing. Of particular relevance is the *Annex to the Nagoya Protocol*³⁶ which provides for both monetary and non-monetary forms of benefits. It envisages monetary benefits which may include, but not be limited to: access fees/fee per sample collected or otherwise acquired; up-front payments; milestone payments; payment of royalties; licence fees in case of commercialization; special fees to be paid to trust funds supporting conservation and sustainable use of biodiversity; salaries and preferential terms where mutually agreed; research funding; joint ventures; and joint ownership of relevant intellectual property rights³⁷. Non-monetary benefits envisaged under the Annex to the Nagoya Protocol include the sharing of research and development results and collaboration, cooperation and contribution in scientific research and development programmes (particularly biotechnological research activities) where possible in the party providing genetic resources ³⁸ . It also envisages participation in product development; collaboration, cooperation and contribution in education and training; admittance to ex situ facilities of genetic resources and databases; transfer to the provider of the genetic resources of knowledge

³⁴ Ibid, Article 5 (2)

³⁵ Ibid, Article 3

³⁶ Annex to the Nagoya Protocol on Access and Benefit-sharing

³⁷ Ibid

³⁸ Ibid

and technology under fair and most favourable terms³⁹. It has been argued that the approach by the Nagoya Protocol forms the core of an effective benefit sharing agreement and can be applied to the exploitation of other types of natural resources⁴⁰.

The idea of equitable benefit sharing is also recognized under the 2030 Agenda for Sustainable Development⁴¹. Sustainable Development goal 2 is focused on ending hunger, achieving food security, improved nutrition and promoting sustainable agriculture while Sustainable Development goal 15 focuses on protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainable management of forests, combating desertification, and halting and reversing land degradation and biodiversity loss⁴². Among the targets under these two goals is promoting fair and equitable sharing of the benefits arising from the utilization of genetic resources and promoting appropriate access to such resources, as internationally agreed⁴³. Realizing equitable benefit sharing is therefore important in fostering Sustainable Development.

At the regional level, the *African Charter on Human and Peoples' Rights*⁴⁴ provides that all peoples shall freely dispose of their wealth and natural resources⁴⁵. According to the Charter, this right is to be exercised in the exclusive interest of the people, and in no case should people be deprived

³⁹ Ibid

⁴⁰ Muigua, K., 'Reflections on Managing Natural Resources and Equitable Benefit Sharing in Kenya.' Op Cit

⁴¹ United Nations., 'Transforming Our World: The 2030 Agenda for Sustainable Development.' Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 17/08/2023)

⁴² Ibid

⁴³ Ibid

⁴⁴ Organization of African Unity (OAU), *African Charter on Human and Peoples' Rights* ("Banjul Charter"), 27 June 1981, CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982)

⁴⁵ Ibid, Article 21 (1)

of it⁴⁶. The free disposal of wealth and natural resources must however be exercised without prejudice to the obligation of promoting international economic cooperation based on mutual respect, equitable exchange and the principles of international law⁴⁷. The Charter also obligates states to undertake to eliminate all forms of foreign economic exploitation, particularly that practiced by international monopolies, so as to enable their peoples to fully benefit from the advantages derived from their national resources⁴⁸. It also provides that all peoples have the right to their economic, social and cultural development with due regard to their freedom and identity and in the equal enjoyment of the common heritage of mankind and that states also have the duty, individually and collectively, to ensure the exercise of the right to development⁴⁹. The provisions of this Charter are vital in achieving equitable benefit sharing in Africa.

The *African Union Strategic Guidelines for the Coordinated Implementation of the Nagoya Protocol*⁵⁰ provide strategic policy guidance to support the implementation of the Nagoya Protocol in Africa. The guidelines require African states to promote sustainable utilisation of genetic resources and associated traditional knowledge by instituting transparent and functional access regulations in accordance with Articles 6.3 and 12.1 of the Nagoya Protocol⁵¹. They further require African states as countries of

⁴⁶ Ibid

⁴⁷ Ibid, Article 21 (3)

⁴⁸ Ibid, Article 21 (5)

⁴⁹ Ibid, Article 22 (2)

⁵⁰ African Union Strategic Guidelines for the Coordinated Implementation of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation., Available at <https://snrd-asia.org/african-union-strategic-guidelines-for-the-coordinaetd-implementation-of-the-nagoya-protocol-on-access-to-genetic-resources/> (Accessed on 17/08/2023)

⁵¹ Ibid, Part 8

origin or as countries having acquired genetic resources in accordance with the Convention on Biological Diversity to ensure that prior informed consent is required for access to their genetic resources and that such genetic resources shall only be utilised as authorised with their prior informed consent and specified in mutually agreed terms, in accordance with Article 6 of the Nagoya Protocol⁵². In respect of benefit sharing, the Guidelines require African Union Member States to ensure that benefits arising from the utilisation of genetic resources and associated traditional knowledge are shared in a fair and equitable manner with indigenous and local communities and all relevant stakeholders holding such resources and knowledge⁵³. They further urge African countries to cooperate, share information and coordinate their policies with a view to establishing transparent, fair, equitable and uniform benefit-sharing standards that uphold the intrinsic, cultural and socio-economic values of genetic resources and associated traditional knowledge⁵⁴. These Guidelines are pertinent in fostering equitable benefit sharing in Africa.

In addition, the *Africa Mining Vision*⁵⁵ seeks to realize a sustainable and well governed mining sector that promotes mutually beneficial partnerships between the state, the private sector, civil society, local communities and other stakeholders⁵⁶. In respect of benefit sharing, the Africa Mining Vision acknowledges that increasing attention is now being paid to the benefits derived by the communities where mining operations take place to ensure that local and national-level concerns and interests are balanced ⁵⁷. According to the Vision, the benefits to the local

⁵² Ibid, Part 9

⁵³ Ibid, Part 18

⁵⁴ Ibid, Part 19

⁵⁵ Africa Union., 'Africa Mining Vision: February 2009.' Available at https://au.int/sites/default/files/documents/30995-doc-africa_mining_vision_english_1.pdf (Accessed on 17/08/2023)

⁵⁶ Ibid

⁵⁷ Ibid

community may come in various forms including revenues which accrue to the community because of its location (property rates and land rents); benefits which are the community's share of central government revenues from mining and non-income benefits such as employment for local residents; assistance to community health and educational institutions; access to the use of mine infrastructure by the general public among others⁵⁸. The Africa Mining Vision can therefore enhance equitable benefit sharing in the mining sector in Africa.

Further, *Agenda 2063*⁵⁹ also enshrines the importance of equitable redistribution of returns from Africa's natural resources in fostering development in the continent. It seeks to ensure equitable access, use and sharing of benefits accruing from natural resources in the continent including land, minerals, water, forests, wildlife, fisheries, energy and genetic resources⁶⁰. The idea of benefit sharing is therefore well envisaged in Africa.

In Kenya, the Constitution enshrines national values and principles of governance which include, inter alia: patriotism, national unity, sharing and devolution of power, the rule of law, democracy and participation of the people; human dignity, equity, social justice, inclusiveness, equality, human rights, non-discrimination and protection of the marginalised; good governance, integrity, transparency and accountability; and Sustainable Development⁶¹. It has been argued that one of the ways of implementing these principles as far as natural resources governance and

⁵⁸ Ibid

⁵⁹ Africa Union., 'Agenda 2063: The Africa we Want.' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 17/08/2023)

⁶⁰ Ibid

⁶¹ Constitution of Kenya, 2010., Article 10 (2)., Government Printer, Nairobi

management is concerned is equitable benefit sharing⁶². A viable benefit-sharing framework should be able to reflect and promote the foregoing values and principles of governance⁶³.

The Constitution further guarantees every person's right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures, particularly those contemplated in Article 69; and to have obligations relating to the environment fulfilled under Article 70⁶⁴. The provisions of the Constitution on land are also pertinent in realizing equitable benefit sharing in Kenya. The Constitution provides that land in Kenya must be held, used and managed in a manner that is *equitable*, efficient, productive and sustainable, and in accordance with the outlined principles that include *equitable access to land*(*emphasis added*); security of land rights; sustainable and productive management of land resources; transparent and cost effective administration of land; sound conservation and protection of ecologically sensitive areas⁶⁵.

The Constitution also outlines the obligations of the State in respect of the environment some which are vital in fostering equitable benefit sharing in Kenya. The State is required to, inter alia, ensure sustainable exploitation, utilisation, management and conservation of the environment and natural resources, and *ensure the equitable sharing of the accruing benefits* (*emphasis added*); protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities; and encourage public participation in the

⁶² Muigua. K., 'Reflections on Managing Natural Resources and Equitable Benefit Sharing in Kenya.' Op Cit

⁶³ Ibid

⁶⁴ Ibid, Article 42

⁶⁵ Ibid, Article 60 (1)

management, protection and conservation of the environment⁶⁶. The obligations also extend to the protection of genetic resources and biological diversity as well as establishment of systems of environmental impact assessment, environmental audit and monitoring of the environment⁶⁷. Other obligations extend to elimination of processes and activities that are likely to endanger the environment and utilization of the environment and natural resources for the benefit of the people of Kenya⁶⁸. These provisions of the Constitution of Kenya are therefore important in realizing equitable benefit sharing in Kenya.

Further, there have been attempts to legislate the concept of benefit sharing in Kenya through the *Natural Resources (Benefit Sharing) Bill, 2022*⁶⁹. The Bill seeks to establish a system of benefit sharing in natural resource exploitation between resource exploiters, the national government, county governments and local communities⁷⁰. It defines benefit sharing as the sharing of any benefits arising from the exploitation of natural resources in a *fair and equitable* manner⁷¹ (emphasis added). The Bill stipulates guiding principles of benefit sharing in Kenya which include transparency and inclusivity; revenue maximization and adequacy; efficiency and equity; accountability and participation of the people; rule of law and respect for human rights of the people and sustainable natural resources management⁷². The Bill tasks the Commission on Revenue Allocation to implement benefit sharing

⁶⁶ Ibid, Article 69 (1)

⁶⁷ Ibid

⁶⁸ Ibid

⁶⁹ The Natural Resources (Benefit Sharing) Bill, 2022., Available at <http://parliament.go.ke/sites/default/files/2022-12/The%20Natural%20Resources%20%28Benefit%20Sharing%29%20Bill%2C%202022.pdf> (Accessed on 18/08/2023)

⁷⁰ Ibid

⁷¹ Ibid, S 2

⁷² Ibid, S 4

arrangements in Kenya including coordinating the preparation of benefit sharing agreements between an affected county and an affected entity and reviewing, and where appropriate, determine the royalties payable by an affected entity engaged in natural resource exploitation⁷³. One of the most salient provisions of the Bill is the establishment of a revenue sharing ratio in natural resources exploitation⁷⁴. The Bill provides that twenty per cent of the revenue collected shall be paid into a sovereign wealth fund established by the national government; and eighty per cent of the revenue collected shall be shared between the national government and respective county governments in the ratio of sixty per cent to the national government and forty per cent to the county governments⁷⁵. The Bill further provides that at least forty per cent of the revenue assigned to county governments shall be utilised to implement local community projects and sixty per cent of that revenue shall be utilised for the benefit of the entire county⁷⁶.

For purposes of ensuring equitable benefit sharing between entities involved in exploitation of natural resources and local communities, the Bill provides that every affected entity shall enter into a benefit sharing agreement with the relevant county government before the exploitation of a natural resource in the affected county⁷⁷. It further provides that the benefit sharing agreement shall include non-monetary benefits that may accrue to the county and the contribution of the affected entity in realizing the same⁷⁸. The Bill also requires every benefit sharing agreement to be approved by the respective county assembly prior to the execution of the agreement by the respective county government⁷⁹. In order to foster the

⁷³ Ibid, S 5

⁷⁴ Ibid, S 8

⁷⁵ Ibid, S 8 (1)

⁷⁶ Ibid, S 8 (3)

⁷⁷ Ibid, S 9 (1)

⁷⁸ Ibid, S 9 (2)

⁷⁹ Ibid, S 12 (1)

principle of public participation and realization of FPIC which is pertinent in realizing equitable benefit sharing, the Bill establishes a Local Community Benefit Sharing Forum in each affected local community where exploitation of natural resources is conducted⁸⁰. The local community benefit sharing forum is tasked with ensuring that the respective local community benefits from the exploitation of natural resources are realized by collecting and collating the views of the local community and represent the interests of the local community in the negotiations with the respective County Benefit Sharing Committee and in the implementation of a Benefit Sharing Agreement; identifying in consultation with the local community projects to be supported by money allocated to the local community by the County Benefit Sharing Committee and overseeing the implementation of projects undertaken in the relevant local community using funds devolved as per the provisions of the Act⁸¹. Enactment of the Natural Resources (Benefit Sharing) Bill, 2022 into law will enhance the realization of equitable benefit sharing in Kenya.

3.0 Realizing Equitable Benefit Sharing in Kenya: Problems and Promises

It has been observed that natural resources benefit sharing in Kenya has been inequitable where local communities that interface with the resources and who bear the highest costs of overexploitation and conservation being the least beneficiaries⁸². Further, benefit sharing regimes are currently fragmented and are being governed by different legislations and subsequently overseen by different government

⁸⁰ Ibid, S 13 (1)

⁸¹ Ibid, S 13 (6)

⁸² Kenya Wildlife Conservancies Association., 'Factsheet: Natural Resources (Benefit Sharing) Bill 2022.' Available at <https://kwakenya.com/download/factsheet-natural-resources-benefit-sharing-bill-2022/> (Accessed on 18/08/2023)

ministries and agencies⁸³. The current benefit sharing regime in Kenya is regulated by many entities including the Kenya Wildlife Service (KWS), Kenya Forest Service (KFS) and Kenya Plant Health Inspectorate Service (KEPHIS) among others ⁸⁴. Such a framework is cumbersome and negatively impacts safe and secure research, innovation, conservation and sustainable use of biological resources ⁸⁵. Lack of harmonized legal framework is a major problem in realizing equitable benefit sharing in Kenya⁸⁶.

Further, limited awareness and access to information on Access and Benefit Sharing can hinder effective realization of the concept of equitable benefit sharing ⁸⁷. In order for an Access and Benefit Sharing process to be fair and equal, it is important that communities have knowledge of their rights, including their rights over their traditional knowledge and their rights as Indigenous Peoples, and have understood what Free, Prior and Informed consent entails⁸⁸. The quest towards realizing FPIC in Kenya has been faced with several challenges including failure to promote effective public participation and failure to obtain consent of local communities in the exploitation of natural resources⁸⁹. It is imperative to uphold the right to FPIC in Kenya in order to realize equitable benefit sharing⁹⁰.

⁸³ Ibid

⁸⁴ Brink. M., 'Implementation of Access and Benefit Sharing Policies in Sub-Saharan Africa: Inventory, Analysis and Proposals.' Available at <https://edepot.wur.nl/280508> (Accessed on 18/08/2023)

⁸⁵ Ibid

⁸⁶ Ibid

⁸⁷ Natural Justice., 'Access and Benefit Sharing: Toolkit.' Available at https://naturaljustice.org/wp-content/uploads/2021/09/ABS-toolkit_MARULA_mailer-1.pdf (Accessed on 18/08/2023)

⁸⁸ Ibid

⁸⁹ Muigua. K., 'Maximising the Right to Free, Prior, and Informed Consent for Enhanced Environmental Justice in Kenya.' Op Cit

⁹⁰ Ibid

It has also been argued that one of the main concerns regarding the *Nagoya Protocol* is the lack of systems and capacity to implement it efficiently in resource-poor countries⁹¹. Factors including lack of awareness, insufficient relevant information and lack of capacity may cause delay in countries implementing access and benefit sharing legislation and processes in respect of resources such as biological control agents⁹². It is thus vital that there are the policies, processes and capacity in place in Africa to ensure equitable benefit sharing of and access to potential biological control agents among other natural resources⁹³.

The problem of corruption has also hindered equitable benefit sharing in Kenya through diversion of conservation funds for private use, systemic bribery, and rent seeking in wildlife and forestry contracts⁹⁴. Competition for natural resource benefits can result in a high level of corrupt rent seeking behavior leading to elite capture that disproportionately distributes benefits to well-connected individuals in society⁹⁵. It is thus imperative to curb corruption in order to realize equitable benefit sharing in Kenya.

⁹¹ Ivey. P.J., 'Nagoya Protocol and Africa's Willingness to Share Biological Control Agents: Are we Deterred by Barriers Instead of Using Opportunities to Work Together?' *BioControl* (2023) 68:253–259

⁹² Ibid

⁹³ Ibid

⁹⁴ Mbeche. R., 'Anti-corruption and Equitable Benefit Sharing in Kenya's Wildlife and Forest Sectors: Gaps and Lessons.' Available at <https://www.worldwildlife.org/pages/tncr-topic-brief-anti-corruption-and-equitable-benefit-sharing-in-kenya-s-wildlife-and-forest-sectors-gaps-and-lessons> (Accessed on 18/08/2023)

⁹⁵ Mumma, A., 'Local Communities in Environment and Natural Resource Management' *Compliance and Enforcement of Environmental law in Towards More Effective Implementation*, Leroy Paddock et al. eds Cheltenham: Edward Elgar Publishing. (2011) p. 620.

These problems have contributed to disputes and disagreements over benefit sharing in respect of exploitation of natural resources in Kenya⁹⁶. It has been observed that exploitation of natural resources has not always spurred economic development but has in some instances resulted in low economic growth, environmental degradation, deepening poverty, and in some cases, violent conflict⁹⁷. Multinational Corporations involved in exploitation of natural resources have often been accused of failing to enhance benefits to local communities by focusing on maximizing profits⁹⁸.

The foregoing challenges hinder the realization of equitable benefit sharing in Kenya. It is essential to solve these challenges so as to enhance realization of equitable benefit sharing in Kenya. It has been asserted that enactment of the Natural Resources (Benefit Sharing) Bill will foster equitable benefit sharing in Kenya and address conflicts between national and county governments over natural resource exploitation⁹⁹.

4.0 Way Forward

Realizing equitable sharing is essential to successful conservation efforts and sustainable use of natural resources¹⁰⁰. Effective benefit sharing,

⁹⁶ Muigua. K., 'Reflections on Managing Natural Resources and Equitable Benefit Sharing in Kenya.' Op Cit

⁹⁷ Alstine, J.V., et al, 'Resource Governance Dynamics: The Challenge Of 'New Oil' In Uganda,' *Resources Policy*, Vol. 40, 2014, pp.48-58

⁹⁸ Muigua. K., 'Multinational Corporations, Investment and Natural Resource Management in Kenya.' Available at <http://kmco.co.ke/wp-content/uploads/2018/11/Multinational-Corporations-Investment-and-Natural-Resource-Management-in-Kenya-Kariuki-Muigua-November-2018.pdf> (Accessed on 18/08/2023)

⁹⁹ Otieno. R., 'Senate Bill Seeks to End Natural Resource Rows.' Available at <https://www.pd.co.ke/inside-politics/senate-bill-seeks-to-end-natural-resource-rows-171135/> (Accessed on 18/08/2023)

¹⁰⁰ Mbeche. R., 'Anti-corruption and Equitable Benefit Sharing in Kenya's Wildlife and Forest Sectors: Gaps and Lessons.' Op Cit

facilitated by transparent and informed decision-making, can help build community partnerships and support for conservation, facilitate law enforcement, and prevent conflicts and corruption¹⁰¹.

In order to realize equitable benefit sharing in Kenya, there is need to fast track enactment of the Natural Resources (Benefit Sharing) Bill into law. Enactment of this law will enhance equitable benefit sharing in Kenya by providing guidelines on aspects of benefit sharing such as revenue sharing ratio between the national and county governments in natural resources exploitation and formulation of benefit sharing agreements between entities involved in the exploration of natural resources and the relevant county governments¹⁰². Parliament should therefore expedite enactment of this legislation in order to realize equitable benefit sharing in Kenya.

There is also need to foster effective public participation in the management of natural resources in order to realize equitable benefit sharing in Kenya¹⁰³. Public participation allows individuals to express their views on key governmental policies and laws concerning conditions in their communities including the use and access to natural resources¹⁰⁴. It is imperative to foster public participation in order to ensure that the views of all stakeholders including local communities are taken into account in the management of natural resources and allocation of benefits accruing from the exploitation of such resources¹⁰⁵. Fostering the right to Free, Prior, And Informed Consent (FPIC) is vital in ensuring effective

¹⁰¹ Ibid

¹⁰² The Natural Resources (Benefit Sharing) Bill, 2022., Op Cit

¹⁰³ Muigua. K., 'Reflections on Managing Natural Resources and Equitable Benefit Sharing in Kenya.' Op Cit

¹⁰⁴ Ibid

¹⁰⁵ Luseno. S., 'Benefit Sharing Principles must apply to Water Resources.' Available at <https://kcspog.org/2020/12/15/benefit-sharing-principles-must-apply-to-water-resources/> (Accessed on 18/08/2023)

public participation especially by local communities in the management of natural resources¹⁰⁶. In order to foster the principle of public participation and realization of FPIC, the Natural Resources (Benefit Sharing) Bill establishes a Local Community Benefit Sharing Forum in each affected local community where exploitation of natural resources is conducted¹⁰⁷. It can therefore be argued that public participation is integral in realizing equitable benefit sharing Kenya.

It has also been argued that decentralization of the management of natural resources through mechanisms such as devolution can enhance effective use of these resources in a manner that ensures that local communities reap full benefits from them¹⁰⁸. Devolution has the ability to enhance allocative efficiency since by being closer to the people, decentralized governments can more accurately determine local needs and find appropriate solutions¹⁰⁹. In Kenya, county governments are in a better position to identify the most viable and sustainable projects hence it is important to make use of the devolved system to empower communities and build capacity through investing the accrued benefits from exploration of natural resources in Sustainable Development projects¹¹⁰.

¹⁰⁶ Muigua. K., 'Maximising the Right to Free, Prior, and Informed Consent for Enhanced Environmental Justice in Kenya.' Op Cit

¹⁰⁷ Natural Resources (Benefit Sharing) Bill, S 13 (1)

¹⁰⁸ Lohde, L.A., 'The Art and Science of Benefit Sharing in the Natural Resource Sector,' International Finance Corporation, February 2015., Available at http://www.ifc.org/wps/wcm/connect/8e29cb00475956019385972fbd86d19b/IFC_Art+and+Science+of+Benefits+Sharing_Final.pdf?MOD=AJPERES&CACHEID=8e29cb00475956019385972fbd86d19b (Accessed on 18/08/2023)

¹⁰⁹ Ibid

¹¹⁰ Muigua. K., 'Reflections on Managing Natural Resources and Equitable Benefit Sharing in Kenya.' Op Cit

Finally, in order to realize equitable benefit sharing in Kenya, it is important to curb the corruption menace¹¹¹. The problem of corruption has hindered equitable benefit sharing in Kenya through diversion of conservation funds for private use, systemic bribery, and rent seeking in wildlife and forestry contracts¹¹². It is therefore imperative to curb corruption through measures such as enhancing transparency and accountability in the allocation and management of resources, imposing civil and criminal sanctions on those involved in corruption and fostering regional and global cooperation towards combating corruption¹¹³. These measures will enhance realization of equitable benefit sharing in Kenya.

5.0 Conclusion

The concept of equitable benefit sharing is fundamental in natural resources management¹¹⁴. This idea has been enshrined under *Convention on Biological Diversity*¹¹⁵ and *Nagoya Protocol*.¹¹⁶ There are attempts towards legislating equitable benefit sharing in Kenya through the *Natural Resources (Benefit Sharing) Bill, 2022*¹¹⁷. Realizing equitable benefit sharing in Kenya has been hindered by several problems including lack of a harmonized framework on benefit sharing, limited awareness and access to information and the problem of corruption¹¹⁸. Measures that can

¹¹¹ Mbeche. R., 'Anti-corruption and Equitable Benefit Sharing in Kenya's Wildlife and Forest Sectors: Gaps and Lessons.' Op Cit

¹¹² Ibid

¹¹³ Lawson, T. R. & Greenstein, J., 'Beating the Resource Curse in Africa: A global Effort', Op Cit

¹¹⁴ Muigua. K., 'Securing Our Destiny through Effective Management of the Environment.' Op Cit

¹¹⁵ Convention on Biological Diversity., Op Cit

¹¹⁶ Convention on Biological Diversity., 'Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to The Convention on Biological Diversity.' Op Cit

¹¹⁷ The Natural Resources (Benefit Sharing) Bill, 2022., Op Ci

¹¹⁸ Brink. M., 'Implementation of Access and Benefit Sharing Policies in Sub-Saharan Africa: Inventory, Analysis and Proposals.' Op Cit

be adopted towards realizing equitable benefit sharing in Kenya include fast tracking the enactment of the Natural Resources (Benefit Sharing) Bill into law, fostering effective public participation in the management of natural resources; embracing devolution in the management of natural resources and curbing corruption¹¹⁹. Realizing equitable benefit sharing in Kenya is an attainable endeavour.

¹¹⁹ Muigua. K., 'Reflections on Managing Natural Resources and Equitable Benefit Sharing in Kenya.' Op Cit

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The Case for Reform of Kenya's Firearms Licensing Law: Lessons from Comparative Experience

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Abstract

This paper critically examines the state of firearm licensing laws in Kenya, shedding light on recent events and reported incidents that underscore the pressing need for comprehensive reform. Drawing insights from comparative experiences across various nations, including the United States of America, Canada, Australia, the United Kingdom, and Sweden, the discussion highlights deficiencies in Kenya's Firearms Act. Incidents of misuse of licensed firearms serve as catalysts for addressing critical aspects such as the establishment of a Firearms Registration Information System (FRIS), restrictions on firearm types and numbers, psychological assessments in licensing decisions, independent tribunals, regulations on disposal of firearms, handling of firearms owned by deceased individuals, and the imperative to combat trafficking offenses. By synthesizing lessons from diverse international contexts, the paper offers a roadmap for Kenya's policymakers to navigate the complexities of firearm regulation, emphasizing the paramount importance of a balanced approach that ensures individual rights are harmonized with the imperatives of public safety and public policy.

Key Words: Legal Reform, Kenya, Firearms Licensing Law

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1. Introduction

In the contemporary global landscape, the regulation of firearms poses a complex and critical challenge for nations seeking to strike a balance between individual rights and public safety.¹ This discussion delves into the case of Kenya, specifically addressing the urgent need for reform in its firearms licensing law. Recent events have underscored the inadequacies of the current legislation, with reported incidents of misuse of licensed firearms, highlighting the pressing necessity for comprehensive reforms. Drawing lessons from comparative experiences across various countries, this discourse explores key deficiencies in Kenya's Firearms Act, presents preliminary observations from reported incidents, and puts forward proposals for strengthening the firearms licensing law. Through an examination of lessons learned from countries such as Canada, the United States of America, Australia, the United Kingdom, and Sweden, the study aims to provide a holistic understanding of best practices that can inform the evolution of Kenya's firearms regulations. The discussion encompasses aspects such as the establishment of a Firearms Registration Information System (FRIS), restrictions on the number and types of firearms, the role of independent forensic firearms experts, and the need for specialized tribunals. Each lesson learned from these diverse international experiences contributes to a comprehensive set of recommendations for Kenya, fostering a nuanced and effective approach to firearm regulation in the pursuit of national security and public safety.

¹ Guide on Firearms Licensing Law (2022) available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1116230/Firearms_guide_November_2022.pdf accessed 12 November 2023

2. Brief Overview of Kenya's Firearms Licensing Law in Light of Recent Events

2.1 Firearms Act

Kenya's Firearms Licensing Law is primarily governed by the Firearms Act. The Firearms Act, Chapter 114 of the Laws of Kenya, establishes the legal framework for the possession, use, and licensing of firearms in the country.² The main purpose of the act is to regulate the acquisition and use of firearms to ensure public safety and prevent the misuse of weapons.³

The Firearms Act outlines the criteria and procedures for obtaining a firearm license. Individuals seeking to own or carry a firearm must meet specific eligibility criteria, including age restrictions, mental stability, and a clean criminal record.⁴ The act categorizes firearms into various classes, distinguishing between different types of weapons such as air gun, air rifle, air pistol, revolver, crossbow, laser gun.⁵

Certain types of firearms are strictly prohibited for civilian ownership. This typically includes automatic weapons, military-grade firearms, and other high-capacity or particularly dangerous firearms.⁶ The act specifies the duration of firearm certificates and outlines the process for renewal.⁷ Additionally, it provides provisions for the revocation of the certificate in cases where individuals no longer meet the eligibility criteria or have violated the terms of their license.⁸

² Firearms Act cap 114

³ Ibid, long title

⁴ Ibid, sec 5

⁵ Ibid, sec 2

⁶ Ibid

⁷ Ibid, sec 5

⁸ Ibid

The act includes regulations regarding the safe storage⁹ and transportation¹⁰ of firearms to prevent accidents, theft, or unauthorized use. The act outlines penalties for various offenses related to the illegal possession, use, or trafficking of firearms. This includes fines and imprisonment for those found guilty of violating the provisions of the act.¹¹

2.2 Reported Incidents of Misuse of Licensed Firearms in Kenya Summary of Incidents

1. Private Compound Shooting in Karen, Nairobi

A guard was shot and wounded in the stomach and leg while responding to a distress call in a private compound in Karen, Nairobi. Businessman James Kariuki, involved in the incident, was asked to surrender his firearm after shooting the guard during a gang raid.¹²

2. Limuru Road Shooting by Paul Kobia

Businessman Paul Kobia shot and killed a suspected criminal on Limuru Road, Parklands, Nairobi, during a botched robbery. Kobia claimed the suspect had snatched his phone, prompting a chase and shooting.¹³

3. Brian Yongo's Shooting Incident in Runda

Businessman Brian Yongo shot in the air to "wake up" his guards who failed to open the gate as he arrived home. Yongo declined to honor police

⁹ Ibid, sec 18

¹⁰ Ibid, sec 29

¹¹ For instance, sec 4 outlines the penalty for purchasing firearms or ammunition without firearm certificate.

¹² Cyrus Ombati, 'Alarm over misuse by licensed gun holders' available at <https://www.standardmedia.co.ke/article/2000128862/alarm-over-misuse-by-licensed-gun-holders> accessed 12 November 2023

¹³ Ibid

summons, obtained a court order preventing gun confiscation, and claimed impatience led to firing the shot.¹⁴

4. Road Rage Shooting in Dagoretti, Nairobi

Senior insurance firm manager Fredrick Mwaniki shot and killed a motorist and injured another in a road rage incident in Dagoretti, Nairobi. Mwaniki, a licensed gun holder, was charged with murder in the incident.¹⁵

5. Police Reservist Disarmed in Parklands

A police reservist in Parklands was disarmed by security guards after shooting in the air to force entry into a women's hostel. The reservist, dropping off a female friend, fired twice in the air, leading to his arrest and seizure of his pistol, ammunition, and police-related items.¹⁶

These incidents highlight various instances of firearm misuse in Kenya, involving private individuals, businessmen, and even a police reservist. The incidents underscore challenges related to responsible firearm ownership, the potential for escalation in confrontational situations, and the need for strict adherence to firearm regulations.

2.3 Preliminary Observations

Numerous firearms in the hands of a few licensed holders (*some of whom should not have them*) with little regulatory safeguards

This observation highlights a potential issue within Kenya's firearms licensing system, suggesting that a disproportionate number of firearms are concentrated among a small group of licensed holders. Furthermore, it implies that some individuals within this group may not meet the

¹⁴ Ibid

¹⁵ Ibid

¹⁶ Ibid

necessary criteria for responsible firearm ownership, indicating lapses in the regulatory safeguards.

The presence of numerous firearms in the hands of a few individuals highlights potential weaknesses in the regulatory framework. This could include loopholes in the licensing process, insufficient background checks, or challenges in monitoring and enforcing compliance. The observation implies that some licensed holders may not be suitable or responsible gun owners. This could be due to changes in circumstances, such as mental health issues, criminal activities, or other factors that make them unfit to possess firearms.

Addressing these preliminary observations is essential for fostering a safer environment, ensuring responsible gun ownership, and preventing the misuse of firearms in Kenya.

Current practice of firearms licensing in Kenya emphasizes permitting rather than restricting gun ownership particularly for the well to do and connected applicants.

This observation suggests that the current firearms licensing practices in Kenya may lean more towards facilitating gun ownership, particularly for individuals with financial means or influential connections. The focus appears to be on granting permits rather than implementing stringent restrictions, potentially leading to a situation where firearms end up in the hands of those who might not strictly meet the criteria for responsible ownership.

The observation implies that the emphasis in the current firearms licensing system is on facilitating the issuance of permits, making it easier for individuals to acquire firearms. The suggestion that well-to-do and connected applicants may have an advantage in obtaining firearm licenses points to potential inequality in access. This could result in a

disparity where certain individuals, due to their socio-economic status or connections, are more likely to be granted licenses.

If the licensing system is biased towards permitting rather than rigorous restriction, there is a risk that firearms could end up in the hands of individuals who may not meet the necessary criteria for responsible ownership. This raises concerns about the potential misuse of firearms. Addressing this observation involves striking a balance between respecting the rights of individuals to own firearms for legitimate reasons and ensuring that the licensing process is rigorous enough to prevent misuse and maintain public safety.

3. Deficiencies of Kenya's Firearms Act

3.1 Lack of Digitized Registration of Firearms and Firearms Holders

The absence of a digitized registration system for firearms and their holders is a notable deficiency in Kenya's Firearms Act. A digitized system involves the electronic recording and management of information related to firearms and their owners, offering various benefits in terms of efficiency, accuracy, and security.¹⁷ The current deficiency suggests that the registration of firearms and their holders is primarily done through manual, paper-based systems. This traditional approach can be prone to errors, delays, and challenges in data retrieval.

A lack of digitization implies that tasks such as processing applications, updating records, and conducting background checks may be less efficient compared to modern, automated systems. Manual record-

¹⁷ Guide on Firearms Licensing Law (2022) available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1116230/Firearms_guide_November_2022.pdf accessed 12 November 2023

keeping can pose security risks, as paper documents are susceptible to loss, damage, or unauthorized access. Digitizing records enhances security measures, protecting sensitive information related to firearms and their owners.¹⁸

A digitized system allows for easier and quicker access to information when needed. Manual records may be time-consuming to search through, potentially impacting the effectiveness of law enforcement and regulatory agencies. A digitized registration system enables real-time tracking and monitoring of firearms, facilitating better oversight by regulatory authorities. It can help ensure that licensed firearms are being used responsibly and are not involved in criminal activities.¹⁹ A digitized system streamlines processes for law enforcement agencies, allowing them to efficiently conduct background checks, monitor firearm usage, and respond to incidents in a timely manner.

3.2 Lack of Policy Guidance on the Number and Types of Firearms

This deficiency points to a lack of clear policy guidance within Kenya's Firearms Act regarding the permissible number and types of firearms that individuals are allowed to possess. The absence of specific guidelines in this regard can lead to ambiguity, potential loopholes, and challenges in regulating the proliferation of firearms.²⁰ The deficiency suggests that the Firearms Act may not provide explicit guidance on the maximum number of firearms an individual can own or the types of firearms permitted for civilian possession. Without clear policy guidance, there is a risk that individuals could accumulate a large number and various types of

¹⁸ Ibid

¹⁹ Ibid

²⁰ Reinvent Kenya. "Arms & Ammo booklet." Published June 2022. Available at: https://www.reinvent-kenya.com/wp-content/uploads/2022/06/Arms-Ammo-booklet-A5_compressed.pdf [Accessed 18 November 2023]

firearms without proper justification.²¹ This lack of restriction might contribute to an increased proliferation of firearms.

The absence of specific limits may create challenges for regulatory authorities in monitoring and overseeing the distribution and ownership of firearms. This can hinder efforts to prevent the accumulation of firearms by individuals who may pose a risk. The deficiency raises concerns about the potential misuse of firearms. Without defined limits, individuals might acquire more firearms than necessary for legitimate purposes, increasing the risk of unauthorized use or diversion for illicit activities.²²

Addressing the lack of policy guidance on the number and types of firearms is essential for maintaining a balance between individual rights to firearm ownership and ensuring public safety through effective regulation and oversight.

3.3 Lack of Continuous Psychological Review of Firearms Holders

This deficiency points to a gap in the Firearms Act in Kenya, where there is a lack of provisions for continuous psychological reviews of individuals holding firearm licenses. Without a system for ongoing psychological assessments, there may be a risk of overlooking changes in mental health that could impact the responsible ownership of firearms.

The current deficiency suggests that the psychological assessment of firearm holders may occur only at the time of initial application. There is a lack of mechanisms for regular, ongoing psychological reviews

²¹ Ibid

²² American Psychological Association. "Gun Violence Prevention." Available at: <https://www.apa.org/pubs/reports/gun-violence-prevention> [Accessed 18 November 2023].

throughout the duration of the license. Individuals' mental health can change over time due to various factors. Without continuous reviews, the regulatory framework may miss evolving mental health conditions that could affect the safe possession and use of firearms.²³

Mental health is a crucial factor in determining an individual's fitness to own and use firearms responsibly.²⁴ A lack of continuous psychological assessments may pose risks to public safety if a firearm holder develops mental health issues after the initial evaluation.²⁵ Ongoing psychological reviews serve as a preventative measure, allowing authorities to identify warning signs or changes in behavior that might indicate an increased risk of misuse of firearms.²⁶

3.4 Arbitrary Powers of the Firearms Licensing Bureau

This deficiency highlights concerns regarding the discretionary powers wielded by the Firearms Licensing Bureau (FLB) within the framework of Kenya's Firearms Act. The observation suggests that the FLB may have arbitrary interpretations of the Act's discretionary guidance, potentially leading to inconsistent application and decision-making.

The Firearms Act contains provisions with discretionary language, allowing authorities, including the FLB, some flexibility in decision-making.²⁷ However, the lack of clarity or specificity in these provisions

²³ Ibid

²⁴ RAND Corporation. "Mental Illness as a Risk Factor for Gun Violence." Available at: <https://www.rand.org/research/gun-policy/analysis/essays/mental-illness-risk-factor-for-gun-violence.html> [Accessed 18 November 2023].

²⁵ Ibid

²⁶ Ibid

²⁷ International Committee of the Red Cross (ICRC). "Firearms Act 2010." Available at: <https://ihl-databases.icrc.org/en/national-practice/firearms-act-2010> [Accessed 18 November 2023]

could lead to arbitrary interpretations.²⁸ The deficiency implies that the FLB may not consistently apply the Act's provisions, leading to varied decisions based on subjective interpretations. This can result in a lack of transparency and fairness in the licensing process.

Arbitrary powers can create opportunities for the abuse of authority within the FLB.²⁹ If discretionary guidance is subject to inconsistent interpretation, it may lead to decisions influenced by factors other than the merit or circumstances of individual applications.³⁰

3.5 Lack of Independent Forensic Firearms Examiners

This deficiency points to a gap in the Firearms Act in Kenya, where there is a lack of provision for independent forensic firearms examiners. Independent examiners play a crucial role in conducting impartial and objective analyses of firearms-related evidence, and their absence may impact the reliability and fairness of investigations.³¹

Forensic examination of firearms is vital in criminal investigations to determine aspects such as ballistics, weapon identification, and the trajectory of bullets. Independent examiners contribute to unbiased analyses.³² Without independent examiners, there is a risk of bias in forensic analyses. Examiners directly associated with law enforcement agencies may face challenges in maintaining objectivity, potentially affecting the accuracy and fairness of investigations.³³

²⁸ Ibid

²⁹ Ibid 17

³⁰ Ibid 17

³¹ Ibid 28

³² Ibid

³³ Ibid

The deficiency may impact the quality and credibility of firearms-related evidence presented in legal proceedings. Independent examiners are typically seen as more trustworthy and less likely to be influenced by external pressures.³⁴ The involvement of independent forensic firearms examiners enhances public trust in the investigative process.³⁵ It provides assurance that examinations are conducted impartially, contributing to the credibility of law enforcement activities.³⁶

3.6 Disposal of Firearms and Ammunition in Closed Criminal Cases

This deficiency highlights a potential gap in the Firearms Act of Kenya regarding the procedures for the disposal of firearms and ammunition used as evidence in closed criminal cases. The lack of clear guidelines on disposal can lead to uncertainties in handling these items post-case closure.³⁷ Without established procedures, there is a risk of improper handling or storage of firearms and ammunition, which may pose security concerns. This includes the potential for theft, loss, or unauthorized use if not appropriately addressed.³⁸

The disposal of firearms and ammunition involves legal and ethical considerations. Clear guidelines are necessary to ensure compliance with the law, prevent potential misuse, and uphold ethical standards in the

³⁴ United Nations Office on Drugs and Crime (UNODC). "Firearms as Evidence." Available at: <https://www.unodc.org/e4j/en/firearms/module-8/key-issues/firearms-as-evidence.html> [Accessed 18 November 2023].

³⁵ Scientific American. "Firearm Forensics Has Proven Reliable in the Courtroom and in the Lab." Available at: <https://www.scientificamerican.com/article/firearm-forensics-has-proven-reliable-in-the-courtroom-and-in-the-lab/> [Accessed 18 November 2023]

³⁶ Ibid

³⁷ Philip J. Cook and Harold A. Pollack, "Reducing access to guns by violent offenders" (2017) 3 RSF: The Russell Sage Foundation Journal of the Social Sciences

³⁸ Ibid 33

handling of such items.³⁹ Improper disposal practices may compromise public safety, as firearms and ammunition could end up in the wrong hands.⁴⁰ Establishing secure and standardized procedures is crucial for preventing unintended consequences.

3.7 Lack of Regulations on Deceased Licensed Firearms Holders

This deficiency underscores a gap in the Firearms Act of Kenya concerning regulations pertaining to the firearms owned by individuals who were licensed but have since passed away. The absence of clear guidelines on how to handle firearms in such cases may lead to potential issues in their proper disposal or transfer. In the absence of clear regulations, there is a risk that firearms owned by deceased license holders may be subject to unregulated transfers, potentially leading to misuse or improper possession.

The lack of guidelines on the handling of firearms from deceased license holders may pose security concerns, including the risk of these weapons falling into unauthorized hands or being used for illicit purposes. The deficiency contributes to legal ambiguity, making it challenging for authorities to determine the proper course of action in managing and disposing of firearms owned by deceased individuals with valid licenses.

3.8 Lack of Trafficking Offences

This deficiency points to a gap in the Firearms Act of Kenya, specifically the absence of explicit provisions addressing trafficking offenses related to firearms. The lack of clear regulations on trafficking can impede efforts to combat the illicit trade of firearms and contribute to increased security

³⁹ Ibid

⁴⁰ UNODC. "Indirect Impacts of Firearms on States or Communities." Available at: <https://www.unodc.org/e4j/zh/firearms/module-1/key-issues/indirect-impacts-of-firearms-on-states-or-communities.html> [Accessed 18 November 2023].

risks. Trafficking involves the illegal trade, transfer, or movement of firearms, and without explicit regulations, addressing such activities becomes challenging.⁴¹

Without defined trafficking offenses, law enforcement authorities may face difficulties in investigating, prosecuting, and penalizing individuals involved in the illegal trafficking of firearms. This limitation hampers efforts to curb the flow of illicit weapons. The absence of trafficking offenses contributes to heightened security risks as illicitly traded firearms may be more readily available to criminals, insurgent groups, or other entities involved in unlawful activities.⁴²

Many countries recognize the importance of having clear laws against firearm trafficking to meet international obligations.⁴³ The lack of specific provisions may impact Kenya's compliance with regional and international agreements aimed at preventing the illicit trade of weapons.

4. Proposals for Strengthening Kenya's Firearms Licensing Law: Lessons from Comparative Experience

4.1 Establishment of a Firearms Registration Information System (FRIS)

Sweden serves as a notable example in the establishment of a Firearms Registration Information System (FRIS). The Swedish Police Authority maintains a centralized database that records comprehensive information on registered firearms and their owners.⁴⁴ Sweden's FRIS is a centralized

⁴¹ Ibid

⁴² Ibid

⁴³ UNODC. "International Instruments with Global Outreach." Available at: <https://www.unodc.org/e4j/en/firearms/module-5/key-issues/international-instruments-with-global-outreach.html> [Accessed 18 November 2023].

⁴⁴ Polisen 'Weapon licence and processing times' available at <https://polisen.se/en/laws-and-regulations/firearms/weapon->

and integrated database that stores detailed information on registered firearms. This includes data on the make, model, caliber, and ownership details of each firearm.⁴⁵

The system allows for real-time updates and monitoring, ensuring that information on firearms and their owners is current and accurate. This capability enhances law enforcement's ability to access timely data during investigations. FRIS in Sweden is integrated with other relevant systems, such as criminal records and mental health databases. This integration provides a comprehensive overview of firearm owners and enhances decision-making processes.⁴⁶

Access to FRIS is secure and protected to prevent unauthorized use. The system adheres to stringent data protection measures, ensuring the confidentiality and privacy of information stored in the database. The FRIS facilitates efficient tracking and tracing of firearms, allowing law enforcement to quickly identify the origin and ownership history of a firearm. This capability is vital for investigations and crime prevention.⁴⁷

4.1.1 Recommendations for Kenya

Kenya can learn from Sweden's approach by investing in modern technology to establish a secure and user-friendly FRIS. This might involve the use of advanced software and infrastructure for efficient database management.

Collaboration with relevant stakeholders, including law enforcement agencies, firearm owners, and IT experts, is crucial for the successful

licence/#:~:text=In%20order%20to%20be%20granted,are%20hunting%20and%20target%20shooting. Accessed 13 November 2023

⁴⁵ Ibid

⁴⁶ Ibid

⁴⁷ Ibid

implementation of FRIS. Engaging with experts who have experience in developing and maintaining such systems is valuable.

Proper training for users, including law enforcement personnel and administrators managing the system, is essential. Training programs ensure that the system is utilized effectively, and users are well-equipped to navigate and interpret the information.

Furthermore, Kenya should establish a robust legal framework governing the use, access, and protection of data within the FRIS. Clear guidelines on data privacy and security are imperative to gain public trust and comply with legal standards.

4.2 Restricting the Number of Firearms per Household and Prohibition of Heavy Guns (Rifles and Shotguns)

A noteworthy example offering best practices in restricting the number of firearms per household and prohibiting heavy guns is Japan. Japan has implemented stringent regulations on firearm ownership, including limitations on the number of firearms individuals can possess and a focus on handguns rather than rifles or shotguns.⁴⁸ Japan imposes strict limits on the number of firearms per household. This restriction ensures that individuals can only own a limited number of firearms, reducing the overall prevalence of guns in society.⁴⁹

The emphasis on handguns, rather than rifles or shotguns, is a key feature of Japan's firearm regulations. Handguns are considered to be more easily

⁴⁸ India Today (2022) 'Tokyo's zero-tolerance gun laws: What makes Japan different from other nations, lessons for India' available at <https://www.indiatoday.in/news-analysis/story/tokyo-zero-tolerance-gun-laws-former-pm-shinzo-abe-gun-laws-uk-us-canda-india-1973447-2022-07-08> accessed 13 November 2023

⁴⁹ Ibid

concealable and pose a lower risk compared to long guns, aligning with a focus on public safety. Japan has a thorough and rigorous licensing process for firearm ownership. Individuals must undergo background checks, psychological assessments, and demonstrate a legitimate need for owning a firearm. This process contributes to responsible ownership and ensures that only qualified individuals can possess firearms.⁵⁰

Firearm licenses in Japan come with regular renewal requirements. This ensures that individuals continuously meet the criteria for responsible firearm ownership and that changes in circumstances, such as mental health, are regularly assessed.⁵¹

4.2.1 Recommendations for Kenya

Kenya can draw a lesson from Japan by establishing clear limits on the number of firearms allowed per household. This restriction can help prevent the accumulation of a large number of firearms in a single residence, reducing the overall risk.

Focusing regulations on handguns, which are more concealable and can be considered higher risk, may be a prudent approach. This can be complemented by more stringent licensing requirements for handguns compared to other types of firearms.

Kenya can enhance its licensing procedures, introducing comprehensive background checks, psychological assessments, and a thorough vetting process. This ensures that only individuals with a legitimate need and a clean record can obtain a firearm license.

⁵⁰ Ibid

⁵¹ Ibid

In addition, implementing regular license renewal requirements can contribute to ongoing assessments of firearm owners, ensuring that they continue to meet the necessary criteria for responsible ownership.

4.3 Incorporating Psychological Assessment in Licensing Decisions

A notable example of a country incorporating psychological assessment in licensing decisions is Germany. Germany has stringent firearm regulations that include a comprehensive psychological evaluation as part of the licensing process. This approach aims to assess the mental fitness and stability of individuals applying for firearm licenses.⁵²

Germany requires individuals applying for a firearm license to undergo a mandatory psychological evaluation conducted by a licensed psychologist. This evaluation assesses the applicant's mental health, stability, and suitability for firearm ownership. The psychological assessment in Germany emphasizes mental fitness and stability, recognizing the impact of an individual's psychological well-being on their ability to responsibly own and use firearms.⁵³

The psychological evaluation provides objective criteria for licensing decisions. It helps authorities determine whether an individual poses any mental health risks that could compromise the safe ownership and use of firearms. In some cases, Germany requires individuals to undergo periodic reassessments of their mental fitness throughout the duration of their firearm license. This ensures ongoing monitoring of psychological well-being.⁵⁴

⁵² Expat info (2023) 'Gun laws in Germany' available at <https://www.iamexpat.de/expat-info/german-expat-news/gun-laws-germany> accessed 13 November 2023

⁵³ Ibid

⁵⁴ Ibid

4.3.1 Recommendations for Kenya

Kenya can learn from Germany's approach by integrating mandatory psychological assessments into its firearm licensing process. This can be conducted by licensed psychologists and serve as a critical component of the overall evaluation.

Kenya should clearly define and include mental health criteria in the licensing process. This involves establishing specific indicators and assessments to evaluate an applicant's psychological well-being and stability.

Kenya should provide training for licensed psychologists who will be conducting the assessments. Ensuring that assessors are well-trained and follow standardized protocols enhances the reliability and consistency of evaluations.

Kenya should also consider implementing regular review mechanisms where individuals with firearm licenses are periodically reassessed for their mental fitness. This ongoing evaluation can help identify any changes in mental health over time.

4.4 Establishment of a Firearms Tribunal

An exemplary case demonstrating the establishment of a Firearms Tribunal is found in the United Kingdom. The United Kingdom established the Firearms Appeals Committee, which functions as an independent tribunal tasked with hearing appeals related to firearm licensing decisions.⁵⁵ The Firearms Appeals Committee in the United

⁵⁵ Guide on Firearms Licensing Law (2022) available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1116230/Firearms_guide_November_2022.pdf accessed 12 November 2023

Kingdom operates independently of law enforcement agencies and licensing authorities. This ensures impartial adjudication of appeals and provides an avenue for individuals to challenge licensing decisions. The tribunal consists of members with specialized knowledge in firearms legislation, licensing procedures, and legal matters. This expertise contributes to informed and well-reasoned decisions on appeals.⁵⁶

The establishment of a dedicated tribunal promotes transparency and fairness in the appeals process. Individuals who disagree with licensing decisions have the opportunity to present their case before an impartial body. The tribunal provides a legal mechanism for individuals to challenge decisions, ensuring that licensing authorities adhere to the law and follow due process. This legal oversight contributes to the overall integrity of the firearms licensing system.⁵⁷

4.4.1 Recommendations for Kenya

Kenya can draw from the UK's experience by establishing an independent Firearms Tribunal responsible for hearing appeals related to firearm licensing decisions. This tribunal should be separate from law enforcement agencies and licensing authorities.

We should ensure that the tribunal consists of members with specialized knowledge in firearms legislation, licensing procedures, and legal matters. This expertise is crucial for making well-informed decisions during the appeals process.

We should also define a clear and accessible appeals process for individuals dissatisfied with firearm licensing decisions. This includes

⁵⁶ Ibid

⁵⁷ Ibid

outlining the procedures, timeframes, and requirements for filing an appeal with the Firearms Tribunal.

Kenya should implement mechanisms for regular reviews of decisions made by the Firearms Tribunal to assess the consistency and fairness of rulings. Periodic evaluations contribute to continuous improvement in the tribunal's operations.

4.5 Regulations on Independent Forensic Firearms Experts

The United States of America provides a valuable lesson in the regulation of independent forensic firearms experts. In the U.S., forensic firearm examination is often conducted by independent experts, and their work is subject to regulations and standards set forth by organizations such as the Association of Firearm and Tool Mark Examiners (AFTE).⁵⁸ The AFTE in the United States of America establishes certification standards and provides training for forensic firearms examiners. This ensures that individuals conducting firearm examinations possess the necessary skills, knowledge, and expertise.⁵⁹

Forensic firearms experts adhere to a code of ethics that outlines professional conduct and standards. This includes principles of impartiality, objectivity, and the commitment to providing accurate and unbiased analyses. The U.S. emphasizes quality assurance in forensic firearm examinations. Laboratories and experts follow standardized protocols, ensuring the reliability and reproducibility of results. This commitment to quality is essential for the integrity of legal proceedings. Independent forensic firearms experts often undergo peer review processes, where their work is scrutinized by other experts within the

⁵⁸ Association of Firearm and Tool Mark Examiners available at <https://afte.org/> accessed 13 November 2023

⁵⁹ Ibid

field. This helps validate findings and maintain high standards of accuracy.⁶⁰

4.5.1 Recommendations for Kenya

Kenya can benefit from implementing certification standards for independent forensic firearms experts. This could involve the creation of a regulatory body or the adaptation of international standards to ensure that examiners meet specific qualifications.

Kenya should develop and implement a code of ethics for forensic firearms examiners in Kenya. This code should emphasize principles of impartiality, objectivity, and ethical conduct to maintain the integrity of examinations.

Kenya should emphasize quality assurance protocols in forensic firearm examinations. This involves standardizing procedures, ensuring proper documentation, and implementing measures to validate and verify findings.

Kenya should also introduce peer review processes to evaluate the work of independent forensic firearms experts. Peer reviews contribute to the credibility of examinations and provide additional layers of scrutiny to enhance accuracy.

We should also implement continuing education requirements for forensic firearms experts to stay updated on advancements in the field. This ensures that examiners maintain their skills and knowledge throughout their careers.

⁶⁰ Ibid

4.6 Regulations on Disposal of Firearms and Ammunition in Closed Criminal Cases

Canada offers a noteworthy example of best practices in regulating the disposal of firearms and ammunition in closed criminal cases. The Royal Canadian Mounted Police (RCMP) has established clear guidelines and procedures for the disposal of firearms and related items.⁶¹ Canada has standardized procedures for the disposal of firearms and ammunition used as evidence in closed criminal cases. These procedures ensure consistency and legality in the handling of such items. The disposal of firearms and ammunition is governed by a clear legal framework in Canada. This framework outlines the conditions under which disposal is permitted, ensuring compliance with the law and preventing any potential misuse.⁶²

The disposal processes in Canada are designed to be transparent. This includes providing documentation of the disposal and maintaining records, contributing to accountability and oversight. Safety is a paramount consideration in the disposal of firearms and ammunition. Canada's regulations prioritize safe and secure methods of disposal to prevent any accidents or unauthorized access to these items.⁶³

4.6.1 Recommendations for Kenya

Kenya can draw from Canada's experience by establishing clear and standardized protocols for the disposal of firearms and ammunition in closed criminal cases. These protocols should outline the procedures and conditions for disposal.

⁶¹ The Royal Canadian Mounted Police available at <https://www.rcmp-grc.gc.ca/> accessed 13 November 2023

⁶² Ibid

⁶³ Ibid

Kenya should develop a legal framework that clearly defines the conditions under which the disposal of firearms and ammunition is permitted. This framework should ensure compliance with the law and prevent any potential legal challenges.

Kenya should emphasize the importance of documentation and record-keeping in the disposal process. Keeping detailed records provides transparency, allows for accountability, and ensures that the disposal is conducted in accordance with established protocols.

Kenya should prioritize safety considerations in the disposal of firearms and ammunition. This includes implementing secure methods of disposal to prevent accidents and unauthorized access, aligning with best practices for handling potentially dangerous items.

4.7 Regulations on Deceased Licensed Firearms Holders

Australia serves as a notable example in implementing regulations on deceased licensed firearms holders. The Australian approach involves clear guidelines and procedures for managing firearms owned by individuals who held valid licenses but have passed away.⁶⁴ Australia has regulations that require prompt notification of the death of a licensed firearms holder. This ensures timely initiation of the process for managing and transferring firearms owned by the deceased individual.⁶⁵

The country has well-defined procedures for the transfer or surrender of firearms owned by deceased license holders. These procedures consider factors such as legal inheritance and the qualifications of heirs to possess

⁶⁴ Lexology (2022) 'Firearms license laws across Australia' available at <https://www.lexology.com/library/detail.aspx?g=509e0668-a66e-4c86-befb-93a6a4e4a58a> accessed 13 November 2023

⁶⁵ Ibid

firearms. Australia has a legal framework that governs the transfer of firearms from deceased individuals to heirs or other designated recipients. This framework provides clarity on the conditions under which such transfers are permitted.⁶⁶

The regulations include provisions for the secure storage of firearms during the transition period. This ensures that firearms are handled responsibly and do not pose a security risk during the transfer process.

4.7.1 Recommendations for Kenya

Kenya can benefit from implementing regulations that mandate the prompt reporting of the death of a licensed firearms holder. This requirement ensures timely action in managing the firearms owned by the deceased.

Kenya should establish clear and comprehensive procedures for the transfer or surrender of firearms owned by deceased license holders. These procedures should consider legal inheritance, eligibility of heirs, and the proper documentation required for the process.

Kenya should develop a legal framework that outlines the conditions and legal requirements for the transfer of firearms from deceased license holders. This framework should provide guidance on the lawful and responsible transfer of firearms to designated recipients.

We should also consider incorporating provisions for secure storage of firearms during the transfer process. This ensures that firearms are stored in a manner that prevents unauthorized access and enhances overall public safety.

⁶⁶ Ibid

4.8 Trafficking Offences

The United States of America serves as an instructive example in addressing trafficking offenses related to firearms. The U.S. has implemented comprehensive federal laws, including the Gun Control Act of 1968 and subsequent amendments, that specifically target the illegal trafficking of firearms.⁶⁷ The U.S. imposes stringent regulations on federally licensed firearm dealers, requiring them to maintain records of firearm sales and report multiple sales of handguns to the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF). This helps trace and track firearms in the event of trafficking.⁶⁸

Federal laws explicitly prohibit the trafficking of firearms, including the illegal transfer, sale, or transportation of firearms across state or international borders with the intent to engage in criminal activities. The U.S. laws stipulate severe penalties for individuals engaged in firearms trafficking. These penalties include significant fines and lengthy prison sentences, acting as a deterrent to potential traffickers. The legislation encourages collaboration between federal, state, and local law enforcement agencies to combat firearms trafficking effectively. This multi-agency approach enhances information-sharing and enforcement capabilities.⁶⁹

4.8.1 Recommendations for Kenya

Kenya can consider enacting comprehensive legislation specifically targeting firearms trafficking. Such legislation should define trafficking offenses, establish strict penalties, and provide law enforcement with the necessary tools to investigate and prosecute offenders.

⁶⁷ Association of Firearm and Tool Mark Examiners available at <https://afte.org/> accessed 13 November 2023

⁶⁸ Ibid

⁶⁹ Ibid

Kenya should implement strict regulations on firearm dealers, requiring them to maintain detailed records of sales and report suspicious activities. This aids in tracing the movement of firearms and identifying potential trafficking patterns.

Kenya should introduce clear prohibitions on the interstate trafficking of firearms, emphasizing the illegal transfer or sale of firearms across regional or national borders with criminal intent.

We should establish severe penalties for individuals involved in firearms trafficking. This includes substantial fines and lengthy prison sentences to deter individuals from engaging in illegal activities related to firearms. We should also promote collaboration between various law enforcement agencies at the national, regional, and local levels. Cooperation enhances the ability to track and investigate firearms trafficking activities effectively.

5. Conclusion

In the course of examining Kenya's firearms licensing law and drawing insights from international experiences, it becomes evident that a comprehensive reform is imperative to address the multifaceted challenges associated with firearm regulation. The reported incidents of misuse underscore the urgency of revisiting the existing legal framework to align it with contemporary needs and global best practices.

The comparative experiences from countries such as the United States of America, Canada, Australia, the United Kingdom, and Sweden offer invaluable lessons for Kenya's policymakers. Establishing a robust Firearms Registration Information System (FRIS) emerges as a crucial step, mirroring successful implementations in Sweden and Canada. Such

centralized databases not only streamline information management but also enhance real-time monitoring and investigation capabilities.

Restricting the number and types of firearms per household, as observed in Japan, presents a prudent strategy to curtail potential risks associated with firearm ownership. The incorporation of psychological assessments in licensing decisions, akin to Germany's model, adds a layer of scrutiny that can contribute to responsible firearm ownership.

The establishment of independent tribunals, exemplified by the United Kingdom, provides an avenue for impartial adjudication, ensuring transparency and fairness in the appeals process. Further, regulations on the disposal of firearms and ammunition, inspired by Canada's approach, can mitigate potential security risks associated with the handling of these items.

Australia's model for handling firearms owned by deceased license holders emphasizes the need for clear procedures and legal frameworks to manage the transfer or surrender of such firearms. Additionally, addressing trafficking offenses, guided by the stringent laws in the United States of America, is crucial for preventing the illicit trade of firearms.

A holistic approach to firearm regulation in Kenya necessitates a multifaceted reform strategy that encompasses legal, technological, and procedural dimensions. By adopting the lessons learned from diverse international experiences, Kenya can forge a path toward a more secure, accountable, and responsible firearms licensing system, ultimately safeguarding both individual rights and public safety. The evolution of Kenya's firearms regulations must align with the dynamic nature of contemporary challenges, fostering a resilient and effective framework for the future.

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The Royal Canadian Mounted Police available at <https://www.rcmp-grc.gc.ca/>

Mandate and Jurisdiction of the Land Acquisition Tribunal, Kenya

By: *Bernard Kibet Sang**

Abstract

The Land Act, 2012 was amended in 2019 to include Section 133A which provided for the establishment of a tribunal, the Land Acquisition Tribunal (“the LAT”). However, despite this move to attempt to decompress the Environment & Land Court (the ELC), there has not been much out there on the place and role of the LAT.

This paper discusses the mandate and jurisdiction of the LAT. It further seeks to inquire on the procedure applicable to matters before the LAT, identify the remedies available in respect of disputes presented before the LAT, and appeals from the decision of the LAT.

1. Establishment of the Land Acquisition Tribunal (LAT)

The LAT is established under section **133A** of the **Part VIIIA** of the **Land Act**, No.6 of 2012 (LA), a 2019 amendment to the said LA. The LAT consists of **3 members** appointed by the Cabinet Secretary, consisting of:

- (a) A nominee of the Judicial Service Commission, as chairperson, to serve for a period of 4 years, renewable once;
- (b) A nominee of the Cabinet Secretary to serve to for a period of 3 years, renewable once; and

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- (c) A nominee of the Attorney General, to serve for a period of 3 years, renewable once.

Previously, under the repealed Land Acquisition Act, Cap 295 (LAA), the **Land Acquisition Compensation Tribunal (LACT)** dealt with disputes on compulsory acquisition of land. It comprised of 5 members appointed by the Minister for a term of 3 years, comprising

- (a) An Advocate of not less than 10 years standing, as chair;
- (b) Two registered valuers of not less than 10 years standing;
- (c) One prominent businessman of not less than 10 years standing; and
- (d) One prominent farmer of not less than 10 years standing.

Noting that the **LAA** was **repealed** by the LA in **2012**, and that the **LAT** was established in **2019**, was there a **vacuum** between **2012** and **2019**? The role of the LACT would have been taken over by the **Environment and Land Court (ELC)** in the **interim**, as section **128** of the LA provides for reference of matters under the LA to the said ELC.

2. The Mandate of the LAT

Article **159(1)** of the Constitution of Kenya 2010, provides that **judicial authority** is derived from the **people**, and vests in, and exercised by the **courts** and **tribunals** established by or under the Constitution. Article **169** goes on to set out the **subordinate courts** to include any other **local tribunal** as may be established by an Act of Parliament. Of course, then the LA establishes the **LAT** under section **133A**. Thus, it can be concluded that the **mandate** of the **LAT** is derived from the **People**, the **Constitution** and the **LA**.

3. The Jurisdiction of the LAT

The jurisdiction of the LAT is in respect of **appeals** from the decision of the National Land Commission (NLC) on matters **compulsory acquisition**, as per section **133C(1)** of the LA. Further, section **133C(6)** of the LA grants initial/first instance jurisdiction to the LAT to deal with disputes on creation of **wayleaves, easements, and public right of way**, (and not ELC). Also, as per section **133C(8)** of the LA, the LAT has the powers to uphold and enforce the **Bill of Rights** and review any **administrative action** as to **compulsory acquisition**.

In summary, the LAT has jurisdiction on disputes regarding:

- a) Compulsory acquisition of land
- b) Wayleaves; easements; and public right of way
- c) Upholding and enforcement of the Bill of Rights, as well as review of administrative action, as to compulsory acquisition

a) Disputes on Compulsory Acquisition

(i) The Concept of Dominium Eminus/Eminent Domain

According to the Black's Law Dictionary, the doctrine of 'dominium eminens', otherwise known as Eminent Domain is defined as the **inherent power** of a **government** entity to take **privately owned property**, especially land, and convert it for **public use**, subject to **reasonable compensation** for taking.¹

Section 2 of the LA defines **Compulsory Acquisition** as the power of the **State** to **deprive or acquire** any title or other interest in **land** for a **public purpose** subject to **prompt payment of compensation**.

¹ Black's Law Dictionary, p.g. 1585

The theory of eminent domain is said to have originated with the 17th Century, Dutch Legal Scholar, a natural law proponent, and prison escapee, **Hugo Grotius**, also known in Dutch as Huig de Groot.² **Grotius** first coined the phrase "**eminent domain**" in his 1625 masterpiece, *On the Law of War and Peace*.³ He wrote that through the agency of the King even a right gained by subjects can be taken from them in two ways, either as a **penalty**, or by the **force** of eminent domain. But in order that this may be done by the power of eminent domain the first requisite is **public advantage**; then, that **compensation** from the public funds be made.

A theory has also been put forth by a 19th century French Jurist, **Merlin de Douai**, that the earliest known reference to the use of eminent domain is in the **Old Testament** in the **Book of Kings**, which describes the acquisition of the vineyard of **Naboth** by **King Ahab**, to wit, "And Ahab spake unto Naboth, saying, give me thy Vineyard, that I may have it for a garden of herbs, because it is near unto my house: and I will give thee for it a better vineyard than it: or, if it seem good to thee, I will give thee the worth of it in money"⁴

I have not found any documented applicability of the concept of eminent in the pre-colonial Kenya, further noting that land was then held communally, as opposed to privately.

Consequently though, the doctrine of eminent domain was transplanted into Kenyan alongside the reception of the English laws.

² Hugo Grotius, 'plato.sanford.edu/entries/grotius/' accessed on 23rd September 2023.

³ Hugo Grotius, 'On the Law of War and Peace' (Francis W. Kelsey trans., Oxford 1925) p.g. 219.

⁴ D. Rossen, S. Greene, 'Eminent Domain: From Biblical Times to the Present-September 2015, <https://www.pendercoward.com/resources/blog-opinions-and-observations/eminent-domain-from-biblical-times-to-the-present-september-2015/> accessed on 23rd September 2023.

(ii) *Constitutional and Statutory Framework on Compulsory Acquisition*

I. The Constitution of Kenya, 1963 (the Independence Constitution)

Section 19(1) of the Independence Constitution provided that **every person** in Kenya had the **right** to protection of the privacy of his home and other **property** and **from deprivation** of property **without compensation**.

Further, **Section 19(2)** provided that every person having an interest or right in or over property which is compulsorily taken possession of or whose interest in or right over any property is compulsorily acquired shall have access to the **Supreme Court** for the determination of his interest or right, the legality of the taking of possession or acquisition of the property, interest or right, and the amount of any compensation to which he is entitled and for the purpose of obtaining prompt payment of that compensation.

II. The 1969 Constitution, as revised in 2008 Edition (The Previous Constitution)

Section 75(1) of the Previous Constitution stated the **conditions** that had to be fulfilled before property was compulsorily acquired by the state. These are:

- a. The taking of possession or acquisition is necessary in interests of defence, public order, public morality, public health, town and country planning or the development or utilization of any property in such manner as to promote the public benefits; and
- b. The necessity is such as to afford reasonable justification for the causing of any hardship that may

- result to any person having interest in or over property; and
- c. prompt payment of full compensation, as provided by law.

III. The Constitution of Kenya, 2010

Article 40(3) prohibits deprivation of private property, unless the same arises from acquisition or conversion in accordance with Chapter 5, which at **Article 66** allows the state to **regulate** the use of any land in the interest of defence, public safety, public morality, public health or land use planning; or the deprivation is a **public purpose** or in the public interest, provided that there is prompt payment in full, of just **compensation** to the person; as well as a right to access **court** by the persons.

Further, the 2010 Constitution provides that compensation be paid to **persons** occupying the land in **good faith** but **do not hold titles** to the land. Unlawfully acquired property is not protected by the provisions on compulsory acquisition. **Public interest** is deemed to include **land reforms** and **equitable access** to natural resources, and that the property is not limited to land.

IV. The Land Act, 2012.

The Land Act was enacted pursuant to Article 68 of the Constitution of Kenya, 2010. It repealed the Wayleaves Act and the Land Acquisition Act. **Part VIII** of the Act (Section 107-133) provides **procedure and guidelines** to be followed when acquiring private property as follows:-

The **National** or **County Government** (*or their entities, like KENHA*) must first submit a request to the **NLC** to acquire the land on its behalf. The Commission may **reject** a request of an acquiring authority, to undertake an acquisition if it establishes that the request does not meet the requirements prescribed under **Article 40(3)** of the Constitution.

Acceptance or rejection of the request should be done within **14 days** of the date of request.

On acceptance of the request, the **NLC** is to **map out** and **value** the land and establish that the **acquiring authority** has recorded the **particulars** of the persons in actual occupation of the land and improvements thereon. The **NLC** is also to publish a notice in the **Kenya Gazette** and **County Gazette**, and serve a copy of the relevant notice to the relevant **land registrar** and **interested persons**. The notice shall contain the purpose for which the land is to be compulsorily acquired; and the location, general description and approximate area of the land.

Upon receipt of the notice, the **Registrar** shall: make an order prohibiting or **restricting dealings** with the affected portion of land thereof until it vests in the acquiring authority, and the registrar shall make an entry in the **register** of the intended acquisition.⁵

NLC may authorize, in writing, any person, to enter upon any land specified in a notice published under section 107 and **inspect** the land and to do all things that may be reasonably necessary to ascertain whether the land is **suitable** for the intended purpose. Such an authorization shall **not empower** a person to enter a **building**, or an enclosed court or garden attached to a dwelling house, unless that person has first obtained the **consent** of the occupier; or has served on the occupier a not less than **seven days** written **notice** of the intention to enter. Further, as soon as practicable after entry has been made, the **NLC** shall promptly pay in full, **just compensation** for any **damage** resulting from the **entry**.⁶

Land may be **acquired compulsorily** if the **NLC certifies**, in writing, that the land is required for **public purposes** or in the public interest as related

⁵ Section 107 of the Land Act

⁶ Section 108 & 109 of the Land Act

to and necessary for fulfilment of the stated public purpose. However, if after land has been compulsorily acquired the **public purpose** or interest justifying the compulsory acquisition fails or **ceases**, the NLC may offer the **original owners** or their successors in title **pre-emptive rights** to re-acquire the land, upon restitution to the acquiring authority the full amount paid as compensation.⁷

The acquiring authority shall deposit with the NLC the compensation funds in addition to survey fees, registration fees, and any other costs before the acquisition is undertaken.

At least **thirty days** after publishing the notice of intention to acquire land, the NLC shall appoint a date for an **inquiry** to hear issues of propriety and claims for compensation by persons interested in the land, and shall: cause notice of the inquiry to be published in the **Gazette** or **county Gazette** at least **fifteen days** before the inquiry; and serve a copy of the notice on every person who appears to the NLC to be **interested** or who claims to be interested in the land. Upon the conclusion of the inquiry, the NLC shall prepare a **written award**, in which it shall make a separate award of compensation for every person whom the Commission has determined to have an interest in the land.

On making an award, the Commission shall serve on each person whom it has determined to be interested in the land, a **notice of the award** and **offer of compensation**. **After notice of an award** has been served on all the persons determined to be interested in the land, the NLC shall, **promptly pay** compensation in accordance with the award to the persons entitled thereunder.

⁷ Section 110 of the Land Act

After an award has been made, the NLC may take **possession** of the respective land by serving on every person interested in the land a notice that on a specified day possession of the land and the title to the land will vest in the national or county government as the case may be, provided that such taking of possession will not result in persons being rendered homeless. Subsequently, if the documents evidencing title to the land acquired have not been previously delivered, the Commission shall, in writing, require the person having possession of the documents of title to deliver them to the Registrar, and thereupon that person shall forthwith deliver the documents to the Registrar.

However, the notable variations of procedure under the LA from the LAA is as follows: -

- The NLC takes the role of the Commissioner of Lands, and even the Minister; and
- The acquiring authority is to deposit the compensation funds with the NLC in addition to survey fees, registration fees, and other related costs.
-

b) Disputes relating to Easements, Wayleaves & Public Right of Way

(i) Easements (Concept and Rationale)

The LA⁸ defines easements as a non-possessory interest in another's land that allows the holder to use the land to a particular extent, to require the proprietor to undertake an act relating to the land, or to restrict the proprietor's use to a particular extent, and shall not include a profit.

⁸ Section 2 of the Land Act, 2012.

Terminology in easements:

- a) **Dominant land (dominant tenement)**- the land for the **benefit** of which any easement is created. Therefore, an easement is, in relation to the dominant land, referred to as benefiting that land;⁹ and
- b) **Servient land (servient tenement)**- the land of the person by whom an easement is created. Therefore, in relation to the servient land, easement is referred to as **burdening** that land.¹⁰
- c) Easements can be positive or negative, thus:
 - **Positive easements** entail any **rights to do something** over, under or upon the servient land¹¹, and include the right of hanging clothes on a line passing over another person's land, right of water, right of way, right to place a signboard and advertisements in another's land; or any right to graze stock on the servient land.
 - **Negative easements** comprise any right that **something should not be so done**; or any right to **require the owner of servient land to do something over**, under or upon that land.¹² They also include right to light, or air.

Prof. Tom Ojienda¹³ defines an **easement** as common law **rights** enjoyed by a person over the **land of another**. They include the right of way, right of light, right of water, profit among others. He Opines that whereas easements are nowadays recognized as **incorporeal hereditaments**, that is objects of property in themselves, initially easements were construed as rights appurtenant to corporeal hereditaments, that is a privilege which could be obtained for the benefit of the corporeal land.

⁹ Section 136(1) (a) of the Land Act.

¹⁰ Section 136(1)(b) of the Land Act.

¹¹ Section 138(a) of the Land Act.

¹² Ibid.

¹³ Prof. Tom Ojienda, 'Land Law and Conveyancing: Principles and Practice' pg. 184-185

He further states that for there to be declared an easement, **four essential elements** must be satisfied:

- a) There must be a **dominant tenement and a servient tenement**. That is an easement does not exist in gross but can only be appurtenant to (related to) a dominant tenement. A dominant tenement may be the adjoining land to which an easement (such as a right of way) is sought across another's land (servient tenement).
- b) An easement must **confer a benefit** on (accommodate) the **dominant tenement**. The benefit conferred to the dominant tenement is not necessarily analogous to personal advantage to the occupier of the land, the concern is how the easement makes the dominant tenement better and more convenient property by increasing its general utility, conferring access among others.
- c) The **dominant** and **servient** tenement must **not be owned** and occupied by the **same person**. In its very nature easement is a right in the soil of another (*in alieno solo*); and
- d) The **easement** must be capable of forming a **grant**. Although in practice easement are established by long user, the presumption always is that a grant was once made."

In **Re Ellenborough Park**¹⁴ the Court set out **4 essential characteristics** of an **easement**; there must be a **dominant and servient tenement**; the right must **benefit the dominant land**; there must be **diversity of ownership** or at least occupation; and the right must be capable of lying **in grant**.

¹⁴ Re Ellenborough Park (1956) Ch 131.

In **Kamau v Kamau**¹⁵ the Court of Appeal held that an **easement** is a **convenience** to be exercised by one land owner over the land of a **neighbour** without participation in the profit of that other land. The tenement to which it is attached is the dominant and the other on which it is imposed is the servient tenement. Once an easement is validly created, it is annexed to the land so that the benefit of it passes with the servient tenement to every person into whose occupation these tenements respectively come.

Note: It should be noted that despite the express provision of Section 140 of the LA providing for that the owner of a landlocked land to apply to the ELC for an Access Order, the provision of **Section 133C(6)** of the Land Act overrides as such an application falls under **Section 128** of the LA which provides for any dispute under the Act to be referred to the ELC. Consequently, bearing in mind the provision of **Section 133C(6)**, which overrides the provision of Section 128 of the LA, such an Application for access order should be made to the LAT.

c) Wayleaves and Public Right of Way

(i) Concepts and Rationale

The LA repealed the Wayleaves Act, 1989. Contrary to the **Wayleaves Act** which limited **wayleaves** to the **carrying of** any sewer, drain or pipeline into, through, over or under any private land without the consent of the owner of the land by the Government, under the **LA**, a wayleave authorizes **executing works**, building and maintain installations and structures and insetting all such works, installations and structures on the servient land.

A **public right of way** may be a right of way created for the benefit of the **national** or **county** government, a **local authority**, a **public authority** or

¹⁵ Kamau v Kamau (1984) eKLR.

any **corporate body** to enable all such institutions, organisations, authorities and bodies to carry out their functions, referred to in this Act as a **wayleave**; or a right of way created for the benefit of the **public (Communal Right of Way)**.¹⁶

A **wayleave** shall authorize persons in the employment to or who are acting as agents of or contractors for any of the organizations, authorities and bodies to **enter** on the **servient land** for the purpose of **executing works**, building and maintain installations and structures and insetting all such works, installations and structures on the servient land and to **pass** and re-pass along **that wayleave** in connection with purposes of those organisations, authorities or bodies.¹⁷

A **public right of way** is made by the **Cabinet Secretary** subject to the **recommendation** of the **NLC**.¹⁸ Section 148 provides that **compensation** is payable to any person for the use of land, of which the person is in lawful or actual occupation, as a communal right of way and, with respect to a wayleave, in addition to any compensation for the use of land for any damage suffered in respect of trees crops and buildings as shall, in cases of private land, be based on the value of the land as determined by a qualified valuer.

Section 28(c) of the **LRA** provides that rights of way, rights of water and profits as **overriding interests** and that they need not be noted on the register of lands.

Section **148(5)** of the Land Act provides that if the person entitled to compensation under the Act and the body under a duty to pay that compensation are unable to agree on the amount or method of payment

¹⁶ Section 143(2) of the Land Act.

¹⁷ Section 143(4) of the Land Act

¹⁸ Section 146 of the Land Act.

of that compensation or if the person entitled to compensation is dissatisfied with the time taken to pay compensation, to make, negotiate or process an offer of compensation, that person may apply to the **Court** to determine the amount and method of payment of compensation and the Court in making any award may, make any additional costs and inconvenience incurred by the person entitled to compensation.

It should be noted that due to the amendment of the Land Act, the application under Section 148(5) of the Land Act, should now be made to the LAT as per Section 133C (6) which provides that: *“Despite the provisions of sections [127](#), [128](#) and [148](#) (5), a matter relating to compulsory acquisition of land or creation of wayleaves, easements and public right of way shall, in the first instance, be referred to the Tribunal.”* In the **John Peter Mwangi Kagiri vs National Land Commission & Anor**¹⁹ the Court stated:-

*“A **public right of way** is a right that is attached and thus with the land on which it has been created and shall be binding on all land owners irrespective of the manner of occupation.*

Section 28(c) of the Land Registration Act recognizes right of way as an overriding interest in land, a right that subsists and affects land without being noted on the register. Equally rights of compulsory acquisition are classified as overriding interest so much so that once it is done in accordance with the law, its subsists on the land.

*What is the purpose of **wayleave**? It mandates an authorized person to enter into the servient land for purposes of executing such works such as building and maintaining installations and structures on the servient land and to pass and repass along the wayleave in connection with the purposes of the institutions or bodies concerned.”* [emphasis the of the author]

¹⁹ John Peter Mwangi Kagiri vs National Land Commission & Anor (2019) eKLR

c. Upholding and Enforcement of the Bill of Rights (BoRS) and Review of Administrative Action (AA) as to Compulsory Acquisition

(i) The Concept of BoRs and AA

The **BoRs** is contained in **Chapter 4** of the Constitution, which at **Part 2** lists the rights and fundamental freedoms, for example: freedom of movement and residence; protection of right to property; right to clean and healthy environment; economic and social rights; fair administrative action; access to justice; and fair hearing.

Article 23(2) of the Constitution obligates **Parliament** to enact legislation to give **original jurisdiction** to **subordinate courts** (including **tribunals**) to hear and determine applications for redress as to violation of a right or fundamental freedom in the **BoRs**.

Further, **article 47(3)(a)** obligates **Parliament** to enact legislation to provide for **review of AA** by an independent and impartial **tribunal**.

AA includes includes- the **powers**, functions and duties exercised by **authorities** or quasi-judicial tribunals; or any act, omission or decision of **any person**, body or authority that affects the **legal rights** or interests of **any person** to whom such action relates²⁰.

So, regarding the upholding and enforcement of the BoRs as well as the review of AA, section **133C(8)** of the LA grants **jurisdiction** to the **LAT** to hear and determine a complaint before it as to the violation of rights and freedoms in the **BoRs** as well as **review any AA**, but only to the extent of matters **compulsory acquisition**, and using the framework in the Fair Administrative Action Act (**FAA**). That means the LAT would hear and determine issues of violation of the right to fair hearing or fair

²⁰ Section 2 of the Fair Administrative Action Act, 2015

administrative action by the NLC, but only as regards the process of compulsory acquisition.

As to **whether** the complaint on the BoRs or AA can be raised **independently**, or within the tribunal proceedings; the answer lies in **section 7(1)** of the FAA, which empowers a person aggrieved by an administrative action to **apply** to a tribunal for review.

4. Procedure of and Remedies from the LAT

Section **133A(4)** of the LA empowers the **LAT** to regulate its **own procedure**. Therefore, it is expected that in due course the LAT will generate rules of procedure for matters before it. It may borrow from other relevant tribunals like the National Environmental Tribunal or Business Premises Rent Tribunal.

Otherwise, on timelines, a person aggrieved by the decision of the **NLC** may **appeal** to the LAT within **30 days** of the NLC decision, and that the **LAT** should make a decision within **60 days** of, unless for sufficient cause extend the period.

Regarding **remedies** that the **LAT** can award, section **133C(7)** of the LA gives power to the tribunal to **confirm, vary or quash** the decision of the NLC.

As to complaints on enforcement of the **BoRs** and review of **AA**, the **FAA**, at **section 11**, lists the **various orders** that may be granted, including: declaratory orders; restraining and prohibitory orders; directing the giving or reasons for the AA; compelling orders; temporary reliefs; and costs.

5. Appeals from the LAT

Appeals from the **LAT** lie on the **ELC**, on questions of law only (section 133D of the **LA**). Though the **LA** is **silent** on further appeals, unlike the repealed **LAA**, further appeals from the **ELC** should lie in the **Court of Appeal** as provided in **article 164** of the Constitution, as read with **section 16** of the **Environment and Land Court Act**, No. 19 of 2011, and **section 3** of the **Appellate Jurisdiction Act**, having in mind that the same would be on **points of law**, noting that initial appeal to the **ELC** are on matters of law only.

Appeals from the **Court of Appeal** are made to the **Supreme Court**, as long as the same meet the criteria in **article 163(4)** of the Constitution being, a **constitutional issue** or as **certified** by the Supreme Court of Court of Appeal as a matter of general **public importance**.

6. Conclusion

In a nutshell, the paper establishes that the **mandate** of the **LAT** is derived from the **People**, the **Constitution** and the **LA**. The **LAT** has **jurisdiction** over disputes on **compulsory acquisition**, and well as creation of **wayleaves**, **easements** and **public right of way**. The **LAT** also has **jurisdiction** over complaints regarding the upholding and enforcement of the **BoRs** as well as review of **AA**, but only as to **compulsory acquisition**.

The **LAT** is to regulate its **own procedure**, that **appeals** to the **LAT** should be made within **30 days** of the decision of the **NLC** (where applicable), and that the **LAT** should make **decision** within **60 days** unless for sufficient cause extend the period.

The **remedies** that the **LAT** can grant include **confirming**, **varying** or **quashing** the decision of the **NLC**; and as to complaints on enforcement of the **BoRs** and review of **AA**, the **FAA**, at **section 11**, lists the **various**

orders that may granted, including: declaratory orders; restraining and prohibitory orders; directing the giving or reasons for the AA; compelling orders; temporary reliefs; and costs.

Appeals from the LAT lie in the **ELC**, on matters of law only, and thereafter the Court of Appeal, and finally the Supreme Court.

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Carbon Credits Trading: A New Frontier In Climate Change

By: **Brian Okoth***

The atmosphere is to the earth what peach fuzz is to the peach¹.

Abstract

The impacts of Climate Change are global in scope and unprecedented in scale. As we all know, carbon dioxide, the most important greenhouse gas produced by combustion of fuels, has become a cause of global panic as its concentration in the Earth's atmosphere has been rising alarmingly. This has created an opportunity for the trade of carbon credits both within and outside of the regulated area, thereby creating a global "carbon market". There have been joint rallying calls both at the international, regional and national arenas to combat these ravaging effects through Climate Action. Kenya hosted the inaugural Africa Climate Summit whose historic call to action was the collective sense of global decarbonization. The objective of the paper is to discuss the basic concepts and importance of carbon credit. It also emphasizes on the methods used to save the environment. It enunciates on the nuances of voluntary carbon markets, regulatory carbon markets and carbon offsetting. Additionally, it reiterates Kenya's commitment to the Kyoto Protocol and Article 6 of the Paris Agreement pursuant to the enactment of the Climate Change (Amendment) Act 2023 which formalized existence of carbon markets in Kenya.

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¹ Paula Dipema, Executive Vice President for Recruitment and Public Policy Chicago Climate Exchange during her address to the Japan Society Corporate Conference: Risks and Opportunities in the Emerging Emissions Trading Market

Keywords: Climate Change, Kyoto Protocol, Carbon Credits, Carbon Trading, Carbon Offsets and Carbon Markets.

1. Introduction

As of 2021, Kenya's forest cover stood at 8.8%², falling short of the minimum target of 10% set by Kenya's 2010 Constitution. In the wake of impending Climate Change that is adversely affecting the Horn of Africa, there has been a rallying call on Kenyans to plant more trees by the Government to combat Climate Change.³ The President has made the National Landscape and Ecosystem Restoration Program a priority since assuming the Presidency in September 2022, and is targeting a forest coverage of 28%.⁴ On September 4th – 6th 2023, Kenya hosted the Africa Climate Summit and the Africa Climate Week in Nairobi to discuss sustainable solutions to global climate challenges under the theme dubbed "*Driving Green Growth and Climate Finance Solutions for Africa and the World*."⁵ The summit culminated in a Nairobi Declaration, an eleven-point call to action proclaiming African States' unified stance on climate action ahead of the 28th United Nations Climate Change Conference (COP28). At the Summit, African leaders called for a significant overhaul of the global financial system to facilitate climate action financing.⁶ Their demands included improved access to concessional loans, the fulfilment of a 14-year-old promise by developed nations to mobilize USD 100 billion annually for climate adaptation and mitigation, and the establishment of a carbon markets initiative to fund

² Kenya Institute of Public Policy Research and Analysis (KIPPRA)

³ <https://nation.africa/kenya/news/president-ruto-reaffirms-bid-to-plant-15-billion-trees-in-a-decade-4290168> (visited on 25th March 2024)

⁴ <https://www.unep.org/news-and-stories/speech/kenyas-first-lady-leading-nature-restoration-agenda> (visited on 21st March 2024)

⁵ Africa Climate Summit 2023

⁶ <https://www.un.org/africarenewal/magazine/september-2023/africa-climate-summit-nairobi-declaration-makes-strong-push-accelerated> (visited on 23rd March 2024)

renewable energy infrastructure.⁷ The Nairobi Declaration was emphatic on demands that major polluters commit more resources to help poorer nations.⁸ It urged world leaders to rally behind the proposal for a global carbon taxation regime including a carbon tax on fossil fuel trade, maritime transport and aviation, that may also be augmented by a global financial transaction tax.⁹

To meet the emission reduction targets outlined in the Paris Agreement, Africa requires a substantial USD 2.8 trillion by 2030.¹⁰ Achieving this goal requires a substantial increase in climate investments, equivalent to nearly 93% of the continent's current GDP¹¹. Additionally, African nations often pay up to eight times more for financing from multilateral lending institutions compared to developed countries.¹² This imbalance results in recurring debt crises, leaving little or no resources for climate action.¹³ However, during the summit, donor nations and multilateral organizations pledged approximately USD 26 billion for climate investments.¹⁴ Notable commitments included the United Arab Emirates' "non-binding letter of intent" for USD 4.5 billion towards clean energy and USD 450 million for carbon credits.¹⁵ Denmark also announced a USD 232

⁷ Africa Clean Sweeps into \$900B Global Carbon Credit Economy by carboncredits.com

⁸ The African Leaders Nairobi Declaration on Climate Change and Call to Action by African Development Group

⁹ Explainer: What is Carbon Tax, Pros and Cons, and Implementation all over the world by Mitota P. Omolere

¹⁰ Landscape of Climate Finance in Africa by Climate Policy Initiative

¹¹ <https://climatepromise.undp.org/news-and-stories/africa-meet-its-climate-goals-finance-essential> (visited on 26th March 2024)

¹² <https://fsdafrica.org/news/current-levels-of-climate-finance-in-africa-falling-dramatically-short-of-needs/> (visited on 26th March 2024)

¹³ Ibid

¹⁴ <https://www.unido.org/news/unido-advancing-climate-action-africa-climate-summit> (visited on 27th March 2024)

¹⁵ *Carbon Herald* UAE Investors Pledge \$450 Million For African Carbon Credits by Dimana Doneva

million pledge for the Green Climate Fund's second replenishment.¹⁶ The United Kingdom, United States, Canada, Finland, and Germany also pledged several financing and debt swaps for green projects. The African Development Bank committed USD 1 Billion towards adaptation with a pledge to invest USD 25 billion in climate financing by 2025¹⁷. Other commitments were made by The Bezos Earth Fund (USD 22.8 Million), Climate Asset Management (USD 200 million), Masdar (USD 10 Billion) and Camco (USD 100 Million).¹⁸

At COP 28, President Ruto launched a major new African clean energy initiative which involved a series of transactions worth over USD 4 Billion that came under the initiative and involved international investors including the UAE's Masdar and AMEA Power.¹⁹ President Ruto's new 'Africa Green Industrialization Initiative' builds upon the UAE's existing USD 4.5 billion 'Africa Green Investment Initiative', which aims to finance 15 GW of renewable energy capacity in Africa by the end of the decade and unlock catalytic investments in Africa's green industrialization.²⁰ President Ruto has called for the establishment of a New Global Financing Pact which ensures no country is ever forced to choose between its development aspirations and necessary climate action.²¹ This

¹⁶ GCF Replenishment Sends Some Signals – Just Not the Right Ones by Liane Schalatek [Heinrich Boll Stiftung]

¹⁷ <https://www.afdb.org/en/news-and-events/the-african-development-bank-pledges-us-25-billion-to-climate-finance-for-2020-2025-doubling-its-commitments-19090> (visited on 1st March 2024)

¹⁸ Africa's first Climate Summit: "Urgent and Collaborative Climate Action Required to Achieve Goals of the Nairobi Declaration" by Shaban Senyange

¹⁹ <https://www.africa-energy.com/news-centre/article/masdar-and-amea-lead-uaes-10bn-african-renewables-push> (visited on 24th February 2024)

²⁰ Ibid

²¹ Project Syndicate; Rethinking Climate Finance for Developing World <https://www.project-syndicate.org/commentary/kenya-ruto-proposal-for-global-green-bank-is-worth-considering-by-kenneth-rogo-off-2023-06> (visited on 26th March 2024)

underscored Kenya's commitment towards climate change and sustainability programs.

2. Carbon Trading Explained

Carbon Markets are trading systems in which carbon credits are sold and bought within a defined framework²². Companies and individuals use Carbon Markets to compensate for their greenhouse emissions by purchasing carbon credits from entities that produce or contribute to greenhouse gas emission.²³ One tradable carbon credit equals one ton of carbon dioxide. Carbon trading programs have two key components: a limit (or cap) on pollution, and tradable allowances equal to the limit that authorize allowance holders to emit a specific quantity (e.g., one ton) of the pollutant.²⁴ This limit ensures that the environmental goal is met, and the tradeable allowances provide flexibility for individual emissions sources to set their own compliance path.²⁵ When a company buys a carbon credit, usually from the Government, they gain permission to generate one ton of Carbon dioxide emissions.²⁶ With carbon credits, carbon revenue flows vertically from companies to regulators, though companies who end up with excess credits can sell them to other companies.²⁷

When a credit is used to reduce, sequester or avoid emissions, it becomes an offset and is no longer tradable, hence carbon offset. Offsets flow

²² Carbon Markets: An International Business Guide by Arnaud Brohé, Nick Eyre, Nicholas Howarth

²³ Ibid

²⁴ Ibid

²⁵ Understanding Carbon Credits by Gurmit Singh

²⁶ Econometric Analysis of Carbon Markets: The European Union Emissions Trading Scheme and the Clean Development Mechanism by Julien Chevallier

²⁷ A New Currency: Climate Change and Carbon Credits by David F. Victor and Joshua C. House, Harvard International Review (Vol. 26, Issue 2)

horizontally, trading carbon revenue between companies.²⁸ When one company removes a unit of carbon from the atmosphere as part of their normal business activity, they can generate a carbon offset.²⁹ Other companies can then purchase that carbon offset to reduce their own carbon footprint.³⁰ The Kyoto Protocol of 1997 and the Paris Agreement of 2015 (COP 21), both of which Kenya is a party, are international agreements that laid out international Carbon dioxide emissions goals in furtherance of United Nations Framework Convention on Climate Change (UNFCCC).³¹ Article 6 of the Paris Agreement³² allows parties to use international trading of emission allowances to help achieve emissions reduction targets. The COP 28 held in 2023 ended with an agreement to end the fossil fuel era through equitable transition underpinned by deep emissions cuts. It was also agreed in the conference that there would be an increase in climate finance starting with a baseline of USD 100 Billion per year. Some of the international carbon markets include Canada, China, Japan, New Zealand, South Korea, Switzerland and the United States. The EU Emissions Trading System is also a trading platform.

3. Kenya's New Carbon Trading Regulations

The Climate Change (Amendment) Act 2023³³ came with a raft of new legislative amendments to the principal Act that greatly affected the Climate landscape in Kenya. It introduced the existence of codified carbon markets in Kenya. Part IV A talks about regulation of Carbon Markets in

²⁸ Carbon Trading Under the Kyoto Protocol: Risks and Opportunities for Investors by Jennifer P. Morgan, Fordham Environmental Law Review Vol. 18 No. 1 Fall 2006, pp. 151-184

²⁹ Ibid

³⁰ Ibid

³¹ Climate Change and Kyoto Protocol: An Overview by Anil Gupta; Handbook of Environmental and Sustainable Finance pg. 3-23

³² Article 6, Paris Agreement 2015

³³ Climate Change (Amendment) Act 2023

Kenya which involves *inter alia* streamlining national policies with international laws and policies relating to climate change and carbon markets and regulates trade in carbon credits³⁴. Carbon trading projects are now required to undergo mandatory environmental and social impact assessment. The Act enunciates the introduction of community development agreements to regulate the relationship and obligations of the project proponents with impacted communities in carbon trading projects. Community development agreements must expressly provide for: i) an annual social contribution of at least 25 per cent of the aggregate earnings of the previous year to the community, to be managed and disbursed for the benefit of the community; ii) sharing of the benefits from carbon credits between the project proponents and the impacted communities; and iii) development of communities around the project.

It further provides for the establishment of a National Carbon registry in Kenya which shall be open to the public.³⁵ The registry shall include (a) registers of the carbon credit projects and programs implemented to reduce greenhouse gas emissions in Kenya; (b) the Reduced Emissions from Deforestation and Forest Degradation Carbon; (c) authorizations granted for participation in any initiative, project or program under this Act; (d) the carbon budget and the greenhouse gas reduction units; (e) the amount of carbon credits issued or transferred by Kenya; (f) the amount of carbon credits issued to emission reduction projects and programs recognized by Kenya from a national greenhouse gas registry account; (g) the transfer of carbon credits and any carbon credits issued or recognized by Kenya from a national greenhouse gas registry account ; (h) a record of corresponding adjustments where applicable, with respect to carbon crests; (i) the cancellation of carbon credits and any other carbon credits issued or recognized by Kenya from a national greenhouse gases registry

³⁴ Ibid, Part IV A

³⁵ Ibid

account; and (j) any other carbon credits issued or recognized by the Kenya from a national greenhouse gases registry account.³⁶

Consequently, under the amended Act, it is now an offence punishable by a fine of Five hundred Million shillings or imprisonment for not more than 10 years or both to willingly conduct unauthorized trade in carbon credits, give misleading information relating to environmental or financial gains from the carbon market, engage in money laundering through carbon trading, knowingly sell carbon credits to unauthorized entities, or fail to maintain carbon credit records.³⁷

There is a Proposed Carbon Credit Trading and Benefits sharing Bill 2023 tabled before Parliament that seeks to ensure fair and equitable sharing of benefits among stakeholders while promoting Carbon Trading in Kenya.³⁸ The object of the Bill is to establish a regulatory framework for the trading of carbon credits and benefit sharing in carbon credit trading, to establish the Carbon Credit Trading and Benefit Sharing Authority, and to provide for its functions and to provide for the registration and regulation of the carbon credit trading business. The Bill proposes³⁹:

- i. The introduction of carbon trading permits for persons intending to carry on carbon credit trading business in either the voluntary carbon market or the carbon compliance market. Carbon credit trading business under the Carbon Trading Bill includes the business of operating a carbon trading exchange.
- ii. The introduction of benefit-sharing ratios between the Carbon Trading and Benefit Sharing Authority, the national government,

³⁶ Ibid

³⁷ Ibid

³⁸ Ibid

³⁹ Carbon Credits Benefits Sharing Bill, 2023

- the relevant county government, the community, and the project proponent depending on the carbon resources.
- iii. The establishment of a Carbon Credit Trading Register for carbon credit trading permits, carbon credit trading projects, community development and benefit-sharing agreements, as well as carbon credit trading purchase agreements.
 - iv. The introduction of greenwashing offences against making of: a) false statements in the required environmental and social impact assessment; and b) false representations or concealment of material facts to procure or attempt to procure a carbon credit trading permit.
 - v. The establishment of a Carbon Trading and Benefit Sharing Authority mandated to issue carbon trading permits, provide policy direction and guidance to both levels of governments on carbon credit trading business, regulate carbon credit trading business in Kenya, ensure fair and equitable sharing of benefits among stakeholders, ensure development of investor protection standards with respect to carbon credit trading business, and promote the development of the carbon credit trading sector in Kenya.

The establishment of a Carbon Credit Trading Tribunal with jurisdiction over disputes arising out of regulatory functions under the Carbon Trading Bill, with all disputes arising from carbon credit trading operations under a carbon credit trading agreement being referred to alternative dispute resolution mechanisms in the first instance and thereafter to arbitration in accordance with the United Nations Commission on International Trade Law Arbitration Rules.

4. Participation In Global Carbon Markets

There have been recent calls for carbon credits to be traded on African based exchanges.⁴⁰ Kenya is yet to tap the full potential of the carbon credit market valued an estimated \$2 billion (Sh284 billion) despite being on the forefront as a potential hub for the multi-billion trade.⁴¹ In line with this, Kenya's Capital Market Authority (CMA) has indicated that it intends to regulate platforms through which carbon credits are traded in Kenya, guided by international securities commission policies on the regulation of carbon markets and the role regulators should play. The CMA has also stated that it would provide the Nairobi Securities Exchange (NSE) with the relevant support to open a carbon credits exchange. This comes against the backdrop of a 2022 Memorandum of Understanding signed by NSE, the Nairobi International Finance Centre Authority and Air Carbon Exchange (a Singapore based global carbon exchange), to jointly develop Kenya's first carbon exchange⁴²

The Top 4 Carbon exchanges in the World include: Aircarbon Exchange (ACX), which was launched in Singapore in 2019 as a digital exchange platform for airlines to trade carbon credits. ACX has a client base of more than 130 organizations.⁴³ They consist of corporate entities, financial traders, carbon project developers, and other stakeholders, Carbon Trade Exchange, which is one of the earliest players in the global carbon market, dating back to 2009.⁴⁴ Unlike other carbon exchanges, CTX is a member-based spot exchange with various participants. They range from

⁴⁰ Kenya's Carbon Markets: The Goose That Lays the Golden Egg? By Nkatha Murungi, IFC Review

⁴¹ <https://nairobiawmonthly.com/targeting-a-2-billion-african-carbon-market-with-common-trade-rules/> (visited on 29th March 2024)

⁴² <https://kenyanwallstreet.com/cma-to-support-creation-of-kenyas-carbon-credit-markets/> (visited on 29th March 2024)

⁴³ A Complete Guide to the Global Carbon Market: Profiting in a Low Carbon World by Dr. M. A. Hashmi

⁴⁴ Carbon Trade Xchange

individual brokers and project developers to big corporations. They can list their credits directly to CTX from their Registry account and then trade digitally from anywhere, Toucan Protocol and Xpansive⁴⁵.

5. Understanding Voluntary And Regulated Markets

Carbon credits are issued by national or international governmental organizations.⁴⁶ The number of credits issued each year is typically based on emissions targets. Credits are frequently issued under what's known as a "cap-and-trade" program as previously stated above. Regulators set a limit on carbon emissions – the cap.⁴⁷ That cap slowly decreases over time, making it harder and harder for businesses to stay within that cap.⁴⁸ When it comes to the sale of carbon credits within the carbon marketplace, there are two significant, separate markets to choose from. One is a regulated market, set by "cap-and-trade" regulations at the regional and state levels.⁴⁹ This Market is mandatory. The other is a voluntary market where businesses and individuals buy credits (of their own accord) to offset their carbon emissions.⁵⁰ This market is optional. When it comes to the regulatory market which was created after the Kyoto Protocol of 1997, each company operating under a cap-and-trade program is issued a

⁴⁵ <https://carboncredits.com/the-top-4-carbon-exchanges-for-2023/> (visited on 24th March 2024)

⁴⁶ Carbon markets: A historical overview by Raphael Cael

⁴⁷ Carbon Markets and Technological Innovation by Thomas A. Weber and Karsten Neuhoff, *Journal of Environmental Economics and Management* (JEEM) Vol. 60 Issue 2

⁴⁸ This approach is part of the European Union's (EU) Emission Trading Scheme (ETS), which the EU members use to meet their Kyoto Protocol commitments. For more information, see CRS Report RL34150, Climate Change and the EU Emissions Trading Scheme (ETS): Kyoto and Beyond, by Larry Parker

⁴⁹ Market making via regulation: The role of the state in carbon markets by Markus Lederer, *Regulation and Governance* Vol. 6 Issue 4

⁵⁰ Voluntary Carbon Markets. An international business guide to what they are and how they work by Janet Fisher, *Journal of Integrative Environmental Sciences* [2010]

certain number of carbon credits each year. Some of these companies produce less emissions than the number of credits they're allotted, giving them a surplus of carbon credits.⁵¹ Conversely, some companies (especially those with older and less efficient operations/technology) produce more emissions than the number of credits they receive each year can cover. These businesses are looking to purchase carbon credits to offset their emissions because they must. When companies meet their emissions "cap," they look towards the regulatory market to "trade" so that they can stay under that cap. Carbon allowances are sold by companies which did not exceed their quotas and bought by those which have exceeded their cap.⁵² The voluntary market works a bit differently. This market was initiated after the UNFCC⁵³ 2000. Companies in this marketplace have the opportunity to work with businesses and individuals who are environmentally conscious and are choosing to offset their carbon emissions because they want to. There is nothing mandated here. It might be an environmentally conscious company that wants to demonstrate that they're doing their part to protect the environment, or it can be an environmentally conscious person who wants to offset the amount of carbon they're putting into the air when they travel. This market allows organizations and individuals with CO₂ emitting activities to take voluntary climate action by privately contributing to certified carbon removal and avoidance projects.⁵⁴

⁵¹ Carbon Markets Around the Globe Sustainability and Political Feasibility by Sven Rudolph and Elena Aydos

⁵² <https://www.eon.com/en/innovation/future-of-energy/energy-and-beyond/compliance-vs-voluntary-carbon-markets-explained.html> (visited on 29th March 2024)

⁵³ United Nations Framework Convention on Climate Change, (UNFCC)

⁵⁴ <https://www.climatepartner.com/en/knowledge/insights/the-essential-guide-to-carbon-offsetting> (visited on 3rd March 2024)

6. Carbon Offset Projects: Types And Benefits

Carbon offset refers to any activity that compensates for the emission of carbon dioxide (CO₂) or other greenhouse gases (measured in carbon dioxide equivalents [CO₂]) by providing for an emission reduction elsewhere.⁵⁵

Many different types of businesses can create and sell carbon credits by reducing, capturing, and storing emissions through different processes.⁵⁶ Some of the most popular types of carbon offset returning projects that companies will engage in include: Investing in renewable energy by funding wind, hydro, geothermal, and solar power generation projects, or switching to such power sources wherever possible, Improving energy efficiency across the world, for instance by providing more efficient cook stoves to those living in rural or more impoverished regions, Capturing carbon from the atmosphere and using it to create biofuel, which makes it a carbon-neutral fuel source, Returning biomass to the soil as mulch after harvest instead of removing or burning. This practice reduces evaporation from the soil surface, which helps to preserve water.⁵⁷ The biomass also helps feed soil microbes and earthworms, allowing nutrients to cycle and strengthen soil structure, Promoting Forest regrowth through tree-planting and reforestation projects, Switching to alternate fuel types, such as lower-carbon biofuels like corn and biomass-derived ethanol and biodiesel and Destruction of potent industrial greenhouse gases such as halocarbons.

Consumers are increasingly aware of the importance of carbon emissions. Consequently, they're increasingly critical of companies that don't take

⁵⁵ Carbon Emission Reduction—Carbon Tax, Carbon Trading, and Carbon Offset by Wen Hsein Tsai

⁵⁶ Ibid

⁵⁷ Voluntary Carbon Offsets: Overview and Assessment by Jonathan L. Ramseur

climate change seriously hence the need for companies to embrace carbon markets.

7. Advantages For Kenya And Its Businesses

Carbon Credits trading has a myriad of benefits not only to the country but also to the corporations, industries and organizations. These include:

- ✓ Carbon trading enables Kenya to achieve its climate obligations, hence fostering international climate action through global collaboration.
- ✓ Carbon markets help to channel financial resources to support emissions reduction or removal activities globally, which would otherwise not be implemented due to factors such as insufficient policy and economic incentives.
- ✓ It accelerates climate action and advances global climate ambition, by unlocking cost-effective mitigation activities to realize the Paris Agreement goal.
- ✓ Carbon credits also provides various co-benefits to local communities where the projects are hosted, such as sustainable development through the creation of green jobs, sustainable energy, environmental and biodiversity protection, and climate adaptation and resilience.
- ✓ It is a source of revenue for the country and organizations.
- ✓ Carbon credits trading is beneficial as it will create more practice areas like venturing into Climate change and sustainability Litigation.
- ✓ Carbon credits promote clean technologies in industries that contribute significantly to greenhouse gas emissions i.e. as the demand for clean energy sources rises, so does the drive to innovate and develop sustainable alternatives.

8. Conclusion

As the world faces an unprecedented environmental crisis, the concerted effort to transition toward a sustainable future is more potent than ever. Carbon credits trading is a nuanced yet feasible method of combating global warming. It has the ability of achieving economic and environmental goals thus achieving sustainable future through decarbonization. It acts as an environmental currency, which permits companies to emit a specific amount of carbon dioxide or other greenhouse gases. This system enables organizations to manage and monitor their carbon footprint while incorporating a financial incentive for eco-friendly practices. Integrating carbon credits into corporate sustainability efforts has a ripple effect, transforming businesses into drivers of positive environmental change. As responsible citizens, industry leaders, and change-makers, we must seize this transformative opportunity and commit to preserving our planet for future generations. A sustainable greener future is inevitable.

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Book Review: Actualizing the Right to a Clean and Healthy Environment

*By: Anne Wairimu Kiramba **

The new book by Hon. Prof Kariuki Muigwa, OGW, PhD, C.Arb, FCI Arb titled 'Actualizing the Right to a Clean and Healthy Environment' aims at informing the debate on the right to a Clean and Healthy Environment following the adoption by the UN General Assembly of 'The human right to a Clean, Healthy and Sustainable Environment' on 28th July 2022. The UNGA resolution re-affirmed the Universal Declaration of Human Rights and recalled among others the Declaration on the Right to Development; the Vienna Declaration and programme of action; the Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration; the Rio Declaration and noted other Human Rights instruments).

The Resolution adopted by the General Assembly on 28th July 2022 is also a reaffirmation 'that all rights are universal, indivisible, independent and interrelated.' It also recalls the earlier Human Rights Council Resolution 48/13 of 8th October 2021 entitled "The Human Right to a Clean and Healthy Environment'. The Resolution touches on other pressing and threats to the ability of the present and future generations to effectively enjoy their human rights.

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The themes covered in this book include: Sustainable Development; Environmental Justice; Human rights; Environmental Governance; Conflict Management; the Blue Economy; Climate Diplomacy; Sustainability; Restoring Landscapes; Indigenous knowledge; Climate change; Poverty eradication; Peace building and Actualizing the right to a Clean, Healthy and Sustainable environment. There is also discussion on Environmental, Social and Governance (ESG) which is considered relevant and necessary in so far as it relates to the theme of actualizing the right to a Clean, Healthy and Sustainable Environment.

The papers published in this latest book have been unpublished articles as well as articles published in various journals and one or two that have appeared in previous book chapters. In sum, the book brings together a collection of Prof. Kariuki Muigua's peer-reviewed, published and unpublished papers and articles touching on the theme of the Right to a Clean and Healthy Environment and its actualization today. The collection has been brought together in one volume under the thematic area of the right to a Clean, Healthy & Sustainable environment in a quest to help move forward the discussion and scholarship in the emerging area.

The paper "Realizing the Right to a Clean, Healthy and Sustainable Environment" critically discusses realization of the right to a clean, healthy and sustainable environment. It conceptualizes this right and examines competing views on whether it should be considered a human right. The paper further explores attempts to recognize the right to a clean, healthy and sustainable environment as a human right at the global, regional and national levels. "Recognising a Human Right to Safe, Healthy and Sustainable Environment" makes a case for the need to recognise the human right to safe, healthy and sustainable environment as an independent right capable of being enforced without necessarily

making reference to the other human rights, as part of laying the ground for achieving the Sustainable Development agenda.

“(Re) Examining Environmental, Social and Governance (ESG) and Human Rights” critically examines the place of human rights in the Environmental, Social and Governance (ESG) agenda. It argues that human rights occupy a central role in all the ESG factors. The paper discusses the progress made towards integrating human rights within the ESG framework. It also highlights some of the challenges related to ESG and human rights. In addition, the paper offers proposals towards embracing human rights in the ESG debate. “Actualizing Gender Equity for Environmental Sustainability” critically appraises the role of gender equity in fostering environmental sustainability. It examines the disparities between men and women in environmental governance and management and how these differences have hindered realization of environmental sustainability.

“(Re) Establishing Harmony between Nature and Humanity Abstract” examines the need to (re) establish harmony between nature and humanity. It argues that nature and humanity are interdependent and need each other for survival. The paper highlights some of the factors that are affecting the relationship between nature and humanity. It also suggests solutions towards (re) establishing harmony between nature and humanity towards sustainability. “(Re) Invigorating Environmental Multilateralism for Sustainability” critically explores the role of environmental multilateralism in the sustainability debate. It argues that environmental multilateralism can play a key function in unlocking sustainability. It also examines challenges facing environmental multilateralism and proposes measures towards (re) invigorating environmental multilateralism for sustainability.

The Paper “Actualizing Africa’s Green Dream” critically discusses the concept of ‘green economy’ in Africa. It argues that green growth is vital in Africa in the wake of the threat of climate change among other concerns. It further asserts that green growth in Africa can aid in achieving Sustainable Development by striking a balance between human development, environmental conservation and economic development. “Addressing Noise Pollution for a Clean and Healthy Environment in Kenya” discusses the legal and institutional framework on noise regulation, with a view to identifying the key players and stakeholders in tackling the vice. The author argues that unless this problem is effectively addressed, realisation of a clean and healthy environment for the Kenyan people will remain a mirage.

“Combating Environmental Degradation for Posterity” posits that combating environmental degradation is vital for posterity of both humanity and nature. It examines some of the measures adopted towards combating environmental degradation at global, regional, and national levels and related challenges. The paper further offers suggestions towards combating environmental degradation for posterity. “Enhancing Food Security in Africa” critically interrogates the need to enhance food security in Africa. The paper explores the progress made towards enhancing food security in Africa. It also examines some of the obstacles facing the realization of food security in Africa. The paper further suggests initiatives which can be adopted towards enhancing food security in Africa.

“Conserving Ecosystems for Our Health and Well-Being” discusses the need to conserve ecosystems. It argues that conserving ecosystems is vital for our health and well-being since it ensures the sustainable and continuous supply of ecosystem services. The paper interrogates the efficacy of measures adopted towards conserving ecosystems at the global, continental, and national levels. “Embracing Environmental,

Social and Governance (ESG) Principles for Sustainable Development in Kenya critically examines the extent to which Environmental, Social and Governance (ESG) principles have been embraced in Kenya. It argues that ESG has emerged as arguably the most important tool of corporate governance. The paper further addresses some of the ESG challenges in Kenya and suggests the way forward towards embracing ESG principles for sustainable development in Kenya.

"Achieving Net Zero Emissions- A Reflection" critically discusses the need to achieve net zero emissions. It argues that achieving net zero emissions is vital in confronting climate change and fostering Sustainable Development. The paper further discusses some of the challenges facing the attainment of net zero emissions and proposes measures towards achieving net zero emissions. *"Embracing Sustainability Audit for Enhanced Corporate Environmental Compliance in Kenya"* examines the concept of sustainability audit as a means of increasing the percentage of businesses that comply with environmental regulations in Kenya. *"Enforcing the Right to Clean and Healthy Environment in Kenya Through the Polluter Pays principle"* makes a case for the enforcement of the right to clean and healthy environment in Kenya through the internationally recognised polluter pays principle. The author argues that though this right has been legally recognised, placing the obligation to enforce it solely on the state agencies may delay the full realisation of this right for all persons.

"Enhancing Access to Justice for Sustainable Development in Kenya" critically discusses the role of access to justice in the Sustainable Development agenda. It argues that access to justice is vital in achieving Sustainable Development. The paper explores how access justice can foster the Sustainable Development agenda in Kenya. *"Fostering Environmental, Social and Governance (ESG) Litigation for Sustainability"* discusses the role of ESG litigation in promoting

sustainability. The paper further examines the emerging trends and practices in ESG litigation and their place in the sustainability agenda. It also explores some of the concerns in ESG litigation. The paper further offers proposals towards fostering ESG litigation for sustainability.

“Fostering the Blue Economy for Sustainability” discusses the role of the blue economy in the sustainability agenda. It argues that the blue economy has the potential to unlock Sustainable Development throughout the world. The paper examines specific ways through which the blue economy contributes to Sustainable Development. It also examines some of the challenges facing the blue economy. The paper also suggests measures aimed at fostering the blue economy for sustainability. “Harnessing Indigenous Knowledge for Climate Action in Africa” discusses the role of indigenous knowledge in addressing the impacts of climate change in Africa. The paper examines the progress made towards utilizing indigenous knowledge for climate action in Africa and challenges thereof. It also offers suggestions towards harnessing indigenous knowledge for climate action in Africa.

“Managing Disputes in Carbon Markets” analyses the nature and causes of disputes in carbon markets. It argues that these disputes can hinder the fight against climate change and the attainment of Sustainable Development hence the need to effectively manage them. The paper explores some of the available mechanisms for managing disputes in carbon markets and their efficacy. It also proposes measures towards effective management of disputes in carbon markets for enhance climate action. “Applying Collaborative Approaches towards Conflict Management” critically examines collaborative approaches towards conflict management. It argues that these techniques can ensure efficient and effective management of conflicts towards peace and sustainability. The paper highlights and discusses some of the collaborative approaches towards conflict management.

“Nurturing our Wetlands for Biodiversity Conservation” examines the role of wetlands in biodiversity conservation and how these wetland resources might be managed to improve biodiversity conservation. “Promoting Human Rights Impact Assessment in Environmental Governance for Sustainable Development” critically discusses the place of human rights in environmental governance, gives an overview of the concept of environmental governance and examines various approaches adopted towards achieving it. “Realising Environmental, Social and Governance Tenets for Sustainable Development” discusses the Environmental, Social and Governance (ESG) aspects of sustainable development agenda and how the same affect sustainability.

“Reconceptualising the Right to Clean and Healthy Environment in Kenya” examines the right to clean and healthy environment as envisaged in the Constitution of Kenya 2010, its legal underpinnings and the extent to which the same has been realised for the Kenyan people. The paper argues that there is need to redefine the right to clean and healthy environment as a fundamental right, classify it with the other basic rights as opposed to the existing notion that it is a third generation right. “Reconceptualizing Corporate Governance for Sustainable Development” critically explores the role of Corporate Governance in the Sustainable Development agenda. The paper highlights some of the corporate governance practices that have fostered Sustainable Development including the concepts of Corporate Social Responsibility (CSR) and Environmental, Social and Governance (ESG).

“Reinforcing Climate Diplomacy for Development” examines the role of climate diplomacy in the global fight against climate change. It defines climate diplomacy and analyses its salient components. The paper further discusses progress made towards embracing climate diplomacy and responding to climate change. It also points out some of the key concerns in the area of climate diplomacy. The paper further suggests proposals

towards reinforcing climate diplomacy for development. “Restoring Landscapes and Ecosystems for Climate Mitigation” explores the opportunities and progress made towards restoring landscapes and ecosystems for climate action. It also highlights some of the setbacks facing the utilization of this concept in climate mitigation. In addition, the paper proposes measures towards embracing the idea of restoring landscapes and ecosystems for climate action.

“Safeguarding The Environment During and After Armed Conflict” critically delves into the need to safeguard the environment during and after armed conflict. The paper also probes the progress made towards safeguarding the environment during and after armed conflict. Finally, the paper offers ideas towards safeguarding the environment during armed conflict. “Streamlining Water Governance in Kenya for Sustainable Development” assesses the current measures and attempts by the state to achieve the constitutionally guaranteed right of access to clean and safe water in adequate amounts, the paper offers an overview and analysis of the provisions of Water Act 2016 in light of the international best practices in water governance and the sustainable development agenda.

“Strengthening Environmental Rule of Law for Sustainability” discusses the concept of environmental rule of law. The paper further examines progress made towards promoting environmental rule of law at the global, regional and national levels. It also explores some of the challenges facing the realization of environmental rule of law and suggests measures towards strengthening environmental rule of law for sustainability. “The Place of Environmental, Social and Governance (ESG) in Arbitration” critically discusses the relationship between Environmental, Social and Governance (ESG) and arbitration. The paper argues that arbitration represents a viable mechanism for managing ESG related disputes while simultaneously promoting ESG tenets.

“Transitioning from Fossil Fuels to Clean Energy” discusses the need to transition from fossil fuels to clean energy and examines the role of fossil fuels in the global threat of climate change. The paper further discusses the efficacy of initiatives adopted at national, regional, continental and global levels towards transitioning from fossil fuels to clean energy. “Managing Environmental Conflicts through Alternative Dispute Resolution” discusses the role of Alternative Dispute Resolution (ADR) mechanisms in managing environmental conflicts. The paper argues that ADR mechanisms can be a viable tool in managing environmental conflicts and fostering sustainability. It proposes initiatives towards strengthening the role of ADR mechanisms in managing environmental conflicts.

“Adopting Environmental, Social and Governance for Sustainable Investment in Africa” critically examines the role of ESG in fostering sustainable investments in Africa. The paper highlights some of the factors hindering the realization of sustainable investments in Africa. It further proposes reforms aimed at adopting ESG tenets for sustainable investments in Africa. “Abating Air Pollution for a Healthy Environment” discusses air pollution as a key threat to Sustainable Development and good health and well-being of humanity. The paper critically examines some of the measures adopted towards addressing air pollution noting to highlight their strength and weaknesses. “Embracing Sound Environmental Governance in Africa” critically explores the need to embrace sound environmental governance in Africa. The paper examines the progress made towards realizing good environmental governance in Africa and suggests reforms towards embracing sound environmental governance in Africa for sustainability.

“Mediating Natural Resource Based- Conflicts for Peace and Prosperity” critically explores the role of mediation in managing natural resourcebased conflicts. It argues that mediation is an effective

mechanism for managing natural resource- based conflicts. The paper discusses some of the salient attributes of mediation that makes it ideal in managing natural resource-based conflicts. “Placing Health at the Centre of Climate Action” argues that climate change is a major threat to human health and well-being. It examines the impacts of climate change on human health and well-being as well as global health systems. The paper proposes measures towards placing health at the centre of climate action in order to ensure good health and well-being for all.

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Prof. Kariuki Muigua’s other works include *Securing Our Destiny through Effective Management of the Environment*, (Glenwood Publishers, Nairobi-2020); *Achieving Sustainable Development, Peace and Environmental Security* (Glenwood Publishers, Nairobi, 2021); *Fostering Environmental Democracy and Biodiversity Conservation*, (Glenwood Publishers 2021); *Exploring Conflict Management in Environmental Matters* (Glenwood Publishers 2022); *Attaining Environmental Justice for Posterity*, Volume 1 and 2, (Glenwood

Publishers 2022); Accessing Justice Through ADR, (Glenwood Publishers 2022); Nurturing our Environment for a Green Tomorrow, (Glenwood Publishers 2023); Realizing True Sustainable Development, (Glenwood Publishers 2023); Embracing Environmental Social and Governance (ESG) tenets for Sustainable Development, (Glenwood Publishers 2023); Combating Climate Change for Sustainability, (Glenwood Publishers 2023); Achieving Climate Justice for Development, (Glenwood Publishers 2023); and Promoting The Rule of Law for Sustainable Development (Glenwood Publishers 2024).

Prof. Kariuki Muigua was awarded Africa's ADR Practitioner of the Year Award by AfAA in 2022. In the same year, he won the African Arbitrator of the Year 2022 award at the 3rd African Arbitration Awards held at Kigali Rwanda beating other competitors from Egypt, Mauritius, Ethiopia, Nigeria and Kenya. In 2021, Prof Muigua was the winner of the Inaugural CIARB (Kenya Branch) ADR Lifetime Achievement Award 2021 as well as the ADR Publication of the Year Award 2021 by the Chartered Institute of Arbitrators (Kenya Branch). He also received the ADR Practitioner of the Year Award 2021 by the Law Society of Kenya, Nairobi Branch at the Nairobi Legal Awards. He is a recipient of the 8th C.B. Madan Prize of 2020 for commitment and outstanding scholarly contribution to constitutionalism and the rule of law in Kenya.

Hon. Prof. Muigua has on various occasions been appointed by leading arbitral institutions including the Chartered Institute of Arbitrators (CIARB-Kenya), the Nairobi Centre for International Arbitration (NCIA), the International Chamber of Commerce (ICC) and the London Court of International Arbitration (LCIA) among other institutions, as both a sole arbitrator and a member of an arbitral tribunal in arbitrations involving commercial disputes. He is a Fellow of Chartered Institute of Arbitrators (CIARB)-Kenya chapter. He is a member of the International Bar Association (IBA), the International Commission of Jurists, Human Rights

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Hon. Prof. Muigua also serves as the Editor in Chief of three leading peer reviewed journals in East Africa, the Alternative Dispute Resolution Journal, the Journal of Conflict Management and Sustainable Development and Journal of ADR & Sustainability. The three journals have been hailed as leading publications in the fields of ADR, Conflict Management and Sustainable Development. The Alternative Dispute Resolution Journal was awarded the Arbitration Publication of the Year Award 2020 at the Africa Arbitration Awards.

The Case for Decriminalization of Attempted Suicide in Kenya: Lessons from Comparative Experience

*By: Michael Sang **

Abstract

This paper posits a persuasive case for the decriminalization of attempted suicide in Kenya by synthesizing insights from the experiences of other jurisdictions that have successfully navigated similar legal transformations. Emphasizing the detrimental effects of colonial legacies, the problematic implications of treating suicide as a criminal act, and the global trend toward decriminalization, this paper seeks to underscore the urgency for change in Kenya. The comprehensive analysis not only delves into the historical context but also explores the existing legal and policy landscape surrounding attempted suicide in Kenya. Drawing parallels with the legal frameworks of Ghana, India, and Malaysia, the paper extracts invaluable lessons that Kenya can incorporate into its legal reform efforts. Through a meticulous examination of judicial decisions, legislative amendments, and policy changes, this piece aspires to provide a robust argument for decriminalization, aligning with evolving global perspectives on mental health and human rights.

Key Words: *Attempted Suicide, Decriminalization, Kenya, Comparative Law, Mental Health, Legislation, Judiciary, Prosecution, Ghana, India, and Malaysia.*

1.0 Introduction

In recent years more so after the Covid-19 pandemic when everything had slowed and most people were grounded within their respective homes and localities, there has been a growing global recognition of the complex intersection between mental health, societal perceptions, the economic times and the existing legal frameworks within different jurisdictions

Kenya included.¹ The status quo on the recognition of mental health and different aspects of life ends up prompting a re-evaluation of established norms surrounding suicide-related legislation.

This article delves into the compelling case for the decriminalization of attempted suicide in Kenya. In the end, the study delves into the complex web of historical ramifications, potential legal ramifications, and gradual changes in perceptions of mental health throughout the world.

This discussion aims to explore the various facets of the debate against the backdrop of Kenya's current legal framework, which criminalizes attempted suicide. It emphasizes the importance of adopting a compassionate and knowledgeable approach that is in line with modern views on mental health and human rights. By relying on a comparative approach and learning from other countries that have effectively undergone comparable legal changes, this investigation seeks to clarify possible reform paths and the benefits that decriminalization might bring about for Kenya's society's general comprehension of mental health issues.

2.0 Brief Context on Criminalization and Decriminalization of Suicide

The rates of attempted suicide in the countries that penalize their citizens for attempted suicide are high and vary widely depending on the status of the country.² However, according to data from the 2023 World Health

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¹ SP Thomas, 'Lived Experiences during the Covid-19 Pandemic' (2020) 41 Issues in Mental Health Nursing 661.

² KC-C Wu and others, 'Criminalisation of Suicide and Suicide Rates: An Ecological Study of 171 Countries in the World' (*BMJ open*, 17 February 2022).

Organization (WHO) estimates that at least 700,000 people die every year due to suicide.³ Additionally, with every suicide committed, many people attempt suicide within the general population. The suicide and attempted suicide do not only affect the individuals but also their community, families, and entire countries due to the long-lasting effects of being left and affected by the suicide.

In a 2019 study by WHO suicide is the fourth overall cause of death among young adults who are aged 15 to 29 years globally.⁴ Suicide is arguably a public health concern however the same can be prevented with timely evidence-based strategies as well as low-cost interventions decriminalization of attempting suicide is a step towards an end to discrimination against persons experiencing mental illness.⁵ One of the imperative mitigation measures for tackling the mental health crisis would be the decriminalization of attempted suicide.⁶

With the established backdrop this section delves deeper into the historical aspect of criminalizing suicide emphasizing the colonial heritage that led to the birth of the legal norms governing death by suicide. In dissecting the historical trajectory of the criminalization and subsequent push for decriminalization of suicide, it is imperative to acknowledge the profound influence of colonial legacies, the problematic

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8860012/> accessed 9 December 2023.

³ Suicide' (World Health Organization) <https://www.who.int/news-room/fact-sheets/detail/suicide#:~:text=Key%20facts,suicide%20in%20the%20general%20population>, accessed 10 December 2023.

⁴ Ibid.

⁵ MA Joseph, *Discrimination against the Mentally Ill* (Greenwood, An Imprint of ABC-CLIO, LLC 2016).

⁶ KC-C Wu and others, 'Criminalization of Suicide and Suicide Rates in the World' [2020] SSRN Electronic Journal.

implications associated with treating suicide as a criminal act, and the global momentum toward a more enlightened approach.

2.1 Colonial Heritage

The colonial era is the source of the criminalization of suicide in many countries, including Kenya.⁷ Legal systems from the past that were put in place during colonial authority frequently had a moralistic perspective on suicide, characterizing it as a wicked deed and making it a crime in a bid to ensure that the governed do not engage in any related element of committing or assisting suicide.⁸ The paternalistic approach that aimed to govern and control society behavior based on Eurocentric norms was represented in these laws, which were created under colonial ideology.⁹ The punitive measures attached to suicide were steeped in a worldview that failed to consider the nuanced complexities of mental health and individual struggles.¹⁰

⁷ (Anti-suicide laws in nine African countries: Criminalization ...) <https://www.wcp.umes.edu/ajcs/wp-content/uploads/sites/20/2023/06/VOL9.-ADINKRAH-FINAL.pdf> accessed 11 December 2023.

⁸ GMHAN, 'Leading the Fight for Suicide Decriminalisation in Kenya' (13 December 2023) <https://gmhan.org/news/leading-the-fight-for-suicide-decriminalisation-in-kenya#:~:text=The%20origins%20of%20the%20criminalization,imposed%20by%20an%20outside%20force> accessed 13 December 2023.

⁹ Ibid

¹⁰ Bosch, S. E., Teeselink, L. L., & Senne, T. (2021) 'The Influence of Work-Family Balance on Health and Well-Being: A Longitudinal Study Among Dutch Employees', *Frontiers in Psychology*, [https://www.frontiersin.org/articles/10.3389/fpsyg.2021.621569/full] accessed 13 December 2023

Kenya's legal system was influenced by Victorian sensibilities as a result of its long history of British colonial administration.¹¹ The law criminalizing suicide was first entrenched in Kenya within the 1930 penal code which was the same in Britain, however in Britain, the same was decriminalized in 1961 an amendment that was not implemented in colonial Kenya.¹² During this time the provisions were later cascaded down to the Penal Code, which was formulated and implemented, and Section 226 specifically made suicide illegal, sustaining the stigma attached to mental health issues.¹³

Section 226 is still in operation as read together with section 36 of the penal code classifies attempted suicide as a misdemeanor punishable by two years imprisonment or a fine or both.¹⁴ Progress toward a more sympathetic understanding has been hampered by the colonial heritage, which not only presented suicide as a criminal offense but also contributed to a larger communal attitude that confused mental health difficulties with moral flaws.¹⁵

¹¹ Sandra F. Joireman, 'The Evolution of the Common Law: Legal Development in Kenya and India' (2006) Political Science Faculty Publications 68 <http://scholarship.richmond.edu/polisci-faculty-publications/68> accessed 13 December 2023.

¹² (*Anti-suicide laws in nine African countries: Criminalization ...*) <https://wwwcp.umes.edu/ajcs/wp-content/uploads/sites/20/2023/06/VOL9.-ADINKRAH-FINAL.pdf> accessed 11 December 2023.

¹³ Section 226 of the Penal Code, Kenya.

¹⁴ Section 36 of the Penal Code, Kenya.

¹⁵ Onger L and others, 'Sociocultural Perspectives on Suicidal Behaviour at the Coast Region of Kenya: An Exploratory Qualitative Study' (*BMJ open*, 6 April 2022) <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8987750/>> accessed 29 December 2023

2.2 Problematic Implications

The 'strict' prohibition has serious and harmful ramifications for people who are struggling with mental health issues.¹⁶ Instead of tackling the underlying causes of mental health problems, criminalization feeds the stigma, preventing people from having honest conversations and preventing them from getting the care and assistance they need. This punitive strategy makes people feel even more alone and ashamed, which impedes mental health advocacy and feeds false beliefs into society.¹⁷

Furthermore, criminalization unfairly burdens people who have escaped suicide attempts.¹⁸ Their suffering is exacerbated when they become engaged in legal processes rather than receiving the required care and assistance in the form of therapy and counseling.¹⁹ The consequences also affect families, who could be subject to social disapproval or legal action, which discourages people from asking for help.²⁰

Ethical questions are raised by the criminalization of suicide from the standpoint of human rights.²¹ It violates a person's right to autonomy and exacerbates the pain of those who are already in difficult circumstances.²²

¹⁶ B Lew and others, 'Decriminalizing Suicide Attempt in the 21st Century: An Examination of Suicide Rates in Countries That Penalize Suicide, a Critical Review' (2022) 22 *BMC Psychiatry*.

¹⁷ *Ibid*.

¹⁸ Wu KC-C and others, 'Criminalisation of Suicide and Suicide Rates: An Ecological Study of 171 Countries in the World' (*BMJ open*, 17 February 2022) <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8860012/#:~:text=Results,CI%20%E2%88%920.04%20to%200.61.>> accessed 29 December 2023

¹⁹ *Ibid* 18

²⁰ *Ibid* 19

²¹ World Health Organization, 'Mental Health Atlas 2020' (2020) https://cdn.who.int/media/docs/default-source/mental-health/9789240078796-eng.pdf?sfvrsn=7ad97429_1&download=true accessed 17th December 2023.

²² *Ibid*

Instead of acting as deterrence, the legal consequences sometimes make people's problems worse and prolong a painful cycle.²³

2.3 Progressive Move towards Decriminalization

Globally, there is a growing trend of decriminalizing suicide as countries review their legal systems to move away from punishing measures and toward more humane ones.²⁴ Decriminalization is consistent with public views that value compassion and understanding for those who are struggling with mental health issues.²⁵ Kenya has made great progress in the last four years toward putting mental health first, which is a break from the conventional method of treating mental health issues.²⁶

In June 2019, a pivotal moment occurred when former President Uhuru Kenyatta declared, "Depression has today become a common phenomenon and it affects persons from all walks of life and ages."²⁷ After this realization, several significant things happened, such as the creation of a task force on mental health, whose main suggestion was to classify mental disease as an epidemic-level national emergency.

²³ Ibid 21

²⁴ United for Global Mental Health, 'Suicide Decriminalisation' (n.d.) <https://unitedgmh.org/knowledge-hub/suicide-decriminalisation/> accessed 17th December 2023

²⁵ Ibid

²⁶ Southern Africa Litigation Centre, 'Kenya: Challenge to Offence of Attempted Suicide' (2023) <https://www.southernafricalitigationcentre.org/2023/05/08/kenya-challenge-to-offence-of-attempted-suicide/> accessed 17th December 2023

²⁷ IK Comms, 'Mental Health for Police Officers Needs Proper Legislation and Collaboration to Combat. - ICJ Kenya' (ICJ Kenya - International Commission of Jurists, 30 August 2021) <https://icj-kenya.org/news/mental-health-for-police-officers-needs-proper-legislation-and-collaboration-to-combat/> accessed 11 December 2023

But amid this emergency, a serious problem surfaced: the startling rise in suicide attempts and fatalities. According to Section 226 of the Penal Code, attempting suicide in Kenya is a crime that carries a possible sentence of up to two years in jail or penalties. The judicial system disproportionately impacted people with psychosocial and intellectual problems, resulting in their extended incarceration without charge or trial in Mathari Mental Hospital, which was more severe than the Penal Code's punishment for the same offense.

Fast forward to 2023, Chief Justice Martha Koome led the effort to introduce the Penal Code (Amendment) Bill in 2023, which accelerated the decriminalization process. The proposed amendment aimed to overturn the categorization of attempted suicide as a crime by repealing Section 226 of the Penal Code.²⁸ The goal of the amendment was to prohibit the practice of accusing survivors in court and perhaps imprisoning them. The National Assembly Speaker, Moses Wetangula, received a proposal from Chief Justice Koome that called for the whole removal of Section 226.²⁹ The suggestion emphasized how critical it is to remove punitive measures that worsen the situation of survivors and to harmonize legal frameworks with a more sympathetic understanding of mental health issues.

²⁸ M Vugutsa, 'Jail Sentences to Be Removed for Attempted Suicide - Switch News' (*Switch News - Latest News, Entertainment, Kenya, Africa and World News*, 25 October 2023) <https://news.switchtv.ke/2023/10/jail-sentences-to-be-removed-for-attempted-suicide/> accessed 11 December 2023

²⁹ U Admin, 'Leading the Fight for Suicide Decriminalisation in Kenya' (*Global Mental Health Action Network*, 9 September 2022) <https://gmhan.org/news/leading-the-fight-for-suicide-decriminalisation-in-kenya#:~:text=In%20Kenya%2C%20attempted%20suicide%20as,36%20of%20the%20Penal%20Code> (accessed 11 December 2023).

In 2023, the Kenya National Human Rights Commission (KNHRC) joined the reform movement by pushing for the decriminalization of suicide attempts by the Adhoc Committee on the Proliferation of Religious Organizations.³⁰ The Commission claimed that criminalizing suicide attempts and enforcing prison sentences would make matters worse.³¹ Rather, they highlighted the need for treating mental health issues through medical treatment, claiming that those who attempted suicide were suffering from mental disorders that needed to be supported and cared for.

These progressive initiatives and calls for reform represent a collective effort to humanize the discourse surrounding suicide, prioritize mental health care, and ultimately decriminalize attempted suicide for the community's overall well-being as Kenya embarks on this transformative journey towards a more inclusive and enlightened perspective on mental health.

3. The Current Law and Practice in Kenya Relating to Attempted Suicide

The existing legal provisions in Kenya for attempted suicide are a complicated web of laws, policies, court rulings, and prosecutorial discretion. A thorough investigation of this section is necessary due to the complex interplay of various factors that influence how people who attempt suicide are treated.

³⁰ Decriminalise Suicidal Tendencies, KNCHR Tells Senate Shakahola Committee (Parliament of Kenya) <http://www.parliament.go.ke/decriminalise-suicidal-tendencies-knchr-tells-senate-shakahola-committee> (accessed 9 December 2023).

³¹ Ibid.

3.1 Legislation on Attempted Suicide and Suicide

3.1.1 Penal Code - Section 226

Section 226 of the Penal Code, which has its roots in Kenya's colonial past, makes attempting suicide a crime. According to Section 36 of the Penal Code, attempted suicide is now considered a misdemeanor and is subject to fines, jail time, or both. It has long been controversial to classify attempted suicide as a criminal act since this raises worries about the stigmatization and harsh punishment of those who are struggling with mental health issues.

3.1.2 Mental Health Act - Section 3

An essential part of Kenya's legislative system addressing mental health is the Mental Health Act. The Act's Section 3 delineates the tenets that underpin mental health treatment, with a particular focus on the significance of advancing individuals' mental health. A legal incongruity where criminalization and a legislative focus on mental health coexist is highlighted by the comparison of Sections 226 of the Penal Code and 3 of the Mental Health Act.

3.1.3 Succession Act

A further level of legal complexity is introduced by the Succession Act, which goes beyond the Penal Code and the Mental Health Act. This Act permits a person who is found to have committed suicide to have their will discounted in section 31 (f) (i), which invalidates a gift given in contemplation of death by suicide.³² The interaction between mental health laws and succession laws highlights the complex relationships between legal frameworks and how they may affect people and their families.

³² Section 31 (f) (i) of the Succession Act.

3.1.4 Penal Code (Amendment) Bill, 2021

The Penal Code (Amendment) Bill, which was just submitted, is a major step in the right direction toward modernizing the law to address mental health issues. Chief Justice Martha Koome led the effort to modify the Penal Code to remove Section 226. The goal was very clear: in line with Section 3 of the Mental Health Act, legalize attempted suicide to make it easier to provide care and support to suicide survivors.³³

3.2 Policy Guidelines on Suicide

3.2.1 Ministry of Health Suicide Prevention Strategy 2021 – 2026

By implementing the Suicide Prevention Strategy for the years 2021 to 2026, the Ministry of Health has made significant progress in addressing suicide. This policy framework concentrates on prevention, intervention, and post-vention techniques to fully address the problems related to suicide. The plan demonstrates a dedication to a proactive and all-encompassing approach to mental health. The strategy is a global call to assist persons who have attempted suicide or are on the verge of committing suicide.

3.3 Judicial Practice Relating to Attempted Suicide

3.3.1 *Frankline Munene Mbau v Republic* [2013] eKLR

Judicial practices regarding attempted suicide were brought to the fore in the case of *Franklin Munene Mbau v Republic* [2013] eKLR. This case shed light on the legal consequences faced by individuals attempting suicide

³³ D Kabiru, 'Press Release: The World Mental Health Day: "Mental Health Is a Universal Human Right"' (Kenya National Commission on Human Rights, 10 October 2023) <https://www.knchr.org/Articles/ArtMID/2432/ArticleID/1171/Press-Release-The-World-Mental-Health-Day-%E2%80%9CMental-Health-Is-a-Universal-Human-Right%E2%80%9D> (accessed 11 December 2023).

under Section 226 of the Penal Code, prompting legal discourse on the appropriateness of criminalization and its alignment with constitutional rights. Franklin entered a guilty plea to trying to kill himself in violation of Penal Code section 226.³⁴ In his defense, he cited his father's frustrations and problematic family dynamics as the reasons behind his suicide attempt.

The magistrate found him guilty and sentenced him to two years in jail without considering the aforementioned factors. The sole relief obtained once the case was appealed was the replacement of probation for the original sentence.³⁵ In Frankline's instance, mental health care rather than incarceration was necessary. As a result, many people who are contemplating suicide are terrified to ask for medical help at all for fear that doing so would give them a free pass to jail.

3.3.2 Kenya National Human Rights Commission v Attorney General

The case of *Kenya National Human Rights Commission v. Attorney General* provided a major legal challenge to the prosecution of attempted suicide. In that instance, a petition was filed arguing that Section 226 of the Penal Code infringes upon the rights of those who are dealing with mental health issues and should be decriminalized.³⁶ The regional importance of this issue was highlighted by the notable parallel filing of a similar suit before the Uganda Constitutional Court (*Sarah Tushemereirwe and John Mary Kimuraheebwa v AG*).

³⁴ *Frankline Munene Mbau v Republic* [2013] eKLR.

³⁵ *Ibid.*

³⁶ (Critical analysis of section 226 of Kenya penal code: A case for urgent ...) <https://www.iprib.org/journals/index.php/IJLP/article/download/1402/1519/4215> (accessed 11 December 2023).

3.4 Prosecutorial Practice

3.4.1 Decision Not to Charge

The way that prosecutors handle suicide attempts has changed significantly over the years. In some cases, the choice to drop charges against someone who has tried to take their own life is a reflection of how mental health is perceived in society today.³⁷ In keeping with the global trend of seeing mental health as a public health problem rather than a criminal one, this strategic choice highlights the need for more compassionate and rehabilitative approaches while acknowledging the failure of criminalization.

A possible shift in direction is indicated by the confluence of policy efforts, judicial and prosecution procedures, and legislative modifications as Kenya works through the complexity of its legal framework around attempted suicide. These events highlight the urgent need for a humane, comprehensive approach to mental health that places a high value on treatment, support, and the defense of human rights.

4. The Case for Decriminalizing Attempted Suicide in Kenya: Lessons from Comparative Experience

The arguments and calls for decriminalizing attempted suicide in Kenya are based on the understanding that attitudes toward human rights, mental health, and the need to promote a more caring and restorative environment are changing on a worldwide scale. Taking cues from international experiences, we examine significant legislative modifications and court rulings that highlight the revolutionary effects of

³⁷ C Ombati, 'Why ODPP Not Keen to Charge Those Who Attempt to Die by Suicide' (*The Star*, 30 October 2023) <https://www.the-star.co.ke/news/realtime/2023-10-30-why-odpp-not-keen-to-charge-those-who-attempt-to-die-by-suicide/> accessed 11 December 2023.

decriminalization. The goal of the comparative study within this section is to offer Kenya useful information while it considers changing its current legal system.

4.1 Ghana

4.1.1 Criminal Offences (Amendment) Act 2023

Ghana, in a landmark move, reformed its legal landscape through the Criminal Offences (Amendment) Act 2023. Section 1 of this amendment repealed Section 57(2) of the Criminal Offences Act, 1960, thereby decriminalizing attempted suicide. Additionally, Section 2 expanded the interpretation of ‘mental disorder’ within the Mental Health Act, of 2012, facilitating enhanced access to mental healthcare services for survivors of suicide attempts. This dual-pronged reform signifies a holistic approach, moving beyond mere decriminalization to ensure comprehensive support for mental health.

4.1.2 Lessons for Kenya

Ghana’s approach offers Kenya invaluable lessons. By repealing the specific criminalization of attempted suicide, Ghana acknowledges that legal frameworks should align with the understanding that mental health challenges require medical attention rather than punitive measures. Kenya can draw inspiration from Ghana’s broader interpretation of “mental disorder”, emphasizing the importance of facilitating comprehensive mental healthcare services for survivors.

4.2 India

4.2.1 Judicial Recognition of Mental Health

India's journey toward recognizing the importance of mental health is exemplified in judicial decisions. In cases such as *P. Rathinam v Union of*

India,³⁸ *Maruti Shripat Dubal v State of Maharashtra*,³⁹ and *State v Sanjay Kumar Bhatia*,⁴⁰ the judiciary played a pivotal role in acknowledging the significance of mental health.

These decisions contributed to a paradigm shift, recognizing mental health challenges as valid concerns warranting legal protection. The Indian Penal Code has since been amended in its section 124(1) to ensure that persons who attempt suicide are exempted from punishment based on the presumption that they are suffering from mental health unless proven otherwise.⁴¹

4.2.2 Enactment of the Mental Health Act, 2017 - Section 115

India further solidified its commitment to mental health by enacting the Mental Health Act, of 2017. Section 115 of this legislation signifies a comprehensive legal framework that addresses the rights of individuals facing mental health challenges.⁴² The inclusion of such provisions underscores the need for a nuanced legal approach that safeguards the rights and well-being of individuals grappling with mental health issues.⁴³

4.2.3 Lessons for Kenya

Kenya can learn from the Indian judiciary's recognition and the ensuing legislative actions. Kenya may move toward a legislative framework that

³⁸ [1994] AIR 1844.

³⁹ [1987] 1 BomCR 499.

⁴⁰ [1986] 10 DRJ 31.

⁴¹ Section 124(1) of the Indian Penal Code.

⁴² 'Mental Healthcare Act, 2017' (*India Code*, 1 January 1970) <https://www.indiacode.nic.in/handle/123456789/2249#:~:text=India%20Code%3A%20Mental%20Healthcare%20Act,Go!&text=Long%20Title%3A,connected%20therewith%20or%20incidental%20thereto.> (accessed 11 December 2023).

⁴³ R Ranjan and others, '(De-) Criminalization of Attempted Suicide in India: A Review' (2014) 23 *Industrial Psychiatry Journal* 4.

not only decriminalizes attempted suicide but also aggressively addresses the larger mental health landscape by emphasizing the protection of mental health rights through legislation.

4.3 Malaysia

4.3.1 Penal Code (Amendment) (No. 2) Act, 2023

The recent law changes in Malaysia are an example of a comprehensive strategy to address issues connected to suicide. The Penal Code (Amendment) (No. 2) Act, 2023, demonstrates a commitment to addressing issues leading to suicidal inclinations by introducing important reforms, including the criminalization of the abetting of suicide.⁴⁴ The Act also represents a thorough legal reaction by introducing modifications to the Mental Health Act and the Criminal Procedure Code.

4.3.2 Lessons for Kenya

Kenya should take a cue from Malaysia's approach, especially in acknowledging the significance of addressing issues that contribute to attempted suicide in addition to the act itself. Making aiding and abetting suicide illegal emphasizes the necessity for a comprehensive legal system that takes into account the larger social context and aids in suicide case prevention and intervention. Furthermore, the implementation of a crisis intervention framework demonstrates Malaysia's dedication to preventative mental health measures.

⁴⁴ CodeBlue, 'Dewan Rakyat Passes Amendments to Mental Health Act' (CodeBlue, 26 May 2023) <https://codeblue.galencentre.org/2023/05/24/dewan-rakyat-passes-amendments-to-mental-health-act/#:~:text=On%20Monday%2C%20the%20Dewan%20Rakyat,both%20%E2%80%94%20from%20the%20Penal%20Code.> (accessed 11 December 2023).

5. Conclusion

Overall, this paper synthesizes the key findings from the comparative analysis, emphasizing their collective impact on the argument for decriminalization in Kenya. Based on the study it's evident that decriminalizing suicide in Kenya just like other jurisdictions that have followed the same route is likely to decrease the overall suicide rates in Kenya, which are relatively high. The rationale for the decreased rates of suicide is that the persons at risk are likely to seek help from the community of professionals who will be able to help work through preventing suicide.

The study reiterates the importance of aligning legal frameworks with contemporary understandings of mental health and its nexus to human rights. Kenya is at a turning point in its legal reform process about attempted suicide. The transforming force of legislative and judicial measures is exemplified by the experiences of Ghana, India, and Malaysia. Kenya can set the stage for a legal system that supports people with mental health issues in a way that is more caring, understanding, and rights-focused by taking cues from these comparative viewpoints.

Additionally, the potential positive effects on suicide prevention efforts and the overall well-being of individuals grappling with mental health challenges are highlighted, leaving readers with a compelling case for urgent legal reform in Kenya.

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