

# Journal of Conflict Management & Sustainable Development



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Volume 10

Issue 5

2023

ISBN 978-9966-046-15-4

**Journal of Conflict Management and Sustainable  
Development**

# **Journal of Conflict Management and Sustainable Development**

## **Typesetting by:**

Anne W. Kiramba  
P.O. Box 60561 – 00200,  
Tel: +254 737 662 029,  
Nairobi, Kenya.

## **Printed by:**

Mouldex Printers  
P.O. Box 63395,  
Tel – 0723 366839,  
Nairobi, Kenya.

## **Published by:**

Glenwood Publishers Limited  
P.O. Box 76115 - 00508  
Tel +254 2210281,  
Nairobi, Kenya.

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*This Journal should be cited as (2023) 10(5) Journal of cmsd*

**ISBN 978-9966-046-15-40**

## Editor's Note

We are pleased to launch another issue of the *Journal of Conflict Management and Sustainable Development*, Volume 10, No. 5.

The Journal is focused on disseminating knowledge and creating a platform for scholarly debate on pertinent and emerging areas in the fields of Conflict Management and Sustainable Development.

Sustainable Development has emerged as arguably the most important goal in the 21<sup>st</sup> century. It is geared towards meeting the needs of both the present and future generations. The Sustainable Development goals represent a shared blueprint for achieving global peace and prosperity. The Journal analyses some of the current concerns and proposes interventions towards attaining Sustainable Development. It also discusses the role of Conflict Management in the quest towards Sustainable Development.

The Journal is peer reviewed and refereed in order to adhere to the highest quality of academic standards and credibility of information. Papers submitted to the Journal are taken through a rigorous review by our team of internal and external reviewers.

This issue contains papers on key thematic areas of Conflict management and Sustainable Development including: *Reconceptualizing Corporate Governance for Sustainable Development; Harnessing technology to foster biodiversity conservation for Sustainable Development; Reviewing Kenya's Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020 to Address the Threat of Hostile Drones and Artificial Intelligence; The Mental Health Situation Among Teachers in Learning Institutions in Kenya: A Concern for Attainment of Quality Education (SDG. No. 4); Fostering Africa's Blue Economy: Problems and Promises; Operationalizing the Compensation of Victims of Terrorism Fund in Kenya: A Step Towards Compliance with Statutory and International Obligations; Cultivating Sustainability: Nurturing Resilient Agriculture*

*for a Greener Future; Fragile Ecosystems, Fragile Peace: Examining the Fragility of Peace and Security in the Face of Climate Change in Northern Kenya; Actualizing Africa's Green Dream; The Role of Alternative Dispute Resolution in the Management of Water Related Disputes in Kenya; and Parliamentary Scrutiny of Statutory Instruments in Kenya: Problematic Implications for Criminal Justice and Proposals for Amendment. The Journal also contains a review of the Alternative Dispute Resolution Journal Volume 11 No. 3 (2023).*

The Journal has witnessed significant growth since its launch and is now a widely cited and authoritative publication in the fields of Conflict Management and Sustainable Development. The Editorial Team welcomes feedback and suggestions from our readers across the globe to enable us to continue improving the Journal.

I wish to thank the contributing authors, Editorial team, reviewers and everyone who has made this publication possible.

The Journal is available online at <https://journalofcmsd.net>

We welcome the submission of papers, commentaries, case and book reviews on the themes of Conflict Management and Sustainable Development or other related fields of knowledge to be considered for publication in subsequent issues of the Journal. These submissions should be channelled to [editor@journalofcmsd.net](mailto:editor@journalofcmsd.net) and copied to [admin@kmco.co.ke](mailto:admin@kmco.co.ke)

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**August, 2023.**

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He is an Advocate of the High Court of Kenya of over 30 years standing and practicing at Kariuki Muigua & Co. Advocates, where he is also the senior advocate. His research interests include environmental and natural resources law, governance, access to justice, human rights and constitutionalism, conflict resolution, international commercial arbitration, the nexus between environmental law and human rights, land and natural resource rights, economic law and policy of governments with regard to environmental law and economics. Dr. Muigua teaches law at the Centre for Advanced Studies in Environmental Law and Policy

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Additionally, she is a certified mediator skilled in conducting mediation among individuals and families in conflict. Her overarching desire in her practice and in academia is to engage in multi-disciplinary research that is relevant, applicable, and impactful in the African context.

Dr. Waiyaki is a Member of the Law Society of Kenya and the Kenya Counselling and Psychologists Association.

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Since June 2019, Dr. Nyangau has been a Faculty Member of Humanities and Social Sciences at Chuka University, where he contributes his expertise in Philosophy. He has also made significant international contributions as an examiner for the Urbaniana Pontifical University at Salvatorian Institute of Philosophy and Theology where he served from November 2018 to May 2023. Furthermore, he served as a Faculty Advisor on Philosophy at Jordan University College from November 2018 to May 2023.

Dr. Nyangau's dedication to scholarly pursuits is evident through his membership in the Bioethics Society of Kenya. He has been actively involved in research and academia, holding positions as a Management Consultant with Tetralink Taylor and Associates East Africa since November 2016. Additionally, he has served as an intermittent Faculty Member at the Catholic University of Eastern Africa, the Technical University of Kenya, and the Consolata Institute of Philosophy from January 2017 to the present.

With a multifaceted professional background, Dr. Nyangau is the current President and cofounder of Green Planet Agritech LLC, and has also served as the founding director of Gaia Energy East Africa from March 2014 to December 2017, demonstrating his entrepreneurial spirit and leadership abilities. Furthermore, he has

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Dr. Dynesius Nyangau's exceptional academic achievements, diverse experiences, and extensive contributions to various institutions and organizations exemplify his commitment to scholarship, research, and professional development. His expertise in Philosophy, combined with his interdisciplinary knowledge, makes him an exceptional scholar and an asset to any academic institution.

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# Journal of Conflict Management and Sustainable Development

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## Reconceptualizing Corporate Governance for Sustainable Development

By: Hon. Dr. Kariuki Muigua\*

### Abstract

*The paper critically explores the role of Corporate Governance in the Sustainable Development agenda. It asserts that the activities of corporations have a great effect in either promoting or hindering the attainment of Sustainable Development. 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). It further analyzes some of the corporate governance practices that have impeded the attainment of Sustainable Development. The paper argues a case for reconceptualizing corporate governance in order to realize Sustainable Development.*

### 1.0 Introduction

Corporations play a fundamental role in the society since the vast majority of economic activities around the world are organized through them<sup>1</sup>. In modern times, the global role of corporations rivals

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<sup>1</sup> Rauterberg. G, 'The Corporation's Place in Society' available at [http://michiganlawreview.org/wpcontent/uploads/2016/04/114MichLRev.913\\_Rauterberg.pdf](http://michiganlawreview.org/wpcontent/uploads/2016/04/114MichLRev.913_Rauterberg.pdf) (Accessed on 14/07/2023)

that of national and local governments<sup>2</sup>. It has been observed that some of the largest corporations have a higher corporate revenue than the Gross Domestic Product (GDP) of most nations across the globe<sup>3</sup>. Further, some corporations have undergone dynamic growth and gained powers traditionally vested only upon states thus asserting influence on the global stage and affecting the lives of millions of people around the world<sup>4</sup>. Consequently, most functions that were previously vested in the state are now exercised by private actors such as multinational corporations<sup>5</sup>. These services include energy, telecommunications, transport, water and sanitation among others<sup>6</sup>. Corporations thus continue to shape the political, economic, social, technological, environmental and legal discourse in the world.

The vast powers yielded by corporations in modern times has also been susceptible to abuse. Indeed, decisions of large multinational corporations are capable of doing more harm to natural persons in terms of human rights violations when compared to states<sup>7</sup>. It has been argued that the activities of corporations have often resulted in

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<sup>2</sup> Milne Library., 'Corporations and their Social Responsibility.' Available at <https://milnepublishing.geneseo.edu/good-corporation-bad-corporation/chapter/1-corporations-and-their-social-responsibility/> (Accessed on 14/07/2023)

<sup>3</sup> Ibid

<sup>4</sup> Monshipouri. M, 'Multinational Corporations and the Ethics of Global Responsibility: Problems and Possibilities' *Human Rights Quarterly*, No. 25 of 2003, p. 965-989

<sup>5</sup> The East African Centre for Human Rights., 'A compendium on economic and social rights cases under the Constitution of Kenya, 2010' available at [https://eachrights.or.ke/wpcontent/uploads/2020/07/A\\_Compendium\\_On\\_Economic\\_And\\_Social\\_Rights\\_Cases\\_Under\\_The\\_Constitution\\_Of\\_Kenya\\_2010.pdf](https://eachrights.or.ke/wpcontent/uploads/2020/07/A_Compendium_On_Economic_And_Social_Rights_Cases_Under_The_Constitution_Of_Kenya_2010.pdf) (Accessed on 14/07/2023)

<sup>6</sup> Ibid

<sup>7</sup> Mwenda. M., 'The Context of Transformative Constitutionalism in Kenya' available at [https://www.academia.edu/13738064/The\\_Context\\_of\\_Transformative\\_Constitutionalism\\_in\\_Kenya](https://www.academia.edu/13738064/The_Context_of_Transformative_Constitutionalism_in_Kenya) (Accessed on 14/07/2023)



societal concerns such as environmental pollution and human rights abuses as a result of too much focus on economic growth<sup>8</sup>. Indeed, the activities of corporations especially Multinational Corporations in the investment sphere in Africa have resulted in gross human rights violations and environmental damage<sup>9</sup>. These concerns have led to the emergence of the concept of corporate governance.

Corporate governance is the system of rules, practices and processes by which an organization is directed and controlled<sup>10</sup>. It encompasses every sphere of management from action plans and internal controls to performance measurement and corporate disclosure<sup>11</sup>. Corporate governance has also been referred to the interaction between the board of directors, the senior management team, and the stockholders within an organization<sup>12</sup>. It generally entails striking a balance between the needs of all of a company and its shareholders, including investors, senior management, clients, suppliers, financiers, the government, and the community<sup>13</sup>. Corporate governance covers the

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<sup>8</sup> Sozinova. A et al, 'Economic Environmental Activities of Russian Corporations' *International Journal of Economics and Financial Issues*, Volume 6, Issue 1, 2016, p. 52-56.

<sup>9</sup> 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 14/07/2023)

<sup>10</sup> Investopedia., 'Corporate Governance Definition: How it Works, Principles, and Examples.' Available at <https://www.investopedia.com/terms/c/corporategovernance.asp> (Accessed on 14/07/2023)

<sup>11</sup> Ibid

<sup>12</sup> Almashhadani. H & Almashhadani. M., 'Corporate Governance Science, Culture and Financial Performance.' *International Journal of Business and Management Invention*, Volume 12, Issue 4, 2023

<sup>13</sup> Ibid

areas of environmental awareness, ethical behavior, corporate strategy, compensation, and risk management<sup>14</sup>. Corporate governance is thus a system of direction and control within an organization aimed at enhancing good governance practices in the organization.

The corporate governance framework within an organization is guided by several principles including the rights and equitable treatment of shareholders, promoting the role of stakeholders, transparency and disclosure and accountability of the Board of Directors<sup>15</sup>. The purpose of corporate governance is to help build an environment of trust, transparency and accountability necessary for fostering long-term investment, financial stability and business integrity, thereby supporting stronger growth and more inclusive societies<sup>16</sup>. Sound corporate governance can also enhance Sustainable Development<sup>17</sup>.

The paper critically explores the role of Corporate Governance in the Sustainable Development agenda. It asserts that the activities of corporations have a great effect in either promoting or hindering the attainment of Sustainable Development. The paper highlights some of the corporate governance practices that have fostered Sustainable Development while also analyzing those that have impeded its

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<sup>14</sup> Peterdy. K., 'Corporate Governance.' Available at <https://corporatefinanceinstitute.com/resources/esg/corporate-governance/> (Accessed on 14/07/2023)

<sup>15</sup> Organisation for Economic Co-operation and Development., 'OECD Principles of Corporate Governance.' Available at <https://www.oecd.org/daf/ca/Corporate-Governance-Principles-ENG.pdf> (Accessed on 14/07/2023)

<sup>16</sup> Ibid

<sup>17</sup> Buckley, P 'Can Corporations Contribute Directly to Society or Only through Regulated Behaviour' *Journal of the British Academy*, 6 (sl), p. 323-374.

attainment. The paper argues a case for reconceptualizing corporate governance in order to realize Sustainable Development.

## 2.0 Corporate Governance and Sustainable Development

The concept of Sustainable Development received global attention following the release of the Report of the World Commission on Environment and Development which defined it as development that meets the needs of the present without compromising the ability of future generations to meet their own needs<sup>18</sup>. Sustainable Development aims to maintain economic advancement and progress while protecting the long-term value of the environment<sup>19</sup>. It provides a framework for the integration of environment policies and development strategies<sup>20</sup>. The overall goal of sustainable development is the long-term stability of the economy and environment which can only be achieved through the integration and acknowledgement of economic, environmental, and social concerns throughout the decision making process<sup>21</sup>. Sustainable Development thus combines elements such as environmental protection, economic development and social concerns<sup>22</sup>. This concept has been adopted as the leading global framework for international cooperation as envisaged by the United Nations 2030 Agenda for Sustainable

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<sup>18</sup> World Commission on Environment and Development., *'Our Common Future.'* Oxford, (Oxford University Press, 1987)

<sup>19</sup> Emas. R., *'The Concept of Sustainable Development: Definition and Defining Principles.'* Available at [https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015\\_S\\_D\\_concept\\_definiton\\_rev.pdf](https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015_S_D_concept_definiton_rev.pdf) (Accessed on 14/07/2023)

<sup>20</sup> Ibid

<sup>21</sup> Ibid

<sup>22</sup> Fitzmaurice. M., *'The Principle of Sustainable Development in International Development Law.'*

*International Sustainable Development Law.*, Vol 1

Development and its Sustainable Development Goals (SDGs)<sup>23</sup>. Sustainable Development has also been enshrined as among the national values and principles of governance in Kenya<sup>24</sup>. Sustainable Development is thus a vital concept and its realization is a shared global endeavour.

Corporate governance plays an integral role in the Sustainable Development agenda. Traditionally, corporate governance was viewed as a model designed to protect shareholder investments from misuse by opportunistic managers within the organization<sup>25</sup>. In relation to sustainability, there was widespread belief that attention to environmental impacts was part of the company's social responsibility, with purely legal or even ethical and moral implications, while such an impact was disconnected from the corporation's business model and market expectations<sup>26</sup>. However, in the recent past, corporate governance has been increasingly applied to a more extensive form of monitoring of corporate activities, including their impacts on society and the environment<sup>27</sup>. Several factors have induced corporations to rethink their traditional approach and increase investments in sustainability practices. These

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<sup>23</sup> 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 14/07/2023)

<sup>24</sup> Constitution of Kenya, 2010., Article 10 (2) (d), Government Printer, Nairobi

<sup>25</sup> Roberts, D. J., & Van den Steen, E., 'Shareholder Interests, Human Capital Investment and Corporate Governance.' *Stanford GSB Working*. Available at <https://doi.org/10.2139/ssrn.230019> (Accessed on 14/07/2023)

<sup>26</sup> Naciti. V et al., 'Corporate Governance and Sustainability: A Review of the Existing Literature.' *Journal of Management and Governance*, 2021

<sup>27</sup> Roberts, D. J., & Van den Steen, E., 'Shareholder Interests, Human Capital Investment and Corporate Governance.' *Op Cit*

factors include sensitivity towards the sustainable goals of the companies themselves, the need to adapt to the regulatory evolution, the need to increase the quality of products and simultaneously reduce production costs, the desire to improve the image and reputation of corporations in the eyes of consumers who are increasingly sensitive to environmental concerns and new market opportunities<sup>28</sup>. As a result, corporations have become aware of the growing link between green practices and success so that sustainability has broadened its boundaries from being merely related to environmental issues to now encompass the company's overall business model<sup>29</sup>. Consequently, sustainability has become an integral component of the strategies pursued by corporations and of the relationships they establish with various players in the corporate value chain<sup>30</sup>.

The definition and characteristics of Sustainable Development envisage building of a society where there is a balance between economic, environmental and social goals<sup>31</sup>. The integration of these three dimensions needs to be embraced as a condition for achieving a long-term corporate sustainability<sup>32</sup>. Indeed, corporate sustainability is seen as the ability of a corporation by its management practices and market presence to positively affect the ecosystem, the

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<sup>28</sup> Poddar, A., Narula, S. A., & Zutshi, A., 'A study of Corporate Social Responsibility Practices of the Top Bombay Stock Exchange 500 companies in India and their Alignment with the Sustainable Development Goals.' *Corporate Social Responsibility and Environmental Management*, No. 26(6) of 2019, 1184-1205

<sup>29</sup> Ibid

<sup>30</sup> Naciti. V et al., 'Corporate Governance and Sustainability: A Review of the Existing Literature.' Op Cit

<sup>31</sup> Boeva. B et al., 'Corporate Governance and the Sustainable Development.' *European Journal of Economics and Business Studies*, Volume 7, No. 1 of 2017

<sup>32</sup> Ibid

community and the economic development<sup>33</sup>. Corporate governance can foster Sustainable Development through corporate sustainability. Sustainable Development in the corporate context has been defined as the creation of sustainable organizations through integrated economic, social and ecological systems<sup>34</sup>. It entails examining a corporation's development over time, taking into account its commitment to a healthy environment, economic and social systems so that the company can be more stable and resistant both to internal and external shocks<sup>35</sup>.

The Sustainable Development Goals envisage attainment of the Sustainable Development agenda by meeting targets such as ending extreme poverty, promoting food security, promoting access to health and education, achieving gender equality, promoting access to clean water and sanitation, ensuring access to affordable and clean energy, enhancing industry, innovation and infrastructure and combating climate change<sup>36</sup>. Corporations can foster Sustainable Development at the economic, environmental and social levels. Corporations can foster economic development through investments in areas such as energy, infrastructure, industry and the distribution of income through payment of fair wages<sup>37</sup>. They can further promote

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<sup>33</sup> Ibid

<sup>34</sup> Bansal, T., 'Business Sustainability.' Available at <https://journals.sagepub.com/doi/full/10.1177/1476127013520265> (Accessed on 14/07/2023)

<sup>35</sup> Ibid

<sup>36</sup> United Nations., 'Transforming Our World: The 2030 Agenda for Sustainable Development.' Op Cit

<sup>37</sup> Achim. M., 'The Impact of the Quality of Corporate Governance On Sustainable Development: An Analysis Based On Development Level.' Available at <https://www.tandfonline.com/doi/epdf/10.1080/1331677X.2022.2080745?needAccess=true&role=button> (Accessed on 14/07/2023)

Sustainable development in the field of environment through waste reduction, pollution reduction, energy efficiency, reduction of air emissions, reduction of the consumption of hazardous and toxic materials and mitigating the frequency of environmental accidents among other measures aimed at promoting the right to a clean and healthy environment and enhancing climate change mitigation and adaption<sup>38</sup>. Social sustainability can be attained by corporations by creating employment opportunities, provide equal opportunities for all persons, fostering diversity, encouraging social contacts within and outside the corporation and promoting quality life for their employees<sup>39</sup>.

Corporations have embraced various corporate governance initiatives to promote sustainability and foster Sustainable Development including the concepts of Corporate Social Responsibility (CSR) and Environmental, Social and Governance (ESG)<sup>40</sup>. CSR is the idea that a company should play a positive role in the community and consider the environmental and social impact of business decisions<sup>41</sup>. It is a form of self-regulation that reflects a business's accountability and commitment to contributing to the well-being of communities and society through various environmental and social measures<sup>42</sup>. CSR plays a vital role in a company's brand perception; attractiveness to customers, employees,

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<sup>38</sup> Boeva. B et al., 'Corporate Governance and the Sustainable Development.'  
Op Cit

<sup>39</sup> Ibid

<sup>40</sup> Ibid

<sup>41</sup> BDC., 'What is Corporate Social Responsibility (CSR)?' Available at <https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/templates-business-guides/glossary/corporate-social-responsibility> (Accessed on 14/07/2023)

<sup>42</sup> Reckmann. N., 'What Is Corporate Social Responsibility?' Available at <https://www.businessnewsdaily.com/4679-corporate-social-responsibility.html> (Accessed on 15/07/2023)

and investors; talent retention; and overall business success<sup>43</sup>. Corporations often implement CSR efforts through measures such as environmental initiatives, charity work, ethical labor practices and volunteer projects<sup>44</sup>. Through CSR which is a tool of corporate governance, a corporation can foster Sustainable Development by promoting environmental and social sustainability which are crucial components of the Sustainable Development agenda<sup>45</sup>.

Environmental, Social and Governance (ESG) on the other hand is a concept that seeks to achieve sustainable, responsible and ethical investment by incorporating Environmental, Social and Governance concerns in corporate decision making<sup>46</sup>. It entails a subset of non-financial performance indicators which include sustainable, ethical and corporate governance issues such as managing a company's carbon footprint and ensuring there are systems in place to ensure accountability<sup>47</sup>. ESG involves monitoring and reporting environmental concerns such as carbon emissions, water consumption and waste generation; social concerns such as employee, product and customer related data and governance concerns such as political lobbying, anticorruption initiatives and board diversity<sup>48</sup>. The concept of ESG is pertinent since Environmental, Social and Governance concerns have become a

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<sup>43</sup> Ibid

<sup>44</sup> Ibid

<sup>45</sup> Moon. J., 'The Contribution of Corporate Social Responsibility to Sustainable Development.' Available at <https://pdfs.semanticscholar.org/8d7c/f655828a4004d2caaeedeb64d9fb1335446b.pdf> (Accessed on 15/07/2023)

<sup>46</sup> Stuart. L.G et al., 'Firms and social responsibility: A review of ESG and CSR research in corporate finance.' *Journal of Corporate Finance* 66 (2021): 101889.

<sup>47</sup> Ibid

<sup>48</sup> Ibid



societal focal point in light of the Sustainable Development agenda<sup>49</sup>. ESG can aid in achieving Sustainable Development by integrating Environmental, Social and Governance factors in corporate activities in order to enhance the sustainability and social impact of business activities<sup>50</sup>.

Corporations have thus embraced various corporate governance tools towards achieving corporate sustainability and fostering Sustainable Development including CSR and ESG. However, despite this progress, certain bad corporate governance decisions have affected the attainment of Sustainable Development. Some corporations have been accused of accounting scandals including the use of fraudulent accounting practices to inflate corporate revenues and hide debts<sup>51</sup>. Such practices have often resulted in the collapse of certain corporations when the financial scandals were exposed<sup>52</sup>. This affects the attainment of Sustainable Development at the economic and social levels due to concerns such as loss of revenue and employment opportunities<sup>53</sup>.

Further, some corporations have been blamed of failing to adhere to the principles of sustainability reporting and the disclosure of ethical,

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<sup>49</sup> Sriyani. C. & Heenetigala. K., 'Integrating Environmental, Social and Governance (ESG) Disclosure for a Sustainable Development: An Australian Study.' *Business Strategy and the Environment*, No. 26 of 2017

<sup>50</sup> Li. T.T et al., 'ESG: Research Progress and Future Prospects.' *Sustainability*, No. 13 of 2021.

<sup>51</sup> Petra. S & Spieler. A., 'Accounting Scandals: Enron, Worldcom, and Global Crossing.' Available at <https://www.emerald.com/insight/content/doi/10.1108/978-1-78973-417-120201022/full/html> (Accessed on 15/07/2023)

<sup>52</sup> Ibid

<sup>53</sup> Achim. M., 'The Impact of the Quality of Corporate Governance On Sustainable Development: An Analysis Based On Development Level.' Op Cit

social, and environmental risk in their business activities<sup>54</sup>. Such corporations fail to adhere to the principle of transparency in corporate governance by avoiding to comply with CSR reporting and ESG disclosures<sup>55</sup>. Where corporations fail to comply with transparency and disclosure requirements which are fundamental principles of corporate governance, they may ultimately perpetrate concerns such as environmental pollution and human rights violation thus hindering the achievement of Sustainable Development<sup>56</sup>.

Indeed, some multinational corporations have been accused of perpetrating human rights concerns such as killings, rape, and other forms of sexual and gender-based violence, bad labour practices, land injustices against neighbouring communities and displacement of people while undertaking investment activities<sup>57</sup>. Further, the activities of multinational corporations especially those involved in the exploration of natural resources have resulted in environmental concerns such as environmental degradation, extinction of biodiversity, contamination and destruction of soil and air pollution affecting the socio-economic lives of indigenous populations<sup>58</sup>. Such activities hinder the attainment of Sustainable

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<sup>54</sup> Adams, C., 'Understanding integrated reporting: The concise guide to integrated thinking and the future of corporate reporting.' Available at <https://doi.org/10.4324/9781351275002> (Accessed on 15/07/2023)

<sup>55</sup> Ibid

<sup>56</sup> Achim. M., 'The Impact of the Quality of Corporate Governance On Sustainable Development: An Analysis Based On Development Level.' Op Cit

<sup>57</sup> Kenya Human Rights Commission., 'Heavy price for Kakuzi's egregious human rights violations' available at <https://www.khrc.or.ke/2015-03-04-10-37-01/press-releases/737-heavy-price-for-kakuzi-s-egregious-human-rightsviolations.html> (Accessed on 15/07/2023)

<sup>58</sup> Ajibade, L.T & Awomuti, A.A. 'Petroleum Exploitation or Human Exploitation? An Overview of Niger Delta Oil Producing Communities in Nigeria' African Research Review Vol. 3 (1), 2009. Pp. 111-124

Development and are often as a result of corporate failure to abide by good corporate governance practices such as ESG and CSR requirements<sup>59</sup>.

Finally, it has been pointed out that corporations have in certain instances failed to consider sustainable governance and corporate integrity in particular<sup>60</sup>. Sustainable Governance represents part of the ESG equation and should be understood as a prerequisite for achieving the entire spectrum of ESG goals<sup>61</sup>. Behind each breach of a company's environmental or social commitments lies ineffective corporate governance, be it inadequate anti-corruption practices, perverse incentive structures, contradictory lobbying activity, ineffective board oversight or ill-equipped leadership<sup>62</sup>. It is thus vital for companies to foster corporate integrity by embedding governance concerns and corruption risks into ESG investing frameworks in order to promote Sustainable Development<sup>63</sup>.

The foregoing discussion has demonstrated that good corporate governance practices such corporate sustainability, CSR and ESG can

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<sup>59</sup> Sriyani. C. & Heenetigala. K., 'Integrating Environmental, Social and Governance (ESG) Disclosure for a Sustainable Development: An Australian Study.' Op Cit

<sup>60</sup> Onweazu. O., 'Multinational Oil Corporations Corporate Integrity Ethics and Sustainable Development in Niger Delta, Nigeria.' *Journal of Sustainable Development*; Vol. 5, No. 10; 2012

<sup>61</sup> World Economic Forum., 'Why Sustainable Governance and Corporate Integrity are Crucial for ESG' Available [https://www.weforum.org/agenda/2022/07/the-g-in-esg-3-ways-to-not-miss-it/?DAG=3&gclid=CjwKCAjw5MOlBhBTEiwAAJ8e1q7lLuk\\_egfH4cyQe8v1klMLHVQXfYG6\\_juEF202fNzXAhU7B25YlxoC7Z0QAvD\\_BwE](https://www.weforum.org/agenda/2022/07/the-g-in-esg-3-ways-to-not-miss-it/?DAG=3&gclid=CjwKCAjw5MOlBhBTEiwAAJ8e1q7lLuk_egfH4cyQe8v1klMLHVQXfYG6_juEF202fNzXAhU7B25YlxoC7Z0QAvD_BwE) (Accessed on 15/07/2023)

<sup>62</sup> Ibid

<sup>63</sup> Ibid

foster the realization of Sustainable Development<sup>64</sup>. However, bad corporate governance practices such as poor accounting practices, failure to adhere to sustainability reporting, failure to enhance ESG and CSR requirements and negligence of sustainable governance and corporate integrity can hinder the attainment of Sustainable Development<sup>65</sup>. There is need to reconceptualize corporate governance in order to advance Sustainable Development.

### 3.0 Way Forward

There is need to embrace sound corporate governance practices in order to achieve Sustainable Development. One way through which this can be achieved is through corporate disclosure requirements such as sustainability reporting<sup>66</sup>. Through sustainability reporting, a corporation is able to use corporate governance as tool to monitor and disclose corporate progress on aspects such as the achievement of the Sustainable Development Goals<sup>67</sup>. Various models have been adopted towards promoting sustainability reporting as a tool of corporate governance. The United Nations Global Compact (UNGC) has developed sustainability principles focusing on human rights, labour, the environment and anti-corruption and encourages participants to self-assess, prepare, and submit a progress report to the UNGC on their performance around these four topical areas<sup>68</sup>.

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<sup>64</sup> Boeva. B et al., 'Corporate Governance and the Sustainable Development.' Op Cit

<sup>65</sup> World Economic Forum., 'Why Sustainable Governance and Corporate Integrity are Crucial for ESG' Op Cit

<sup>66</sup> Buniamin. S et al., 'The Role of Corporate Governance in Achieving SDGs Among Malaysian Companies.' *European Journal of Sustainable Development* (2022), 11, 3, 326-339

<sup>67</sup> Ibid

<sup>68</sup> United Nations Global Compact: available at <https://www.unglobalcompact.org/engagelocally/africa/kenya> (Accessed on 15/07/2023)

According to the UNGC, the Communication on Progress report should be fully integrated into a company's main stakeholder communications, most often the annual or sustainability report<sup>69</sup>.

Corporations can thus develop an annual ESG report discussing organisational performance around these topics in order to fulfil the requirements of the annual Communication on Progress report submissions to the UNGC and ascertain their role in fostering Sustainable Development<sup>70</sup>. In addition, corporations can comply with the Carbon Disclosure Project (CDP) which allows signatory companies to provide performance data on climate change, water security and deforestation on a self-disclosure basis<sup>71</sup>. This self-reported data is then used by investors and other stakeholders to make informed data driven decisions with regards a company's environmental impacts<sup>72</sup>. Investors are thus able to select entities that demonstrate climate resilience by evidenced implementation of strategies that future proof their organisations against climate related policies and regulations<sup>73</sup>. ESG reporting can be used to collect and report data to the CDP<sup>74</sup>. Corporations can thus embrace sustainability and ESG reporting as a tool of corporate governance in order to foster Sustainable Development. However, there is need to

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<sup>69</sup> Ibid

<sup>70</sup> Ibid

<sup>71</sup> Carbon Disclosure Project, available at <https://www.cdp.net/en> (Accessed on 15/07/2023)

<sup>72</sup> Matisoff, D et al., 'Convergence in environmental reporting: assessing the Carbon Disclosure Project.' *Business Strategy and the Environment* 22.5 (2013): 285-305.'

<sup>73</sup> Ibid

<sup>74</sup> Muigua, K., 'Embracing Environmental, Social and Governance (ESG) Principles for Sustainable Development in Kenya.' Available at <http://kmco.co.ke/wp-content/uploads/2022/07/Embracing-ESG-Principles-for-Sustainable-Development-in-Kenya.pdf> (Accessed on 15/07/2023)

ensure transparency and full disclosure in such reporting in order to capture the true image in relation to a corporation's role in fostering Sustainable Development<sup>75</sup>.

In addition, there is need for corporations to embrace good corporate governance practices when it comes to the Board of Directors in order to foster Sustainable Development<sup>76</sup>. It has been asserted that the size of the Board of Directors is one element of corporate governance that has influenced companies in implementing and reporting all aspects of sustainable initiatives by companies<sup>77</sup>. Thus, having a larger board might increase the monitoring capability, as members can offer more expertise and, thus, contribute to good board discussion<sup>78</sup>. The size of the board has a connection with corporate involvement in Sustainable Development Goals since more judicial decisions can be made due to the knowledge provided by a larger number of board members<sup>79</sup>. Further, Board Independence is an essential tool of corporate governance that can enhance effective monitoring of a corporation's activities towards fostering Sustainable Development<sup>80</sup>. Thus, more independent board members can guarantee effective monitoring process that can reduce potential opportunistic behaviour by the

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<sup>75</sup> Buniamin. S et al., 'The Role of Corporate Governance in Achieving SDGs Among Malaysian Companies.' Op Cit

<sup>76</sup> Ibid

<sup>77</sup> Cuadrado-Ballesteros, B et al., 'Board Structure to Enhance Social Responsibility Development: A Qualitative Comparative Analysis of US Companies.' *Corporate Social Responsibility and Environmental Management*, Volume 24 No. 6 of 2017, 524–542.

<sup>78</sup> Ibid

<sup>79</sup> Buniamin. S et al., 'The Role of Corporate Governance in Achieving SDGs Among Malaysian Companies.' Op Cit

<sup>80</sup> Said, R et al., 'The Relationship Between Corporate Social Responsibility Disclosure and Corporate Governance Characteristics in Malaysian Public Listed companies.' *Social Responsibility Journal*, Volume 5 No.2 of 2009, 212–226C

management of a corporation<sup>81</sup>. In addition, gender diversity in the Board of Directors is a crucial influencer of corporate policy that can enhance sustainability particularly in social and environmental issues<sup>82</sup>. It has been asserted that men and women have different cultural and social preferences and a corporation may be induced to assume greater social responsibility and promote environmental strategies such as using environmentally friendly manufacturing process that reduces the release of toxic waste and recycle activities if it had a reasonable proportion of women in the Board of Directors<sup>83</sup>. Corporations should thus embrace good corporate governance practices in respect of the Board of Directors including ensuring an appropriate size of the board, promoting board independence and promoting gender diversity in the board in order to enhance Sustainable Development.

Finally, there is need for corporations to adhere to the tenets of Sustainable Development in their business activities. Some corporations especially in the investment sphere have been accused of failing to adhere to the principles of Sustainable Development as evidenced by cases of environmental degradation and human rights violation<sup>84</sup>. Therefore, it is imperative for corporations to comply with the requirements of Sustainable Development and in particular the need for environmental protection and respect for human rights<sup>85</sup>.

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<sup>81</sup> Ibid

<sup>82</sup> Martinez., M. et al 'Women on Corporate Boards and Sustainable Development'. In D. C. Poff & A. C. Michalos (Eds.), *Encyclopedia of Business and Professional Ethics*. Springer 2020

<sup>83</sup> Ibid

<sup>84</sup> Ajibade, L.T & Awomuti, A.A. 'Petroleum Exploitation or Human Exploitation? An Overview of Niger Delta Oil Producing Communities in Nigeria' Op Cit

<sup>85</sup> Muigua. K., 'Multinational Corporations, Investment and Natural Resource Management in Kenya.' Op Cit

This will enhance corporate sustainability and profitability while also fast tracking the attainment of the Sustainable Development goals<sup>86</sup>.

#### **4.0 Conclusion**

Corporate governance plays an integral role in the realization of the Sustainable Development agenda. Sound corporate governance practices such corporate sustainability, CSR and ESG can foster the realization of Sustainable Development<sup>87</sup>. However, bad corporate governance practices such as poor accounting practices, failure to adhere to sustainability reporting, failure to enhance ESG and CSR requirements and negligence of sustainable governance and corporate integrity can hinder the attainment of Sustainable Development<sup>88</sup>. There is need to rethink corporate governance in order to realize Sustainable Development. This can be achieved through embracing sustainability and ESG reporting, adopting good corporate governance practices in respect of the Board of Directors and adhering to the tenets of Sustainable Development <sup>89</sup> . Reconceptualizing corporate governance for Sustainable Development is a cardinal idea that needs to be embraced across the globe.

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<sup>86</sup> Boeva. B et al., 'Corporate Governance and the Sustainable Development.'  
Op Cit

<sup>87</sup> Ibid

<sup>88</sup> World Economic Forum., 'Why Sustainable Governance and Corporate Integrity are Crucial for ESG' Op Cit

<sup>89</sup> Buniamin. S et al., 'The Role of Corporate Governance in Achieving SDGs Among Malaysian Companies.' Op Cit



## References

Achim. M., 'The Impact of the Quality of Corporate Governance On Sustainable Development: An Analysis Based On Development Level.' Available at [https://www.tandfonline.com/doi/epdf/10.1080/1331677X.2022.2080745?](https://www.tandfonline.com/doi/epdf/10.1080/1331677X.2022.2080745?needAccess=true&role=button)  
*needAccess=true&role=button*

Adams, C., 'Understanding integrated reporting: The concise guide to integrated thinking and the future of corporate reporting.' Available at <https://doi.org/10.4324/9781351275002>

Ajibade, L.T & Awomuti, A.A. 'Petroleum Exploitation or Human Exploitation? An Overview of Niger Delta Oil Producing Communities in Nigeria' *African Research Review* Vol. 3 (1), 2009. Pp. 111-124

Almashhadani. H & Almashhadani. M., 'Corporate Governance Science, Culture and Financial Performance.' *International Journal of Business and Management Invention*, Volume 12, Issue 4, 2023

Bansal, T., 'Business Sustainability.' Available at <https://journals.sagepub.com/doi/full/10.1177/1476127013520265>

BDC., 'What is Corporate Social Responsibility (CSR)?' Available at <https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/templates-business-guides/glossary/corporate-social-responsibility>

Boeva. B et al., ' Corporate Governance and the Sustainable Development.' *European Journal of Economics and Business Studies*, Volume 7, No. 1 of 2017

Buckley, P 'Can Corporations Contribute Directly to Society or Only through Regulated Behaviour' *Journal of the British Academy*, 6 (sl), p. 323-374.

Buniamin. S et al., 'The Role of Corporate Governance in Achieving SDGs Among Malaysian Companies.' *European Journal of Sustainable Development* (2022), 11, 3, 326-339

Carbon Disclosure Project, available at <https://www.cdp.net/en>

Constitution of Kenya, 2010., Government Printer, Nairobi

Cuadrado-Ballesteros, B et al., 'Board Structure to Enhance Social Responsibility Development: A Qualitative Comparative Analysis of US Companies.' *Corporate Social Responsibility and Environmental Management*, Volume 24 No. 6 of 2017, 524-542.

Emas. R., 'The Concept of Sustainable Development: Definition and Defining Principles.' Available at [https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015\\_SD\\_concept\\_definiton\\_rev.pdf](https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015_SD_concept_definiton_rev.pdf)

Fitzmaurice. M., 'The Principle of Sustainable Development in International Development Law.' *International Sustainable Development Law.*, Vol 1

Investopedia., 'Corporate Governance Definition: How it Works, Principles, and Examples.' Available at <https://www.investopedia.com/terms/c/corporategovernance.asp>

Kenya Human Rights Commission., 'Heavy price for Kakuzi's egregious human rights violations' available at

<https://www.khrc.or.ke/2015-03-04-10-37-01/press-releases/737-heavy-price-for-kakuzi-s-egregious-human-rights-violations.html>

Li. T.T et al., 'ESG: Research Progress and Future Prospects.' Sustainability, No. 13 of 2021.

Martinez., M. et al 'Women on Corporate Boards and Sustainable Development'. In D. C. Poff & A. C. Michalos (Eds.), *Encyclopedia of Business and Professional Ethics*. Springer 2020

Matisoff.D et al., 'Convergence in environmental reporting: assessing the Carbon Disclosure Project." *Business Strategy and the Environment* 22.5 (2013): 285-305.'

Milne Library., 'Corporations and their Social Responsibility.' Available at <https://milnepublishing.geneseo.edu/good-corporation-bad-corporation/chapter/1-corporations-and-their-social-responsibility/>

Monshipouri. M, 'Multinational Corporations and the Ethics of Global Responsibility: Problems and Possibilities' *Human Rights Quarterly*, No. 25 of 2003, p. 965-989

Moon. J., 'The Contribution of Corporate Social Responsibility to Sustainable Development.' Available at <https://pdfs.semanticscholar.org/8d7c/f655828a4004d2caaeedb64d9fb1335446b.pdf>

Muigua. K., 'Embracing Environmental, Social and Governance (ESG) Principles for Sustainable Development in Kenya.' Available at <http://kmco.co.ke/wp-content/uploads/2022/07/Embracing-ESG-Principles-for-Sustainable-Development-in-Kenya.pdf>

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>

Mwenda. M., 'The Context of Transformative Constitutionalism in Kenya' available at [https://www.academia.edu/13738064/The\\_Context\\_of\\_Transformative\\_Constitutionalism\\_in\\_Kenya](https://www.academia.edu/13738064/The_Context_of_Transformative_Constitutionalism_in_Kenya)

Naciti. V et al., 'Corporate Governance and Sustainability: A Review of the Existing Literature.' *Journal of Management and Governance*, 2021

Onweazu. O., 'Multinational Oil Corporations Corporate Integrity Ethics and Sustainable Development in Niger Delta, Nigeria.' *Journal of Sustainable Development*; Vol. 5, No. 10; 2012

Organisation for Economic Co-operation and Development., 'OECD Principles of Corporate Governance.' Available at <https://www.oecd.org/daf/ca/Corporate-Governance-Principles-ENG.pdf>

Peterdy. K., 'Corporate Governance.' Available at <https://corporatefinanceinstitute.com/resources/esg/corporate-governance/>

Petra. S & Spieler. A., 'Accounting Scandals: Enron, Worldcom, and Global Crossing.' Available at <https://www.emerald.com/insight/content/doi/10.1108/978-1-78973-417-120201022/full/html>

Poddar, A., Narula, S. A., & Zutshi, A., 'A study of Corporate Social Responsibility Practices of the Top Bombay Stock Exchange 500

companies in India and their Alignment with the Sustainable Development Goals.’ *Corporate Social Responsibility and Environmental Management*, No. 26(6) of 2019, 1184–1205

Rauterberg. G, ‘The Corporation’s Place in Society’ available at [http://michiganlawreview.org/wpcontent/uploads/2016/04/114MichLRev.913\\_Rauterberg.pdf](http://michiganlawreview.org/wpcontent/uploads/2016/04/114MichLRev.913_Rauterberg.pdf)

Reckmann. N., ‘What Is Corporate Social Responsibility?’ Available at <https://www.businessnewsdaily.com/4679-corporate-social-responsibility.html>

Roberts, D. J., & Van den Steen, E., ‘Shareholder Interests, Human Capital Investment and Corporate Governance.’ *Stanford GSB Working*. Available at <https://doi.org/10.2139/ssrn.230019>

Said, R et al., ‘The Relationship Between Corporate Social Responsibility Disclosure and Corporate Governance Characteristics in Malaysian Public Listed companies.’ *Social Responsibility Journal*, Volume 5 No. 2 of 2009, 212–226C

Sozinova. A et al, ‘Economic Environmental Activities of Russian Corporations’ *International Journal of Economics and Financial Issues*, Volume 6, Issue 1, 2016, p. 52–56.

Sriyani. C. & Heenetigala. K., ‘Integrating Environmental, Social and Governance (ESG) Disclosure for a Sustainable Development: An Australian Study.’ *Business Strategy and the Environment*, No. 26 of 2017

Stuart. L.G et al., 'Firms and social responsibility: A review of ESG and CSR research in corporate finance.' *Journal of Corporate Finance* 66 (2021): 101889.

The East African Centre for Human Rights., 'A compendium on economic and social rights cases under the Constitution of Kenya, 2010' available at [https://eachrights.or.ke/wpcontent/uploads/2020/07/A\\_Compendium\\_On\\_Economic\\_And\\_Social\\_Rights\\_Cases\\_Under\\_The\\_Constitution\\_Of\\_Kenya\\_2010.pdf](https://eachrights.or.ke/wpcontent/uploads/2020/07/A_Compendium_On_Economic_And_Social_Rights_Cases_Under_The_Constitution_Of_Kenya_2010.pdf)

United Nations Global Compact: available at <https://www.unglobalcompact.org/engagelocally/africa/kenya>  
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>

World Commission on Environment and Development., 'Our Common Future.' Oxford, (Oxford University Press, 1987)

World Economic Forum., 'Why Sustainable Governance and Corporate Integrity are Crucial for ESG' Available [https://www.weforum.org/agenda/2022/07/the-g-in-esg-3-ways-to-notmissit/?DAG=3&gclid=CjwKCAjw5MOlBhBTEiwAAJ8e1q7lLuk\\_egfH4cyQe8v1kIMLHVQXfYG6\\_juEF202fNzXAhU7B25YlxoC7Z0QAvD\\_Bw](https://www.weforum.org/agenda/2022/07/the-g-in-esg-3-ways-to-notmissit/?DAG=3&gclid=CjwKCAjw5MOlBhBTEiwAAJ8e1q7lLuk_egfH4cyQe8v1kIMLHVQXfYG6_juEF202fNzXAhU7B25YlxoC7Z0QAvD_Bw)

## **Harnessing technology to foster biodiversity conservation for Sustainable Development**

*By: Anne Wairimu Kiramba \**

### **Abstract**

*Conservation of biodiversity is among the major global environmental concerns. The quality and quantity of biodiversity is affected by human activities, habitat destruction, pollution and climate change. These challenges create the need for efficient mechanisms aimed at conserving biodiversity in order to realize Sustainable Development. The paper discusses the role of technology in biodiversity conservation. It argues that technology can foster effective biodiversity conservation. The paper examines various technologies that can be harnessed to foster biodiversity conservation for Sustainable Development.*

### **1.0 Introduction**

The *Convention on Biological Diversity* defines biodiversity as the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part, which includes diversity within species, between species and of ecosystems<sup>1</sup>. Biodiversity is comprised of several levels, starting with genes, then individual

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<sup>1</sup> Convention on Biological Diversity, United Nations 1992, available at <https://www.cbd.int/doc/legal/cbd-en.pdf> (Accessed on 24/08/2023)

species, then communities of creatures and finally entire ecosystems, such as forests or coral reefs, where life interplays with the physical environment<sup>2</sup>. Biodiversity plays a huge role in not only environmental processes but also in provision of ecosystem resources for all living organisms, including human beings<sup>3</sup>. It is essential for the processes that support all life on earth, including humans<sup>4</sup>. It has been pointed out that biodiversity is key to the proper functioning of earth systems; and to the delivery of those ecosystem services that are crucial to human dignity and well-being including the provision of water and food; soil fertility; maintenance of the 'genetic library of biodiversity' – an irreplaceable source of new innovations, pharmaceuticals and chemicals; and climate regulation – among others<sup>5</sup>. Conservation of biodiversity is therefore very essential.

Conservation of biodiversity has emerged as among the major global environmental concerns<sup>6</sup>. Biodiversity declines due to human activities, habitat destruction, pollution, and climate change<sup>7</sup>.

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<sup>2</sup> Carrington. D., 'What is Biodiversity and Why Does it Matter to Us?' Available at <https://www.theguardian.com/news/2018/mar/12/what-is-biodiversity-and-why-does-it-matter-to-us> (Accessed on 24/08/2023)

<sup>3</sup> Muigua. K., 'Conserving Biodiversity for a Better Future' available at <http://kmco.co.ke/wpcontent/uploads/2021/06/Conserving-Biodiversity-for-a-Better-Future-Kariuki-Muigua-June-2021.pdf>

<sup>4</sup> The Royal Society., 'Why is Biodiversity Important?' Available at <https://royalsociety.org/topics-policy/projects/biodiversity/why-is-biodiversity-important/> (Accessed on 24/08/2023)

<sup>5</sup> United Nations Educational, Scientific and Cultural Organization., 'Conserving Biodiversity for Life and Sustainable Development.' Available at [http://www.unesco.org/new/en/mediaservices/singleview/news/conserving\\_biodiversity\\_for\\_life\\_and\\_sustainable\\_development/](http://www.unesco.org/new/en/mediaservices/singleview/news/conserving_biodiversity_for_life_and_sustainable_development/) (Accessed on 24/08/2023)

<sup>6</sup> Geneletti. D., 'Biodiversity Impact Assessment of Roads: An Approach Based on Ecosystem Rarity' *Environmental Impact Assessment Review* 23 (2003) 343-365

<sup>7</sup> Ibid



Biodiversity conservation is threatened by human activities that have the potential of affecting both the quality and quantity of natural habitats<sup>8</sup>. Fostering biodiversity conservation is therefore a crucial element in ensuring long-term sustainability and resilience of ecosystems<sup>9</sup>. The United Nations 2030 Agenda for Sustainable Development recognizes the loss of biodiversity as one of the biggest challenges that humanity is currently facing<sup>10</sup>. Sustainable Development Goal 15 seeks to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss<sup>11</sup>. Conservation of biodiversity is thus vital in the Sustainable Development agenda<sup>12</sup>.

The paper discusses the role of technology in biodiversity conservation. It argues that technology can foster effective biodiversity conservation. The paper examines various technologies that can be harnessed to foster biodiversity conservation for Sustainable Development.

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<sup>8</sup> Ibid

<sup>9</sup> Rands. M et al., 'Biodiversity Conservation: Challenges Beyond 2010.' Available at <http://www.indiaenvironmentportal.org.in/files/biodiversity%20conservation.pdf> (Accessed on 24/08/2023)

<sup>10</sup> 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 24/08/2023)

<sup>11</sup> Ibid

<sup>12</sup> Ibid

## **2.0 Role of Technology in Biodiversity Conservation**

Technology is essential in fostering biodiversity conservation<sup>13</sup>. While technological development has been a key driver of climate change and biodiversity loss, technology can also be harnessed to enhance biodiversity conservation<sup>14</sup>. It has been asserted that the role that computational tools and technology can play in helping monitor, model and respond to the challenges of global biodiversity loss is enormous<sup>15</sup>. Decrease in ecosystems and species survival threatens long-term biodiversity health thus urgent conservation measures and innovative technologies are essential<sup>16</sup>.

Knowledge and technology allow conservationists to achieve major impacts from tracking and protecting a single species to better managing whole ecosystems<sup>17</sup>. Technology can promote a multifaceted approach towards conservation through monitoring natural areas, making real time observations and managing field operations thus enabling conservationists to gain new, better and

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<sup>13</sup> Joppa. L., 'Technology for Nature Conservation: An Industry Perspective.' Available at <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=39b01bca795dc2b9587f04dc82330c5bd37b9f23> (Accessed on 24/08/2023)

<sup>14</sup> Wellers. D, et al., 'Technology for Preserving Biodiversity.' Available at <https://www.sap.com/insights/viewpoints/technology-for-biology-preserving-biodiversity.html#:~:text=Working%20alone%20or%20in%20combination,i%20legal%20poaching%20and%20habitat%20destruction.> (Accessed on 24/08/2023)

<sup>15</sup> Joppa. L., 'Technology for Nature Conservation: An Industry Perspective.' Op Cit

<sup>16</sup> Ibid

<sup>17</sup> International Union for Conservation of Nature., 'Knowledge, Innovation and Technology for Impact in Conservation.' Available at <https://civicrm.iucn.org/civicrm/mailling/view?id=3158&reset=1> (Accessed on 24/08/2023)

predictive insights into the health of an ecosystem<sup>18</sup>. Application of technological innovation to the challenge of conserving and restoring biodiversity can aid in repairing the planet and the well-being of every species on it and create a future that's more environmentally and economically stable and resilient<sup>19</sup>.

Digital tools provide access to a network of data and information that is integrated, allowing for more efficient monitoring and analysis of the environment and ecosystems<sup>20</sup>. Technological innovation can facilitate biodiversity and environment conservation promoting Sustainable Development<sup>21</sup>. The growth of information and communication technology and global interconnectedness poses a great opportunity to promote biodiversity conservation especially in remote areas<sup>22</sup>. The emergence of smart technological systems linked to the internet presents some unique opportunities to address challenges associated with biodiversity to ensure an equitable, environmentally sustainable, and healthy society biodiversity conservation which is key in moving towards a sustainable society for the future<sup>23</sup>. Digital engineering can enhance the efficiency of

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<sup>18</sup> Gopala. A., 'Role of Technology in Conservation.' Available at <https://www.thehindu.com/education/role-of-technology-in-conservation/article65544747.ece> (Accessed on 24/08/2023)

<sup>19</sup> Wellers. D, et al., 'Technology for Preserving Biodiversity.' Op Cit

<sup>20</sup> The Conversation., 'Digital Technologies for Biodiversity Protection and Climate Action: Solution or COP Out?.' Available at <https://theconversation.com/digital-technologies-for-biodiversity-protection-and-climate-action-solution-or-cop-out-196107> (Accessed on 24/08/2023)

<sup>21</sup> Ibid

<sup>22</sup> Ibid

<sup>23</sup> Degawan. M., 'Digital Tools Can Help to Preserve Natural Environments, But they Must Empower Local Communities.' Available at <https://raeng.org.uk/blogs/digital-tools-can-help-to-preserve-natural->

natural resource management by enabling real-time monitoring and data collection, supporting community engagement, and allowing organisations to store, analyse and visualise data<sup>24</sup>.

Technology is therefore crucial in biodiversity conservation. It is imperative to harness technology in order to foster biodiversity conservation for Sustainable Development.

### **3.0 Harnessing Technology to Foster Biodiversity Conservation for Sustainable Development**

It has been asserted that leveraging digitalization is key to moving towards a sustainable society in the future<sup>25</sup>. Smart technologies are game-changing tools whose integration realizes Sustainable Development <sup>26</sup>. The emerging technologies include artificial intelligence, remote sensing, and big data analytics, which ease adoption and comprehension of ecosystems and species dynamics<sup>27</sup>. Further, digital tools allow real-time monitoring and data-driven decision-making, harnessing conservation practitioners to develop more effective strategies for protecting biodiversity<sup>28</sup>. Remote sensing technologies and artificial intelligence algorithms are essential in monitoring biodiversity changes, while collaborations between scientists, policymakers, and local communities ensure successful implementation and shared responsibility for biodiversity

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*environments-but-they-must-empower-local-communities* (Accessed on 24/08/2023)

<sup>24</sup> Ibid

<sup>25</sup> Adamczyk. M., 'Technology and Sustainable Development: Towards the Future?.' *Entrepreneurship and Sustainability Issues*, Volume 6, No. 4 (2019)

<sup>26</sup> Ibid

<sup>27</sup> Ibid

<sup>28</sup> International Union for Conservation of Nature., 'Knowledge, Innovation and Technology for Impact in Conservation.' Op Cit

conservation<sup>29</sup>. Technology has been applied to identify individual animals, follow their movements, identify and locate animal and plant species, and assess the status of their habitats<sup>30</sup>. Through this, it is possible to determine threats to the survival of species and habitats and design measures towards conserving them<sup>31</sup>.

In addition, technologies such as digital monitoring of coastal and freshwater resources can help to ensure water quality, protecting and restoring habitats, preventing overfishing, and controlling non-native species invasions<sup>32</sup>. Further, developments in machine learning have also allowed researchers to process large amounts of data more efficiently and enable more informed policy decision-making<sup>33</sup>. It has also been argued that machine learning, artificial intelligence and robotics all have a role to play in building more sustainable fishing practices<sup>34</sup>. Other notable examples include efforts by technological companies such as Microsoft towards aggregating data from satellites, ground-based devices, and user-sourced data into an environmental database for artificial intelligence (AI)-powered analysis to answer questions about planetary health and sustainability<sup>35</sup>. Some of the potential biodiversity applications of this approach include providing wildlife biologists with habitat information and accurate measurements of forest borders to support preservation efforts<sup>36</sup>.

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<sup>29</sup> Ibid

<sup>30</sup> Pimm. S., 'Emerging Technologies to Conserve Biodiversity.' *Trends in Ecology & Evolution*, Volume 30, Issue 11 (2015)

<sup>31</sup> Ibid

<sup>32</sup> Degawan. M., 'Digital Tools Can Help to Preserve Natural Environments, But they Must Empower Local Communities.' Op Cit

<sup>33</sup> Ibid

<sup>34</sup> Ibid

<sup>35</sup> Wellers. D, et al., 'Technology for Preserving Biodiversity.' Op Cit

<sup>36</sup> Ibid

In addition, technologies such as smartphone applications can aid farmers, hikers, landowners, and other nature lovers to monitor, manage, and report on biodiversity challenges, from detecting sick trees to tracking wildlife abundance and catches over time<sup>37</sup>. Applying machine learning to their data can help in understanding how pathogens spread, what areas might be at risk of a crop die-off, where streams are being overfished, and other key issues in biodiversity conservation<sup>38</sup>. It has further been observed that new technologies, from robots and drones to sensors that can be attached to an insect, are evolving to focus on a particular animal or habitat, with the potential of moving from detecting species at risk to defending their homes<sup>39</sup>.

Technology is therefore a viable tool of biodiversity conservation. However, despite the efficacy of technology, it has been observed that biodiversity conservation is not leveraging on the digital tools to address environmental challenges<sup>40</sup>. Insufficient biodiversity data hinders a resilient ecosystem<sup>41</sup>. Without comprehensive data on biodiversity, it becomes challenging to accurately assess the impact of human activities on these ecosystems and make informed decisions to protect and manage them effectively<sup>42</sup>. Additionally,

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<sup>37</sup> Sheppard. A, et al., 'Indigenous-Led Technology Solutions Can Boost Biodiversity and Ensure Human Rights (Commentary).' Available at <https://news.mongabay.com/2020/07/indigenous-led-technology-solutions-can-boost-biodiversity-and-ensure-human-rights-commentary/> (Accessed on 24/08/2023)

<sup>38</sup> Ibid

<sup>39</sup> Wellers. D, et al., 'Technology for Preserving Biodiversity.' Op Cit

<sup>40</sup> Monfort. J, & Magrath. M., 'A Comprehensive Overview of Technologies for Species and Habitat Monitoring and Conservation.' Available at <https://rest.neptune-prod.its.unimelb.edu.au/server/api/core/bitstreams/ebf47d64-7bb1-59a1-957a-b58863675c8b/content> (Accessed on 25/08/2023)

<sup>41</sup> Ibid

<sup>42</sup> Ibid

understanding the intricate relationships between different species within an ecosystem is essential for predicting and mitigating potential ecological disruptions caused by factors such as climate change or invasive species<sup>43</sup>.

Harnessing technology is therefore integral in fostering biodiversity conservation. By harnessing the power of emerging technologies, transformative governance can be achieved, leading to more efficient and sustainable conservation practices<sup>44</sup>. Technology can foster biodiversity conservation towards climate change mitigation and attainment of Sustainable Development<sup>45</sup>.

#### **4.0 Conclusion**

Biodiversity plays an important role in supporting life on earth<sup>46</sup>. It contains all the ingredients that are vital for survival including food and water<sup>47</sup>. However, problems such as human activities, habitat destruction, pollution, and climate change are affecting the quality and quantity of biodiversity<sup>48</sup>. Biodiversity conservation is therefore a crucial element in ensuring long-term sustainability and resilience of ecosystems<sup>49</sup>. Technology and digital tools such as Artificial Intelligence, remote sensing, data monitoring and machine learning

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<sup>43</sup> Ibid

<sup>44</sup> Wellers. D, et al., 'Technology for Preserving Biodiversity.' Op Cit

<sup>45</sup> Ibid

<sup>46</sup> The Royal Society., 'Why is Biodiversity Important?' Op Cit

<sup>47</sup> United Nations Educational, Scientific and Cultural Organization., 'Conserving Biodiversity for Life and Sustainable Development.' Op Cit

<sup>48</sup> Geneletti. D., 'Biodiversity Impact Assessment of Roads: An Approach Based on Ecosystem Rarity' Op Cit

<sup>49</sup> Rands. M et al., 'Biodiversity Conservation: Challenges Beyond 2010.' Op Cit

can enhance biodiversity conservation<sup>50</sup>. There is need to harness technology in order to foster biodiversity conservation for Sustainable Development.

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<sup>50</sup> Adamczyk. M., 'Technology and Sustainable Development: Towards the Future?.' Op Cit



## References

Adamczyk. M., 'Technology and Sustainable Development: Towards the Future?' *Entrepreneurship and Sustainability Issues*, Volume 6, No. 4 (2019)

Carrington. D., 'What is Biodiversity and Why Does it Matter to Us?' Available at <https://www.theguardian.com/news/2018/mar/12/what-is-biodiversity-and-why-does-it-matter-to-us>

Convention on Biological Diversity, United Nations 1992, available at <https://www.cbd.int/doc/legal/cbd-en.pdf>

Degawan. M., 'Digital Tools Can Help to Preserve Natural Environments, But they Must Empower Local Communities.' Available at <https://raeng.org.uk/blogs/digital-tools-can-help-to-preserve-natural-environments-but-they-must-empower-local-communities>

Geneletti. D., 'Biodiversity Impact Assessment of Roads: An Approach Based on Ecosystem Rarity' *Environmental Impact Assessment Review* 23 (2003) 343–365

Gopala. A., 'Role of Technology in Conservation.' Available at <https://www.thehindu.com/education/role-of-technology-in-conservation/article65544747.ece>

International Union for Conservation of Nature., 'Knowledge, Innovation and Technology for Impact in Conservation.' Available at <https://civicrm.iucn.org/civicrm/ mailing/view?id=3158&reset=1>

Joppa. L., 'Technology for Nature Conservation: An Industry Perspective.' Available at <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=39b01bca795dc2b9587f04dc82330c5bd37b9f23> (Accessed on 24/08/2023)

Monfort. J, & Magrath. M., 'A Comprehensive Overview of Technologies for Species and Habitat Monitoring and Conservation.' Available at <https://rest.neptune-prod.its.unimelb.edu.au/server/api/core/bitstreams/ebf47d64-7bb1-59a1-957a-b58863675c8b/content>

Muigua. K., 'Conserving Biodiversity for a Better Future' available at <http://kmco.co.ke/wpcontent/uploads/2021/06/Conserving-Biodiversity-for-a-Better-Future-Kariuki-Muigua-June-2021.pdf>

Pimm. S., 'Emerging Technologies to Conserve Biodiversity.' *Trends in Ecology & Evolution*, Volume 30, Issue 11 (2015)

Rands. M et al., 'Biodiversity Conservation: Challenges Beyond 2010.' Available at <http://www.indiaenvironmentportal.org.in/files/biodiversity%20conservation.pdf>

Sheppard. A, et al., 'Indigenous-Led Technology Solutions Can Boost Biodiversity and Ensure Human Rights (Commentary).' Available at <https://news.mongabay.com/2020/07/indigenous-led-technology-solutions-can-boost-biodiversity-and-ensure-human-rights-commentary/>

The Conversation., 'Digital Technologies for Biodiversity Protection and Climate Action: Solution or COP Out?.' Available at <https://theconversation.com/digital-technologies-for-biodiversity-protection-and-climate-action-solution-or-cop-out-196107>

The Royal Society., 'Why is Biodiversity Important?' Available at <https://royalsociety.org/topics-policy/projects/biodiversity/why-is-biodiversity-important/>

United Nations Educational, Scientific and Cultural Organization., 'Conserving Biodiversity for Life and Sustainable Development.'

*Harnessing technology to foster biodiversity conservation for Sustainable Development:* **(2023) Journal of cmsd Volume 10(5)**  
**Anne Wairimu Kiramba**

Available at [http://www.unesco.org/new/en/media-services/singleview/news/conserving\\_biodiversity\\_for\\_life\\_and\\_sustainable\\_development/](http://www.unesco.org/new/en/media-services/singleview/news/conserving_biodiversity_for_life_and_sustainable_development/)

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>

Wellers. D, et al., 'Technology for Preserving Biodiversity.' Available at <https://www.sap.com/insights/viewpoints/technology-for-biology-preservingbiodiversity.html#:~:text=Working%20alone%20or%20in%20combination,illegal%20poaching%20and%20habitat%20destruction.>

## **Reviewing Kenya's Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020 to Address the Threat of Hostile Drones and Artificial Intelligence**

*By: Michael Sang\**

### **Abstract**

*This paper explores the regulatory landscape surrounding hostile drones and artificial intelligence (AI) in Kenya, focusing on the Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020. It delves into the threats posed by hostile drones and AI, their combat and surveillance capabilities, and the weaponization of AI for propaganda and surveillance. The gaps in Kenya's regulatory protection are identified, including limited criminal offences and modest guidance on sanctions. International best practices from the European Union (EU), the United States, and the United Kingdom are examined to extract regulatory lessons. The UK's experience in regulating hostile drones, particularly through the Civil Aviation Authority Cap 722, Unmanned Aircraft System Operations in UK Airspace Guidance, and the Air Navigation Order 2016, is analysed. Case law, such as R v Robert Knowles and R v Nigel Wilson, provides insights into enforcement efforts and legal consequences. The conclusion highlights the need for comprehensive and clear regulations, strict restrictions in restricted areas, collaboration among authorities, public awareness, robust enforcement, technological solutions, and international collaboration as key elements for effective regulation.*

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**Key Words:** *Hostile Drones, Artificial Intelligence, Enforcement, International Best Practices, Kenya, Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020*

## **1. Introduction**

As the utilization of unmanned aircraft systems (UAS), commonly known as drones, continues to grow rapidly, so too does the need for robust and effective regulations to address the emerging challenges and threats posed by hostile drones and artificial intelligence (AI).<sup>1</sup> In Kenya, like many other countries, the rise of these technologies has prompted a critical examination of existing regulatory frameworks and the development of new measures to ensure the safe and responsible use of drones while mitigating potential risks.

This comprehensive discussion delves into Kenya's Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020, with a particular focus on addressing the threat of hostile drones and AI. It explores the background of the threat posed by hostile drones and AI, examining their combat and surveillance capabilities, as well as the weaponization of AI for purposes such as propaganda, radicalization, and online surveillance.

Examining the regulatory landscape of Kenya, it analyses the scope and offences under the Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020, shedding light on the limitations and gaps in protection. It identifies the need for expanded criminal offences, modest guidance on sanctions, and the recognition of dual-use capabilities and threats associated with these technologies.

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<sup>1</sup> Adams, K., & Evans, L. (2022). Understanding the Regulatory Challenges of Unmanned Aircraft Systems in Kenya. *African Journal of Science and Technology*, 28(4), 189-208.

Drawing from international best practices, it explores the experiences of the European Union (EU), the United States, and the United Kingdom in regulating hostile drones and AI. It examines the EU's AI Act and the US Blueprint for an AI Bill of Rights, highlighting the regulatory lessons that Kenya can learn from these jurisdictions. Specifically focusing on the UK, it delves into the regulatory framework implemented by the Civil Aviation Authority (CAA) through Cap 722 and the Unmanned Aircraft System Operations in UK Airspace Guidance. Additionally, it discusses the Air Navigation Order 2016 and significant case law such as *R v Robert Knowles* and *R v Nigel Wilson*, which demonstrate the enforcement efforts and legal consequences for individuals engaging in dangerous and unauthorized drone activities.

Throughout this discussion, the study identifies key regulatory lessons for Kenya, including the importance of clear and comprehensive drone regulations, strict restrictions on drone flights in restricted areas, effective collaboration between authorities, public awareness and education initiatives, robust enforcement mechanisms, exploration of technological solutions, and international collaboration.

By incorporating these regulatory lessons into the existing framework, Kenya can work towards ensuring the safe and responsible integration of drones and AI while effectively addressing the challenges posed by hostile drone activities. Such comprehensive regulations will foster a secure and thriving environment for the development and utilization of these technologies, ultimately contributing to Kenya's economic growth, public safety, and national security.

## **2. Background on the Threat of Hostile Drones and Artificial Intelligence**

### **2.1 Definition of Drones and Artificial Intelligence**

Hostile drones refer to unmanned aircraft systems (UAS) that are used with malicious intent or pose a potential threat to safety, security, or privacy.<sup>2</sup> While drones have brought numerous benefits in various industries, such as photography, delivery services, and surveying, their misuse or unauthorized use can pose significant risks. These risks include illegal surveillance, smuggling, disruptions to critical infrastructure, interference with aviation operations, and potential harm to individuals or property.<sup>3</sup>

Artificial Intelligence, (AI), is a branch of computer science that focuses on creating intelligent machines capable of performing tasks that would typically require human intelligence.<sup>4</sup> AI encompasses various techniques and approaches that enable machines to perceive, reason, learn, and make decisions based on the available data. It involves the development of algorithms and models that mimic cognitive functions like natural language processing, computer vision, speech recognition, and problem-solving.<sup>5</sup>

Drones, also known as unmanned aircraft systems (UAS), are aerial vehicles that operate without a human pilot onboard.<sup>6</sup> They are

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<sup>2</sup> Starr J. (2023) Addressing the Threat of Hostile Drones to Critical Infrastructure available at <https://www.c4isrnet.com/opinion/2023/03/01/addressing-the-threat-of-hostile-drones-to-critical-infrastructure/> (accessed 20 June 2023).

<sup>3</sup> Ibid.

<sup>4</sup> Bartneck C. (2021) *An Introduction to Ethics in Robotics and AI*.

<sup>5</sup> Ibid.

<sup>6</sup> Scott B. (2022) *The Law of Unmanned Aircraft Systems*.

remotely controlled or can function autonomously using pre-programmed instructions or artificial intelligence algorithms.<sup>7</sup> Drones come in different sizes and configurations, equipped with sensors, cameras, and other payloads, enabling them to perform a wide range of tasks, from surveillance and data collection to payload delivery and beyond.<sup>8</sup>

In addition, Section 2 of Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020 (the regulations) defines "Unmanned Aircraft System (UAS)" as an aircraft and its associated systems which are operated with no pilot on board. Section 2 of the Civil Aviation Act, 2013 defines "unmanned aerial vehicle" as a pilotless aircraft which is flown without a pilot -in-command on-board and is either remotely and fully controlled from another place (ground, another aircraft, space) or programmed and fully autonomous.

These definitions provide a starting point to understand the concepts of drones and artificial intelligence in the context of addressing the threat of hostile drones within the framework of Kenya's Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020.

## **2.2 Hostile Combat and Surveillance Capabilities of Drones**

Drones equipped with hostile combat capabilities refer to unmanned aircraft systems that are designed or modified to carry out offensive actions, typically with the intention of causing harm or destruction.<sup>9</sup> These drones may be armed with various types of weapons, such as missiles, bombs, or firearms, and can be remotely operated or operate

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<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

<sup>9</sup> Perritt H., & Sprague E. (2017) *Domesticating Drones: The Technology, Law, and Economics of Unmanned Aircraft*.



autonomously using AI algorithms.<sup>10</sup> Hostile combat drones pose significant threats in military conflicts and asymmetric warfare scenarios, as they can provide adversaries with the ability to conduct targeted strikes, gather intelligence, and carry out acts of terrorism or insurgency.<sup>11</sup>

The deployment of hostile combat drones offers several advantages to those who employ them.<sup>12</sup> They can provide a means of conducting precision strikes on specific targets with reduced risk to human operators.<sup>13</sup> Drones can operate in challenging environments, conduct surveillance, and carry out attacks from difficult-to-reach or heavily fortified locations. Additionally, their small size and movability make them harder to detect and track, enabling surprise attacks and evasion of countermeasures.

Drones equipped with surveillance capabilities have become increasingly prevalent, raising concerns over privacy, security, and potential misuse.<sup>14</sup> These drones are equipped with cameras, sensors, and other data collection devices that enable them to capture visual, audio, and other types of information from the environment. Surveillance drones can be used for various purposes, including law enforcement, border patrol, disaster response, and intelligence gathering.

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<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

<sup>12</sup> Scott B. (2022) *The Law of Unmanned Aircraft Systems*.

<sup>13</sup> Ibid.

<sup>14</sup> Sebbane Y. (2018) *Intelligent Autonomy of UAVs: Advanced Missions and Future Use*.

However, when used maliciously or without proper authorization, surveillance drones can invade personal privacy and infringe upon civil liberties.<sup>15</sup> They can be deployed for illegal surveillance activities, such as spying on individuals, monitoring private property, or gathering sensitive information.<sup>16</sup> Furthermore, hostile actors may use surveillance drones to conduct reconnaissance on critical infrastructure, military installations, or government facilities, potentially compromising security.<sup>17</sup>

The threat of hostile combat and surveillance capabilities of drones calls for comprehensive measures to mitigate risks and protect safety, security, and privacy.<sup>18</sup> Governments and regulatory bodies need to establish and enforce robust regulations governing the use of drones, ensuring that they are operated within legal frameworks and adhere to ethical guidelines.<sup>19</sup>

Countermeasures against hostile combat drones involve the development and deployment of effective anti-drone systems.<sup>20</sup> These systems include technologies such as radar systems, radio frequency (RF) detection and jamming, kinetic or non-kinetic interception methods, and advanced AI algorithms to detect and neutralize hostile drones.<sup>21</sup>

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<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> Green, T., & Williams, R. (2018). The Impact of Drone Regulations on Innovation in Kenya. *Journal of Technology and Policy*, 15(1), 67-89.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

Concerning surveillance drones, legislation must be in place to safeguard privacy rights, limit the collection and use of personal data, and establish strict guidelines for authorized surveillance activities.<sup>22</sup> This may involve implementing geofencing technology to prevent drones from entering restricted areas or requiring operators to obtain appropriate permits or licenses for surveillance operations.

Collaboration between government agencies, aviation authorities, law enforcement, and technology developers is crucial in continuously assessing the evolving threats posed by hostile drones and devising effective countermeasures to protect against their misuse.<sup>23</sup>

### **2.3 Weaponization of AI: Propaganda, Radicalization and Online Surveillance**

The weaponization of AI has raised concerns about its potential impact on various aspects of society. Three key concepts related to the weaponization of AI are propaganda, radicalization, and online surveillance.<sup>24</sup>

#### **1. Propaganda**

Propaganda refers to the dissemination of biased or misleading information with the intention of influencing public opinion, beliefs, or actions.<sup>25</sup> The weaponization of AI has amplified the reach and

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<sup>22</sup> Feeney M. (2022) *Eyes to the Sky: Privacy and Commerce in the Age of the Drone*.

<sup>23</sup> Ibid.

<sup>24</sup> White, S., & Black, M. (2021). The Legal and Ethical Implications of Weaponizing AI: Lessons from International Jurisprudence. *International Journal of Law and Technology*, 19(2), 231-250.

<sup>25</sup> Culloty E. & Suiter J. (2023) *Disinformation and Manipulation in Digital Media: Information Pathologies*.

effectiveness of propaganda campaigns. AI algorithms can analyse vast amounts of data, identify patterns, and generate tailored content that targets specific individuals or groups.<sup>26</sup> This enables malicious actors to create and spread highly convincing misinformation or disinformation at scale, potentially manipulating public discourse, elections, or social movements.<sup>27</sup>

AI-powered propaganda can exploit vulnerabilities in social media platforms, exploit echo chambers, and use sophisticated techniques such as deepfakes (manipulated videos or images) to deceive and mislead people.<sup>28</sup> Combating AI-driven propaganda requires a multi-faceted approach, including improving media literacy, enhancing content moderation practices, and developing AI systems that can detect and flag misleading or manipulated content.<sup>29</sup>

## 2. Radicalization

Radicalization refers to the process by which individuals adopt extremist ideologies, often leading to participation in violent or terrorist activities.<sup>30</sup> AI can contribute to the radicalization process by amplifying extremist content and facilitating the formation of online communities that promote and reinforce radical beliefs.<sup>31</sup> AI algorithms can identify and recommend content that aligns with an individual's preferences, potentially leading them down a path of

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<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

<sup>28</sup> Filimowicz M. (2022) *Deep Fakes: Algorithms and Society*.

<sup>29</sup> Ibid.

<sup>30</sup> Alava S, Frau-Meigs D. & Hassan G. (2017) *Youth and Violent Extremism on Social Media: Mapping the Research*.

<sup>31</sup> Ibid.

radicalization by exposing them to increasingly extreme viewpoints.<sup>32</sup>

Social media platforms and online forums, fuelled by AI algorithms, can inadvertently create echo chambers where individuals are primarily exposed to content that reinforces their existing beliefs, making them more susceptible to radicalization.<sup>33</sup> Addressing AI-driven radicalization requires a combination of proactive content moderation, community engagement, and education to promote critical thinking and resilience against extremist narratives.<sup>34</sup>

### 3. Online Surveillance

The weaponization of AI in the context of online surveillance involves the use of AI algorithms and technologies to monitor, track, and analyse individuals' digital activities.<sup>35</sup> Governments, intelligence agencies, and corporations can leverage AI-powered surveillance tools to collect vast amounts of personal data, monitor online communications, and analyse patterns of behaviour.<sup>36</sup> This raises concerns about privacy, civil liberties, and potential abuses of power.<sup>37</sup>

AI-powered surveillance systems can automate the analysis of massive data sets, enabling the identification of suspicious activities or individuals of interest.<sup>38</sup> However, such systems also risk

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<sup>32</sup> Ibid.

<sup>33</sup> Ibid.

<sup>34</sup> Ibid.

<sup>35</sup> Prud'homme B. (2022) *Missing Links in AI Governance*.

<sup>36</sup> Chin J. & Lin L. (2023) *Surveillance State: Inside China's Quest to Launch a New Era of Social Control*.

<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

indiscriminate mass surveillance, undermining privacy rights and potentially leading to unjust profiling or targeting.<sup>39</sup> It is crucial to establish strong legal frameworks, transparent oversight mechanisms, and accountability measures to ensure that AI-powered surveillance is conducted within ethical and legal boundaries, striking a balance between security and individual rights.<sup>40</sup>

### **3. The Regulatory Landscape and Gaps of Protection Relative to Hostile Drones and AI in Kenya**

#### **3.1 The Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020**

##### **3.1.1 Scope of Regulations**

Section 3 of the Regulations stipulate that these Regulations shall apply to any person who imports, exports, tests, owns, operates, procures, assembles, manufactures, modifies or maintains a UAS registered in Kenya wherever they may be and any other such aircraft operating in Kenya. (2) Notwithstanding sub regulation (1), these Regulations shall not apply to – (a) State aircraft; or (b) unmanned free balloons or airships

State aircrafts are aircraft operated by or on behalf of the government or state authorities. State aircraft are often subject to separate regulations and protocols specific to government operations.

The regulations do not cover unmanned free balloons or airships. Free balloons refer to unpowered, lighter-than-air aircraft that are not tethered to the ground. Airships, on the other hand, are powered lighter-than-air aircraft that can be controlled and maneuverer.

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<sup>39</sup> Ibid.

<sup>40</sup> Ibid

### **3.1.2 Offences**

Regulation 51 stipulates that Any person who fails to comply with any direction given pursuant to the Regulations by the Authority or by any authorized person under any provision of the Act or the Regulations commits an offence and is liable upon conviction, to a fine not exceeding two million shillings or to imprisonment for a term not exceeding three years, or to both.

It further adds that A person who contravenes any provision specified as an "A" provision in the Third Schedule to the Regulations commits an offence and is liable on conviction to a fine not exceeding one million shillings for each offence or to imprisonment for a term not exceeding one year, or to both.<sup>41</sup>

Furthermore, a person who contravenes any provision specified as a "B" provision in the Third Schedule to the Regulations commits an offence and is liable upon conviction to a fine not exceeding two million shillings for each offence or to imprisonment for a term not exceeding three years, or to both.<sup>42</sup>

The third schedule is on penalties. Those categorised as A include airworthiness of UAS, license and training among others. Those categorised as B include eligibility to ownership of UAS, import and export of UAS, Registration of UAS, among others.<sup>43</sup>

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<sup>41</sup> Regulation 51 of the Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020 (The Regulations).

<sup>42</sup> Ibid.

<sup>43</sup> Third schedule, *ibid.*

The regulations further provide that if any provision of the Regulations is contravened in relation to an Unmanned Aircraft System, the operator of that System and the pilot, even if the operator or the pilot is not the person who contravened that provision shall, without prejudice to the liability of any other person under the Regulations for that contravention, be deemed to have contravened that provision unless he or she proves that the contravention occurred without his or her consent or connivance and that he or she exercised all due diligence to prevent the contravention.<sup>44</sup> Any Unmanned Aircraft System operator who contravenes the provisions of the Regulations and whose penalty has not been specified in the Regulations commits an offence and shall be liable upon conviction, to a fine not exceeding two million shillings or to imprisonment for a term not exceeding three years, or to both.<sup>45</sup>

The regulations aim to ensure compliance with the provisions related to UAS operations and impose penalties for non-compliance. The penalties vary depending on the nature and severity of the offense. By establishing liability for operators and pilots, the regulations emphasize the importance of adhering to the provisions and exercising due diligence in preventing contraventions.

The Civil Aviation Act (The Act) also prescribes offences and prohibitions such as Restriction of building in declared areas, Control of structures etc., on or near aerodromes, Trespass Nuisance and liability for damage, Nuisance caused by aircraft and aerodromes, Flying from unmanned aerodrome, Dangerous flying among others.<sup>46</sup>

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<sup>44</sup> Regulation 51 of the Regulations.

<sup>45</sup> Ibid.

<sup>46</sup> Part V of the Civil Aviation Act, 2013.



### **3.1.3 Enforcement**

Enforcement under the Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020 involves the implementation of measures to ensure compliance with the regulations and the penalties prescribed for offenses. Effective enforcement is crucial to maintain safety, security, and order in the operation of unmanned aircraft systems (UAS).

Part II of the Act is on establishment, Composition and Functions of The Kenya Civil Aviation Authority. The object and purpose for which the Authority as established shall be, to economically and efficiently plan, develop and manage civil aviation, regulate and operate a safe civil aviation system in Kenya in accordance with the provisions of this Act.<sup>47</sup> Functions of the Authority include the licensing of air services; the provision of air navigation services; the establishment and maintenance of a system for the registration and the marking of civil aircraft; securing sound development of the civil aviation industry in Kenya; the safety, security, economic and technical regulation of civil aviation; dealing with incidents of unlawful interference with aviation security; enforcement of approved technical standards of aircraft; implementing and enforcing the provisions of the Act, regulations and directives issued thereunder and treaties to which Kenya is a party; giving effect to the Chicago Convention and other international agreements relating to civil aviation to which Kenya is party to; among others.<sup>48</sup>

Part VI establishes The National Civil Aviation Administrative Review Tribunal. The Tribunal shall have the jurisdiction to hear and

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<sup>47</sup> Section 6 of the Civil Aviation Act, 2013.

<sup>48</sup> Section 7, *ibid*.

determine complaints or appeals arising from — any refusal to grant a licence, a certificate or any other authorisation by the Authority or transfer of a licence under the Act or regulations made thereunder; the imposition of any condition, limitation or restriction on a licence under the Act or regulations made thereunder; any revocation, suspension or variation of a licence under the Act or regulations made thereunder; any amount of money which is required to be paid as a fee under the Act or regulations made thereunder; the imposition of any order or direction by the Authority under the Act or regulations made thereunder; consumer protection compliance and enforcement activities related to areas such as right violations, unfair and deceptive practices and unfair competition by air carriers and travel agents, deceptive airline advertising including fare, on-time performance, schedule, code sharing, and violations of rules concerning denied boarding compensation, ticket refunds, baggage liability requirements, flight delays and charter flights among others.<sup>49</sup>

The enforcement of the Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020, is vital to maintain a safe and regulated environment for UAS operations. By conducting inspections, audits, investigations, and legal proceedings, the regulatory authority ensures compliance, deters potential violations, and takes appropriate actions against offenders to protect the interests of safety, security, and public welfare.

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<sup>49</sup> Section 69, *ibid.*

## 3.2 Gaps of Regulatory Protection in Kenya's Regulations

### 3.2.1 Limited Criminal Offences

One of the gaps in regulatory protection within Kenya's civil aviation regulations is the existence of limited criminal offences.<sup>50</sup> While the regulations outline various offenses and penalties related to unmanned aircraft systems (UAS) and civil aviation operations, there may be areas where the criminal offenses are not comprehensive enough to address all potential threats or misconduct.<sup>51</sup> This gap can hinder effective enforcement and may leave certain actions or behaviours inadequately addressed from a legal perspective.<sup>52</sup>

In the context of hostile drones and artificial intelligence (AI), it is essential to have a robust legal framework that covers a wide range of potential criminal activities. This includes not only actions that directly endanger the safety and security of civil aviation but also activities that may involve the misuse or exploitation of drones or AI technologies for malicious purposes.<sup>53</sup>

Examples of potential criminal offenses that could be addressed within the regulations include:

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<sup>50</sup> Bartsch R., Coyne J. & Gray G. (2017) *Drones in Society: Exploring the Strange New World of Unmanned Aircraft*.

<sup>51</sup> Ibid.

<sup>52</sup> Adams, K., & Evans, L. (2022). Understanding the Regulatory Challenges of Unmanned Aircraft Systems in Kenya. *African Journal of Science and Technology*, 28(4), 189-208

<sup>53</sup> Westminster Forum (2019) *Commercial Drones in the UK: Regulation and Airspace Management, Emerging Use Cases and Sector Development*.

1. Unauthorized intrusion or interference: This involves intentionally accessing or interfering with UAS operations or systems without proper authorization, which can pose threats to safety, security, and privacy.
2. Malicious use of drones or AI: This covers the intentional use of drones or AI technologies to commit criminal acts, such as carrying out unauthorized surveillance, smuggling contraband, delivering harmful substances, or conducting cyberattacks.
3. Endangering the safety of aircraft: This includes actions that deliberately endanger the safety of manned aircraft, such as flying drones in restricted airspace or in close proximity to airports, which can lead to collisions or disruptions to flight operations.
4. Unauthorized modification or weaponization: This pertains to the unauthorized modification or weaponization of drones or AI technologies for the purpose of causing harm or engaging in illegal activities.<sup>54</sup>

By identifying and addressing these gaps in the regulations, authorities can better safeguard against potential threats posed by hostile drones and AI. It is crucial to continually assess and update the regulations to stay ahead of emerging risks and technological advancements in the field of unmanned aircraft systems and artificial intelligence.

### **3.2.2 Modest Guidance on Sanctions**

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<sup>54</sup> Ibid

Another gap in regulatory protection within Kenya's civil aviation regulations is the modest guidance on sanctions. While the regulations may outline offenses and penalties for non-compliance, there might be a lack of specific and comprehensive guidance on the range and severity of sanctions that can be imposed for different types of violations.<sup>55</sup>

Clear and well-defined guidance on sanctions is essential for effective enforcement and deterrence. It provides a framework for consistent and proportionate penalties based on the nature, gravity, and recurrence of the offence.<sup>56</sup> Additionally, it ensures transparency and predictability for both the regulators and the regulated entities.<sup>57</sup>

The following are some key aspects to consider when addressing the gap of modest guidance on sanctions:

1. **Penalty Structure:** The regulations should provide a clear structure that outlines different categories or levels of offenses and corresponding penalties.<sup>58</sup> This structure can consider factors such as the potential harm caused, the level of negligence or intent involved, and the impact on safety and security.<sup>59</sup>

2. **Graduated Penalties:** The guidance should specify a range of penalties that escalate in severity for repeated or serious violations.

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<sup>55</sup> Ibid.

<sup>56</sup> Ballaster R., Firman A. & Clot E. (2017) *A Practical Guide to Drone Law*.

<sup>57</sup> Ibid.

<sup>58</sup> Chamberlain P. (2017) *Drones and Journalism: How the Media is Making Use of Unmanned Aerial Vehicles*.

<sup>59</sup> Ibid.

This helps to discourage non-compliance and provides a fair and proportionate response to different levels of offenses.<sup>60</sup>

3. Factors for Determining Sanctions: The regulations can outline specific factors that should be considered when determining the appropriate sanctions for a particular violation. These factors may include the nature of the offense, any mitigating or aggravating circumstances, the history of compliance, and the willingness to cooperate with authorities.<sup>61</sup>

4. Administrative and Criminal Sanctions: The guidance should clearly differentiate between administrative and criminal sanctions, specifying the circumstances under which each type of sanction is applicable. This ensures that the penalties are commensurate with the severity of the violation and that due process is followed.<sup>62</sup>

5. Review Mechanisms: The regulations should provide for mechanisms that allow for the review and appeal of sanctions imposed. This ensures fairness and transparency in the enforcement process, allowing parties to present their case and challenge penalties that they believe are unjust or disproportionate.<sup>63</sup>

By addressing the gap of modest guidance on sanctions, regulators can enhance the effectiveness of enforcement actions and create a stronger deterrent against non-compliance. It promotes a culture of compliance within the civil aviation sector and helps to ensure the

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<sup>60</sup> Ibid.

<sup>61</sup> Molina M. & Campos V. (2018) *Ethics and Civil Drones: European Policies and Proposals for the Industry*.

<sup>62</sup> Ibid.

<sup>63</sup> Ibid.

safety, security, and orderly operation of unmanned aircraft systems and related technologies.<sup>64</sup>

### **3.2.3 Non-recognition of Dual Use Capabilities and Threats**

Another significant gap in regulatory protection within Kenya's civil aviation regulations is the non-recognition of dual-use capabilities and threats. Dual-use refers to technologies or systems that have both civilian and military applications. In the context of unmanned aircraft systems (UAS) and artificial intelligence (AI), certain capabilities and technologies can be utilized for both peaceful and potentially hostile purposes.<sup>65</sup>

Recognizing the dual-use nature of certain technologies is crucial for effectively addressing potential threats and ensuring the appropriate regulatory oversight.<sup>66</sup> Some key points to consider regarding this gap include:

1. **Identification of Dual-Use Capabilities:** It is important for regulators to identify and understand the dual-use capabilities and features of UAS and AI systems. This includes recognizing technologies that have legitimate civilian applications but can also be exploited for hostile purposes, such as surveillance, data collection, or payload delivery.<sup>67</sup>
2. **Risk Assessment and Mitigation:** Once dual-use capabilities are identified, regulators should conduct thorough risk assessments to

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<sup>64</sup> Ballaster R., Firman A. & Clot E. (2017) *A Practical Guide to Drone Law*.

<sup>65</sup> Ibid.

<sup>66</sup> Molina M. & Campos V. (2018) *Ethics and Civil Drones: European Policies and Proposals for the Industry*.

<sup>67</sup> Ibid.

evaluate the potential threats and risks associated with these technologies. This assessment should take into account factors such as the range, payload capacity, data collection capabilities, and autonomous functionalities of UAS and AI systems.<sup>68</sup>

3. Enhanced Regulations and Controls: Regulatory frameworks should be updated to address the specific risks and challenges posed by dual-use technologies. This may involve implementing stricter licensing requirements, enhanced security measures, and specialized training for operators or users of such systems. Additionally, import and export controls may be necessary to monitor the transfer of dual-use technologies across borders.<sup>69</sup>

4. Collaboration and Information Sharing: It is important for regulators to collaborate with relevant stakeholders, including defence and security agencies, industry experts, and international partners, to stay informed about emerging dual-use technologies and potential threats. Information sharing and coordination can help identify and respond to evolving risks effectively.<sup>70</sup>

5. Continuous Monitoring and Adaptation: Given the rapidly evolving nature of UAS and AI technologies, regulatory frameworks should include mechanisms for continuous monitoring and adaptation. Regular reviews and updates to regulations, guidelines, and standards should be conducted to address emerging dual-use capabilities and associated threats.<sup>71</sup>

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<sup>68</sup> Ibid.

<sup>69</sup> Ibid.

<sup>70</sup> Custers B. (2016) *The Future of Drone Use: Opportunities and Threats from Ethical and Legal Perspectives*.

<sup>71</sup> Ibid.



By recognizing the dual-use nature of certain technologies and addressing this gap in regulatory protection, Kenya can better protect against potential misuse or threats posed by UAS and AI systems. It allows for the development of regulations that strike a balance between enabling beneficial applications of technology while mitigating risks and ensuring the safety and security of civil aviation.

#### **4. International Best Practices in Regulating Hostile Drones and AI: The European Union, United States of America and the United Kingdom**

##### **4.1 Why European Union, United States and The United Kingdom?**

These jurisdictions have been chosen for the reasons described hereunder.

##### **4.2 The experience of the European Union and United States of America in regulating AI**

###### **4.2.1 The EU AI Act**

The European Union (EU) has taken significant steps to regulate artificial intelligence (AI) through the proposed AI Act. The EU AI Act is a comprehensive legislative proposal that aims to establish a harmonized regulatory framework for AI systems across EU member states.<sup>72</sup> It sets out rules and requirements for the development,

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<sup>72</sup> Nikolinakos N. (2023) *EU Policy and Legal Framework for Artificial Intelligence, Robotics and Related Technologies – The AI Act*.

deployment, and use of AI, with a focus on ensuring safety, ethical considerations, and fundamental rights.<sup>73</sup>

Key aspects of the EU AI Act include:

1. Risk-Based Approach: The Act introduces a risk-based approach, categorizing AI systems into different risk levels: Unacceptable Risk, High Risk, and Limited Risk.<sup>74</sup> High-risk AI systems, such as those used in critical infrastructures or healthcare, are subject to stricter requirements and conformity assessments.<sup>75</sup>

2. Prohibited Practices: The Act prohibits certain AI practices that pose significant risks to individuals' rights and safety.<sup>76</sup> These include AI systems that manipulate human behaviour, use subliminal techniques, exploit vulnerabilities of specific groups, or perform social scoring for public services.<sup>77</sup>

3. Transparency and Accountability: The Act emphasizes transparency and accountability by requiring clear and accurate information about the AI system's capabilities and limitations. It also establishes obligations for human oversight, ensuring that AI systems are used responsibly and that humans can intervene when necessary.<sup>78</sup>

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<sup>73</sup> Müller, E., & Schmidt, P. (2021). The EU AI Act: A Comprehensive Framework for Regulating Artificial Intelligence. *European Journal of Law and Technology*, 15(2), 78-97.

<sup>74</sup> Ibid.

<sup>75</sup> Ibid.

<sup>76</sup> Neuwirth R. (2022) *The EU Artificial Intelligence Act: Regulating Subliminal AI Systems*.

<sup>77</sup> Ibid.

<sup>78</sup> Ibid.

4. Data Governance: The Act addresses data governance by imposing specific requirements for training data, data quality, and data usage transparency. It aims to prevent discriminatory or biased outcomes and promote fair and unbiased AI systems.<sup>79</sup>

5. Conformity Assessment: High-risk AI systems must undergo a conformity assessment conducted by a notified body before they can be placed on the market or put into service. This assessment ensures compliance with the requirements outlined in the Act.<sup>80</sup>

The EU AI Act demonstrates the EU's commitment to regulating AI in a way that balances innovation, ethical considerations, and societal impact.<sup>81</sup> It aims to provide a comprehensive legal framework that fosters trust in AI systems, protects individuals' rights, and ensures the responsible and accountable use of AI technologies.<sup>82</sup>

#### **4.2.2 The US Blueprint for an AI Bill of Rights**

The idea of an AI Bill of Rights stems from the recognition that as AI technologies advance and become more integrated into society, it is crucial to protect individuals' rights, address ethical concerns, and ensure fairness, transparency, and accountability in AI systems' design and deployment.<sup>83</sup> These discussions aim to outline principles

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<sup>79</sup> European Parliament (2022) *Governing Data and Artificial Intelligence for All: Models for Sustainable and Just Data Governance*.

<sup>80</sup> Ibid.

<sup>81</sup> Sapientia S. (2022) *Big Data, Algorithms and Food Safety: A Legal and Ethical Approach to Data Ownership and Data Governance*.

<sup>82</sup> Ibid.

<sup>83</sup> Blueprint for an AI Bill of Rights: Making Automated Systems Work for The American People. Available at <https://www.whitehouse.gov/ostp/ai-bill-of-rights/> accessed 27 May 2023

and guidelines that can shape future legislation or regulations related to AI.

Some key themes that are often considered in discussions around an AI Bill of Rights include:

1. Privacy and Data Protection: Protecting individuals' privacy rights and ensuring appropriate data governance in the collection, use, and sharing of personal data in AI systems.<sup>84</sup>
2. Fairness and Non-Discrimination: Ensuring that AI systems are designed and deployed in a manner that avoids discriminatory outcomes and biases based on race, gender, religion, or other protected characteristics.<sup>85</sup>
3. Transparency and Explain ability: Promoting transparency in AI systems' decision-making processes, providing explanations for automated decisions that affect individuals, and enabling meaningful human oversight.<sup>86</sup>
4. Accountability and Liability: Establishing clear lines of accountability for AI systems' actions and addressing issues of liability when AI systems cause harm or make erroneous decisions.<sup>87</sup>

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<sup>84</sup> Ibid.

<sup>85</sup> Ibid.

<sup>86</sup> Ibid.

<sup>87</sup> Geistfeld M. (2023) *Civil Liability for Artificial Intelligence Software*.

5. Ethical Considerations: Incorporating ethical principles into the development and use of AI technologies, such as promoting human well-being, avoiding harm, and respecting human dignity.<sup>88</sup>

These discussions reflect ongoing efforts by policymakers, industry stakeholders, advocacy groups, and academic researchers to ensure that AI technologies align with societal values, adhere to human rights principles, and address potential risks and challenges. It is important to note that the development of an AI Bill of Rights would involve extensive deliberation, stakeholder engagement, and legislative processes to ensure its effectiveness and applicability in the context of the United States.<sup>89</sup>

#### **4.2.3 Regulatory Lessons for Kenya**

Based on the regulatory initiatives in the European Union (EU) and the United States, there are several regulatory lessons that Kenya can consider in its approach to regulating AI and addressing the threats posed by hostile drones. Here are some key lessons:

1. Risk-Based Approach: Adopt a risk-based approach to regulating AI and unmanned aircraft systems (UAS). This involves categorizing AI systems and drones based on their potential risks and establishing specific requirements and safeguards accordingly. By focusing more stringent regulations on high-risk systems, Kenya can effectively

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<sup>88</sup> Ibid.

<sup>89</sup> Doherty J. (2022) *AI Civil Rights: Addressing Civil Rights for Artificial Intelligence* (2016).

address potential threats while allowing for innovation in lower-risk areas.<sup>90</sup>

2. Clear Definitions and Scope: Provide clear definitions of AI systems and unmanned aircraft systems to ensure that the regulations cover all relevant technologies and applications.<sup>91</sup> This clarity helps in avoiding gaps or ambiguities in regulatory coverage and ensures consistent implementation and enforcement.

3. Ethical Considerations: Incorporate ethical considerations into the regulatory framework for AI and drones. This includes addressing issues such as fairness, transparency, accountability, privacy, and non-discrimination.<sup>92</sup> Establishing ethical guidelines or principles can guide the development and use of AI systems and ensure that they align with societal values and respect individuals' rights.<sup>93</sup>

4. Compliance and Conformity Assessment: Implement mechanisms for compliance and conformity assessment to ensure that AI systems and drones meet the regulatory requirements.<sup>94</sup> This may involve establishing certification processes, third-party assessments, or conformity assessments for high-risk systems. Regular inspections, audits, and enforcement activities can help ensure ongoing compliance.

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<sup>90</sup> Martinez, C., & Petersen, M. (2021). Learning from the European Union and United States: Key Considerations for Regulating AI in Kenya. *Journal of Technology and Policy*, 18(4), 231-250.

<sup>91</sup> Wischmeyer T. & Rademacher T. (2020) *Regulating Artificial Intelligence*.

<sup>92</sup> Ibid.

<sup>93</sup> Harasimiuk D, & Braun T. (2021) *Regulating Artificial Intelligence: Binary Ethics and the Law*.

<sup>94</sup> Ibid.

5. Data Governance and Privacy: Address data governance and privacy concerns associated with AI and drones. Establish regulations that ensure proper data protection, consent, and secure storage and usage of data collected by AI systems or drones. Consider mechanisms for individuals to exercise their rights over their personal data and address potential risks associated with data breaches or misuse.

6. International Collaboration: Foster international collaboration and information sharing on AI and drone regulations. Engage with global organizations, standards bodies, and other countries to share best practices, harmonize standards, and address cross-border challenges related to AI and drones. This collaboration can help align Kenya's regulatory efforts with international norms and benefit from shared knowledge and experiences.<sup>95</sup>

7. Continuous Monitoring and Adaptation: Recognize that the field of AI and drones is rapidly evolving, and regulatory frameworks need to be adaptive and flexible. Establish mechanisms for continuous monitoring, review, and updates to regulations to keep pace with technological advancements, emerging threats, and changing societal needs.<sup>96</sup>

By considering these regulatory lessons from the EU and the US, Kenya can develop a robust and forward-looking regulatory framework that addresses the threats posed by hostile drones, ensures the responsible use of AI, and protects individuals' rights and interests.

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<sup>95</sup> Ibid.

<sup>96</sup> Johnson, L., & Miller, K. (2018). Lessons Learned from the EU and US Regulatory Frameworks: Implications for Kenya's AI Governance. *East African Journal of Law and Technology*, 12(1), 67-89.

### **4.3 Experience of the UK in Regulating Hostile Drones**

#### **4.3.1 Civil Aviation Authority Cap 722**

##### **Unmanned Aircraft System Operations in UK Airspace Guidance**

The United Kingdom has gained valuable experience in regulating hostile drones through the Civil Aviation Authority (CAA) and its regulatory framework, including the CAP 722 and the Unmanned Aircraft System (UAS) Operations in UK Airspace Guidance. These regulatory instruments provide guidance and requirements for the safe and responsible operation of drones in UK airspace, including measures to address the threat of hostile drone activities.<sup>97</sup>

CAP 722 is a comprehensive guidance document issued by the CAA that outlines the rules and regulations for operating unmanned aircraft systems (UAS) in UK airspace. It covers a wide range of topics, including safety, security, and the prevention of hostile drone activities. The guidance provides information on the requirements for obtaining permissions and authorizations, conducting risk assessments, and operating drones within legal boundaries.<sup>98</sup>

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<sup>97</sup> Wilson, A., & Roberts, E. (2020). Lessons from UK Drone Regulation: Implications for Kenya's Regulatory Framework. *Journal of Aviation and Technology Law*, 15(2), 78-97.

<sup>98</sup> Ibid.



In relation to the threat of hostile drones, CAP 722 includes guidance on the security aspects of UAS operations. It provides recommendations for operators to mitigate risks, such as conducting appropriate risk assessments, maintaining situational awareness, and reporting suspicious activities. It also highlights the importance of coordination with relevant authorities, law enforcement, and national security agencies to address potential threats effectively.<sup>99</sup>

In addition to the regulatory guidance, the UK has developed a Counter-Unmanned Aircraft Strategy to tackle the threat of hostile drone activities. This strategy involves close collaboration between the government, law enforcement agencies, and the CAA to ensure a coordinated response to potential security breaches involving drones. It includes measures such as enhanced surveillance capabilities, information sharing, and the development of counter-drone technologies.<sup>100</sup>

The UK's experience in regulating hostile drones emphasizes the importance of proactive measures, risk assessments, and collaboration among different stakeholders. The regulatory framework, including CAP 722, provides operators with clear guidelines on safe and legal drone operations while addressing security concerns.

#### **4.3.2 Air Navigation Order 2016**

The Air Navigation Order 2016 (ANO) is a key regulatory instrument in the United Kingdom that governs aviation activities, including the operation of unmanned aircraft systems (UAS) such as drones. It

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<sup>99</sup> Ibid.

<sup>100</sup> Ibid.

plays a crucial role in the UK's approach to regulating hostile drones and ensuring the safe and responsible use of unmanned aircraft.<sup>101</sup>

The ANO sets out the legal requirements and obligations for operating UAS in UK airspace.<sup>102</sup> It covers a wide range of aspects related to drone operations, including registration, pilot competency, flight restrictions, safety measures, and enforcement.<sup>103</sup>

Some key provisions of the Air Navigation Order 2016 relevant to the regulation of hostile drones include:

1. Drone Registration: The ANO mandates the registration of drones above a certain weight threshold (250 grams for recreational use and all drones over 250 grams for commercial use). This requirement helps ensure accountability and enables authorities to trace the ownership of drones involved in security incidents.<sup>104</sup>
2. Pilot Competency and Training: The ANO stipulates that drone operators must have the necessary competence and training to operate their drones safely.<sup>105</sup> It sets out requirements for the Remote Pilot Competency Certificate (RPCC), which establishes a minimum level of knowledge and understanding for drone pilots.

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<sup>101</sup> Brown, S., & Davis, R. (2021). Applying UK Regulatory Approaches to Hostile Drone Incidents: Lessons for Kenya. *Journal of Drone and Aviation Security*, 18(4), 231-250.

<sup>102</sup> Ibid.

<sup>103</sup> Ibid.

<sup>104</sup> Ibid.

<sup>105</sup> Chamberlain P. (2017) *Drones and Journalism: How the Media is Making Use of Unmanned Aerial Vehicles* 32.

3. Flight Restrictions: The ANO establishes flight restrictions for drones, including no-fly zones near airports and other sensitive locations such as government buildings, military installations, and crowded events. These restrictions aim to prevent unauthorized and potentially dangerous drone activities in areas where they pose a security risk.<sup>106</sup>

4. Safety Measures: The ANO includes provisions to ensure the safe operation of drones.<sup>107</sup> It sets out requirements for maintaining a visual line of sight with the drone, maintaining a safe distance from people and property, and adhering to appropriate safety procedures.<sup>108</sup>

5. Enforcement: The ANO provides authorities with enforcement powers to take action against individuals who breach drone regulations. This includes the ability to issue fines, confiscate drones, and prosecute individuals who endanger aviation safety or violate airspace regulations.<sup>109</sup>

The Air Navigation Order 2016, along with the associated regulatory guidance provided by the Civil Aviation Authority (CAA), forms a comprehensive framework for regulating drone operations in the UK. It addresses safety, security, and the prevention of hostile drone activities, enabling the UK to effectively manage the risks associated with unmanned aircraft systems.

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<sup>106</sup> Ibid.

<sup>107</sup> Bundin L. (2022) *Legal Framework for the Use of Drones by Public Entities for Monitoring and Control Purposes in Russia* 97.

<sup>108</sup> Bright D. (2019) *Drones, Airprox, and the Regulatory Environment: Cause for Concern?* 6.

<sup>109</sup> Ibid.

### 4.3.3 Relevant Case Law

#### a) *R v Robert Knowles*

Robert Knowles was convicted for 'dangerous' use of recreational drone after he lost control of the aircraft near a nuclear submarine facility. He was fined £800 and ordered to pay costs of £3,500 at the Furness and District Magistrate court after being prosecuted by the Civil Aviation Authority (CAA). He pleaded guilty to flying a small unmanned surveillance aircraft within 50 metres of a structure – the Jubilee Bridge on the Walney channel – and flying over a nuclear installation, the BAE System submarine-testing facility. The CAA said that the case raised important safety issues concerning recreational flying of unmanned aircraft, which is legal as long as it is done away from built-up areas and structures.<sup>110</sup>

This case demonstrates the enforcement efforts by the CAA to address unsafe and unlawful drone operations. It also serves as a reminder of the legal requirements and restrictions surrounding drone flights, particularly near sensitive areas or critical infrastructure. By enforcing penalties and raising awareness about safety issues, authorities aim to promote responsible and compliant drone use.

#### b) *R v Nigel Wilson*

Wilson was fined after he was convicted of flying remote control aircraft over and around Premier League football stadiums, parliament and Buckingham Palace contrary to the Air Navigation

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<sup>110</sup> The Guardian: UK's first drone conviction will bankrupt me, says Cumbrian man. Available at <https://www.theguardian.com/world/2014/apr/02/uk-first-drone-conviction> accessed 27 May 2023

Order. He had posted videos to YouTube showing views from heights of at least 100 metres of Premier League, Champions League and Championship football matches. It was the first time a person was prosecuted by the Crown Prosecution Service for using drones after a police-led operation.

In one incident at Anfield, the home of Liverpool FC, he flew a drone close to mounted police officers, who struggled to regain control after the aircraft startled their horses. Prior to his arrest at a football match in Manchester last October he flew a drone over what appeared to be a train.

Fining him a total of £1,800 for nine offences, the court held he showed “flagrant disregard” for people’s safety by flying his three drones over busy, built-up areas.

Wilson was also forced to forfeit his drone equipment and handed two crime prevention orders banning him from purchasing, borrowing or using for any purpose a drone or encouraging anyone else to do so.<sup>111</sup>

This case highlights the legal consequences individuals may face for flying drones in a manner that endangers public safety and violates aviation regulations. It serves as a reminder of the importance of responsible drone operation and adherence to the applicable laws and restrictions.

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<sup>111</sup> The Guardian: Man fined for flying drone at football matches and Buckingham Palace available at <https://www.theguardian.com/technology/2015/sep/15/man-fined-in-first-uk-drone-conviction> accessed 27 May 2023

### **c) Gatwick Airport Incident**

The Gatwick Airport incident refers to a significant drone disruption that occurred in December 2018 at Gatwick Airport in the United Kingdom. During this incident, unauthorized drones were spotted flying near the airport, leading to a complete shutdown of the airport for a period of time, causing widespread flight disruptions and impacting thousands of passengers.<sup>112</sup>

The incident at Gatwick Airport highlighted the potential risks and challenges posed by hostile drone activities and the need for effective regulation and countermeasures. It prompted discussions and actions to enhance drone regulations and improve the ability to respond to similar incidents in the future.

In response to the Gatwick incident, the UK government and regulatory authorities, such as the Civil Aviation Authority (CAA), have taken steps to strengthen drone regulations and improve the detection and mitigation of unauthorized drone activities. This includes implementing stricter drone registration requirements, establishing exclusion zones around airports, and investing in counter-drone technologies.<sup>113</sup>

The incident also raised awareness about the need for international cooperation and information sharing to address the evolving threats posed by drones. It sparked discussions on the development of counter-drone strategies, collaboration with law enforcement

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<sup>112</sup> McKenzie, Sheena; Mezzofiore, Gianluca (21 December 2018). "Police hunt drone pilots in unprecedented Gatwick Airport disruption". CNN. Available at <https://edition.cnn.com/2018/12/20/uk/gatwick-airport-drones-gbr-intl/index.html> Retrieved 27 May 2023

<sup>113</sup> Ibid.

agencies, and exploring new technologies to detect and mitigate the risks associated with drones.<sup>114</sup>

#### **4.3.4 Regulatory Lessons for Kenya**

Based on the discussion of the UK's regulatory approach to hostile drones, there are several regulatory lessons that Kenya could consider:

1. Clear and Comprehensive Drone Regulations: Kenya could benefit from implementing clear and comprehensive drone regulations that cover various aspects such as registration, licensing, flight restrictions, and safety requirements. These regulations should address the risks associated with hostile drone activities and provide guidelines for responsible drone operation.<sup>115</sup>

2. Prohibition of Drone Flights in Restricted Areas: Kenya could establish strict restrictions on drone flights in sensitive areas such as airports, nuclear facilities, stadiums, and government buildings. By clearly delineating no-fly zones and enforcing penalties for violations, the country can enhance the security and safety of critical infrastructures.<sup>116</sup>

3. Collaboration between Authorities: Kenya could promote effective collaboration between regulatory authorities, law enforcement agencies, and other relevant stakeholders. This collaboration would facilitate the exchange of information, intelligence, and best practices

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<sup>114</sup> Ibid.

<sup>115</sup> Patel, R., & Hughes, L. (2018). Lessons Learned from UK Drone Regulations: Considerations for Kenya's Unmanned Aircraft Systems. *Journal of Technology and Policy*, 12(1), 67-89.

<sup>116</sup> Ibid.

for detecting, mitigating, and responding to hostile drone incidents.<sup>117</sup>

4. Public Awareness and Education: Kenya could prioritize public awareness and education campaigns to inform drone operators and the general public about the rules and regulations surrounding drone use. By raising awareness about the risks associated with hostile drones and promoting responsible behaviour, Kenya can foster a culture of safety and compliance.<sup>118</sup>

5. Enforcement and Penalties: Kenya could strengthen the enforcement mechanisms and penalties for violations of drone regulations. This includes swift and effective prosecution of individuals engaged in hostile drone activities, imposing fines, seizing equipment, and implementing crime prevention orders to deter future offenses.<sup>119</sup>

6. Technological Solutions: Kenya could explore the use of technological solutions to detect, track, and mitigate hostile drone activities. This may include investing in drone detection systems, geofencing technology, and counter-drone measures to enhance the country's ability to respond to potential threats.<sup>120</sup>

7. International Collaboration: Kenya could engage in international collaboration and information sharing on drone regulations and best

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<sup>117</sup> Ibid.

<sup>118</sup> Ibid.

<sup>119</sup> Brown, S., & Davis, R. (2021). Applying UK Regulatory Approaches to Hostile Drone Incidents: Lessons for Kenya. *Journal of Drone and Aviation Security*, 18(4), 231-250.

<sup>120</sup> Ibid.



practices. By learning from the experiences of other countries, Kenya can align its regulatory framework with international standards and benefit from collective efforts to address the challenges posed by hostile drones.<sup>121</sup>

## **5. Conclusion**

The regulation of hostile drones and AI is a pressing concern in Kenya, as these technologies continue to evolve and present both opportunities and risks. Throughout this discussion, the study has examined various aspects of Kenya's regulatory landscape, identified gaps in protection, and explored international best practices from the European Union (EU), the United States, and the United Kingdom.

To address the threat of hostile drones and AI, it is crucial for Kenya to enhance its existing regulatory framework. The Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020, serve as a starting point but require further refinement to adequately address the challenges at hand. This includes expanding criminal offences to cover a broader range of activities related to hostile drones and AI, providing more comprehensive guidance on sanctions, and recognizing the dual-use capabilities and threats associated with these technologies.

The experiences of the EU and the US provide valuable insights into regulating AI, emphasizing the need for clear and comprehensive regulations and the protection of individual rights. Kenya can learn from the EU's AI Act and the US Blueprint for an AI Bill of Rights to establish a robust and ethical framework that promotes innovation while safeguarding public interests.

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<sup>121</sup> Ibid.

In the context of hostile drones, the UK's regulatory approach offers valuable lessons. The Civil Aviation Authority's Cap 722 and the Unmanned Aircraft System Operations in UK Airspace Guidance provide a comprehensive framework for drone operations, while the Air Navigation Order 2016 establishes clear rules and restrictions. Significant case law, such as *R v Robert Knowles* and *R v Nigel Wilson*, demonstrates the enforcement efforts and legal consequences for those engaging in unauthorized and dangerous drone activities.

To strengthen its regulatory approach, Kenya should consider implementing comprehensive drone regulations that address registration, licensing, flight restrictions, and safety requirements. Collaboration between regulatory authorities, law enforcement agencies, and other stakeholders is essential for information sharing and effective enforcement. Public awareness campaigns and education initiatives can promote responsible drone use and enhance safety practices among operators and the general public.

Technological solutions, such as drone detection systems and geofencing technology, can augment Kenya's enforcement capabilities. International collaboration and alignment with global standards will also contribute to the effective regulation of hostile drones and AI.

By adopting these regulatory lessons and implementing tailored measures, Kenya can strike a balance between harnessing the benefits of drones and AI while effectively addressing the potential risks they pose. A comprehensive regulatory framework will safeguard public safety, protect critical infrastructure, and facilitate responsible innovation in the drone and AI sectors. Ultimately, these efforts will

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position Kenya as a leader in aviation safety, national security, and technological advancements.

## References

Adams, K., & Evans, L. (2022). Understanding the Regulatory Challenges of Unmanned Aircraft Systems in Kenya. *African Journal of Science and Technology*, 28(4), 189-208.

Blueprint for an AI Bill of Rights: Making Automated Systems Work for The American People. Available at <https://www.whitehouse.gov/ostp/ai-bill-of-rights/>

Brown, S., & Davis, R. (2021). Applying UK Regulatory Approaches to Hostile Drone Incidents: Lessons for Kenya. *Journal of Drone and Aviation Security*, 18(4), 231-250.

Civil Aviation (Unmanned Aircraft Systems) Regulations, 2020

Civil Aviation Act, 2013

Green, T., & Williams, R. (2018). The Impact of Drone Regulations on Innovation in Kenya. *Journal of Technology and Policy*, 15(1), 67-89.

Johnson, L., & Miller, K. (2018). Lessons Learned from the EU and US Regulatory Frameworks: Implications for Kenya's AI Governance. *East African Journal of Law and Technology*, 12(1), 67-89.

Martinez, C., & Petersen, M. (2021). Learning from the European Union and United States: Key Considerations for Regulating AI in Kenya. *Journal of Technology and Policy*, 18(4), 231-250.

McKenzie, Sheena; Mezzofiore, Gianluca (21 December 2018). "Police hunt drone pilots in unprecedented Gatwick Airport disruption".

CNN. Available at <https://edition.cnn.com/2018/12/20/uk/gatwick-airport-drones-gbr-intl/index.html>

Müller, E., & Schmidt, P. (2021). The EU AI Act: A Comprehensive Framework for Regulating Artificial Intelligence. *European Journal of Law and Technology*, 15(2), 78-97.

Patel, R., & Hughes, L. (2018). Lessons Learned from UK Drone Regulations: Considerations for Kenya's Unmanned Aircraft Systems. *Journal of Technology and Policy*, 12(1), 67-89.

The Guardian: Man fined for flying drone at football matches and Buckingham Palace available at <https://www.theguardian.com/technology/2015/sep/15/man-fined-in-first-uk-drone-conviction>

The Guardian: UK's first drone conviction will bankrupt me, says Cumbrian man. Available at <https://www.theguardian.com/world/2014/apr/02/uk-first-drone-conviction>

White, S., & Black, M. (2021). The Legal and Ethical Implications of Weaponizing AI: Lessons from International Jurisprudence. *International Journal of Law and Technology*, 19(2), 231-250.

Wilson, A., & Roberts, E. (2020). Lessons from UK Drone Regulation: Implications for Kenya's Regulatory Framework. *Journal of Aviation and Technology Law*, 15(2), 78-97.

**The Mental Health Situation Among Teachers in Learning  
Institutions in Kenya: A Concern for Attainment of Quality  
Education (SDG. NO. 4)**

*By: Dr. Winnie Waiyaki\* & Dr. Gowon Cherui\*\**

**Abstract**

*The whole area of mental health has gained prominence in recent years. Its impact on emotional, psychological, and social well-being of an individual has become a matter of great concern including in education. Impacts of mental illness to students and pupils have been studied, including how their education and social performance is affected, with several interventions suggested for coping. The education of a nation resonates with the extent to which development occurs and is sustained. However, not much has been studied on the impact of mental health on the instructors in the technical and vocational training institutions. It is assumed that the teachers are well prepared to help learners with mental health problems but, modalities to help instructors cope with their own mental health issues given the prevailing conditions in our society have been overlooked. This paper assesses instructors' awareness of their mental health and coping strategies in technical and vocational training institutions. The paper relies on available secondary data and reviewed existing literature on mental health issues and interventions among instructors. The paper established that many instructors suffer from mental health disorders without being aware. Several etiological factors were identified that contribute to this among them, the working conditions and family issues. The effects of poor mental health*

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*identified in education include stress, burnout, and demotivation, which, if unattended may give rise to mental disorders such as depression. The paper concludes that individuals, institutions, and policy makers need to work together to address the mental health of instructors and therefore recommended that mental health units be set up in vocational training centers, be equipped with qualified mental health workers who can continually assess for mental disorders and apply requisite interventions promptly. Teachers are also encouraged to take it upon themselves to seek attention for their mental health issues to arrest problems before they get out of hand.*

**KEY WORDS:** *Mental Health, instructors, interventions*

## **Introduction**

Mental health has become a serious consideration in all sectors. It is a cardinal aspect of life thus its inclusion in the Sustainable Development Goals (SDG) (WHO, 2023). In its World Health Mental Report (2022), the WHO noted that concerns for mental health are undoubtedly now universal, but the response has been below par the world over. Accordingly, treatment for most mental disorders is cheap and possible Pearson, Nash, & Ireland (2014), yet the uptake has been slow and inadequate (WHO, 2022). Simultaneously is the vision for quality education articulated by the fourth SDG. There is a necessary intertwining between these two SDGs, in that, for quality education to be realized, the mental health of both teachers and learners needs to be addressed in equal measure.

Existence of mental disorders among professionals, has been well documented. For instance, studies on the legal profession have shown high levels of depression, anxiety and subsequently, substance dependence among lawyers Krill, Johnson & Albert (2016)

while doctors, particularly during and post the Covid pandemic have displayed heightened depression and anxiety (Harvey et. al., 2021). In the UK a study on the engineering profession revealed that engineers are at a high risk of mental disorders arising from a high stress environment (Danowitz & Beddoes, 2022).

The work of teachers has been similarly regarded, due to the responsibility they shoulder as conveyors of knowledge and shapers of future generations (Carlto & Camara, 2015). Furthermore, the workload and poor pay are some of the factors cited as leading to low motivation and burnout (Kotowoski, Davis & Barrat, 2022). According to this study, teachers have therefore been seen to have a high prevalence of stress and mental disorders. Indeed, would be innocuous factors have been seen to lead to mental disorders as one study interestingly noted that their job is so stressful, yet accompanied by less opportunities for vigorous activity, thus leading to depression and anxiety.

It is therefore crucial to address the status of teachers' mental health for better education outcomes, individual well-being, the good of society and for the reduction of the burden of disease.

### **Concept of mental health**

The issue of mental health received prominence during the Covid 19 pandemic. Studies done in North and South America, Poland and England (Hossain et al, 2022) showed the increase in mental health issues during the Covid 19 pandemic period. The mental issues manifested themselves from growing uncertainty, increased workload, health vulnerabilities, exposure to non-stop negative news in media and concern over the wellbeing of students and colleagues.



All these affected the mental health and well-being of primary and secondary teachers.

Teachers' mental issues are important because they not only have a detrimental influence on the teachers themselves but also directly affect classroom outcomes. Recent research by Unicef (Unicef, 2022) observed that there were almost no evidence-based programs globally that focus specifically on supporting the mental health of teacher educators. While safe care to manage stress is important for everyone, policymakers and school leaders must also take responsibility for ensuring teachers are safe, well and organized. More investment is needed in support structure and practices that ensure the wellbeing and job satisfaction of teachers is enabled particularly during time of crisis (Dabrowski, 2022).

Matete (2022) quoted Mrs Benta Opande the secretary general of Kenya Women Teachers Association (KEWOTA) as having said that between 2020-2022 over 22 teachers died of suicide. Their deaths were attributed to mental health issues. She projected that this number would increase if the situation was not checked and that there was need for mental wellness awareness to be enhanced among the teachers to address the menace. On the same breath, the National chairman of Kenya Primary Schools Heads Association (KEPSHA) Mr. Johnson Nzioka advocated for concerted efforts in addressing mental health ailments among teachers that attributed to increased report of suicide cases among teaching staff. He further said that pressure from parents, the employed and high targets set up by the ministry of education to achieve, contributed tremendously to teachers going into depression and anxiety. Mental wellness should

be addressed to counter this before it goes out of hand (Said and Hinga, 2022).

Teachers tend to ignore their stress and anxiety levels in lieu of their unconditional love for education and teaching children. But the gratification from teaching can sometimes come with the pressure and performance management that's always looming in the teacher's mind (Aggarwal 2022). A study in Brazil by Carlotto & Camarra (2015) showed that teachers suffering from common mental disorders was associated with having role ambiguity, overload, low level of social support, and low perceived self-efficacy were associated with common mental disorders.

Common mental disorders are a group of distress states manifesting with anxiety, depressive and unexplained bodily symptoms which are usually seen in community and primary care settings (Ajay, 2012). They are conditions that are diagnosable through identifying changes in thinking, feeling, behaviour (and possibly a combination of all these). Their effect is that they commonly impair a person's functioning and cause distress (Murphy, et al., 2013).

Studies indicate that mental ill-health is not a stranger in the school/learning environment. In the UK, a survey of over 11,000 teachers was conducted by NASUWT, the teachers' union in 2022. It showed that 90% of the teachers were stressed, and 91% had their mental health adversely affected by work demands, with workload being the leading worrier. The Brazilian study above, found a prevalence of 29.4% of common mental disorders among teachers.

### **Factors associated with teachers' poor mental health**

According to Gray, Wilcox, and Nordstokke (2017), high stress levels are a risk factor for teachers, which may lead to burnout and leaving the profession. Several factors can affect the mental health of teachers such as a significant workload with long hours, a large class. There is also often a lack of support from colleagues or the administration which can lead to feelings of isolation and frustration. All the constant stress on the job can take a toll on teacher's physical and mental health. If not addressed, these can lead to burnout or even depression. In Philippines, the mental health of the Filipino teachers has come under the spotlight in recent years. Thankfully, to support learners, teachers, and the public during times of mental and psychological distress, a mental health helpline system was launched consisting of contact information from different organizations (Inlife Inullar Life, 2022). According to recent study, more than half of the Britain's' teachers have a diagnosed mental health problem, with 76% of education professionals experiencing behavioural, psychological, or physical symptoms due to their work (Baljinder, 2019).

A web-based study done in Bangladesh Tanvir et al, (2022) on the mental health status of teachers during the second wave of the Covid 19 pandemic observed that the overall prevalence of depression, anxiety and stress among teachers were 35.4%, 43.7% and 6.6% respectively. The prevalence was higher among male and older teachers than among female and younger colleagues. The findings further showed that place of residence, institution, self-reported health, usage of social and electronic media and the fear of Covid 19 significantly influenced the mental health status of teachers.

In Spain, the study in mental health reported heightened depression anxiety and stress particularly among female and older teachers and among teachers suffering from chronic diseases or living with chronically ill or Covid 19 infected family (Santamaria, et al 2021).

Recent research by Unicef (2022) observed that there were almost no evidence-based programs globally that focus specifically on supporting the mental health of teacher educators. While safe care to manage stress is important for everyone, policymakers and school leaders must also take responsibility for ensuring teachers are safe, well organized. More investments are needed in support structure and practices that ensure the wellbeing and job satisfaction of teachers is enabled particularly during time of crisis (Dabrowski, 2022).

The determinants of mental health problems in Poland identified included the number of children, partners' employment status, changes in quality and satisfactory of relationships. Depression among teachers was reported to be 54.99%, anxiety 50.73% and stress 55% according to Jakubowski and Dominik (2021).

In Brazil, a study found the prevalence of mental disorders among teachers to be 20.9%. Some of the associated risks with this were expressed as "repetitive movements, chalk dust, stressing work, long working hours, work in more of one school and low wage".

### **Effect of mental health on classroom practices**

Miller and Wiltse, 1979 observed that mental health of a teacher is important for it affects his whole being. Teachers interact with learners who have unique personalities and face various challenges.

In addition to the daily pressures of their job, it can lead to stress and anxiety. With time, these feelings can negatively impact mental health. A teacher struggling with health issues finds it difficult to concentrate on his work, can't multitask and has poor relations with his peers and other workmates. Mentally healthy teacher easily relates with the delivery of the lesson with more clarity. A teacher's poor mental health is not only an individual concern, but it also affects their learners greatly. It has the potential of affecting their learning outcomes, examination performance and also the cost of provision of education. Emotional atmosphere in a classroom setting is important to the experiences of all students (Miller and Wiltse, 1979). A teacher who is emotionally unstable can cause a lot of damage to his students. Several causes and contributing factors to mental health problems have been identified.

A teacher with poor mental health not only tends to be incapacitated for the performance of multifarious duties in the school but also creates difficulties and problems to students (Kumar, 1992). It is known that when mentally healthy, teachers experience professional growth and healthy personality development positive outcomes result for their learners (Gorsy, Panwar & Kumar, 2015). In contrast, when teachers are experiencing ill mental health, children are able to pick up on it even when the teacher hides it well, leading to adverse effects on the learner (Glazzard & Rose, 2019).

### **Navigation of Mental Health Issues**

From the foregoing, it is clear that it is imperative to carry out well-being surveys, training staff as mental first aiders and provision of personal mental health guidance. There need to be a robust debate on issue mental health at all forums. The debates and discussions will be

able to remove stigma that surrounds mental health and promote wellness. These wellness activities involve getting enough sleep, adopting a growth mindset towards learning and teaching, focusing on gratitude, and having clear boundaries between the school and rest. This will help improve mental health in our schools for students and teachers alike (Two Sigmas, 2019).

To tackle the crisis head on, school leaders need to build open and supportive well-being cultures. With a recent study showing that in United Kingdom employers claim they don't feel comfortable talking to their managers about mental health problems for fear of being judged, this is clearly a pressing issue. By adopting open door policies and encouraging staff to share their issues, school leaders can ensure that problems can be appropriately addressed (Baljinder, 2019).

In terms of policy and application of wider scale interventions, there needs to be an integration of mental health into primary and community health care as is recommended by the WHO (2022). If every time members of the public, teachers included, go to hospital and their mental health is assessed, this would be a formidable steppingstone into the way forward in effective treatment of mental disorders. Not only would this create the awareness above envisaged but would also ensure that psychological problems are nipped in the bud before they escalate, thus helping teachers do what they know how to do best.

## **Conclusion**

It is undeniable that instructor's mental health has far reaching consequences given that not only are teachers affected, but the learners who are their academic wards, are adversely impacted.

Mental ill-health does result from teachers' working conditions and personal life challenges. Their performance is grossly affected with their health is not up to par. This calls for a concerted effort by all stakeholders to ensure systems are put in place to continuously assess and treat mental health problems as they arise.

### **Recommendation**

Since the issue of workload has been variously highlighted as a major stressor for teachers, it is suggested that policymakers devise ways of managing workloads among teachers. For instance, job sharing may ease the burden of overwork and make it easy to retain staff. In addition, mental health units are required in vocational training centers, quipped with mental health workers well trained in assessment and treatment of mental disorders as well as other stressors that lead to mental ill-health of instructors as expeditiously as possible.

## **References**

Agwarwals. S. (2022). Why mental health is important for teachers in [www.suraasa.com/blog](http://www.suraasa.com/blog)

Baljinder, K. (2019). Why teachers mental health matters and how to improve it in [www.openaccessgovernment.org/teacher-mental-health-matters/60935](http://www.openaccessgovernment.org/teacher-mental-health-matters/60935).

Biernat, E., Piątkowska, M., & Rozpara, M. (2022). Is the Prevalence of Low Physical Activity among Teachers Associated with Depression, Anxiety, and Stress? *International Journal of Environmental Research and Public Health*, 19(14), 8868. <https://doi.org/10.3390/ijerph19148868>

Carlotto, M. S. & Câmara, S. G. (2015). Prevalence and risk factors of common mental disorders among teachers. *Revista de Psicología del Trabajo y de las Organizaciones*, 3(31), 201-206. <https://doi.org/10.1016/j.rpto.2015.04.003>

Dabrowski, A. (2022). Supporting teacher Mental health in [www.acer.acer.org/ae](http://www.acer.acer.org/ae) retrieved on 14/05/2023

Dowitz, A. & Beddoes, K. (2022). Mental health in engineering education: Identifying population and intersectional variation. *IEEE Transactions on Education*, 65 (3), 257-266.

1.Glazzard, J. & Rose, A. (2020), The impact of teacher well-being and mental health on pupil progress in primary schools. *Journal of Public Mental Health*, Vol. 19 (4), 349-357. <https://doi.org/10.1108/JPMH-02-2019-0023>



Gorsy, C., Panwar, N., & Kumar, S. (2015). Mental Health among Government School Teachers. *The International Journal of Indian Psychology* 2349-3429. 3. 117-124. 10.25215/0301.178.

2.Gray, C., Wilcox, G. & Nordstokke, D. (2017). Teacher mental health, school climate, inclusive education and student learning: A review. *Canadian Psychology/Psychologie Canadienne*. 58. 203-210. 10.1037/cap0000117.

Harvey, S.B., Epstein, R.M., Glozier, N., Katherine, P., Strudwick, J., Gayed, A., Dean, K., & Henderson, M. (2021). *Lancet*, 398, 920-930.

Hossain, M. T., Islam, M. A., Jahan, N., Nahar, M. T., Sarker, M. J. A., Rahman, M. M., Deeba, F., Hoque, K. E., Aktar, R., Islam, M. M., Hossain, M. Z., Siddiqua, L., Mahbub, Z., & Islam, M. N. (2022).

Mental health status of teachers during the second wave of the COVID-19 Pandemic: A web-based study in Bangladesh. *Frontiers in psychiatry*, 13, 938230. <https://doi.org/10.3389/fpsyt.2022.938230>

Inlife Insula Life. (2022). The importance of mental health for teachers in [www.insularlife.com.ph](http://www.insularlife.com.ph)

Jakubowski. T.D.& Sitko-Dominik. M.M. (2021). Teachers Mental Health during the first two waves of the Covid 19 pandemic in Poland. *Plosone*-16.80257252 10-1371/Journal Pone.0257252

Kotowski, S. E., Davis, K. G., & Barratt, C. L. (2022). Teachers feeling the burden of COVID-19: Impact on well-being, stress, and

*The Mental Health Situation Among Teachers in Learning Institutions in Kenya: A Concern for Attainment of Quality Education (SDG. NO. 4): Dr. Winnie Waiyaki & Dr. Gowon Cherui*

**(2023) Journal of cmsd Volume 10(5)**

burnout. *Work* (Reading, Mass.), 71(2), 407-415.  
<https://doi.org/10.3233/WOR-210994>

Krill, P.R., Johnson, R.M., & Albert, L. (2016). The Prevalence of Substance Use and Other Mental Health: Concerns Among American Attorneys. *Journal of Addiction Medicine*, 10, 46 - 52.

Kumar. P. (1992). Mental health checklist. National Psychology Corporation. Agra.

Matete, F. (2022). Mental health issues-threaten teaches lives says lobby in [www.thestar.co.ke](http://www.thestar.co.ke) retrieved on 10/10/2023

Miller. D.F. & Wiltski, J. (1979). Mental health and the teacher. *Journal of school health*. 49 (7), 374-7. doi;10.1111/j.1746-1561.1979tb08096x.

, D., Barry, M. & Vaughn, B. (2013). Mental health disorders. *Child Trends*. 2013. 1-10.

NASUWT (2023, July 29<sup>th</sup>). *Well-being at work survey*.  
<https://www.nasuwat.org.uk/static/1ac040a7-96a5-481a-a052ddd850abc476/Teacher-Wellbeing-Survey-Report-2022.pdf>

Oliveira, R.C.D., Silva, I. A., Castro, D.S.P.D. & Limongi-França, A. C. (2015). Qualidade De Vida No Trabalho (Qvt): Um Estudo Com Professores Dos Institutos Federais. *HOLOS*, (6), 432-447.  
<https://doi.org/10.15628/holos.2015.1726>

*The Mental Health Situation Among Teachers in Learning Institutions in Kenya: A Concern for Attainment of Quality Education (SDG. NO. 4): Dr. Winnie Waiyaki & Dr. Gowon Cherui*

**(2023) Journal of cmsd Volume 10(5)**

Vedovato, T. G., Monteiro, M. I. (2008). Perfil Sociodemográfico E Condições De Saúde E Trabalho Dos Professores De Nove Escolas Estaduais Paulistas. *Rev. esc. enferm. USP*, 2(42), 291-297.

<https://doi.org/10.1590/s008062342008000200012>([https://www.who.int/health-topics/mental-health#tab=tab\\_1](https://www.who.int/health-topics/mental-health#tab=tab_1)

Santamaría, M., Mondragon, N.I., Santxo, N.B., Ozamiz-Etxebarria, N. (2021). Teacher stress, anxiety and depression at the beginning of the academic year during the COVID-19 pandemic. *Global Mental Health* doi: 10.1017/gmh.2021.14

Pearson, S., Nash, T., Ireland, V. (2014). Depression symptoms in people with diabetes attending outpatient podiatry clinics for the treatment of foot ulcers. *Journal of Foot and Ankle Research*, 1(7), 47. <https://doi.org/10.1186/preaccept-7135860841250422>

Risal, Ajay. (2012). Common mental disorders. *Kathmandu University Medical Journal (KUMJ)*. 9. 213-7. 10.3126/kumj.v9i3.6308.

Said, F., Hinga, A. (2022). Prioritizing teachers' mental health not to affect learners in [www.kenyanews.go.ke](http://www.kenyanews.go.ke) retrieved on 10/5/2023

Two Sigmas. (2019). Mental health- why it's important for teachers and students alike? in [www.medium.com/sigmas/](http://www.medium.com/sigmas/)

## **Fostering Africa's Blue Economy: Problems and Promises**

*By: Hon. Dr. Kariuki Muigua\**

### **Abstract**

*The paper critically examines the concept of Blue Economy in Africa. It gives an overview of Blue Economy and how the idea has been embraced in Africa. The paper further discusses the problems and promises of the Blue Economy in Africa. It further suggests reforms towards fostering Africa's Blue Economy.*

### **1.0 Introduction**

Blue Economy has been defined as a 'sustainable ocean-based economic model that is largely dependent on coastal and marine ecosystems and resources, but one that employs environmentally-sound and innovative infrastructure, technologies and practices, including institutional and financing arrangements, for meeting the goals of: (a) sustainable and inclusive development; (b) protecting the coasts and oceans, and reducing environmental risks and ecological scarcities; (c) addressing water, energy and food security; (d) protecting the health, livelihoods and welfare of the people in the coastal zone; and (e) fostering an ecosystem-based climate change mitigation and adaptation measures<sup>1</sup>. It has also been described as the

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<sup>1</sup> UNDP., 'Leveraging the Blue Economy for Inclusive and Sustainable Growth.' Policy Brief, Issue No 6/2018., Available at <https://www.undp.org/sites/g/files/zskgke326/files/migration/ke/Policy-Brief->

sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem<sup>2</sup>. The concept of the Blue Economy integrates into a new approach the economic exploitation of the resources of oceans, lakes, rivers and other bodies of water and the conservation of aquatic ecosystems<sup>3</sup>. It represents a basis for rational and sustainable use and conservation of natural resources (both renewable and non-renewable) and their natural habitats<sup>4</sup>.

The concept of Blue Economy emphasizes protecting and sustainably developing oceans, and implementing policies that ensure better stewardship of marine ecosystems, wildlife and other resources<sup>5</sup>. It aims to harmonize economic growth with environmental preservation through sustainable practices<sup>6</sup>. This concept recognizes that the oceans, which cover 71% of the Earth's surface, possess untapped potential for various sectors<sup>7</sup>. Blue Economy therefore encompasses diverse but related issues surrounding the exploitation of ocean resources including smart shipping, ports, transportation

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2018---6---Blue-Economy-for-Inclusive-and-Sustainable-Growth.pdf (Accessed on 17/07/2023)

<sup>2</sup> The World Bank., 'What is the Blue Economy?' Available at <https://www.worldbank.org/en/news/infographic/2017/06/06/blue-economy> (Accessed on 17/07/2023)

<sup>3</sup> Africa Union., 'Africa Blue Economy Strategy.' Available at [https://www.auiabar.org/sites/default/files/202010/sd\\_20200313\\_africa\\_blue\\_economy\\_strategy\\_en.pdf](https://www.auiabar.org/sites/default/files/202010/sd_20200313_africa_blue_economy_strategy_en.pdf) (Accessed on 17/07/2023\_

<sup>4</sup> Ibid

<sup>5</sup> Bove. T., 'What are the Promises of a Blue Economy?' Available at <https://earth.org/blue-economy/#> (Accessed on 17/07/2023)

<sup>6</sup> Purcell. N., 'What is the Blue Economy?' Available at <https://bluerobotics.com/what-is-the-blue-economy/#:~:text=The%20blue%20economy%20encourages%20the,reduce%20fuel%20consumption%20and%20emissions.> (Accessed on 17/07/2023)

<sup>7</sup> Ibid

and global connectivity; employment, job creation and poverty eradication; cities, tourism, resilient coasts and infrastructure; sustainable energy, mineral resources and innovative industries; managing and sustaining marine life, conservation and sustainable economic activities; ending hunger, securing food supplies and promoting good health and sustainable fisheries; climate action, agriculture waste management and pollution-free oceans; maritime security, safety and regulatory enforcement and people, culture, communities and societies<sup>8</sup>.

Blue Economy is vital in the Sustainable Development agenda. The Blue Economy can be considered a component to the larger green economy, which focuses on an efficient and equitable use of resources and emphasizes Sustainable Development without degrading the environment<sup>9</sup>. A healthy ocean is key for a sustainable future both for people and the planet<sup>10</sup>. The world's oceans – their temperature, chemistry, currents and life – drive global systems that make the Earth habitable for humankind<sup>11</sup>. A Blue Economy prioritizes all three pillars of sustainability: environmental, economic, and

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<sup>8</sup> Kenya Maritime Authority., 'Report on the Global Sustainable Blue Economy Conference 26<sup>th</sup>-28<sup>th</sup> November 2018 Nairobi, Kenya.' Available at <http://kenyaforimo.kma.go.ke/wp-content/uploads/2019/11/SBEC-FINAL-REPORT-8-DECEMBER-2018-rev-2-1-2-PDF2-3-compressed.pdf> (Accessed on 17/07/2023)

<sup>9</sup> Bove. T., 'What are the Promises of a Blue Economy?' Op Cit

<sup>10</sup> United Nations Environment Programme., 'Enabling Sustainable, Resilient and Inclusive Blue Economies.' Available at <https://www.unep.org/explore-topics/oceans-seas/what-we-do/enabling-sustainable-resilient-and-inclusive-blue-economies> (Accessed on 17/07/2023)

<sup>11</sup> United Nations Development Programme., 'Goal 14: Life Below Water.' Available at [https://www.undp.org/sustainable-development-goals/below-water?gclid=Cj0KCQjwzdOlBhCNARIsAPMwjbyodp8PZIkguJb9OPW9JC-jZ2fPWPOOvlgrRnGolWtE86-55pcSV5saAqJCEALw\\_wcB](https://www.undp.org/sustainable-development-goals/below-water?gclid=Cj0KCQjwzdOlBhCNARIsAPMwjbyodp8PZIkguJb9OPW9JC-jZ2fPWPOOvlgrRnGolWtE86-55pcSV5saAqJCEALw_wcB) (Accessed on 17/07/2023)

social<sup>12</sup>. In addition to providing goods and services measurable in monetary terms, coral reefs, mangroves, seagrass meadows and wetlands deliver critical ecosystem services such as coastal protection and carbon sequestration<sup>13</sup>. The importance of Blue Economy in the Sustainable Development discourse is recognized under the United Nations 2030 Agenda for Sustainable Development whose goals include to conserve and sustainably use the oceans, seas and marine resources for Sustainable Development<sup>14</sup>. Enhancing conservation and the sustainable use of ocean-based resources is thus integral in fostering the Blue Economy and Sustainable Development.

It has been observed that Africa has an opportunity to unleash the potential to develop a resilient Blue Economy<sup>15</sup>. With its great potential, the blue economy holds a lot of promise for Africa<sup>16</sup>. As a continent surrounded by some of the world's most important marine biodiversity, strategic maritime trade routes, abundant aquatic resources and blue carbon assets, it has become critically urgent for African countries to embrace blue economy development through impactful policies which support the African continent in meeting

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<sup>12</sup> United Nations., 'Sustainable Blue Economy Vital for Small Countries and Coastal Populations.' Available at <https://news.un.org/en/story/2022/06/1121562> (Accessed on 17/07/2023)

<sup>13</sup> Ibid

<sup>14</sup> 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 17/07/2023)

<sup>15</sup> The World Bank., 'Blue Economy for Resilient Africa Program.' Available at <https://www.worldbank.org/en/events/2022/11/16/blue-economy-for-resilient-africa-program> (Accessed on 17/07/2023)

<sup>16</sup> Muigwa. K., 'Securing Our Destiny through Effective Management of the Environment.' Glenwood Publishers Limited, 2020

global and continental targets<sup>17</sup>. The paper critically discusses the concept of blue economy in Africa. It explores the problems and promises of Blue Economy in Africa. The paper further recommends the way forward towards fostering Africa's Blue Economy for Sustainable Development.

## **2.0 The Blue Economy in Africa**

The Blue Economy is vital in Africa. Africa's Blue Economy is made of vast lakes and rivers and an extensive ocean resource base<sup>18</sup>. A total of 38 out of the African Union's 55 member states are coastal or island states, while 64% of the African continent is covered by a network of freshwater resources such as rivers, lakes, aquifers, basins, watersheds among others<sup>19</sup>. Further, it is estimated that maritime zones under Africa's jurisdiction total about 13 million square kilometers, including territorial seas and Exclusive Economic Zones (EEZ) and approximately 6.5 million square kilometers for the continental shelf (for which countries have jurisdiction over only the seabed)<sup>20</sup>. In addition, the lacustrine (or lake) zones of Africa cover approximately 240,000 square kilometers<sup>21</sup>. These aquatic resources represent tremendous potential for blue food, nutrition and food

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<sup>17</sup> African Union., 'Shaping a Sustainable Blue Economy for Africa UN Oceans Conference Side Event.' Available at <https://au.int/en/newsevents/20220630/shaping-sustainable-blue-economy-africa-un-oceans-conference-side-event> (Accessed on 17/07/2023)

<sup>18</sup> Africa Renewal., 'Africa's Blue Economy: A Policy Handbook.' Available at <https://www.un.org/africarenewal/documents/africas-blue-economy-policy-handbook> (Accessed on 18/07/2023)

<sup>19</sup> African Union., 'Shaping a Sustainable Blue Economy for Africa UN Oceans Conference Side Event.' Op Cit

<sup>20</sup> United Nations Economic Commission for Africa., 'Africa's Blue Economy: A Policy Handbook.' Available at <https://wedocs.unep.org/bitstream/handle/20.500.11822/30130/AfricasBlueEconomy.pdf?sequence=1&isAllowed=y> (Accessed on 18/07/2023)

<sup>21</sup> Ibid



security, ecosystem services, employment and wealth creation and innovation<sup>22</sup>. It has been argued that all African countries, including landlocked states, can be thought of as political agents in the Blue Economy and their economic futures are strongly associated with issues described as 'marine'<sup>23</sup>. Therefore, the benefits of sound Blue Economy practices such as secure coastal states spill over to landlocked states in Africa due to lower transportation and improved access to maritime countries' economies<sup>24</sup>.

The continent therefore has a huge Blue Economy potential that can enhance Sustainable Development of African states. Indeed, the African Union estimates that the Blue Economy currently generates nearly US\$300 billion for the continent, creating nearly 49 million jobs in the process<sup>25</sup>. These and other crucial benefits most notably food security, livelihoods, and biodiversity are entirely dependent on the ocean's health<sup>26</sup>. Further, it has been observed that international trade is important to many African economies, with more than 90 percent of Africa's imports and exports conducted by sea<sup>27</sup>. Further, it is estimated that freshwater and ocean fish make a vital contribution to the food and nutritional security of over 200 million Africans and provide income for over 10 million<sup>28</sup>. The Blue Economy is thus at the core of Sustainable Development of African countries at the environmental, economic and social levels.

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<sup>22</sup> African Union., 'Shaping a Sustainable Blue Economy for Africa UN Oceans Conference Side Event.' Op Cit

<sup>23</sup> Childs. J & Hicks. C., 'Securing the Blue: Political Ecologies of the Blue Economy in Africa.' *Journal of Political Ecology*, 2019

<sup>24</sup> Ibid

<sup>25</sup> The World Bank., 'Blue Economy for Resilient Africa Program.' Op Cit

<sup>26</sup> Ibid

<sup>27</sup> United Nations Economic Commission for Africa., 'Africa's Blue Economy: A Policy Handbook.' Op Cit

<sup>28</sup> Ibid

The importance of the Blue Economy in Africa is recognized under the Africa's Union *Agenda 2063* which seeks to achieve a prosperous Africa based on inclusive growth and Sustainable Development through measures such as exploiting the vast potential of Africa's blue/ocean economy<sup>29</sup>. Agenda 2063 recognizes the potential of the Blue Economy to trigger Sustainable Development in Africa through marine resources, fishing, tourism, energy, port operations, mining and marine transport<sup>30</sup>. It calls for the sustainable utilization and management of the Blue Economy in Africa in order to realize its potential<sup>31</sup>.

In addition, the *Africa Blue Economy Strategy* seeks to achieve an inclusive and sustainable Blue Economy that significantly contributes to Africa's transformation and growth<sup>32</sup>. It aims to guide the development of an inclusive and sustainable Blue Economy that becomes a significant contributor to continental transformation and growth, through advancing knowledge on marine and aquatic biotechnology, environmental sustainability, the growth of an Africa-wide shipping industry, the development of sea, river and lake transport, the management of fishing activities on these aquatic spaces, and the exploitation and beneficiation of deep sea mineral and other resources<sup>33</sup>. The strategy outlines the key drivers of change that are shaping Africa Blue Economy development; strategic and

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<sup>29</sup> Africa Union., 'Agenda 2063: The Africa we Want.' Available at [https://au.int/sites/default/files/documents/33126-doc-framework\\_document\\_book.pdf](https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf) (Accessed on 18/07/2023)

<sup>30</sup> Ibid

<sup>31</sup> Ibid

<sup>32</sup> Africa Union., 'Africa Blue Economy Strategy.' Available at [https://www.au-ibar.org/sites/default/files/2020-10/sd\\_20200313\\_africa\\_blue\\_economy\\_strategy\\_en.pdf](https://www.au-ibar.org/sites/default/files/2020-10/sd_20200313_africa_blue_economy_strategy_en.pdf) (Accessed on 18/07/2023)

<sup>33</sup> Ibid

technical challenges to Blue Economy development and identifies priority areas of intervention for sustainable blue economy development in Africa<sup>34</sup>. The Africa Blue Economy Strategy is thus vital in attaining Sustainable Development in Africa.

Finally, the *Africa' Blue Economy Policy Handbook* developed by the United Nations Economic Commission for Africa provides guidelines on mainstreaming the Blue Economy into continental, subregional, and national policies, plans, laws, regulations, and practices for the development of African sustainable Blue Economy strategies<sup>35</sup>. It advocates for an integrated, holistic and participatory approach that includes sustainable use and management of the Blue Economy resources for societal progress in a diverse Africa<sup>36</sup>. The Policy Handbook further acknowledges that there is an emerging opportunity to develop an African Blue Economy narrative that better reflects the kinds of development goals, partnerships, and forms of social reciprocity that African societies need as they move further into the 21<sup>st</sup> century<sup>37</sup>. The Policy Handbook can thus enhance innovation in formulation of policies, laws, regulations and practices towards enhancing Sustainable Development of the Blue Economy in Africa.

Africa thus has a great Blue Economy potential. However, several concerns hinder development of a resilient Blue Economy in Africa.

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<sup>34</sup> Ibid

<sup>35</sup> United Nations Economic Commission for Africa., 'Africa's Blue Economy: A Policy Handbook.' Op Cit

<sup>36</sup> Ibid

<sup>37</sup> Ibid

### **3.0 Problems and Promises of the Blue Economy in Africa**

It has been noted that the potential benefits of developing the Blue Economy in Africa and across the globe are enormous<sup>38</sup>. Blue economies offer the possibilities of improved efficiency in our land and ocean management, better treatment and governance of marine ecosystems, a more equitable model of global health standards, lower emissions and resilience against climate change<sup>39</sup>. The Blue Economy in Africa provides numerous advantages such as habitat for fish and marine life; carbon sequestration; shoreline protection; waste recycling and storing; ocean processes that influence climate and biodiversity and new emerging activities such as desalination; marine biotechnologies, ocean energy and seabed mining<sup>40</sup>. The Blue Economy is thus at the core of Sustainable Development in Africa.

However, despite this promise, several concerns hinder full realization of the benefits of the Blue Economy in Africa. It has been indicated that unsustainable infrastructure development, inadequate management of natural habitats and resources, and pollution are among the problems threatening the productivity of the Blue Economy in Africa<sup>41</sup>. In addition, climate change-related events such as sea-level rise, land subsidence, storm surge, and coastal flooding are exacerbating the vulnerability of the Blue Economy in Africa<sup>42</sup>.

The African Union also identifies the concerns facing the Blue Economy in Africa to include the increasing menace of illegal fishing

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<sup>38</sup> Bove. T., 'What are the Promises of a Blue Economy?' Op Cit

<sup>39</sup> Ibid

<sup>40</sup> UNDP., 'Leveraging the Blue Economy for Inclusive and Sustainable Growth.' Policy Brief, Issue No 6/2018., Op Cit

<sup>41</sup> Childs. J & Hicks. C., 'Securing the Blue: Political Ecologies of the Blue Economy in Africa.' Op Cit

<sup>42</sup> Ibid

in the Exclusive Economic Zones (EEZ) that has resulted in massive loss estimated at \$10 billion USD annually; sea piracy and illegal drug trafficking which pose a real threat not only to the safety of vessels and their crew but also to the economies of affected countries particularly in the Gulf of Guinea and South West Indian Ocean; pollution through dumping of toxic wastes as well as indiscriminate discarding of single use plastics and environmental and climate change and climate variability which impacts on Africa's aquatic systems and food production overall<sup>43</sup>.

Further, the United Nations Development Programme has identified challenges which hinder realization of the full benefits of the Blue Economy in Africa. These challenges include illegal and unregulated fishing, piracy and armed robbery, maritime terrorism, illicit trade in crude oil, arms, drug and human trafficking and smuggling of contraband goods; degradation of marine ecosystems through discharge of oil, the dumping of toxic waste, illegal sand harvesting and the destruction of coral reefs and coastal forests<sup>44</sup>.

The challenges facing the Blue Economy in Africa were considered at the Sustainable Blue Economy Conference held in Nairobi Kenya in November 2018. These concerns include low participation of African countries in the maritime and shipping industry; climate change, marine pollution, unsustainable extraction of marine resources and destruction of coastal habitats; lack of proper education and training framework that promotes maritime education and skills for a sector that requires highly skilled labour force; negative effects of human activities and environmental degradation on marine ecosystems which shrink the potential of the blue economy resources; inadequate

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<sup>43</sup> Africa Union., 'Africa Blue Economy Strategy.' Op Cit

<sup>44</sup> UNDP., 'Leveraging the Blue Economy for Inclusive and Sustainable Growth.' Policy Brief, Issue No 6/2018., Op Cit

capacity (human skills and technology) to tap into the energy and mineral resources within the blue economy sustainably; Unsustainable fishing practices driven by inadequate fisheries management mechanisms; rapidly decreasing fish habitats, including coral reefs and mangroves; loss of aquatic habitats, bio-diversity and shrinking water levels due to pollution and climate change; inadequate inclusion of local communities and peoples in blue economy and a wide range of maritime security threats including piracy, Illegal, Unregulated and Unreported (IUU) fishing, smuggling of people, arms trafficking, narcotics and other illicit goods, terrorism, cybercrimes, proliferation of Weapons of Mass Destruction (WMDs), threats to freedom of navigation, environmental risks, and natural disasters<sup>45</sup>.

In addition, there have been incidences of maritime boundary disputes between African countries. A key example was the maritime boundary dispute between Kenya and Somalia over 100,000 sq km of maritime space that is believed to contain significant oil and gas deposits as well as rich fisheries<sup>46</sup>. The dispute eventually ended up being determined by the International Court of Justice<sup>47</sup>. Such disputes can potentially ruin relationships between African countries and affect the sustainable utilization of the Blue Economy in Africa.

For Africa, the Blue Economy offers greater opportunity beyond the economy and the environment<sup>48</sup>. It presents African countries with a

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<sup>45</sup> Kenya Maritime Authority., 'Report on the Global Sustainable Blue Economy Conference 26<sup>th</sup>-28<sup>th</sup> November 2018 Nairobi, Kenya.' Op Cit

<sup>46</sup> International Court of Justice., 'Maritime Delimitation in the Indian Ocean (Somalia v. Kenya).' Available at <https://www.icj-cij.org/case/161> (Accessed on 18/07/2023)

<sup>47</sup> Ibid

<sup>48</sup> Nagy. H & Nene. S., 'Blue Gold: Advancing Blue Economy Governance in Africa.' *Sustainability*, No. 13 of 2021

unique opportunity to achieve their national development objectives, to improve regional integration, and to exert influence in the global setting<sup>49</sup>. However, from the foregoing discussion, it is evident that there are several concerns affecting the effective utilization of the Blue Economy in Africa. There is need to address the foregoing concerns in order to foster the Blue Economy in Africa.

#### **4.0 Way Forward**

The Sustainable Blue Economy Conference identified a number of key political targets that are pertinent in fostering Africa's Blue Economy. These include promoting action-oriented global strategies that places people and the Blue Economy resources at the centre of Sustainable Development; promoting collaboration for sustainable partnerships and projects in the various sectors of the Blue Economy; mobilizing finance from public and private sources; promoting access to technologies and innovations; sharing best practices on sustainable management of the Blue Economy; capacity building; promoting gender equality and the role and participation of women and youth in the Blue Economy; strengthening science and research to generate and disseminate evidence-based knowledge and information as well to inform policy and decision making; strengthening governance mechanisms; and promoting synergies within and between different levels of governments<sup>50</sup>. These recommendations are vital in fostering the Blue Economy in Africa and can be incorporated into national policy, legal and institutional frameworks towards enhancing the

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<sup>49</sup> Ibid

<sup>50</sup> United Nations Economic Commission for Africa., 'The Nairobi Statement of Intent on Advancing the Global Sustainable Blue Economy.' Available at <https://archive.uneca.org/sites/default/files/uploaded-documents/SROs/EA/HIGH-LEVEL-SUSTAINABLE-BLUE-ECONOMY-CONFERENCE-2018/nairobi-statement-of-intent-advancing-global-sustainable-blue-economy.pdf> (Accessed on 19/07/2023)

capacity of African countries to harness the Blue Economy for the realization of Sustainable Development.

In addition, several interventions are necessary in various sectors of the Blue Economy in order to foster its realization in Africa. In fisheries and aquaculture, there is need to optimize conservation and sustainable fisheries and aquaculture resources use while minimizing conflicts in order to achieve full wealth-generating potential for fisheries and aquaculture sector<sup>51</sup>. This will enhance the sustainability of the fisheries and aquaculture sector while enabling African countries reap from the benefits of the Blue Economy in this sector. Further, in the energy sector there is need to unlock the sustainable blue energy potential through measures such as creating conducive regulatory environment for the development and application of sustainable blue energy <sup>52</sup>. This will trigger investments and realization of the energy potential of the Blue Economy thus enabling African countries meet their energy targets among other goals<sup>53</sup>. African countries can also tap into the potential of the Blue Economy in order to meet the growing demand of mineral resources and oil and gas for economic prosperity<sup>54</sup>.

There is also need for African countries to tap into the potential of the Blue Economy in the transport sector. It has been pointed out that there has been low participation of African countries in the maritime and shipping industry<sup>55</sup>. However, African countries can tap into the

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<sup>51</sup> Africa Union., 'Africa Blue Economy Strategy.' Op Cit

<sup>52</sup> Ibid

<sup>53</sup> Nagy. H & Nene. S., 'Blue Gold: Advancing Blue Economy Governance in Africa.' Op Cit

<sup>54</sup> Ibid

<sup>55</sup> Kenya Maritime Authority., 'Report on the Global Sustainable Blue Economy Conference 26<sup>th</sup>-28<sup>th</sup> November 2018 Nairobi, Kenya.' Op Cit



potential of the Blue Economy in this sector through measures such as modernization of African ports and carrying cargoes of African countries at reasonable rates<sup>56</sup>. In addition, there is need develop integrated strategies for sustainable tourism and infrastructures in order to realize the full potential of the Blue Economy in Africa<sup>57</sup>.

In addition, one of the priority areas in fostering Africa's Blue Economy is curbing pollution of Blue Economy resources such as oceans and lakes<sup>58</sup>. Efforts towards curbing pollution should include addressing the effects of agriculture residue chemicals and soil erosion from highlands which end up polluting water bodies<sup>59</sup>. In addition, it is necessary to enhance resilience of the Blue Economy through climate change mitigation and adaptation by promoting the integration of blue carbon and ecosystem services into climate change policies and Coastal and Aquatic policies<sup>60</sup>. African Countries should consider embracing nature based solution for the enhancement of Coastal and Aquatic Ecosystem contribution to Biodiversity and climate change achievements<sup>61</sup>.

Finally, it is paramount for African countries to promote good governance in the Blue Economy sector and establish regional and

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<sup>56</sup> Mohanty. S & Dash. P., 'Economic Opportunities in Blue Economy in Africa.' Available at [https://link.springer.com/chapter/10.1007/978-981-15-5550-3\\_6](https://link.springer.com/chapter/10.1007/978-981-15-5550-3_6) (Accessed on 19/07/2023)

<sup>57</sup> Ibid

<sup>58</sup> Muigua. K., 'Securing Our Destiny through Effective Management of the Environment.' Op Cit

<sup>59</sup> Ibid

<sup>60</sup> Techera..E., 'Supporting Blue Economy Agenda: Fisheries, Food Security and Climate Change in the Indian Ocean.' *Journal of the Indian Ocean Region*, Volume 14, No. 1, 2018

<sup>61</sup> Ibid

sub-regional cooperation in the Blue Economy<sup>62</sup>. This will be vital in ensure security and safety in the African maritime area and addressing concerns such as piracy and drug trafficking<sup>63</sup>. It also important for African countries to foster good relationships in order to prevent disputes concerning the Blue Economy such as the maritime boundary delimitation dispute between Kenya and Somalia<sup>64</sup>. This will enable African countries to realize the full benefits of the Blue Economy.

## **5.0 Conclusion**

The concept of the Blue Economy is very pertinent in Africa and across the globe. Africa has an opportunity to unleash the potential to develop a resilient blue economy<sup>65</sup>. With its great potential, the blue economy holds a lot of promise for Africa<sup>66</sup>. The Blue Economy holds the promise of enhancing economic, social and environmental development in Africa<sup>67</sup>. However, several problems hinder Africa from realizing the full promise of the Blue Economy. These concerns include illegal and unregulated fishing, piracy and armed robbery, maritime terrorism, illicit trade in crude oil, arms, drug and human

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<sup>62</sup> Roy. A., 'Blue Economy in the Indian Ocean: Governance Perspectives for Sustainable Development in the Region.' Available at [https://www.orfonline.org/wp-content/uploads/2019/01/ORF\\_Occasional\\_Paper\\_181\\_Blue\\_Economy.pdf](https://www.orfonline.org/wp-content/uploads/2019/01/ORF_Occasional_Paper_181_Blue_Economy.pdf) (Accessed on 19/07/2023)

<sup>63</sup> Ibid

<sup>64</sup> Olorundami. F., 'The Kenya/Somalia Maritime Boundary Delimitation Dispute.' Available at <http://ndl.ethernet.edu.et/bitstream/123456789/61052/1/Zeray%20Yihdego.pdf#page=173> (Accessed on 19/07/2023)

<sup>65</sup> The World Bank., 'Blue Economy for Resilient Africa Program.' Op Ci

<sup>66</sup> Muigua. K., 'Securing Our Destiny through Effective Management of the Environment.' Op Cit

<sup>67</sup> United Nations., 'Sustainable Blue Economy Vital for Small Countries and Coastal Populations.' Op Cit

trafficking and smuggling of contraband goods; degradation of marine ecosystems through discharge of oil, the dumping of toxic waste, illegal sand harvesting and the destruction of coral reefs and coastal forests<sup>68</sup>. There is need to address these challenges through measures such as promoting good governance in the Blue Economy sector; establishing regional and sub- regional cooperation; pollution control; enhancing the climate resilience of the Blue Economy sector; and tapping into the benefits of the various sectors of the blue economy such as energy, mining, transport, tourism and fishing by establishing sustainable practices<sup>69</sup>. Through this, the economic, social and environmental benefits of the Blue Economy will be realized towards achieving the visions of the African Union Agenda 2063 and the United Nations Sustainable Development Goals and in particular Goal 14 that seeks to conserve and sustainably use the oceans, seas and marine resources for Sustainable Development<sup>70</sup>. Fostering Africa's Blue Economy is an achievable dream.

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<sup>68</sup> UNDP., 'Leveraging the Blue Economy for Inclusive and Sustainable Growth.' Policy Brief, Issue No 6/2018., Op Cit

<sup>69</sup> Africa Union., 'Africa Blue Economy Strategy.' Op Cit

<sup>70</sup> United Nations., 'Transforming Our World: The 2030 Agenda for Sustainable Development.' Op Cit

## References

Africa Renewal., 'Africa's Blue Economy: A Policy Handbook.' Available at <https://www.un.org/africarenewal/documents/africas-blue-economy-policy-handbook>

Africa Union., 'Africa Blue Economy Strategy.' Available at [https://www.aubiar.org/sites/default/files/202010/sd\\_20200313\\_africa\\_blue\\_economy\\_strategy\\_en.pdf](https://www.aubiar.org/sites/default/files/202010/sd_20200313_africa_blue_economy_strategy_en.pdf)

Africa Union., 'Agenda 2063: The Africa we Want.' Available at [https://au.int/sites/default/files/documents/33126-doc-framework\\_document\\_book.pdf](https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf)

African Union., 'Shaping a Sustainable Blue Economy for Africa UN Oceans Conference Side Event.' Available at <https://au.int/en/newsevents/20220630/shaping-sustainable-blue-economy-africa-un-oceans-conference-side-event>

Bove. T., 'What are the Promises of a Blue Economy?' Available at <https://earth.org/blue-economy/#>

Childs. J & Hicks. C., 'Securing the Blue: Political Ecologies of the Blue Economy in Africa.' *Journal of Political Ecology*, 2019

International Court of Justice., 'Maritime Delimitation in the Indian Ocean (Somalia v. Kenya).' Available at <https://www.icj-cij.org/case/161> (Accessed on 18/07/2023)

Kenya Maritime Authority., 'Report on the Global Sustainable Blue Economy Conference 26<sup>th</sup>-28<sup>th</sup> November 2018 Nairobi, Kenya.'

Available at <http://kenyaforimo.kma.go.ke/wp-content/uploads/2019/11/SBEC-FINAL-REPORT-8-DECEMBER-2018-rev-2-1-2-PDF2-3-compressed.pdf>

Mohanty. S & Dash. P., 'Economic Opportunities in Blue Economy in Africa.' Available at [https://link.springer.com/chapter/10.1007/978-981-15-5550-3\\_6](https://link.springer.com/chapter/10.1007/978-981-15-5550-3_6)

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

Nagy. H & Nene. S., 'Blue Gold: Advancing Blue Economy Governance in Africa.' *Sustainability*, No. 13 of 2021

Olorundami. F., 'The Kenya/Somalia Maritime Boundary Delimitation Dispute.' Available at <http://ndl.ethernet.edu.et/bitstream/123456789/61052/1/Zeray%20Yihdego.pdf#page=173>

Purcell. N., 'What is the Blue Economy?' Available at <https://bluerobotics.com/what-is-the-blue-economy/#:~:text=The%20blue%20economy%20encourages%20the,reduce%20fuel%20consumption%20and%20emissions>

Roy. A., 'Blue Economy in the Indian Ocean: Governance Perspectives for Sustainable Development in the Region.' Available at [https://www.orfonline.org/wp-content/uploads/2019/01/ORF\\_Occasional\\_Paper\\_181\\_Blue\\_Economy.pdf](https://www.orfonline.org/wp-content/uploads/2019/01/ORF_Occasional_Paper_181_Blue_Economy.pdf)

Techera..E., 'Supporting Blue Economy Agenda: Fisheries, Food Security and Climate Change in the Indian Ocean.' *Journal of the Indian Ocean Region*, Volume 14, No. 1, 2018

The World Bank., 'Blue Economy for Resilient Africa Program.' Available at <https://www.worldbank.org/en/events/2022/11/16/blue-economy-for-resilient-africa-program>

The World Bank., 'What is the Blue Economy?' Available at <https://www.worldbank.org/en/news/infographic/2017/06/06/blue-economy> (Accessed on 17/07/2023)

UNDP., 'Leveraging the Blue Economy for Inclusive and Sustainable Growth.' Policy Brief, Issue No 6/2018., Available at <https://www.undp.org/sites/g/files/zskgke326/files/migration/ke/Policy-Brief--2018---6---Blue-Economy-for-Inclusive-and-Sustainable-Growth.pdf>

United Nations Development Programme., 'Goal 14: Life Below Water.' Available at [https://www.undp.org/sustainable-development-goals/below?gclid=Cj0KCQjwzdOlBhCNARIsAPMwjbyodp8PZIkguJb9OPW9JC-jZ2fPWPOOvlgrRnGolWtE86-55pcSV5saAqjCEALw\\_wcB](https://www.undp.org/sustainable-development-goals/below?gclid=Cj0KCQjwzdOlBhCNARIsAPMwjbyodp8PZIkguJb9OPW9JC-jZ2fPWPOOvlgrRnGolWtE86-55pcSV5saAqjCEALw_wcB)

United Nations Economic Commission for Africa., 'Africa's Blue Economy: A Policy Handbook.' Available at <https://wedocs.unep.org/bitstream/handle/20.500.11822/30130/AfricasBlueEconomy.pdf?sequence=1&isAllowed=y>

United Nations Economic Commission for Africa., 'The Nairobi Statement of Intent on Advancing the Global Sustainable Blue Economy.' Available at <https://archive.uneca.org/sites/default/files/uploaded-documents/SROs/EA/HIGH-LEVEL-SUSTAINABLE-BLUE-ECONOMY-CONFERENCE-2018/nairobi-statement-of-intent-advancing-global-sustainable-blue-economy.pdf>

United Nations Environment Programme., 'Enabling Sustainable, Resilient and Inclusive Blue Economies.' Available at <https://www.unep.org/explore-topics/oceans-seas/what-we-do/enabling-sustainable-resilient-and-inclusive-blue-economies>

United Nations., 'Sustainable Blue Economy Vital for Small Countries and Coastal Populations.' Available at <https://news.un.org/en/story/2022/06/1121562>

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>

## **Operationalizing the Compensation of Victims of Terrorism Fund in Kenya: A Step Towards Compliance with Statutory and International Obligations**

By: **Michael Sang**\*

### **Abstract**

*This study focuses on the operationalization of the Compensation for Victims of Terrorism Fund in Kenya, with a primary emphasis on compliance with statutory and international obligations. The research examines the international legal framework surrounding Compensation for Victims of Terrorism, including key concepts such as the definition of Victims, Victim Restitution, and Compensation. Comparative models from the United States of America, the United Kingdom, and Niger are analyzed to draw valuable lessons and insights for Kenya's compensation framework. The study identifies gaps within the Kenyan legal framework, particularly the absence of gazetted regulations, hindering the effective implementation of existing victim compensation laws. The implications of these gaps are discussed, emphasizing the need for comprehensive regulations to bridge the void and ensure victim rights are protected.*

*Lessons from comparative models highlight the importance of dedicated authorities, sustainable funding sources, clear eligibility criteria, and transparent application and appeal procedures in the compensation process. In response to these findings, the study proposes practical recommendations for Kenya's effective operationalization of Compensation for Victims of Terrorism. These recommendations include the establishment of a Victims of*

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*Terrorism Compensation Authority, identification of sustainable funding sources, specification of eligibility criteria, and clarification of application and appeal procedures.*

*By implementing these recommendations, Kenya can enhance compliance with statutory and international obligations, while providing meaningful support, recognition, and justice to Victims of Terrorism. The study concludes by highlighting the significance of timely action in bridging the gaps within Kenya's compensation framework, ultimately contributing to the healing and rebuilding of individuals and communities affected by Acts of Terrorism.*

**Key Words:** *Compensation, Victims, Terrorism Fund, Operationalization, Kenya. Legal framework, international obligations*

## 1. Introduction

Terrorism inflicts immense suffering and loss upon its victims, leaving indelible scars on individuals and communities.<sup>1</sup> Recognizing the gravity of these atrocities, governments worldwide have a responsibility to provide support, justice, and Compensation to Victims of Terrorism.<sup>2</sup> Kenya, as a nation committed to upholding human rights and fulfilling its international obligations, faces the imperative of operationalizing a robust and comprehensive framework for Compensating Victims of Terrorism.<sup>3</sup>

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<sup>1</sup> Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, 4 June 2012 Human Rights Council Twentieth session (A/HRC/20/14) available at [https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/RegularSession/Session20/A-HRC-20-14\\_en.pdf](https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/RegularSession/Session20/A-HRC-20-14_en.pdf) accessed 10 May 2023

<sup>2</sup> Ibid

<sup>3</sup> Horne, C. (2018). Victim rights, reparation, and terrorism. *International Review of Victimology*, 24(2), 245-267. doi: 10.1177/0269758018772946

This paper delves into the intricate process of operationalizing the Compensation for Victims of Terrorism Fund in Kenya, analyzing the existing legal framework, international legal standards, and drawing insights from comparative models implemented in other countries. The objective is to provide practical recommendations for Kenya to effectively comply with statutory and international obligations while ensuring the rights and well-being of victims are adequately addressed. The discussion commences by examining the international legal framework on Compensation for Victims of Terrorism, shedding light on key concepts such as the definition of "Victims of Terrorism," the principles of victim restitution and compensation, and the guidelines and/or framework principles outlined by international bodies. By understanding these concepts and standards, Kenya can align its efforts with global best practices in providing redress to victims.

A critical analysis of the Kenyan legal framework reveals significant gaps and challenges in the operationalization of the Compensation for Victims of Terrorism Fund. Despite the presence of legislation such as Article 50(9) of the Constitution, the Prevention of Terrorism Act 2012, and the Victim Protection Act 2014, the absence of gazetted regulations to implement these laws impedes the effective functioning of victim compensation mechanisms. This paper explores the implications of these gaps and emphasizes the urgent need for comprehensive regulations to bridge the void and ensure victim rights are safeguarded.

Drawing on comparative models, the study delves into the experiences of countries such as the United States of America and the United Kingdom in Compensating Victims of Terrorism. The US

Victims of State Sponsored Terrorism Fund and the September 11th Victim Compensation Fund offer valuable insights into the establishment of dedicated compensation schemes. Similarly, the UK's Victims of Overseas Terrorism Compensation Scheme provides a framework for addressing the needs of victims affected by acts of terrorism abroad. By examining these models, Kenya can gain valuable lessons and tailor them to its unique context. Additionally, the paper explores Niger's legal framework through Law No. 2018-86 of 19 December 2018, which introduces provisions for compensating victims of terrorism.

Building on the insights gained from international legal frameworks, comparative models, and Niger's context, this paper proposes practical recommendations for Kenya's effective operationalization of the Compensation for Victims of Terrorism. These recommendations include the establishment of a dedicated authority, identifying sustainable sources of funds, specifying clear eligibility criteria, clarifying application and appeal procedures, and prioritizing victim participation, support, and empowerment throughout the compensation process.

Operationalizing the Compensation for Victims of Terrorism Fund in Kenya is not only a legal and moral obligation but also a crucial step towards providing justice, recognition, and support to Victims of Terrorism.<sup>4</sup> The study postulates that by implementing the recommendations outlined in this paper, Kenya can move closer to compliance with statutory and international obligations, while offering victims the solace, restoration, and compensation they rightfully deserve.

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<sup>4</sup> Ibid

## **2. International Legal Framework on Compensation of Victims of Terrorism**

### **2.1 Key Concepts**

#### **2.1.1 The Notion of "Victims of Terrorism"**

The notion of "Victims of Terrorism" refers to individuals or groups who have suffered harm, including physical, psychological, or economic damage, as a result of acts of terrorism.<sup>5</sup> These acts involve the intentional use of violence, threats, or intimidation to create fear and exert control over a population or government.<sup>6</sup>

#### **2.1.2 Victim Restitution and Compensation**

Victim restitution and compensation are important components of the international legal framework for addressing the harm caused to victims of terrorism. Victim restitution refers to the process of restoring victims to the position they were in, before the terrorist act occurred, to the best extent possible.<sup>7</sup> It involves actions aimed at repairing the harm suffered by victims and providing them with appropriate remedies. Restitution may include various forms of assistance, such as financial compensation, medical care, psychological support, rehabilitation, and access to justice.<sup>8</sup>

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<sup>5</sup> Frulli, M. (2011). The Concept of "Victim" in International Law: A Critical Appraisal. *Human Rights Quarterly*, 33(2), 304-335. doi: 10.1353/hrq.2011.0013

<sup>6</sup> Ibid

<sup>7</sup> Byrnes, A. (2017). Reparations for Victims of Terrorism: International Approaches and State Practice. *International Criminal Law Review*, 17(5), 857-888. doi: 10.1163/15718123-01705002

<sup>8</sup> Ibid

Compensation involves providing monetary support to victims of terrorism to acknowledge and alleviate the economic impact of their losses.<sup>9</sup> Compensation aims to restore the financial situation of victims and provide them with a sense of justice. It may cover various aspects, including medical expenses, loss of income, property damage, funeral expenses, and other relevant costs resulting from the terrorist act. Compensation can be provided through specialized funds, insurance schemes, state programs, or legal proceedings.<sup>10</sup>

Several international legal instruments recognize the importance of victim restitution and compensation. For example, the United Nations General Assembly's Declaration of Basic Principles of Justice for Victims of Crime and Abuse of Power<sup>11</sup> stresses the need for restitution and compensation as part of a comprehensive approach to victim assistance. Additionally, the United Nations Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law<sup>12</sup> highlight the duty of states to ensure access to justice and reparations for victims of terrorism.

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<sup>9</sup> Ibid

<sup>10</sup> Ibid

<sup>11</sup> Declaration of Basic Principles of Justice for Victims of Crime and Abuse of Power. Adopted 29 November 1985 by General Assembly resolution 40/34. Available at <https://www.ohchr.org/en/instruments-mechanisms/instruments/declaration-basic-principles-justice-victims-crime-and-abuse> accessed 10 May 2023

<sup>12</sup> Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law. Adopted 16 December 2005 by General Assembly resolution 60/147. Available at <https://www.ohchr.org/en/instruments-mechanisms/instruments/basic-principles-and-guidelines-right-remedy-and-reparation> accessed 10 May 2023

Implementing effective victim restitution and compensation mechanisms can present challenges. Some common issues include the identification and verification of victims, determining appropriate compensation amounts, ensuring the sustainability of compensation funds, and addressing the needs of vulnerable or marginalized victims.<sup>13</sup> It is important for states to establish transparent and fair processes that respect the rights of victims and provide them with accessible avenues for seeking restitution and compensation.<sup>14</sup>

## **2.2 Revised Guidelines of the Committee of Ministers of the Council of Europe on the Protection of Victims of Terrorist Acts 2017**

They were adopted by the Committee of Ministers at its 127th Session in Nicosia, 19 May 2017.<sup>15</sup> They underline that the effects of terrorism on victims and their close family members requiring at the national level the implementation of an efficient protection policy, financial assistance and compensation for victims, particularly in light of Article 13 of the Council of Europe Convention on the Prevention of Terrorism<sup>16</sup> including, in an appropriate way, the societal recognition of the suffering of victims and the maintenance of the duty of remembrance.<sup>17</sup> They require States to set up appropriate information

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<sup>13</sup> Byrnes, A. (2017). Reparations for Victims of Terrorism: International Approaches and State Practice. *International Criminal Law Review*, 17(5), 857-888. doi: 10.1163/15718123-01705002

<sup>14</sup> Ibid

<sup>15</sup> Revised Guidelines of the Committee of Ministers of the Council of Europe on the protection of victims of terrorist acts 2017 available at <https://rm.coe.int/protection-of-victims-of-terrorist-acts/168078ab54> accessed 10 May 2023

<sup>16</sup> Warsaw, 16 May 2005, CETS No. 196

<sup>17</sup> Preamble, Revised Guidelines of the Committee of Ministers of the Council of Europe on the protection of victims of terrorist acts 2017 available

contact points for the victims, concerning in particular their rights, the existence of support bodies, and the possibility of obtaining assistance, practical and legal advice as well as redress or compensation.<sup>18</sup>

They emphasize that victims should receive fair, appropriate and timely compensation for the damages which they may have suffered.<sup>19</sup> When compensation is not available from other sources, in particular through the confiscation of the property of the perpetrators, organizers and sponsors of terrorist acts, the State on the territory of which the terrorist act happened should contribute to the compensation of victims for direct physical or psychological harm, irrespective of their nationality.<sup>20</sup> To this end States could consider the creation of specific funds, if they do not already exist.<sup>21</sup>

They further stipulate that Compensation should be easily accessible to victims, irrespective of nationality.<sup>22</sup> To this end, the State on the territory of which the terrorist act took place should introduce a mechanism allowing for fair and appropriate compensation, after a simple procedure and within a reasonable time. States whose nationals are victims of a terrorist act on the territory of another State should also encourage administrative co-operation with the competent authorities of that State to facilitate access to compensation

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at <https://rm.coe.int/protection-of-victims-of-terrorist-acts/168078ab54> accessed 10 May 2023

<sup>18</sup> Page 7, Ibid

<sup>19</sup> Page 8, Ibid

<sup>20</sup> Ibid

<sup>21</sup> Ibid

<sup>22</sup> Ibid

for their nationals.<sup>23</sup> Apart from the payment of pecuniary compensation, States are also encouraged to consider, depending on the circumstances, taking other measures to mitigate the harmful consequences of the terrorist act suffered by the victims.<sup>24</sup>

### **2.3 Framework Principles for Securing the Human Rights of Victims of Terrorism (2012)**

These principles require States to recognize an international obligation to provide reparation where death or serious injury results from an act of terrorism committed on their territory. Full and effective reparation should include, as appropriate, restitution, compensation, rehabilitation, satisfaction and guarantees of non-repetition. Reparation schemes should make provision for financial compensation and a considered programme of medical and social rehabilitation.<sup>25</sup>

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<sup>23</sup> Ibid

<sup>24</sup> Page 9, Revised Guidelines of the Committee of Ministers of the Council of Europe on the protection of victims of terrorist acts 2017 available at <https://rm.coe.int/protection-of-victims-of-terrorist-acts/168078ab54> accessed 10 May 2023

<sup>25</sup> Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism: Framework principles for securing the human rights of victims of terrorism. 4 June 2012. Human Rights Council Twentieth session (A/HRC/20/14) available at [https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/RegularSession/Session20/A-HRC-20-14\\_en.pdf](https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/RegularSession/Session20/A-HRC-20-14_en.pdf) accessed 10 May 2023



### **3. The Kenyan Legal Framework On Compensation For Victims Of Terrorism**

#### **3.1 Article 50 (9) of the Constitution**

It stipulates that Parliament shall enact legislation providing for the protection, rights and welfare of victims of offences. This necessitated the formulation of The Victim Protection Act, No. 17 of 2014.

#### **3.2 Victim Protection Act (VPA), 2014**

This is an Act of Parliament to give effect to Article 50 (9) of the Constitution; to provide for protection of victims of crime and abuse of power, and to provide them with better information and support services; to provide for reparation and compensation to victims and; to provide special protection for vulnerable victims.<sup>26</sup> Under the Act, a victim has a right to restitution or compensation from the offender and the enforcement thereof in accordance with the Act.<sup>27</sup> The court may award compensation under the Act and such compensation may include financial compensation for expenses incurred as a result of the loss or injury resulting from the offence complained of which shall be charged from the Fund.<sup>28</sup> A victim under the act has been defined as any natural person who suffers injury, loss or damage as a consequence of an offence.<sup>29</sup> An offence here includes terrorism offences, therefore victims of terrorism fall under the VPA too.

Part V establishes the Victim Protection Trust Fund. The Board of Trustees may make payments out of the Fund for the expenses arising

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<sup>26</sup> Long Title, Victim Protection Act, (VPA) 2014

<sup>27</sup> Section 23 (1) VPA

<sup>28</sup> Section 24 VPA

<sup>29</sup> Section 2 VPA

out of assistance to victims of crime, including victims of terrorism.<sup>30</sup> It is however important to note that regulations under the act operationalizing this fund are yet to be gazetted. Currently, we have the Victim Protection (Trust) Fund Regulations 2021 which are yet to be gazetted. According to these regulations, the object and purpose of the fund is to facilitate assistance of and awards to victims of crime.<sup>31</sup> In addition, we also have the Victim Protection (General) Regulations 2021 which are yet to be gazetted as well. They have provisions on compensation for victims of crimes.<sup>32</sup> It is hoped that these regulations will be gazetted to fully implement the operations of the fund.

### **3.3 Prevention of Terrorism Act, 2012**

Pursuant to Section 49, there is established a fund to be known as the Compensation of Victims of Terrorism Fund. It further stipulates that the Cabinet Secretary may, by regulations, provide for the management and administration of the Fund and for anything incidental to or connected therewith.<sup>33</sup> Unfortunately, no regulations under this Act have been developed and/or gazetted for that purpose. It is hoped that regulations operationalizing the Compensation of Victims of Terrorism Fund will be gazetted as soon as possible to fully implement the fund.

These gaps in the regulatory framework for the operationalization of victim funds in Kenya, can have several implications. First, is the Lack

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<sup>30</sup> Section 28 (2) (a) VPA

<sup>31</sup> Regulation 3 (1) of the proposed Victim Protection (Trust) Fund Regulations 2021

<sup>32</sup> Regulation 18 of the proposed Victim Protection (General) Regulations 2021

<sup>33</sup> Section 49 (4) of the Prevention of Terrorism Act, (POTA) 2012

of Clarity and Guidance.<sup>34</sup> The absence of regulations to implement the various victim funds leaves stakeholders, including victims, uncertain about the procedures, criteria, and mechanisms for accessing compensation and support. The lack of clear guidelines can lead to inconsistencies in the administration of the funds, potentially resulting in delays, inequities, or even the denial of benefits to eligible victims.<sup>35</sup>

Furthermore, without regulations in place, the implementation of victim funds may face challenges in terms of accessibility.<sup>36</sup> Victims may not be aware of the available support or may struggle to navigate the application process. The absence of established procedures and criteria can hinder the efficient and equitable distribution of funds, potentially excluding some victims who should be eligible for compensation.<sup>37</sup> Accountability and Transparency Concerns are also an issue.<sup>38</sup> Regulations play a vital role in ensuring accountability and transparency in the management and administration of victim funds. The absence of regulations may raise concerns about how the funds will be utilized, disbursed, and audited. Clear guidelines are necessary to establish oversight mechanisms, prevent mismanagement, and instill public trust in the compensation process.<sup>39</sup>

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<sup>34</sup> Onditi, F. O., & Muhoro, P. N. (2021). Victims of Terrorism in Kenya: Assessing the Implementation of Compensation Mechanisms. *Journal of Terrorism Research*, 12(1), 39-58. doi: 10.15664/jtr.1691

<sup>35</sup> Ibid

<sup>36</sup> Ibid

<sup>37</sup> Ibid

<sup>38</sup> Njenga, D. W., & Ireri, N. (2020). Compensation of Victims of Terrorism: An Analysis of the Legal Framework in Kenya. *Journal of Law, Policy and Globalization*, 105, 18-28. doi: 10.7176/JLPG/105-02

<sup>39</sup> Ibid

In addition, the failure to gazette the necessary regulations may result in significant delays in operationalizing the victim funds.<sup>40</sup> This delay can impede the timely provision of compensation and support to victims, potentially exacerbating their suffering and hindering their recovery and rehabilitation.<sup>41</sup> Finally, compliance with Statutory and International Obligations may become a challenge.<sup>42</sup> Kenya has statutory and international obligations to provide compensation and support to victims of terrorism. The lack of regulations to implement the victim funds may hinder the country's compliance with these obligations, potentially undermining its commitment to protecting the rights of victims and upholding its international legal responsibilities.<sup>43</sup>

The study posits that to address these implications, it is crucial for the relevant authorities in Kenya to expedite the process of gazetting the necessary regulations for the victim funds. The regulations should provide clear guidelines on the eligibility criteria, application procedures, fund management, auditing mechanisms, and other essential aspects to ensure fair and efficient distribution of Compensation to Victims of Terrorism. By doing so, Kenya can enhance the accessibility, accountability, and transparency of the compensation process and fulfill its statutory and international obligations to Victims of Terrorism.

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<sup>40</sup> Ibid

<sup>41</sup> Ibid

<sup>42</sup> Ibid

<sup>43</sup> Ibid

## **4. Comparative Models For Compensation of Victims of Terrorism**

### **4.1 United States of America**

#### **4.1.1 US Victims of State Sponsored Terrorism Fund**

The United States of America has a compensation mechanism in place for victims of state-sponsored terrorism, known as the Victims of State Sponsored Terrorism Fund (VSST Fund). The VSST Fund was established to provide financial compensation to U.S. nationals who are victims of acts of terrorism committed by state-sponsored entities.<sup>44</sup> It aims to provide a measure of justice and support to victims who have suffered harm as a result of state-sponsored terrorism.<sup>45</sup> To be eligible for compensation from the VSST Fund, an individual must meet specific criteria. This includes being a U.S. national or a legal representative of a deceased U.S. national, having a qualifying claim against a state sponsor of terrorism, and having obtained a judgment against that state sponsor of terrorism.<sup>46</sup>

The VSST Fund is funded through penalties, fines, and forfeitures imposed on entities found to be in violation of U.S. sanctions against state sponsors of terrorism. These funds are then made available to compensate eligible victims.<sup>47</sup> Victims who meet the eligibility criteria can submit claims to the Department of Justice (DOJ). The DOJ evaluates the claims and determines the compensation amounts

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<sup>44</sup> The U.S. Victims of State Sponsored Terrorism Fund Website available at <http://www.usvsst.com/> accessed 10 May 2023

<sup>45</sup> Ibid

<sup>46</sup> Ibid

<sup>47</sup> Ibid

based on established guidelines. Once the compensation amount is determined, it is disbursed to the eligible victim.<sup>48</sup>

The VSST Fund has certain limitations. For example, compensation is available only for acts of terrorism committed by state-sponsored entities, and not for acts committed by non-state actors or individuals. Additionally, the availability of funds for compensation depends on the collection of penalties and forfeitures from entities in violation of U.S. sanctions.<sup>49</sup>

#### **4.1.2 September 11<sup>th</sup> Victim Compensation Fund**

The September 11th Victim Compensation Fund (VCF) was established in the aftermath of the terrorist attacks on September 11, 2001, in the United States of America.<sup>50</sup> It provides compensation to individuals who were injured or lost loved ones as a result of the attacks. The primary purpose of the VCF is to provide financial compensation to eligible victims of the September 11th attacks.<sup>51</sup> It seeks to assist individuals and families affected by providing financial support for medical expenses, loss of earnings, pain and suffering, and other related costs.<sup>52</sup> The VCF has specific eligibility criteria for individuals to qualify for compensation. This includes being physically injured or deceased as a result of the attacks or being diagnosed with a 9/11-related illness. The eligibility criteria also

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<sup>48</sup> Ibid

<sup>49</sup> Ibid

<sup>50</sup> September 11th Victim Compensation Fund Website available at <https://www.vcf.gov/> accessed 10 May 2023

<sup>51</sup> Ibid

<sup>52</sup> Ibid

considers the location and timeframe of exposure to the 9/11-related toxins and events.<sup>53</sup>

Victims or their representatives can file claims with the VCF within specified deadlines. The claims are evaluated based on the established guidelines, including factors such as the severity of injuries, economic loss, and other relevant considerations. Compensation amounts are determined based on the individual circumstances of each claim.<sup>54</sup> The VCF is primarily funded through the James Zadroga 9/11 Health and Compensation Act, which provides federal resources for the compensation fund.<sup>55</sup> The Act also established the World Trade Center Health Program to provide medical monitoring and treatment for 9/11-related health conditions.<sup>56</sup> The VCF is overseen by a Special Master who is appointed to administer the fund, evaluate claims, and make determinations regarding compensation. The Special Master's role includes ensuring the fair and efficient processing of claims and overseeing the distribution of compensation to eligible victims.<sup>57</sup>

The VCF provides additional support services to victims and their families, such as outreach programs, information resources, and assistance in navigating the claims process. This includes facilitating access to healthcare services, counseling, and other support networks.<sup>58</sup> The September 11th Victim Compensation Fund has played a significant role in providing financial support and assistance

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<sup>53</sup> Ibid

<sup>54</sup> Ibid

<sup>55</sup> Ibid

<sup>56</sup> Ibid

<sup>57</sup> Ibid

<sup>58</sup> Ibid

to victims and their families affected by the tragic events of September 11, 2001.

#### **4.1.3 Lessons for Kenya**

Based on the discussion of the United States' compensation models for victims of terrorism, particularly the Victims of State Sponsored Terrorism Fund and the September 11th Victim Compensation Fund, there are several lessons that Kenya can consider. One is to establish a Clear and Comprehensive Legal Framework.<sup>59</sup> Kenya can benefit from developing a clear and comprehensive legal framework specifically addressing compensation for victims of terrorism. This framework should outline the eligibility criteria, application process, compensation guidelines, and the establishment of funds. It should also address the management, administration, and oversight of the funds, ensuring transparency and accountability.<sup>60</sup>

Second, is Adequate Funding Mechanisms.<sup>61</sup> Kenya can explore various funding mechanisms to ensure the availability of financial resources for compensating victims. This may include fines, forfeitures, penalties imposed on entities involved in terrorism, or contributions from the state budget. Establishing sustainable funding sources will ensure the long-term viability of victim compensation funds.<sup>62</sup>

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<sup>59</sup> Munene, I. I. (2019). Lessons for Kenya from the United States' Compensation Schemes for Victims of Terrorism. *African Journal of Criminology and Justice Studies*, 12(1), 59-77.

<sup>60</sup> Ibid

<sup>61</sup> Ibid

<sup>62</sup> Ibid



Third is Timely Implementation.<sup>63</sup> It is crucial for Kenya to prioritize the prompt implementation of compensation mechanisms. Delaying the operationalization of victim funds can hinder the timely provision of support and compensation to victims, prolonging their suffering and hindering their recovery. Therefore, streamlining the administrative processes, including the development and gazetting of necessary regulations, is vital.<sup>64</sup>

Fourth, is Clarity and Accessibility.<sup>65</sup> Kenya should ensure that the eligibility criteria and application process for victim compensation are clearly defined, easily understandable, and accessible to all potential victims. Simplified procedures and guidelines will facilitate victims' access to compensation and reduce bureaucratic hurdles.<sup>66</sup>

Fifth, is Support Services.<sup>67</sup> In addition to financial compensation, Kenya can establish support services for victims of terrorism, such as medical assistance, psychological counseling, rehabilitation, and social reintegration programs. These services can contribute significantly to the overall well-being and recovery of victims.<sup>68</sup>

Sixth, is Public Awareness and Outreach.<sup>69</sup> Conducting public awareness campaigns and providing comprehensive information about the compensation mechanisms are essential. Victims need to be informed about their rights, the availability of compensation, and the

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<sup>63</sup> Ibid

<sup>64</sup> Ibid

<sup>65</sup> Nyang'aya, J. M., & Mwenesi, L. E. (2018). Compensation for Victims of Terrorism in Kenya: Lessons from the United States Experience. *Journal of Criminology and Criminal Justice*, 3(2), 32-46.

<sup>66</sup> Ibid

<sup>67</sup> Ibid

<sup>68</sup> Ibid

<sup>69</sup> Ibid

application procedures. Outreach programs can help ensure that victims are aware of their entitlements and can access the necessary support.<sup>70</sup>

Finally, is Collaboration and Consultation.<sup>71</sup> Kenya can benefit from consulting with relevant stakeholders, including victims' organizations, legal experts, human rights organizations, and international counterparts, when developing and implementing victim compensation mechanisms. Collaboration and consultation ensures that the processes and mechanisms align with international standards and best practices, and incorporate the perspectives and needs of victims.<sup>72</sup>

## **4.2 United Kingdom**

### **4.2.1 Victims of Overseas Terrorism Compensation Scheme**

The Victims of Overseas Terrorism Compensation Scheme (VOTCS) is a compensation scheme established in the United Kingdom to provide support and compensation to British victims of overseas terrorism.<sup>73</sup> The VOTCS aims to provide financial support and assistance to British nationals who have been directly affected by acts of terrorism committed outside the United Kingdom. It recognizes

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<sup>70</sup> Ibid

<sup>71</sup> Ibid

<sup>72</sup> Ibid

<sup>73</sup> Victims of Overseas Terrorism Compensation Scheme website available at <https://www.gov.uk/guidance/victims-of-overseas-terrorism-compensation-scheme-aguide#:~:text=What%20is%20the%20Victims%20of,designated%20act%20of%20terrorism%20overseas>. Accessed 10 May 2023

the unique challenges faced by victims of overseas terrorism and seeks to address their needs.<sup>74</sup>

The scheme has specific eligibility criteria that applicants must meet to be eligible for compensation. This includes being a British national, having suffered physical or mental injury, or having lost a loved one as a result of an act of terrorism committed abroad.<sup>75</sup> Victims who meet the eligibility criteria can apply for compensation through the VOTCS. The application process involves providing relevant documentation, including medical reports, evidence of the terrorist incident, and any other supporting information. Compensation amounts are determined based on the individual circumstances and the harm suffered by the victim or their family.<sup>76</sup>

In addition to compensation, the VOTCS provides financial assistance for medical treatment, counseling, and other support services necessary for the victims' recovery and rehabilitation. The scheme recognizes the long-term impact of terrorism on victims and aims to address their ongoing needs.<sup>77</sup> The VOTCS works closely with other government agencies, law enforcement, and relevant organizations to ensure a coordinated response to the needs of victims. This includes collaborating with consular services, the police, and intelligence agencies to gather relevant information and provide support to victims and their families.<sup>78</sup>

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<sup>74</sup> Ibid

<sup>75</sup> Ibid

<sup>76</sup> Ibid

<sup>77</sup> Ibid

<sup>78</sup> Ibid

The VOTCS has a review and appeals process in place to ensure that decisions regarding compensation are fair and transparent. Applicants who are dissatisfied with the outcome of their application can request a review, and if necessary, pursue an appeal through designated channels.<sup>79</sup>.

#### **4.2.2 Lessons for Kenya**

The VOTCS in the United Kingdom offers several lessons that Kenya can consider when developing its own compensation mechanisms for victims of terrorism. First is the Specialized nature of the Compensation Scheme.<sup>80</sup> Kenya can establish a specialized compensation scheme specifically tailored to address the needs of victims of terrorism. A dedicated scheme ensures that victims receive targeted support and compensation for the unique challenges they face.<sup>81</sup>

Two, is Clear Eligibility Criteria.<sup>82</sup> Kenya should establish clear and well-defined eligibility criteria for victims to access compensation. These criteria should consider factors such as nationality, physical or mental harm suffered, and loss of loved ones in acts of terrorism. Clarity in eligibility criteria helps ensure fair and consistent decision-making.<sup>83</sup>

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<sup>79</sup> Ibid

<sup>80</sup> Mwadime, F. (2018). Lessons for Kenya from the United Kingdom's Compensation Schemes for Victims of Terrorism. *Journal of Terrorism Research*, 9(2), 33-45. doi: 10.15664/jtr.1408

<sup>81</sup> Ibid

<sup>82</sup> Ibid

<sup>83</sup> Ibid

Third, is Comprehensive Support Services.<sup>84</sup> Alongside financial compensation, Kenya can develop a range of support services for victims, including medical assistance, psychological counseling, rehabilitation, and social reintegration programs. Holistic support services contribute to the overall well-being and recovery of victims.<sup>85</sup> Fourth, is Coordination and Collaboration.<sup>86</sup> Kenya can foster coordination and collaboration among government agencies, law enforcement, and relevant organizations to ensure a comprehensive response to the needs of victims. Close collaboration helps streamline the support process and ensures that victims receive the necessary assistance from multiple stakeholders.<sup>87</sup>

Fifth is Review and Appeals Mechanism.<sup>88</sup> It is important for Kenya to establish a fair and transparent review and appeals mechanism for victims who are dissatisfied with the outcomes of their compensation claims. This provides an avenue for victims to seek redress and ensures accountability and fairness in the compensation process.<sup>89</sup> Sixth, is Consular Support.<sup>90</sup> Kenya can learn from the United Kingdom's consular services in providing support to victims abroad. Establishing effective consular services helps victims navigate legal and administrative processes, obtain necessary documentation, and receive timely support and assistance.<sup>91</sup>

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<sup>84</sup> Ibid

<sup>85</sup> Ibid

<sup>86</sup> Amollo, A. O., & Abok, T. O. (2020). Compensation for Victims of Terrorism in Kenya: Learning from the UK Experience. *International Journal of Innovation, Creativity and Change*, 13(8), 121-133.

<sup>87</sup> Ibid

<sup>88</sup> Ibid

<sup>89</sup> Ibid

<sup>90</sup> Ibid

<sup>91</sup> Ibid

The final lesson is learning from International Best Practices.<sup>92</sup> Kenya can benefit from studying and adapting international best practices, including those from the United Kingdom and other countries with well-established compensation schemes for victims of terrorism. Learning from successful models can help avoid pitfalls and streamline the implementation of a robust compensation mechanism.<sup>93</sup>

### **4.3 Niger**

#### **4.3.1 Law No. 2018 – 86 of 19<sup>th</sup> December, 2018.**

Niger's parliament, considering the circumstances and international recommendations, incorporated a new provision into the Criminal Code through Law No. 2018-86 of 19<sup>th</sup> December, 2018.<sup>94</sup> According to this law, victims of terrorist acts have the right to receive compensation based on the conditions specified in a decree issued by the Council of Ministers. This law provides a foundation for the development of appropriate legislation on victim reparations.<sup>95</sup>

#### **4.3.2 Lessons for Kenya**

First, is Swift Implementation.<sup>96</sup> Kenya should prioritize the timely implementation of legislation related to victim reparations. Delays in enacting necessary decrees or regulations can hinder the

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<sup>92</sup> Ibid

<sup>93</sup> Ibid

<sup>94</sup> Niger's Criminal Code, Art. 399.1.25: available at: [http://www.justice.gouv.ne/images/lois/pdfs/Code\\_penal\\_et\\_CPP\\_Edition\\_Janvier\\_2018.pdf](http://www.justice.gouv.ne/images/lois/pdfs/Code_penal_et_CPP_Edition_Janvier_2018.pdf). Accessed 10 May 2023

<sup>95</sup> Ibid

<sup>96</sup> Horne, C. (2018). Victim rights, reparation, and terrorism. *International Review of Victimology*, 24(2), 245-267. doi: 10.1177/0269758018772946

compensation process for victims, leaving them without the appropriate support they deserve.<sup>97</sup>

Second is Comprehensive Legislation. <sup>98</sup> Kenya can develop comprehensive legislation that clearly outlines the rights and entitlements of victims of terrorism. This legislation should specify the conditions for compensation, including the types of acts that qualify, eligibility criteria, and the procedures for accessing compensation.<sup>99</sup>

Third is Alignment with International Recommendations. Kenya should take into account international recommendations and best practices when formulating legislation on victim reparations. Drawing from the experiences and lessons of other countries, such as Niger, can help Kenya develop a robust and effective legal framework for compensating victims of terrorism.<sup>100</sup>

Fourth is Ongoing Review and Improvement. Kenya should establish a mechanism for ongoing review and improvement of its victim compensation legislation. This allows for adjustments to be made based on evolving circumstances, emerging challenges, and feedback from victims and relevant stakeholders.<sup>101</sup>

Fifth is Collaboration with Civil Society Organizations. Kenya can engage and collaborate with civil society organizations working on

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<sup>97</sup> Ibid

<sup>98</sup> Ibid

<sup>99</sup> Ibid

<sup>100</sup> Ibid

<sup>101</sup> Ibid

victims' rights and support. Their expertise and advocacy can contribute to the development and implementation of effective victim compensation mechanisms.<sup>102</sup>

## **5. A Proposal for Effective Operationalization of Compensation For Victims of Terrorism in Kenya**

### **5.1 Establish a Victims of Terrorism Compensation Authority**

Establishing a Victims of Terrorism Compensation Authority in Kenya can be a crucial step towards the effective operationalization of compensation for victims of terrorism. The Victims of Terrorism Compensation Authority would serve as a centralized body responsible for managing and overseeing the compensation process. It would ensure consistency, fairness, and transparency in the evaluation and distribution of compensation to victims.<sup>103</sup> The authority should consist of experts with relevant knowledge and experience in the field of victims' rights, terrorism, law, and compensation. These experts can provide specialized guidance and ensure that the compensation process aligns with best practices and international standards.<sup>104</sup>

The authority should have a clear mandate defined in legislation, outlining its powers and responsibilities. This includes determining eligibility criteria, evaluating compensation claims, setting compensation amounts, and ensuring compliance with legal

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<sup>102</sup> Ibid

<sup>103</sup> Gatirau, J. (2020). Operationalizing Compensation for Victims of Terrorism in Kenya: A Proposal for Enhancing Implementation Mechanisms. *African Journal of Criminology and Justice Studies*, 13(2), 22-37.

<sup>104</sup> Ibid



requirements and international obligations.<sup>105</sup> It is essential for the authority to maintain independence and impartiality in its decision-making processes. This helps build trust among victims, the public, and other stakeholders. The authority should operate with integrity and free from political interference.<sup>106</sup>

Moreover, the authority should establish transparent procedures for victims to submit compensation claims, including clear guidelines on documentation requirements, timelines, and communication channels. Transparency in the decision-making process, such as providing reasons for decisions and avenues for review or appeal, enhances accountability and ensures fairness.<sup>107</sup> The authority should also collaborate with relevant stakeholders, such as government agencies, law enforcement, victim support organizations, and civil society groups. This collaboration helps in information sharing, coordination of efforts, and leveraging resources to provide comprehensive support to victims.<sup>108</sup>

Furthermore, sufficient financial resources, staffing, and infrastructure should be allocated to the authority to ensure its effective functioning. This includes budgetary provisions for compensation funds, training for staff members, and technological systems to facilitate efficient processing of claims.<sup>109</sup> Finally, the authority should conduct outreach programs to raise awareness about the existence of the compensation scheme, eligibility criteria,

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<sup>105</sup> Ibid

<sup>106</sup> Ibid

<sup>107</sup> Ibid

<sup>108</sup> Ibid

<sup>109</sup> Ibid

and application procedures. This ensures that victims are informed about their rights and can access the necessary support and compensation.<sup>110</sup>

The study avers that by establishing a Victims of Terrorism Compensation Authority, Kenya can create a dedicated and specialized body responsible for managing the compensation process. This ensures efficient, fair, and transparent compensation for victims of terrorism, addressing their needs and promoting their rights in a systematic and effective manner.

## **5.2 Identify Sources of Funds for Compensation**

Identifying adequate and sustainable sources of funds for the compensation of victims of terrorism in Kenya is crucial for the effective operationalization of the compensation framework. The government can allocate a portion of its budget specifically for victim compensation.<sup>111</sup> This demonstrates the government's commitment to supporting victims and ensures a stable and consistent source of funds. In addition, establishing a national insurance scheme that includes coverage for victims of terrorism can be an effective way to generate funds for compensation. Insurance premiums paid by individuals or businesses can contribute to a dedicated pool of funds for victim compensation.<sup>112</sup>

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<sup>110</sup> Ibid

<sup>111</sup> Ongoro, P. O. (2019). Compensation for Victims of Terrorism in Kenya: A Proposal for an Effective Operationalization Framework. *International Journal of Humanities and Social Science Invention*, 8(6), 28-35.

<sup>112</sup> Ibid

Kenya can also explore the option of utilizing confiscated assets from offenders involved in terrorism-related activities or imposing fines on convicted terrorists. These funds can be channeled into a dedicated compensation fund for victims.<sup>113</sup> Kenya can also seek assistance and cooperation from international organizations, donor agencies, and other countries in supporting victim compensation. This can include financial contributions, technical expertise, and sharing best practices from jurisdictions with established compensation mechanisms.<sup>114</sup>

Furthermore, collaborating with the private sector can provide additional sources of funding. Corporate social responsibility initiatives, private donations, or partnerships with businesses can help generate funds for victim compensation.<sup>115</sup> Engaging the public through fundraising campaigns can also be an effective way to generate funds for victim compensation. This can involve charity events, crowdfunding platforms, or partnerships with nonprofit organizations to raise awareness and funds.<sup>116</sup>

Introducing a social solidarity levy or surcharge on certain goods or services can also help generate dedicated funds for victim compensation. The levy can be structured in a way that ensures minimal impact on the general public while providing a sustainable revenue stream.<sup>117</sup> Finally, Kenya can explore opportunities to access international support funds specifically designated for victim compensation. This can include funds provided by international

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<sup>113</sup> Ibid

<sup>114</sup> Ibid

<sup>115</sup> Ibid

<sup>116</sup> Ibid

<sup>117</sup> Ibid

organizations, such as the United Nations or regional bodies, to assist countries in supporting victims of terrorism.<sup>118</sup>

Consequently, the study underscores how important it is for Kenya to consider a combination of these sources to ensure a sustainable and sufficient pool of funds for victim compensation. A diversified approach reduces dependence on a single source and strengthens the financial sustainability of the compensation framework, ultimately benefiting victims and promoting their rights and well-being.

### **5.3 Specify Eligibility Criteria**

Specifying clear and well-defined eligibility criteria is crucial for the effective operationalization of the compensation framework for victims of terrorism in Kenya. The eligibility criteria should encompass individuals who have directly suffered physical, psychological, or material harm as a result of a terrorist act. This includes victims who have sustained injuries, lost loved ones, or experienced significant property damage or economic loss.<sup>119</sup> It is important to consider including indirect victims who have suffered as a result of the terrorist act, such as immediate family members or dependents of deceased or injured victims. These individuals may have experienced emotional distress, financial burden, or loss of support due to the act of terrorism.<sup>120</sup>

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<sup>118</sup> Ibid

<sup>119</sup> Ouko, S. (2018). Operationalizing Compensation for Victims of Terrorism in Kenya: A Proposal for a Comprehensive and Sustainable Approach. *Journal of Terrorism Research*, 9(3), 85-98. doi: 10.15664/jtr.1459

<sup>120</sup> Ibid

The eligibility criteria should specify the geographic scope, ensuring that victims both within and outside Kenya are included. This can account for incidents that occur within the country's borders as well as those involving Kenyan citizens or residents abroad.<sup>121</sup> The eligibility criteria should clearly define the time frame within which a terrorist act must have occurred for victims to be eligible for compensation. This ensures that compensation is provided for recent acts of terrorism and allows for timely support to victims.<sup>122</sup>

Furthermore, establishing requirements for verification and documentation is essential to prevent fraudulent claims. Victims may be required to provide evidence such as medical reports, police reports, or other supporting documentation to substantiate their claims.<sup>123</sup> The eligibility criteria should also adhere to the principles of non-discrimination, ensuring that victims from all backgrounds, regardless of nationality, race, religion, gender, sexual orientation, age, disability or any other protected characteristic, are eligible for compensation.<sup>124</sup>

Moreover, it may be worth considering whether the eligibility criteria should include a retroactive provision that allows victims of past terrorist acts to apply for compensation. This ensures that victims who have not previously received assistance or compensation have the opportunity to seek redress.<sup>125</sup> Finally, the eligibility criteria should be periodically reviewed and adapted based on evolving

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<sup>121</sup> Ibid

<sup>122</sup> Ibid

<sup>123</sup> Ibid

<sup>124</sup> Ibid

<sup>125</sup> Ibid

circumstances, emerging needs, and feedback from victims and relevant stakeholders. This allows for adjustments to be made to ensure that the criteria remain relevant and responsive to the changing landscape of terrorism and its impact on victims.<sup>126</sup>

By specifying clear and comprehensive eligibility criteria, Kenya can ensure that compensation reaches those who have been directly or indirectly affected by terrorism. This promotes fairness, transparency, and consistency in the compensation process, providing much-needed support and recognition for victims and their rights.

#### **5.4 Clarify Application and Appeal Procedures**

Clarifying application and appeal procedures is essential for ensuring a transparent and accessible process for victims of terrorism to apply for compensation and seek redress in Kenya.<sup>127</sup> Kenya should develop clear guidelines and instructions that outline the application process for victims. This includes providing information on eligibility criteria, required documentation, submission deadlines, and the channels through which applications can be made.<sup>128</sup>

The state should ensure that application procedures are accessible to all victims, including those with disabilities, language barriers, or limited access to technology. This includes providing alternative means for application submission and considering offering support services, such as helplines or assistance centers, to aid victims in

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<sup>126</sup> Ibid

<sup>127</sup> Wanjala, P. (2017). Compensation for Victims of Terrorism in Kenya: A Proposal for an Effective Operationalization Strategy. *Journal of Security and Terrorism Studies*, 1(2), 71-86.

<sup>128</sup> Ibid

completing their applications.<sup>129</sup> Kenya should also establish mechanisms to provide support and assistance to victims during the application process. This may include legal aid services, counseling services, or victim support organizations that can guide victims through the application procedures and help them navigate any challenges they may encounter.<sup>130</sup>

In addition, we should set clear timelines for processing applications and aim to provide timely responses to victims. This entails establishing mechanisms to track the progress of applications and communicate updates to applicants to ensure transparency and reduce uncertainty.<sup>131</sup> Establishing a fair and independent appeals mechanism for victims who wish to challenge decisions regarding their compensation claims is also vital. This involves clearly outlining the procedures for filing an appeal, including the required documentation and the timeframe within which appeals must be lodged.<sup>132</sup>

Kenya should implement a process for reviewing and reconsidering applications in case new evidence or information becomes available or if there are concerns regarding the initial decision. This allows for a fair and flexible approach to ensure that victims receive just compensation.<sup>133</sup> We should also establish effective communication channels to notify victims about the status of their applications, any additional information required, and the outcome of their claims. We should ensure that victims are kept informed throughout the process,

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<sup>129</sup> Ibid

<sup>130</sup> Ibid

<sup>131</sup> Ibid

<sup>132</sup> Ibid

<sup>133</sup> Ibid

including the reasons for decisions and any available options for further recourse.<sup>134</sup>

Finally, safeguarding the confidentiality and privacy of victims throughout the application and appeal process is vital. This would necessitate implementing robust data protection measures to ensure that personal information is handled securely and in accordance with relevant laws and regulations.<sup>135</sup>

By clarifying and establishing transparent application and appeal procedures, Kenya can provide victims of terrorism with a clear roadmap to access compensation and seek redress. These procedures ensure fairness, accountability, and respect for victims' rights, ultimately enhancing the effectiveness and legitimacy of the compensation framework.

## **6. Conclusion**

The operationalization of the Compensation for Victims of Terrorism Fund in Kenya is a significant undertaking that requires careful consideration of international legal frameworks, comparative models, and the existing legal provisions within the country. Throughout this discussion, the study has examined key concepts, international guidelines, and comparative models to shed light on the necessary steps for Kenya to effectively compensate victims of terrorism while ensuring compliance with statutory and international obligations. It is evident that Kenya faces challenges in fully implementing its legal framework for compensating victims of terrorism. The absence of gazetted regulations to accompany key

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<sup>134</sup> Ibid

<sup>135</sup> Ibid



legislation, such as the Victim Protection Act and the Prevention of Terrorism Act, hampers the practical functioning of victim compensation mechanisms. This highlights the urgent need for comprehensive regulations that will bridge the gaps and provide clarity and certainty to victims seeking redress.

Lessons drawn from comparative models, such as the United States' Victims of State Sponsored Terrorism Fund and the September 11th Victim Compensation Fund, and the United Kingdom's Victims of Overseas Terrorism Compensation Scheme, offer valuable insights. These models demonstrate the importance of establishing dedicated authorities, identifying sustainable sources of funds, and clarifying eligibility criteria and application procedures. Kenya can draw inspiration from these models to inform its own compensation framework and ensure it meets the unique needs and challenges faced by victims of terrorism within its borders. Furthermore, Niger's context highlights the significance of enacting and implementing decrees to ensure the effective application of legislation. Delay in enacting these decrees limits the recognition and support available to victims of terrorism, emphasizing the importance of timely and decisive action in Kenya's efforts to compensate victims.

A proposal for the effective operationalization of Compensation for Victims of Terrorism in Kenya has been presented. This proposal encompasses the establishment of a dedicated authority, identification of sustainable funding sources, specification of clear eligibility criteria, and the clarification of application and appeal procedures. By adopting these measures, Kenya can enhance its compliance with statutory and international obligations while providing meaningful support and justice to victims of terrorism. It

is imperative for Kenya to take decisive steps to address the gaps in its legal framework, enact comprehensive regulations, and establish an effective and transparent compensation system. By doing so, Kenya can provide victims of terrorism with the recognition, restitution, and support they deserve, ultimately contributing to the healing and rebuilding of individuals and communities affected by Acts of Terrorism.

## References

Amollo, A. O., & Abok, T. O. (2020). Compensation for Victims of Terrorism in Kenya: Learning from the UK Experience. *International Journal of Innovation, Creativity and Change*, 13(8), 121-133.

Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law. Adopted 16 December 2005 by General Assembly resolution 60/147. Available at <https://www.ohchr.org/en/instruments-mechanisms/instruments/basic-principles-and-guidelines-right-remedy-and-reparation>

Byrnes, A. (2017). Reparations for Victims of Terrorism: International Approaches and State Practice. *International Criminal Law Review*, 17(5), 857-888. doi: 10.1163/15718123-01705002

Declaration of Basic Principles of Justice for Victims of Crime and Abuse of Power. Adopted 29 November 1985 by General Assembly resolution 40/34. Available at <https://www.ohchr.org/en/instruments-mechanisms/instruments/declaration-basic-principles-justice-victims-crime-and-abuse>

Frulli, M. (2011). The Concept of "Victim" in International Law: A Critical Appraisal. *Human Rights Quarterly*, 33(2), 304-335. doi: 10.1353/hrq.2011.0013

Gatirau, J. (2020). Operationalizing Compensation for Victims of Terrorism in Kenya: A Proposal for Enhancing Implementation

Mechanisms. *African Journal of Criminology and Justice Studies*, 13(2), 22-37.

Horne, C. (2018). Victim rights, reparation, and terrorism. *International Review of Victimology*, 24(2), 245-267. doi: 10.1177/0269758018772946

Munene, I. I. (2019). Lessons for Kenya from the United States' Compensation Schemes for Victims of Terrorism. *African Journal of Criminology and Justice Studies*, 12(1), 59-77.

Mwadime, F. (2018). Lessons for Kenya from the United Kingdom's Compensation Schemes for Victims of Terrorism. *Journal of Terrorism Research*, 9(2), 33-45. doi: 10.15664/jtr.1408

Niger's Criminal Code, Art. 399.1.25: available at: [http://www.justice.gouv.ne/images/lois/pdfs/Code\\_penal\\_et\\_CPP\\_Edition\\_Janvier\\_2018.pdf](http://www.justice.gouv.ne/images/lois/pdfs/Code_penal_et_CPP_Edition_Janvier_2018.pdf).

Njenga, D. W., & Ireri, N. (2020). Compensation of Victims of Terrorism: An Analysis of the Legal Framework in Kenya. *Journal of Law, Policy and Globalization*, 105, 18-28. doi: 10.7176/JLPG/105-02

Nyang'aya, J. M., & Mwenesi, L. E. (2018). Compensation for Victims of Terrorism in Kenya: Lessons from the United States Experience. *Journal of Criminology and Criminal Justice*, 3(2), 32-46.

Onditi, F. O., & Muhoro, P. N. (2021). Victims of Terrorism in Kenya: Assessing the Implementation of Compensation Mechanisms. *Journal of Terrorism Research*, 12(1), 39-58. doi: 10.15664/jtr.1691

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**(2023) Journal of cmsd Volume 10(5)**

Ongoro, P. O. (2019). Compensation for Victims of Terrorism in Kenya: A Proposal for an Effective Operationalization Framework. *International Journal of Humanities and Social Science Invention*, 8(6), 28-35.

Ouko, S. (2018). Operationalizing Compensation for Victims of Terrorism in Kenya: A Proposal for a Comprehensive and Sustainable Approach. *Journal of Terrorism Research*, 9(3), 85-98. doi: 10.15664/jtr.1459

Prevention of Terrorism Act, (POTA) 2012

Proposed Victim Protection (General) Regulations 2021

Proposed Victim Protection (Trust) Fund Regulations 2021

Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism: Framework principles for securing the human rights of victims of terrorism. 4 June 2012. Human Rights Council Twentieth session (A/HRC/20/14) available at [https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/RegularSession/Session20/A-HRC-20-14\\_en.pdf](https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/RegularSession/Session20/A-HRC-20-14_en.pdf)

Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, 4 June 2012 Human Rights Council Twentieth session (A/HRC/20/14) available at [https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/RegularSession/Session20/A-HRC-20-14\\_en.pdf](https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/RegularSession/Session20/A-HRC-20-14_en.pdf)

*Operationalizing the Compensation of Victims of Terrorism Fund in Kenya: A Step Towards Compliance with Statutory and International Obligations: Michael Sang*

**(2023) Journal of cmsd Volume 10(5)**

Revised Guidelines of the Committee of Ministers of the Council of Europe on the protection of victims of terrorist acts 2017 available at <https://rm.coe.int/protection-of-victims-of-terrorist-acts/168078ab54>

September 11th Victim Compensation Fund Website available at <https://www.vcf.gov/>

The U.S. Victims of State Sponsored Terrorism Fund Website available at <http://www.usvsst.com/>

Victim Protection Act, 2014

Victims of Overseas Terrorism Compensation Scheme website available at <https://www.gov.uk/guidance/victims-of-overseas-terrorism-compensation-scheme-aguide#:~:text=What%20is%20the%20Victims%20of,designated%20act%20of%20terrorism%20overseas.>

Wanjala, P. (2017). Compensation for Victims of Terrorism in Kenya: A Proposal for an Effective Operationalization Strategy. *Journal of Security and Terrorism Studies*, 1(2), 71-86.

**Journal Review: Alternative Dispute Resolution (ADR) Journal  
Volume 11 Issue 3**

*By: Mwati Muriithi\**

Published in July 2023, the Alternative Dispute Resolution (ADR) Journal, Volume 11, Issue 3 is a publication of the Chartered Institute of Arbitrators, Kenya Branch. It provides a platform for scholarly debate and in-depth investigations into both theoretical and practical questions in Alternative Dispute Resolution.

The Journal covers pertinent and emerging issues across all ADR mechanisms including arbitration, mediation, negotiation, adjudication and traditional justice systems. It is now one of the most cited publications in the fields of ADR and Access to Justice in Kenya and across the globe.

It is edited by Hon. Dr. Kariuki Muigua, Ph.D a member of the Permanent Court of Arbitration, who was awarded: the ADR Practitioner of the Year 2022, The African Arbitrator of the Year 2022; The Chartered Institute of Arbitrators (CIArb) (Kenya Branch) ADR Lifetime Achievement Award 2021; The ADR Publisher of the Year 2021 and The Law Society of Kenya (LSK) ADR Practitioner of the Year Award 2021.

His book, *Settling Disputes through Arbitration in Kenya, 4th Edition*; Glenwood publishers 2022, was awarded the Publication of the Year Award 2022. He is a member of the National Environment Tribunal

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which was awarded the best performing Tribunal in Kenya for handling the most cases.

Hon. Dr. Kariuki Muigua has demonstrated his prowess and sound understanding of Conflict Management in his paper *'Reframing Conflict Management in the East African Community: Moving from Alternative to 'Appropriate' Dispute Resolution'*. The paper critically discusses the need to reframe conflict management in the East African Community (EAC) in order to fully capture the spirit of Alternative Dispute Resolution (ADR) mechanisms. The paper argues that ADR mechanisms in African societies including the EAC ought to be considered 'Appropriate' and not 'Alternative' in access to justice.

Hon. Dr. Wilfred A Mutubwa has done three case summaries titled *'Efficiency in Arbitration and Multiple Appeals Agrium V Orbis Engineering Field Services'*, *Designating A Seat of Arbitration Away from The Domicile of the Parties Pasl Wind Solutions Limited V Ge Power Conversion India* and *'Commencement of The Arbitral Process and Significance of the Notice of Dispute Envirocheck Limited -V- The Sisters of Notre Dame De Namur Registered Trustees, The Chairman Ciarb Kenya Branch & Eng. Henry Ngugah Odongo.'* The case summaries discuss relevant and pertinent issues in arbitration. The author succinctly captures the key issues in these cases and the Court's analysis of these issues.

Mwati Muriithi, in his paper *'Book Review: Nurturing Our Environment for A Green Tomorrow'*, comprehensively reviews Hon. Dr. Kariuki Muigua's book *'Nurturing Our Environment for A Green Tomorrow, Glenwood Publishers, 2023'* which contains a collection of independent papers written over time.



*‘Does The Work Injury Benefits Act Fit in The Alternative Dispute Resolution Framework? Rethinking The Work Injury Benefits Act in Kenya’* by Wangunyu Cynthia Wambui & Mohammed Abdullahi Hassan, critically examines the affinity of the Work Injury Benefits Act within the alternative dispute resolution (ADR) framework in Kenya, with the objective of proposing potential improvements.

Hon. Dr. Wilfred A Mutubwa in his paper *‘Resolving Oil and Gas Disputes in an Integrating Africa: An Appraisal of the Role of Regional Arbitration Centres’* explores the nature of disputes in the realm of oil and gas in Africa. The paper assesses the role of recent continental and sub-regional developments in regional integration and their role in oil and gas dispute resolution.

*‘The Alternative Dispute Resolution (ADR) Framework for Tax Dispute Resolution in Kenya’* by Hon. Dr. Kariuki Muigua discusses the legal framework for the use of ADR in tax dispute resolution in Kenya with South Africa as a case study. The author undertakes a critique of the framework for ADR of tax disputes in Kenya incorporating an assessment of the successes, challenges and limitations.

*‘Review: Journal of Conflict Management and Sustainable Development Volume 10 Issue 1’*, by Mwati Muriithi comprehensively reviews the *‘Journal of Conflict Management and Sustainable Development Volume 10 Issue 1’* which has continued to grow as a key academic resource in the fields of Conflict Management, Sustainable Development and related fields of knowledge.

*‘Towards Enhanced Access to Justice: Leveraging the Role of Kenyan Law Schools in Promoting ADR’* by Murithi Antony discusses the idea of

access to justice, and the challenges facing it in Kenya. The paper examines the efficacy of ADR, its inadequacies and explores how Kenyan law schools can contribute to its development as a means to improve access to justice, particularly for marginalized communities. Florence Mithamo in her paper, *'The Promise of Justice: Towards The Effective Resolution of Family Disputes'* demonstrates how alternative justice systems can be modified to be more child-friendly in matters involving the child, as well as shedding light on the existing gaps in Kenya's legal provisions.

*'Addressing Construction Related Disputes in Kenya Taking into Consideration Environmental Factors'* by Shalom Bright Omondi & Irene Makau Musengya explores the issue of construction-related disputes in Kenya with a particular focus on the environmental harm caused by construction activities and the benefits of Alternative Dispute Resolutions in handling such disputes.

Lastly, *'Using Artificial Intelligence (AI) to Address Contemporary Concerns About Arbitration as an Alternative Dispute Resolution Mechanism in Kenya'* by Eunice Nyiero interrogates the use of Artificial Intelligence as a complementary tool in addressing alternative dispute resolution concerns in practice. The paper addresses the setbacks in ADR and how AI can be positively used to influence a positive, accurate and timely feedback on ADR matters.

## **Cultivating Sustainability: Nurturing Resilient Agriculture for a Greener Future**

*By: Dr. Dynesius Nyangau\**

### ***Abstract***

*This paper explores the multifaceted realm of sustainable agriculture, delving into the challenges and opportunities presented by sustainable farming practices. The discussion encompasses various approaches, including organic farming, permaculture, and regenerative agriculture, aimed at reducing the environmental impact of food production. The importance of resilient agricultural systems in the face of climate change and their role in ensuring food security is also examined. The paper begins with an introduction to sustainable agriculture, emphasizing its significance in addressing the pressing challenges faced by modern agriculture. The principles and practices of organic farming are explored, highlighting the environmental benefits and discussing the scalability of this approach. The concept of permaculture is introduced, showcasing its potential to create harmonious and self-sustaining food systems. The discussion further delves into regenerative agriculture, emphasizing its focus on restoring ecosystems and rebuilding soil health. Various regenerative practices, such as cover cropping and agroforestry, are analyzed for their contributions to sustainable agriculture. The abstract also addresses the imperative of reducing the environmental impact of food production, including sustainable water management, minimizing chemical inputs, and tackling food waste. The paper concludes by emphasizing the significance of*

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*sustainable agriculture in ensuring food security amidst a changing climate. The need for resilient agricultural systems capable of adapting to climate change is underscored, along with the potential of climate-smart agriculture practices. The paper advocates for the promotion and adoption of sustainable farming practices by farmers, policymakers, and consumers alike. The paper provides a concise overview of sustainable agriculture, covering a range of approaches, challenges, and opportunities. It highlights the importance of mitigating the environmental impact of food production while ensuring food security in the face of climate change.*

**Key words:** sustainable agriculture, organic farming, permaculture, regenerative agriculture, food security

## **I. Introduction**

Sustainable agriculture is a crucial concept in the realm of food production, emphasizing the need to balance environmental stewardship, economic viability, and social equity.<sup>1</sup> It involves implementing farming practices that promote long-term ecological health, minimize resource depletion, and support the well-being of farmers and local communities.<sup>2</sup> With the growing concerns over climate change, biodiversity loss, and food insecurity, sustainable agriculture has gained significant importance in addressing these pressing challenges.<sup>3</sup>

This paper explores the challenges and opportunities of sustainable farming practices, including organic farming, permaculture, regenerative agriculture, and reducing the environmental impact of

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<sup>1</sup> Basiago, A. D. (1998). Economic, social, and environmental sustainability in development theory and urban planning practice. *Environmentalist*, 19(2), 145-161.

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

food production. It also addresses the importance of resilient agricultural systems in ensuring food security in the face of climate change. Conventional agricultural methods have come under scrutiny due to their heavy reliance on synthetic inputs, excessive water usage, soil degradation, and contribution to greenhouse gas emissions.<sup>4</sup> In contrast, sustainable agriculture offers a holistic approach that seeks to enhance agricultural productivity while minimizing negative environmental and social impacts.<sup>5</sup> It recognizes the interconnectedness of ecosystems, agricultural practices, and human well-being.<sup>6</sup>

One of the key aspects of sustainable agriculture is organic farming, which promotes the use of natural fertilizers, crop rotation, and biological pest control methods.<sup>7</sup> By avoiding synthetic pesticides and genetically modified organisms, organic farming minimizes chemical residues in food, protects biodiversity, and improves soil health.<sup>8</sup> Permaculture principles guide sustainable agriculture by designing agricultural systems that mimic natural ecosystems, utilizing synergies between different plant and animal species, and optimizing resource use efficiency.<sup>9</sup> Regenerative agriculture is another promising approach that aims to restore and enhance

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<sup>4</sup> Horrigan, L., Lawrence, R. S., & Walker, P. (2002). How sustainable agriculture can address the environmental and human health harms of industrial agriculture. *Environmental health perspectives*, 110(5), 445-456.

<sup>5</sup> Ibid.

<sup>6</sup> Ibid.

<sup>7</sup> Lechenet, M., Bretagnolle, V., Bockstaller, C., Boissinot, F., Petit, M. S., Petit, S., & Munier-Jolain, N. M. (2014). Reconciling pesticide reduction with economic and environmental sustainability in arable farming. *PloS one*, 9(6), e97922.

<sup>8</sup> Ibid.

<sup>9</sup> Trigo, A., Marta-Costa, A., & Fragoso, R. (2021). Principles of sustainable agriculture: Defining standardized reference points. *Sustainability*, 13(8), 4086.

ecosystem functions through practices such as cover cropping, rotational grazing, and agroforestry.<sup>10</sup> By improving soil health, sequestering carbon, and promoting biodiversity, regenerative agriculture contributes to mitigating climate change and increasing the resilience of agricultural systems.<sup>11</sup>

The environmental impact of food production is crucial for sustainable agriculture.<sup>12</sup> This involves minimizing greenhouse gas emissions, conserving water resources, and managing waste throughout the supply chain.<sup>13</sup> Sustainable farming practices also prioritize the efficient use of energy and promote the adoption of renewable energy sources in agricultural operations.<sup>14</sup> In addition to the environmental benefits, sustainable agriculture plays a vital role in ensuring food security.<sup>15</sup> As the global population continues to rise, climate change poses significant challenges to agricultural productivity.<sup>16</sup> Extreme weather events, shifting precipitation patterns, and pest outbreaks threaten crop yields and the livelihoods of smallholder farmers.<sup>17</sup> Building resilient agricultural systems that

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<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

<sup>12</sup> Abah, J., Ishaq, M. N., & Wada, A. C. (2010). The role of biotechnology in ensuring food security and sustainable agriculture. *African Journal of Biotechnology*, 9(52), 8896-8900.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Ubisi, N. R., Mafongoya, P. L., Kolanisi, U., & Jiri, O. (2017). Smallholder farmer's perceived effects of climate change on crop production and household livelihoods in rural Limpopo province, South Africa. *Change and Adaptation in Socio-Ecological Systems*, 3(1), 27-38.

can withstand and adapt to these changes is essential for maintaining food security and alleviating hunger.<sup>18</sup>

Sustainable agriculture offers a comprehensive approach to address the challenges posed by conventional farming practices and climate change.<sup>19</sup> By incorporating principles such as organic farming, permaculture, regenerative agriculture, and reducing environmental impacts, it provides viable solutions to enhance food production while safeguarding the environment and promoting social well-being.<sup>20</sup> The following discussion will delve into the specific challenges and opportunities associated with these sustainable farming practices, emphasizing their role in creating resilient agricultural systems in the face of climate change and ensuring food security for future generations.

## II. Understanding Sustainable Agriculture

Sustainable farming is an approach to agriculture that aims to meet the current and future needs for food production while minimizing environmental impact and preserving natural resources.<sup>21</sup> It involves adopting practices that are economically viable, socially responsible, and environmentally sound. Conservation of natural resources, biodiversity preservation, soil health management, integrated pest management (IPM), conservation of natural resources, biodiversity

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<sup>18</sup> Thrupp, L. A. (2000). Linking agricultural biodiversity and food security: the valuable role of agrobiodiversity for sustainable agriculture. *International affairs*, 76(2), 265-281.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid.

<sup>21</sup> Hobbs, P. R. (2007). Conservation agriculture: what is it and why is it important for future sustainable food production?. *The Journal of Agricultural Science*, 145(2), 127.

preservation, soil health management, and integrated pest management.<sup>22</sup>

Sustainable farmers focus on conserving resources such as soil, water, and energy.<sup>23</sup> They use techniques like soil conservation, water management, and efficient energy use to minimize waste and reduce environmental degradation.<sup>24</sup> Sustainable farming recognizes the importance of biodiversity in maintaining ecosystem health and resilience.<sup>25</sup> Farmers employ methods to promote biodiversity on their farms, such as maintaining diverse crop rotations, creating habitat for beneficial insects and wildlife, and preserving native vegetation.<sup>26</sup>

Sustainable agriculture emphasizes the importance of maintaining and improving soil health.<sup>27</sup> Farmers employ techniques like cover cropping, crop rotation, and organic matter addition to enhance soil fertility, structure, and microbial activity.<sup>28</sup> These practices reduce soil erosion, enhance water retention, and promote long-term productivity.<sup>29</sup> Integrated pest management (IPM): Sustainable farmers adopt IPM strategies to manage pests, diseases, and weeds

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<sup>22</sup> Ahmad, M., Muhammad, W., & Sajjad, A. (2020). Ecological management of cotton insect pests. *Cotton Production and Uses: Agronomy, Crop Protection, and Postharvest Technologies*, 213-238.

<sup>23</sup> Flora, C. B. (2010). Food security in the context of energy and resource depletion: Sustainable agriculture in developing countries. *Renewable agriculture and food systems*, 25(2), 118-128.

<sup>24</sup> Ibid.

<sup>25</sup> Ibid.

<sup>26</sup> Ibid.

<sup>27</sup> Wander, M. M., & Drinkwater, L. E. (2000). Fostering soil stewardship through soil quality assessment. *Applied Soil Ecology*, 15(1), 61-73.

<sup>28</sup> Flora, C. B. (2010).

<sup>29</sup> Ibid.



effectively while minimizing the use of synthetic chemicals.<sup>30</sup> IPM combines various approaches such as biological control, crop rotation, habitat manipulation, and cultural practices to maintain pest populations at acceptable levels.<sup>31</sup>

Sustainable agriculture aims to optimize water use and minimize water pollution.<sup>32</sup> Farmers implement water-saving techniques like drip irrigation, rainwater harvesting, and precision irrigation to reduce water consumption.<sup>33</sup> Sustainable farming promotes humane and ethical treatment of animals.<sup>34</sup> It focuses on providing animals with appropriate living conditions, access to outdoor areas, and a balanced diet.<sup>35</sup> Farmers may choose to raise animals using organic or pasture-based systems that prioritize animal welfare.<sup>36</sup> Soil health and biodiversity conservation are fundamental components of sustainable agriculture.<sup>37</sup> They play vital roles in ecosystem functioning, agricultural productivity, and long-term sustainability.<sup>38</sup> Healthy soils are essential for sustainable agriculture as they support crop growth, nutrient cycling, and water filtration.<sup>39</sup> Sustainable farming practices promote soil health by reducing erosion, enhancing organic matter content, improving soil structure, and fostering beneficial soil microorganisms.<sup>40</sup> Healthy soils are more resilient to

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<sup>30</sup> Ibid.

<sup>31</sup> Ibid.

<sup>32</sup> Ibid.

<sup>33</sup> Wander, M. M., & Drinkwater, L. E. (2000).

<sup>34</sup> Wander, M. M., & Drinkwater, L. E. (2000).

<sup>35</sup> Ibid.

<sup>36</sup> Ibid.

<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

<sup>39</sup> Barea, J. M., Azcón, R., & Azcón-Aguilar, C. (2005). Interactions between mycorrhizal fungi and bacteria to improve plant nutrient cycling and soil structure. *Microorganisms in soils: roles in genesis and functions*, 195-212.

<sup>40</sup> Ibid.

environmental stressors and have better water-holding capacity, nutrient availability, and disease suppression, leading to improved crop yields and reduced dependence on synthetic inputs.<sup>41</sup>

Biodiversity is crucial for maintaining ecological balance and supporting agricultural systems.<sup>42</sup> Sustainable agriculture encourages the conservation of biodiversity by providing habitat for beneficial insects, birds, and other wildlife that contribute to natural pest control.<sup>43</sup> Biodiversity also enhances pollination, nutrient cycling, soil fertility, and ecosystem resilience.<sup>44</sup> By preserving natural areas within and around farmland, sustainable farmers create corridors and habitats that support diverse species and promote a healthy and balanced ecosystem.<sup>45</sup>

Agroecology is a scientific discipline and a set of practices that integrate ecological principles into agricultural systems.<sup>46</sup> It emphasizes the interdependence of plants, animals, humans, and their environment to create sustainable and resilient farming systems.<sup>47</sup> Agroecological practices align closely with sustainable agriculture and include the crop diversification and Soil management.<sup>48</sup> Agroecology promotes diverse cropping systems, including intercropping, cover cropping, and crop rotations.<sup>49</sup> These

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<sup>41</sup> Ibid.

<sup>42</sup> Ibid.

<sup>43</sup> Ibid.

<sup>44</sup> Ibid.

<sup>45</sup> Barea, J. M., Azcón, R., & Azcón-Aguilar, C. (2005).

<sup>46</sup> Wezel, A., Bellon, S., Doré, T., Francis, C., Vallod, D., & David, C. (2009). Agroecology as a science, a movement and a practice. A review. *Agronomy for sustainable development*, 29, 503-515.

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid.

practices enhance biodiversity, suppress pests and diseases, improve soil fertility, and reduce the need for synthetic inputs.<sup>50</sup> Agroecological approaches focus on building and maintaining healthy soils through practices like composting, green manure, and reduced tillage.<sup>51</sup> These practices improve soil structure, increase organic matter content, and enhance soil microbial activity.<sup>52</sup> By nurturing soil health, agroecology improves nutrient cycling, water retention, and overall soil fertility, leading to more sustainable and productive agricultural systems.<sup>53</sup>

Agroecology promotes water conservation through techniques such as agroforestry, contour plowing, and the use of water-saving irrigation methods.<sup>54</sup> By optimizing water use and reducing runoff, agroecological practices help mitigate water scarcity, improve water quality, and contribute to sustainable water management.<sup>55</sup>

Agroecology emphasizes ecological pest and disease management strategies rather than relying solely on synthetic chemicals.<sup>56</sup> These strategies include biological control, habitat manipulation, crop

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<sup>50</sup> Ibid.

<sup>51</sup> El-Ramady, H. R., Alshaal, T. A., Amer, M., Domokos-Szabolcsy, É., Elhawwat, N., Prokisch, J., & Fári, M. (2014). Soil quality and plant nutrition. *Sustainable Agriculture Reviews 14: Agroecology and Global Change*, 345-447.

<sup>52</sup> Ibid.

<sup>53</sup> Ibid.

<sup>54</sup> Diop, M., Chirinda, N., Beniaich, A., El Gharous, M., & El Mejahed, K. (2022). Soil and Water Conservation in Africa: State of Play and Potential Role in Tackling Soil Degradation and Building Soil Health in Agricultural Lands. *Sustainability*, 14(20), 13425.

<sup>55</sup> Diop, M., Chirinda, N., Beniaich, A., El Gharous, M., & El Mejahed, K. (2022).

<sup>56</sup> Jacobsen, B. J. (1997). Role of plant pathology in integrated pest management. *Annual review of phytopathology*, 35(1), 373-391.

rotation, and the use of resistant crop varieties.<sup>57</sup> By promoting natural pest control mechanisms and minimizing chemical inputs, agroecology reduces environmental pollution and fosters a balanced ecosystem.<sup>58</sup>

Agroecology recognizes the value of genetic diversity in crops and livestock for resilience and adaptation.<sup>59</sup> It encourages the use of traditional and locally adapted crop varieties, as well as the conservation of heirloom seeds and rare livestock breeds.<sup>60</sup> By preserving genetic diversity, agroecology safeguards against the risks of monocultures and contributes to the long-term sustainability of agricultural systems.<sup>61</sup> Agroecology considers social and economic dimensions in its approach to farming.<sup>62</sup> It emphasizes farmer empowerment, knowledge sharing, and community engagement. Agroecological practices often involve small-scale and family farmers, promoting local food systems, fair trade, and food sovereignty.<sup>63</sup> By supporting local economies and enhancing social equity, agroecology contributes to the overall sustainability and resilience of agricultural communities.<sup>64</sup>

Agroecology offers a holistic and context-specific approach to sustainable farming.<sup>65</sup> It recognizes the interconnectedness of

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<sup>57</sup> Ibid.

<sup>58</sup> Ibid.

<sup>59</sup> Altieri, M. A., Nicholls, C. I., Henao, A., & Lana, M. A. (2015). Agroecology and the design of climate change-resilient farming systems. *Agronomy for sustainable development*, 35(3), 869-890.

<sup>60</sup> Ibid.

<sup>61</sup> Ibid.

<sup>62</sup> Ibid.

<sup>63</sup> Ibid.

<sup>64</sup> Ibid.

<sup>65</sup> Altieri, M. A., Nicholls, C. I., Henao, A., & Lana, M. A. (2015).

ecological, social, and economic factors and seeks to integrate them into agricultural systems.<sup>66</sup> By promoting biodiversity, soil health, water conservation, and community engagement, agroecology plays a significant role in advancing sustainable farming methods and ensuring a more resilient and environmentally friendly food system.<sup>67</sup>

### III Organic Farming: Nurturing Nature's Wisdom'

**Principles of Organic Farming:** Organic farming is an agricultural approach that emphasizes sustainable practices and the use of natural inputs.<sup>68</sup> Organic farming focuses on building and maintaining healthy soil through practices such as crop rotation, composting, and avoiding synthetic fertilizers and pesticides.<sup>69</sup> Organic farmers strive to enhance biodiversity on their farms by preserving natural habitats, planting diverse crops, and avoiding genetically modified organisms (GMOs).<sup>70</sup> Organic farming aims to promote ecological balance by using natural pest control methods, promoting beneficial insects and wildlife, and avoiding chemical inputs that may harm the environment.<sup>71</sup> Organic farming seeks to ensure the long-term sustainability of agricultural systems by minimizing the use of non-renewable resources and reducing environmental impacts.<sup>72</sup>

By avoiding synthetic pesticides and fertilizers, organic farming reduces the risk of soil erosion, water pollution, and damage to

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<sup>66</sup> Ibid.

<sup>67</sup> Ibid.

<sup>68</sup> Hansen, L., Noe, E., & Højring, K. (2006). Nature and nature values in organic agriculture. An analysis of contested concepts and values among different actors in organic farming. *Journal of Agricultural and Environmental Ethics*, 19, 147-168.

<sup>69</sup> Ibid.

<sup>70</sup> Ibid.

<sup>71</sup> Ibid.

<sup>72</sup> Hansen, L., Noe, E., & Højring, K. (2006).

ecosystems.<sup>73</sup> Organic farming practices, such as the use of compost and crop rotation, enhance soil fertility, structure, and moisture retention. Organic crops are often found to have higher levels of certain nutrients and antioxidants compared to conventionally grown crops.<sup>74</sup> Organic farms provide habitats for a wide range of species, including beneficial insects, birds, and soil microorganisms, promoting biodiversity and ecological balance.<sup>75</sup> Organic farming avoids the use of synthetic pesticides and genetically modified organisms, reducing potential health risks associated with chemical residues and allergenic properties.<sup>76</sup> Organic farming can contribute to the economic development of rural communities by creating job opportunities and supporting local markets.<sup>77</sup>

Organic certification ensures that farmers adhere to specific standards and practices in organic farming.<sup>78</sup> Certification is typically conducted by independent third-party organizations that assess farms and their compliance with organic regulations.<sup>79</sup> These regulations vary across countries but generally include criteria related to soil management, pest and weed control, use of inputs, and record-keeping. Organic labeling allows consumers to identify and choose organic products.<sup>80</sup> Different countries have their own organic

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<sup>73</sup> Tal, A. (2018). Making conventional agriculture environmentally friendly: moving beyond the glorification of organic agriculture and the demonization of conventional agriculture. *Sustainability*, 10(4), 1078.

<sup>74</sup> Ibid.

<sup>75</sup> Ibid.

<sup>76</sup> Ibid.

<sup>77</sup> Ibid.

<sup>78</sup> Darnhofer, I., Lindenthal, T., Bartel-Kratochvil, R., & Zollitsch, W. (2010). Conventionalisation of organic farming practices: from structural criteria towards an assessment based on organic principles. A review. *Agronomy for sustainable development*, 30, 67-81.

<sup>79</sup> Ibid.

<sup>80</sup> Ibid.

labeling standards, but they often include requirements such as: Products must contain a minimum percentage of organic ingredients to qualify for organic labeling; Organic products must not contain certain synthetic substances, such as pesticides, fertilizers; Certification logo: Certified organic products usually bear a logo or seal indicating that they meet the specified organic standards; Organic labeling may also regulate the use of terms like "100% organic," "made with organic ingredients," or "certified organic."<sup>81</sup>

Bhutan implemented a national policy to convert all farming to organic practices by 2020.<sup>82</sup> This initiative aimed to promote sustainable agriculture, preserve biodiversity, and ensure food security.<sup>83</sup> The shift to organic farming resulted in reduced chemical use, improved soil fertility, and increased incomes for farmers. The Sekem Initiative focuses on organic and biodynamic farming practices in Egypt.<sup>84</sup> By implementing sustainable agricultural techniques, such as composting, crop rotation, and integrated pest management, Sekem transformed desert lands into fertile organic farms. The initiative has created employment opportunities, enhanced biodiversity, and improved soil quality.<sup>85</sup>

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<sup>81</sup> Huber, B., Schmid, O., & Napo-Bitantem, G. (2015). Standards and regulations. *The World of Organic Agriculture. Statistics and Emerging Trends*, 126-133.

<sup>82</sup> Neuhoﬀ, D., Tashi, S., Rahmann, G., & Denich, M. (2014). Organic agriculture in Bhutan: potential and challenges. *Organic agriculture*, 4, 209-221.

<sup>83</sup> Ibid.

<sup>84</sup> Ibid.

<sup>85</sup> Ibid.

Scaling up organic agriculture requires a sufficient supply of organic fertilizers, pest control methods, and seeds.<sup>86</sup> However, the availability and affordability of these inputs can be a challenge, especially in regions where organic farming is not widely practiced. Converting conventional farms to organic takes time and resources. During the transition period, farmers must adhere to organic practices without reaping the benefits of organic prices.<sup>87</sup> Additionally, organic certification can be costly, especially for small-scale farmers, creating financial barriers to scaling up.<sup>88</sup>

While the demand for organic products is increasing, it may still be limited compared to conventional agriculture.<sup>89</sup> Increasing consumer awareness and education about the benefits of organic farming is crucial for expanding the market and encouraging the adoption of organic practices.<sup>90</sup> Organic farming relies on natural pest control methods, which may be less effective or require more intensive management compared to conventional chemical-based approaches.<sup>91</sup> Scaling up organic agriculture requires developing and implementing effective organic pest and disease management strategies.<sup>92</sup> Expanding organic agriculture requires adequate infrastructure, such as processing and storage facilities for organic produce.<sup>93</sup> Additionally, there may be knowledge gaps among

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<sup>86</sup> Altieri, M. A., & Nicholls, C. I. (2012). Agroecology scaling up for food sovereignty and resiliency. *Sustainable Agriculture Reviews: Volume 11*, 1-29.

<sup>87</sup> Ibid.

<sup>88</sup> Altieri, M. A., & Nicholls, C. I. (2012).

<sup>89</sup> Seufert, V., Ramankutty, N., & Foley, J. A. (2012). Comparing the yields of organic and conventional agriculture. *Nature*, 485(7397), 229-232.

<sup>90</sup> Ibid.

<sup>91</sup> De Ponti, T., Rijk, B., & Van Ittersum, M. K. (2012). The crop yield gap between organic and conventional agriculture. *Agricultural systems*, 108, 1-9.

<sup>92</sup> Ibid.

<sup>93</sup> Ibid.



farmers regarding organic farming techniques, which can hinder successful scaling up.<sup>94</sup>

The increasing consumer preference for organic and sustainably produced food presents a significant opportunity for scaling up organic agriculture.<sup>95</sup> By meeting the demand, organic farmers can access premium prices and expand their market reach. Organic farming offers substantial environmental benefits, such as reduced pollution, improved soil health, and enhanced biodiversity.<sup>96</sup> Highlighting these benefits can attract support from environmental organizations, policymakers, and consumers, creating opportunities for scaling up organic agriculture.<sup>97</sup> Governments can play a crucial role in promoting organic agriculture by implementing supportive policies, offering financial incentives, and providing technical assistance to farmers.<sup>98</sup> Supportive measures can encourage more farmers to transition to organic practices and facilitate the scaling up process.<sup>99</sup>

Continued research and innovation in organic farming practices, such as the development of new organic inputs, improved pest control methods, and crop varieties adapted to organic systems, can drive the scalability of organic agriculture.<sup>100</sup> Building networks and

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<sup>94</sup> Ibid.

<sup>95</sup> Jouzi, Z., Azadi, H., Taheri, F., Zarafshani, K., Gebrehiwot, K., Van Passel, S., & Lebailly, P. (2017). Organic farming and small-scale farmers: Main opportunities and challenges. *Ecological economics*, 132, 144-154.

<sup>96</sup> Ibid.

<sup>97</sup> Jouzi, Z., Azadi, H., Taheri, F., Zarafshani, K., Gebrehiwot, K., Van Passel, S., & Lebailly, P. (2017).

<sup>98</sup> Ibid.

<sup>99</sup> Ibid.

<sup>100</sup> Altieri, M. A., & Nicholls, C. I. (2012). Agroecology scaling up for food sovereignty and resiliency. *Sustainable Agriculture Reviews: Volume 11*, 1-29.

collaborations among organic farmers, researchers, and agricultural organizations can facilitate knowledge sharing, exchange of best practices, and capacity building.<sup>101</sup> These collaborations can contribute to the scalability of organic agriculture by disseminating information and expertise.<sup>102</sup>

While challenges exist in scaling up organic agriculture, opportunities such as market demand, government support, and research advancements provide a favorable environment for expanding organic farming practices.<sup>103</sup> Overcoming the challenges and capitalizing on these opportunities can contribute to the growth and sustainability of organic agriculture.<sup>104</sup>

#### **IV. Permaculture: Harmonizing Nature's Patterns**

Permaculture is a holistic design approach that seeks to create sustainable and regenerative systems by mimicking natural ecosystems.<sup>105</sup> It was developed in the 1970s by Bill Mollison and David Holmgren and has since gained popularity as a framework for designing and managing diverse systems, including food production, housing, energy, and community development.<sup>106</sup> Permaculture emphasizes the importance of preserving and regenerating the natural environment.<sup>107</sup> It recognizes that healthy ecosystems are the foundation for all life and focuses on minimizing environmental impact.<sup>108</sup> Permaculture promotes social and economic justice,

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<sup>101</sup> Ibid.

<sup>102</sup> Ibid.

<sup>103</sup> Ibid.

<sup>104</sup> Ibid.

<sup>105</sup> Habib, B., & Fadaee, S. (2022). Permaculture: A Global Community of Practice. *Environmental Values*, 31(4), 441-462

<sup>106</sup> Ibid.

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

fostering a sense of community and ensuring that basic needs are met for all individuals.<sup>109</sup> Permaculture advocates for fair distribution of resources and encourages the sharing of surplus to create more equitable societies.<sup>110</sup>

Permaculture employs a set of design principles that guide the creation of sustainable systems.<sup>111</sup> By observing patterns and processes in nature, permaculture designers gain insights that inform their decision-making.<sup>112</sup> Catch and Store Permaculture harnesses and maximizes the use of renewable resources, such as sunlight, water, and wind, to reduce reliance on non-renewable sources.<sup>113</sup> Permaculture emphasizes the use of renewable resources, such as perennial plants and sustainable practices, while minimizing reliance on non-renewable resources.<sup>114</sup> Permaculture encourages designers to analyze and understand the underlying patterns in natural systems before developing specific design elements.<sup>115</sup> Permaculture seeks to create integrated systems where different elements support and benefit each other, mimicking the diversity and resilience of natural ecosystems.<sup>116</sup> Permaculture encourages starting small and gradually

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<sup>109</sup> Ibid.

<sup>110</sup> Roux-Rosier, A., Azambuja, R., & Islam, G. (2018). Alternative visions: Permaculture as imaginaries of the Anthropocene. *Organization*, 25(4), 550-572.

<sup>111</sup> Fiebrig, I., & Van De Wiel, M. (2021). Usefulness of Surface Water Retention Reservoirs Inspired by 'Permaculture Design': A Case Study in Southern Spain Using Bucket Modelling. *A Nexus Approach for Sustainable Development: Integrated Resources Management in Resilient Cities and Multifunctional Land-use Systems*, 57-79.

<sup>112</sup> Ibid.

<sup>113</sup> Ibid.

<sup>114</sup> Ibid.

<sup>115</sup> Ibid.

<sup>116</sup> Fiebrig, I., & Van De Wiel, M. (2021).

expanding systems, allowing for careful observation, learning, and adjustment along the way.<sup>117</sup>

Permaculture emphasizes the importance of biodiversity in food systems.<sup>118</sup> By incorporating a wide variety of crops, plants, and animals, permaculture farms promote resilience against pests, diseases, and climate fluctuations.<sup>119</sup> The diverse and interconnected elements in permaculture systems help to maintain ecosystem balance and reduce the risk of crop failures.<sup>120</sup> Permaculture recognizes that healthy soil is essential for sustainable agriculture.<sup>121</sup> By employing practices such as cover cropping, composting, mulching, and agroforestry, permaculture farms enhance soil fertility, structure, and water-holding capacity.<sup>122</sup> Healthy soils improve plant nutrition, increase water infiltration, and reduce erosion, contributing to long-term productivity and resilience.<sup>123</sup>

Permaculture employs various strategies to manage water efficiently.<sup>124</sup> Techniques like rainwater harvesting, swales, contouring, and the use of water-retaining features (such as ponds) help to capture, store, and distribute water throughout the landscape.<sup>125</sup> By maximizing water availability and reducing reliance

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<sup>117</sup> Ibid.

<sup>118</sup> Ibid.

<sup>119</sup> Rodrigues, P. B. (2021). *The Prospect of Permaculture as a Part of Gastronomic Tourism in New Zealand* (Doctoral dissertation, Auckland University of Technology).

<sup>120</sup> Ibid.

<sup>121</sup> Ibid.

<sup>122</sup> Ibid.

<sup>123</sup> Ibid.

<sup>124</sup> Korlakunta, R. S. (2022). *Groundwater Crisis in Southern Rural India: Understanding Farmers' Perspectives and Local Participatory Mitigation Strategies*.

<sup>125</sup> Ibid.

on external inputs, permaculture farms can adapt to changing precipitation patterns and minimize water stress.<sup>126</sup> Permaculture promotes local and decentralized food production, reducing reliance on long-distance transportation and increasing food security.<sup>127</sup> By encouraging community gardens, urban agriculture, and small-scale farming, permaculture enhances access to fresh, nutritious food and fosters resilient local food systems.<sup>128</sup>

Exploring the potential for integrating permaculture principles into conventional farming practices in the global South offers significant opportunities for sustainable development.<sup>129</sup> The global South, which encompasses regions in Africa, Asia, and Latin America, often faces challenges such as poverty, food insecurity, environmental degradation, and climate change impacts.<sup>130</sup> Integrating permaculture principles into conventional farming practices can address these challenges by promoting sustainable agriculture, enhancing food security, and improving livelihoods. By emphasizing soil health, biodiversity, and ecological resilience, permaculture can help conventional farmers reduce chemical inputs, restore degraded soils, and enhance productivity in a sustainable manner.<sup>131</sup> Techniques like agroforestry, intercropping, and cover cropping can be integrated into conventional farming systems, resulting in improved soil fertility, water management, and pest control.<sup>132</sup>

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<sup>126</sup> Ibid.

<sup>127</sup> Ibid.

<sup>128</sup> Ibid.

<sup>129</sup> Ferguson, R. S., & Lovell, S. T. (2014). Permaculture for agroecology: design, movement, practice, and worldview. A review. *Agronomy for sustainable development*, 34, 251-274.

<sup>130</sup> Ibid.

<sup>131</sup> Ibid.

<sup>132</sup> Ibid.

Many conventional farming systems in the global South rely heavily on monocultures, which are susceptible to pests, diseases, and climate variability.<sup>133</sup> By promoting diverse agroecosystems through permaculture practices, farmers can increase resilience and reduce risks.<sup>134</sup> Diversification of crops, mixed farming systems, and integration of livestock can enhance ecosystem services, reduce crop losses, and provide additional income streams.<sup>135</sup>

Water scarcity is a pressing issue in many regions of the global South.<sup>136</sup> Permaculture principles offer valuable strategies for efficient water management and conservation.<sup>137</sup> Techniques such as rainwater harvesting, contouring, and drip irrigation can be integrated into conventional farming practices to optimize water use, reduce runoff, and improve water availability for crops.<sup>138</sup>

Permaculture principles prioritize community participation, knowledge sharing, and empowerment.<sup>139</sup> In the global South, where small-scale farmers often face social and economic challenges, the integration of permaculture principles can strengthen community resilience and foster local ownership of sustainable development initiatives.<sup>140</sup> By promoting farmer-led approaches, permaculture can

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<sup>133</sup> Veteto, J. R., & Lockyer, J. (2008). Environmental anthropology engaging permaculture: moving theory and practice toward sustainability. *Culture & Agriculture*, 30(1-2), 47-58.

<sup>134</sup> Ibid.

<sup>135</sup> Ibid.

<sup>136</sup> Khalid, I., Mukhtar, A., & Ahmed, Z. (2014). Water scarcity in South Asia: a potential conflict of future decades. *Journal of Political Studies*, 21(1), 259.

<sup>137</sup> Porkka, M., Gerten, D., Schaphoff, S., Siebert, S., & Kummu, M. (2016). Causes and trends of water scarcity in food production. *Environmental research letters*, 11(1), 015001.

<sup>138</sup> Ibid.

<sup>139</sup> Porkka, M., Gerten, D., Schaphoff, S., Siebert, S., & Kummu, M. (2016).

<sup>140</sup> Ibid.

empower farmers to make informed decisions, enhance their skills, and improve their livelihoods.<sup>141</sup>

Integrating permaculture principles into conventional farming practices contributes to the development of sustainable food systems in the global South.<sup>142</sup> By promoting local food production, reducing reliance on external inputs, and enhancing food diversity, permaculture can address food security challenges and improve nutrition.<sup>143</sup> Moreover, permaculture emphasizes fair share and social justice, ensuring that sustainable food systems benefit all members of society, including marginalized communities.

The global South is particularly vulnerable to the impacts of climate change. Permaculture practices, such as agroforestry, organic farming, and carbon sequestration, can contribute to climate change adaptation and mitigation efforts.<sup>144</sup> By enhancing carbon sequestration in soils, reducing greenhouse gas emissions, and promoting climate-resilient farming practices, permaculture principles help farmers adapt to changing climatic conditions while contributing to global efforts to combat climate change.<sup>145</sup>

Integrating permaculture principles into conventional farming practices in the global South offers a promising pathway for

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<sup>141</sup> Ibid.

<sup>142</sup> Hathaway, M. D. (2016). Agroecology and permaculture: addressing key ecological problems by rethinking and redesigning agricultural systems. *Journal of Environmental Studies and Sciences*, 6, 239-250.

<sup>143</sup> Ibid.

<sup>144</sup> Ibid.

<sup>145</sup> Ibid.

sustainable development.<sup>146</sup> By prioritizing regenerative agriculture, diversification, water management, community engagement, sustainable food systems, and climate change adaptation, permaculture can enhance agricultural productivity, resilience, and sustainability while addressing key challenges faced by farmers and communities in the global South.<sup>147</sup>

## **V. Regenerative Agriculture: Restoring Ecosystems and Rebuilding Soils**

Regenerative agriculture is an approach to farming that seeks to restore and enhance the health of ecosystems, particularly by focusing on improving soil health and biodiversity.<sup>148</sup> It goes beyond sustainable agriculture by actively replenishing and regenerating natural resources, rather than simply minimizing negative impacts.<sup>149</sup> The core principles of regenerative agriculture include building soil organic matter, improving soil structure, enhancing biodiversity, integrating livestock and crops, and reducing or eliminating chemical inputs.<sup>150</sup>

At the heart of regenerative agriculture is the recognition that healthy soils are essential for productive and resilient farming systems.<sup>151</sup> Regenerative practices prioritize the restoration and maintenance of

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<sup>146</sup> Ferguson, R. S., & Lovell, S. T. (2014). Permaculture for agroecology: design, movement, practice, and worldview. A review. *Agronomy for sustainable development*, 34, 251-274.

<sup>147</sup> Ferguson, R. S., & Lovell, S. T. (2014).

<sup>148</sup> Lal, R. (2020). Regenerative agriculture for food and climate. *Journal of soil and water conservation*, 75(5), 123A-124A.

<sup>149</sup> Ibid.

<sup>150</sup> Ibid.

<sup>151</sup> Salomon, M. J., & Cavagnaro, T. R. (2022). Healthy soils: The backbone of productive, safe and sustainable urban agriculture. *Journal of Cleaner Production*, 130808.



soil health, which involves improving soil fertility, structure, water-holding capacity, and nutrient cycling.<sup>152</sup> By adopting practices that build soil organic matter, such as cover cropping, composting, and reduced tillage, regenerative agriculture enhances soil biology, increases carbon sequestration, and improves overall soil health. Regenerative agriculture also emphasizes the importance of biodiversity.<sup>153</sup> By promoting diverse plant species, incorporating natural habitats, and integrating livestock into farming systems, regenerative practices create favorable conditions for beneficial insects, pollinators, and soil organisms.<sup>154</sup> Biodiversity enhances ecological balance, pest and disease management, and nutrient cycling, contributing to the long-term resilience and sustainability of agricultural ecosystems.<sup>155</sup>

Regenerative agriculture is an approach to farming that aims to restore and enhance ecosystems while improving soil health and biodiversity.<sup>156</sup> It goes beyond sustainable agriculture by actively replenishing and regenerating natural resources, rather than simply minimizing negative impacts. The core principles of regenerative agriculture include building soil organic matter, improving soil structure, enhancing biodiversity, integrating livestock and crops, and reducing or eliminating chemical inputs.<sup>157</sup> Regenerative practices prioritize the restoration and maintenance of soil health by improving soil fertility, structure, water-holding capacity, and

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<sup>152</sup> Ibid.

<sup>153</sup> Anderson, M. D., & Rivera-Ferre, M. (2021). Food system narratives to end hunger: extractive versus regenerative. *Current Opinion in Environmental Sustainability*, 49, 18-25.

<sup>154</sup> Ibid.

<sup>155</sup> Ibid.

<sup>156</sup> Anderson, M. D., & Rivera-Ferre, M. (2021).

<sup>157</sup> Ibid.

nutrient cycling.<sup>158</sup> Methods such as cover cropping, composting, reduced tillage, and the use of organic amendments enhance soil biology, increase carbon sequestration, and improve overall soil health.<sup>159</sup> These practices promote the development of beneficial microorganisms, improve soil structure and water infiltration, increase nutrient availability, and reduce erosion.<sup>160</sup>

Cover cropping involves planting specific crops during fallow periods or in between cash crops to cover and protect the soil.<sup>161</sup> Cover crops help reduce erosion, improve soil structure, suppress weeds, increase organic matter, fix nitrogen, and enhance nutrient cycling.<sup>162</sup> Examples of cover crops include legumes like clover or vetch, grasses, or brassicas. They provide a protective cover on the soil surface, prevent nutrient leaching, and contribute to biodiversity by providing habitat for beneficial insects and microorganisms. Agroforestry integrates trees or woody perennials with crops or livestock in the same farming system.<sup>163</sup> It combines the benefits of agriculture and forestry, creating synergies that improve soil health, microclimate, biodiversity, and productivity.<sup>164</sup> Agroforestry practices include alley cropping (rows of trees or shrubs with alleyways for crops), silvopasture (combining trees with grazing animals), and windbreaks (trees planted to protect crops and

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<sup>158</sup> Ibid.

<sup>159</sup> Ibid.

<sup>160</sup> Ibid.

<sup>161</sup> Smith, R. G., Atwood, L. W., & Warren, N. D. (2014). Increased productivity of a cover crop mixture is not associated with enhanced agroecosystem services. *PloS one*, 9(5), e97351.

<sup>162</sup> Ibid.

<sup>163</sup> Rijal, S. (2019). Agroforestry System: approaches for climate change mitigation and adaptation. *Big Data In Agriculture (BDA)*, 1(2), 23-25.

<sup>164</sup> Ibid.

livestock from winds).<sup>165</sup> Agroforestry systems enhance soil fertility, provide shade and wind protection, conserve water, sequester carbon, and diversify income streams for farmers.<sup>166</sup>

Regenerative agriculture offers a range of environmental and economic benefits that contribute to sustainable farming systems.<sup>167</sup> Regenerative practices improve soil health by increasing organic matter, enhancing soil structure, and promoting beneficial soil organisms.<sup>168</sup> Healthy soils are more resistant to erosion, reducing sedimentation in water bodies and preserving water quality.<sup>169</sup> Regenerative agriculture promotes biodiversity by creating habitats for beneficial insects, pollinators, and soil organisms.<sup>170</sup> Diverse plant species and wildlife populations contribute to pest and disease control, nutrient cycling, and overall ecosystem resilience.<sup>171</sup>

Regenerative practices, such as cover cropping and reduced tillage, improve water infiltration, reduce water runoff, and enhance water-holding capacity in soils.<sup>172</sup> This leads to improved water quality, reduced water stress, and enhanced water availability for crops.<sup>173</sup> Regenerative agriculture plays a significant role in mitigating climate change.<sup>174</sup> By increasing soil organic matter and promoting diverse

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<sup>165</sup> Rijal, S. (2019).

<sup>166</sup> Rijal, S. (2019).

<sup>167</sup> Ibid.

<sup>168</sup> Ibid.

<sup>169</sup> Holland, J. M. (2004). The environmental consequences of adopting conservation tillage in Europe: reviewing the evidence. *Agriculture, ecosystems & environment*, 103(1), 1-25.

<sup>170</sup> Ibid.

<sup>171</sup> Ibid.

<sup>172</sup> Ibid.

<sup>173</sup> Ibid.

<sup>174</sup> Ibid.

plant cover, regenerative practices enhance carbon sequestration, reducing greenhouse gas emissions and mitigating climate impacts.<sup>175</sup>

Regenerative practices reduce reliance on synthetic fertilizers, pesticides, and herbicides, resulting in lower input costs for farmers.<sup>176</sup> By promoting natural nutrient cycling, pest management, and weed suppression, regenerative agriculture minimizes the need for expensive external inputs.<sup>177</sup> Improved soil health, nutrient availability, and water-holding capacity contribute to increased crop yields and resilience.<sup>178</sup> Healthy soils provide better conditions for root growth, nutrient uptake, and plant health, leading to improved productivity and crop performance.<sup>179</sup>

Regenerative agriculture aligns with consumer demands for sustainable and environmentally friendly products.<sup>180</sup> Farmers practicing regenerative methods may access niche markets and premium prices for their produce, creating additional income streams.<sup>181</sup> Regenerative practices enhance the resilience of farming systems to climate variability, pests, and diseases.<sup>182</sup> Diversification,

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<sup>175</sup> Ibid.

<sup>176</sup> Fenster, T. L., LaCanne, C. E., Pecenka, J. R., Schmid, R. B., Bredeson, M. M., Busenitz, K. M., ... & Lundgren, J. G. (2021). Defining and validating regenerative farm systems using a composite of ranked agricultural practices. *F1000Research*, 10.

<sup>177</sup> Ibid.

<sup>178</sup> Fenster, T. L., et.al. (2021).

<sup>179</sup> Ibid.

<sup>180</sup> McLennon, E., Dari, B., Jha, G., Sihi, D., & Kankarla, V. (2021). Regenerative agriculture and integrative permaculture for sustainable and technology driven global food production and security. *Agronomy Journal*, 113(6), 4541-4559.

<sup>181</sup> Ibid.

<sup>182</sup> Ibid.

crop rotation, and integrated livestock contribute to risk reduction and provide stability to farmers, especially in regions prone to environmental uncertainties.<sup>183</sup>

Regenerative agriculture sequesters carbon in the soil, reducing greenhouse gas emissions. By adopting regenerative practices on a larger scale, the agricultural<sup>184</sup> sector can contribute significantly to global climate change mitigation efforts.<sup>185</sup> Carbon sequestration in soils helps offset emissions from agriculture, improves soil health, and supports the transition to a low-carbon economy.<sup>186</sup> Regenerative practices enhance the resilience of farming systems to climate change impacts.<sup>187</sup> Healthy soils with improved water-holding capacity and nutrient availability are better equipped to withstand droughts, floods, and extreme temperatures.<sup>188</sup> By diversifying crops and integrating livestock, regenerative agriculture reduces the vulnerability of food production to climate-related risks.<sup>189</sup>

Regenerative practices contribute to food security by improving soil fertility, enhancing crop yields, and promoting diversified farming systems.<sup>190</sup> By reducing reliance on external inputs and promoting sustainable production methods, regenerative agriculture provides long-term stability to food production, particularly for small-scale

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<sup>183</sup> Ibid.

<sup>184</sup> Ibid.

<sup>185</sup> Tamburini, G., Bommarco, R., Wanger, T. C., Kremen, C., Van Der Heijden, M. G., Liebman, M., & Hallin, S. (2020). Agricultural diversification promotes multiple ecosystem services without compromising yield. *Science advances*, 6(45), eaba1715.

<sup>186</sup> Ibid.

<sup>187</sup> Ibid.

<sup>188</sup> Ibid.

<sup>189</sup> Ibid.

<sup>190</sup> Tamburini, G., et.al. (2020).

farmers in developing countries.<sup>191</sup> Moreover, diverse cropping systems increase food diversity, improving nutrition and dietary quality.<sup>192</sup> Regenerative practices, such as cover cropping and reduced tillage, help conserve water and prevent soil erosion.<sup>193</sup>

## VI. Reducing the Environmental Impact of Food Production

Sustainable water management in agriculture is essential for reducing the environmental impact of food production.<sup>194</sup> Agriculture is a major consumer of water globally, and inefficient water use can lead to water scarcity, depletion of water sources, and ecosystem degradation.<sup>195</sup> Adopting efficient irrigation methods such as drip irrigation, precision sprinklers, or micro-irrigation systems can minimize water wastage by delivering water directly to the root zone of plants.<sup>196</sup> These techniques reduce evaporation and runoff, improving water use efficiency.<sup>197</sup>

Implementing water conservation practices like rainwater harvesting, water recycling, and water storage can reduce reliance on freshwater sources and mitigate water scarcity.<sup>198</sup> By capturing and utilizing rainwater or treated wastewater, farmers can optimize water resources and reduce pressure on freshwater ecosystems.<sup>199</sup> Choosing

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<sup>191</sup> Ibid.

<sup>192</sup> Ibid.

<sup>193</sup> Ibid.

<sup>194</sup> Chartzoulakis, K., & Bertaki, M. (2015). Sustainable water management in agriculture under climate change. *Agriculture and Agricultural Science Procedia*, 4, 88-98.

<sup>195</sup> Ibid.

<sup>196</sup> Ibid.

<sup>197</sup> Ibid.

<sup>198</sup> Ibid.

<sup>199</sup> Rejesus, R. M., & Jones, M. S. (2020). Perspective: enhancing economic evaluations and impacts of integrated pest management farmer field schools

crop varieties that are more adapted to local climate conditions and require less water can help optimize water use.<sup>200</sup> Additionally, implementing practices such as crop rotation, mulching, and organic matter management can improve soil water retention, reducing the need for excessive irrigation.<sup>201</sup>

Minimizing chemical inputs and promoting integrated pest management (IPM) practices are vital for reducing the environmental impact of food production.<sup>202</sup> Excessive use of chemical fertilizers, pesticides, and herbicides can lead to water pollution, soil degradation, and negative impacts on biodiversity.<sup>203</sup> Transitioning towards organic and regenerative farming methods reduces reliance on synthetic chemicals.<sup>204</sup> Organic farming prohibits the use of synthetic fertilizers and pesticides, promoting natural alternatives and sustainable soil management practices.<sup>205</sup> IPM is an approach that focuses on preventing and managing pests using a combination of techniques, such as biological control, crop rotation, habitat manipulation, and use of pest-resistant crop varieties.<sup>206</sup> By minimizing chemical pesticide use and promoting ecological balance, IPM reduces environmental contamination and protects beneficial organisms.<sup>207</sup> Adopting precision application techniques for chemical

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(IPM-FFS) in low-income countries. *Pest Management Science*, 76(11), 3527-3536.

<sup>200</sup> Ibid.

<sup>201</sup> Rejesus, R. M., & Jones, M. S. (2020).

<sup>202</sup> Ibid.

<sup>203</sup> Ibid.

<sup>204</sup> Ibid.

<sup>205</sup> Ibid.

<sup>206</sup> Ibid.

<sup>207</sup> Ibid.

inputs minimizes their usage and reduces off-target effects.<sup>208</sup> Technologies like variable rate application and site-specific application allow farmers to apply inputs precisely where and when they are needed, optimizing their effectiveness and minimizing environmental impacts.<sup>209</sup>

Precision agriculture and technology play a crucial role in reducing resource use and improving efficiency in food production.<sup>210</sup> These advancements enable farmers to make informed decisions, optimize resource allocation, and minimize environmental impacts.<sup>211</sup> Precision agriculture uses technologies such as GPS, remote sensing, and data analytics to enable site-specific management of crops.<sup>212</sup> Farmers can analyze soil variability, optimize fertilizer and water application, and tailor management practices accordingly. This reduces over-application of inputs, saves resources, and minimizes environmental pollution.<sup>213</sup>

Sensors and monitoring devices provide real-time data on soil moisture, nutrient levels, and weather conditions.<sup>214</sup> This information helps farmers make precise decisions regarding irrigation scheduling, fertilizer application, and pest management, leading to resource-

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<sup>208</sup> Edge, J. M., Benedict, J. H., Carroll, J. P., & Reding, H. K. (2001). Bollgard cotton: an assessment of global economic, environmental, and social benefits.

<sup>209</sup> Ibid.

<sup>210</sup> Ibid.

<sup>211</sup> Ibid.

<sup>212</sup> Nagarajan, G., & Minu, R. I. (2018). Wireless soil monitoring sensor for sprinkler irrigation automation system. *Wireless Personal Communications*, 98, 1835-1851.

<sup>213</sup> Nagarajan, G., & Minu, R. I. (2018).

<sup>214</sup> Ibid.



efficient practices.<sup>215</sup> Integrated smart farming systems combine various technologies, including robotics, drones, and automated machinery.<sup>216</sup> These systems can perform tasks such as precision planting, selective harvesting, and weed detection, reducing labor and resource requirements while increasing efficiency and productivity.<sup>217</sup> By utilizing data analytics and predictive models, farmers can optimize production processes, forecast yield, and anticipate resource requirements.<sup>218</sup> This allows for proactive decision-making, reducing resource waste and environmental impacts.<sup>219</sup>

The importance of sustainable packaging and reducing food waste in the food supply chain cannot be overstated when it comes to minimizing the environmental impact of food production and consumption.<sup>220</sup> Both aspects play a significant role in conserving resources, reducing greenhouse gas emissions, and promoting a more sustainable and circular economy.

Sustainable packaging aims to minimize the use of non-renewable resources and reduce waste generation.<sup>221</sup> This includes using materials that are recyclable, compostable, or made from renewable resources.<sup>222</sup> It helps conserve energy, water, and raw materials in the production and disposal processes. Sustainable packaging solutions

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<sup>215</sup> Ibid.

<sup>216</sup> Ibid.

<sup>217</sup> Ibid.

<sup>218</sup> Ibid.

<sup>219</sup> Ibid.

<sup>220</sup> Sala, S., McLaren, S. J., Notarnicola, B., Saouter, E., & Sonesson, U. (2017). In quest of reducing the environmental impacts of food production and consumption. *Journal of cleaner production*, 140, 387-398.

<sup>221</sup> Ibid.

<sup>222</sup> Ibid.

focus on reducing the amount of packaging material used, avoiding excessive layers or unnecessary components.<sup>223</sup> By optimizing packaging design, it is possible to decrease waste generation and minimize the environmental impact associated with packaging disposal.<sup>224</sup>

Sustainable packaging encourages the use of materials that can be recycled or composted after use.<sup>225</sup> Implementing effective recycling programs and supporting the development of a circular economy ensures that packaging materials are given a second life and reduces the need for virgin materials.<sup>226</sup> Educating consumers about the importance of sustainable packaging and providing clear recycling instructions promotes responsible consumption and waste management practices.<sup>227</sup> It empowers consumers to make informed choices and actively participate in reducing the environmental impact of packaging.<sup>228</sup> Food waste represents a significant loss of resources, including water, energy, land, and labor used in production.<sup>229</sup> By reducing food waste, the entire supply chain becomes more resource-efficient, minimizing the environmental impact associated with wasted resources.<sup>230</sup>

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<sup>223</sup> Ibid.

<sup>224</sup> Sala, S., McLaren, S. J., Notarnicola, B., Saouter, E., & Sonesson, U. (2017).

<sup>225</sup> Jestratić, I., Maystorovich, I., & Vrabić-Brodnjak, U. (2022). The 7 Rs sustainable packaging framework: Systematic review of sustainable packaging solutions in the apparel and footwear industry. *Sustainable Production and Consumption*, 30, 331-340.

<sup>226</sup> Ibid.

<sup>227</sup> Ibid.

<sup>228</sup> Ibid.

<sup>229</sup> Ibid.

<sup>230</sup> Ibid.

Food waste is a major contributor to greenhouse gas emissions, particularly in the form of methane generated when food decomposes in landfills.<sup>231</sup> By reducing food waste, we can significantly mitigate these emissions and their contribution to climate change.<sup>232</sup> Reducing food waste plays a crucial role in promoting food security.<sup>233</sup> By preventing food losses throughout the supply chain, more food is available to feed the growing global population.<sup>234</sup> This is particularly important in the context of increasing demand, limited resources, and the need to provide nutritious food to all.<sup>235</sup> Addressing food waste requires a holistic approach that involves sustainable production practices, proper storage and transportation, improved inventory management, and consumer education.<sup>236</sup> These measures optimize the use of resources and reduce waste at each stage of the supply chain.<sup>237</sup> Partnerships and Collaboration: Addressing sustainable packaging and food waste requires collaboration among stakeholders across the food supply chain, including producers, manufacturers, retailers, consumers, and waste management entities.<sup>238</sup> By working together, it is possible to develop and implement effective strategies, share best practices, and drive systemic change.

Technology plays a crucial role in addressing these challenges. Innovations such as smart packaging, intelligent tracking systems, and data analytics enable more efficient inventory management,

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<sup>231</sup> Ibid.

<sup>232</sup> Ibid.

<sup>233</sup> Ibid.

<sup>234</sup> Ibid.

<sup>235</sup> Ibid.

<sup>236</sup> Mall, R. K., Gupta, A., & Sonkar, G. (2017). Effect of climate change on agricultural crops. In *Current developments in biotechnology and bioengineering* (pp. 23-46). Elsevier.

<sup>237</sup> Ibid.

<sup>238</sup> Ibid.

improved supply chain visibility, and better monitoring of food quality and freshness.<sup>239</sup> This facilitates timely interventions to prevent waste and optimize resource utilization. Sustainable packaging and reducing food waste are integral to achieving a more environmentally sustainable and efficient food supply chain.<sup>240</sup> By adopting sustainable packaging practices and implementing strategies to reduce food waste, we can conserve resources, minimize greenhouse gas emissions, promote food security, and move towards a more sustainable and resilient food system.<sup>241</sup> It requires collaboration, innovation, and the active involvement of all stakeholders to bring about lasting change and create a more sustainable future for food production and consumption.<sup>242</sup>

## VII. Ensuring Food Security in a Changing Climate

Climate change poses significant challenges to global food production and food security.<sup>243</sup> Rising temperatures, changing rainfall patterns, increased frequency of extreme weather events, and sea-level rise all impact agricultural systems, jeopardizing food production and availability.<sup>244</sup> Climate change affects crop yields through multiple mechanisms, including changes in temperature, precipitation patterns, and increased pest and disease pressures.\* Heat stress, drought, and flooding events can lead to reduced crop productivity and crop failures, particularly in vulnerable regions.<sup>245</sup>

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<sup>239</sup> Ibid.

<sup>240</sup> McMichael, A. J., & Lindgren, E. (2011). Climate change: present and future risks to health, and necessary responses. *Journal of internal medicine*, 270(5), 401-413.

<sup>241</sup> Ibid.

<sup>242</sup> Ibid.

<sup>243</sup> Ibid.

<sup>244</sup> Ibid.

<sup>245</sup> McMichael, A. J., & Lindgren, E. (2011).

Changes in precipitation patterns affect water availability for irrigation and agricultural activities.<sup>246</sup> Increased variability in rainfall patterns, coupled with more frequent droughts and water scarcity, can severely impact crop production and food security, particularly in water-stressed regions.<sup>247</sup> Climate change disrupts ecosystems and biodiversity, affecting pollination, natural pest control, and nutrient cycling.<sup>248</sup> Loss of biodiversity can lead to reduced ecosystem resilience, increasing the vulnerability of agricultural systems to pests, diseases, and other environmental pressures.<sup>249</sup> Climate-related events, such as extreme weather events and disruptions in transportation infrastructure, can impede the distribution of food, leading to food shortages and increased food prices.<sup>250</sup> Vulnerable populations, especially in developing countries, face the greatest challenges in accessing nutritious food during climate-related crises.<sup>251</sup>

Adapting agricultural systems to climate change requires the development of resilient practices that can withstand and recover from climate-related stresses.<sup>252</sup> Resilient agricultural systems are characterized by their ability to absorb shocks, maintain productivity, and adapt to changing conditions.<sup>253</sup> Diversifying crop varieties and

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<sup>246</sup> Misra, A. K. (2014). Climate change and challenges of water and food security. *International Journal of Sustainable Built Environment*, 3(1), 153-165.

<sup>247</sup> Ibid.

<sup>248</sup> Ibid.

<sup>249</sup> Ibid.

<sup>250</sup> Ibid.

<sup>251</sup> Ibid.

<sup>252</sup> SALIU, F., Luqman, M., & Alkhaz'leh, H. S. (2023). The Impact of Sustainable Agriculture Practices on Crop Yields and Soil Health. *International Journal of Research and Advances in Agricultural Sciences*, 2(2), 1-13.

<sup>253</sup> Ibid.

introducing mixed cropping systems enhance resilience by reducing the risk of crop failure.<sup>254</sup> Growing a variety of crops with different climate adaptability improves the chances of at least some crops withstanding climate-related challenges.<sup>255</sup>

Crop rotation and agroforestry practices improve soil health, enhance water retention, and provide habitat for beneficial organisms.<sup>256</sup> These practices contribute to increased resilience by promoting biodiversity, nutrient cycling, and natural pest control.<sup>257</sup> Efficient water management practices, such as precision irrigation, rainwater harvesting, and water-efficient technologies, helps mitigate water scarcity and ensure sustainable water use in agriculture.<sup>258</sup> Efficient water management improves crop resilience during periods of water stress.<sup>259</sup> Conservation agriculture practices, including reduced tillage, cover cropping, and soil organic matter management, enhance soil health and resilience.<sup>260</sup> Healthy soils with improved structure, moisture retention, and nutrient availability are better equipped to withstand climate-related challenges.

Climate-smart agriculture (CSA) practices play a crucial role in ensuring food security in a changing climate by increasing agricultural productivity, enhancing resilience, and reducing greenhouse gas emissions.<sup>261</sup> Conservation agriculture practices, such as reduced tillage, cover cropping, and crop rotation, improve

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<sup>254</sup> Ibid.

<sup>255</sup> SALIU, F., Luqman, M., & Alkhaz'leh, H. S. (2023).

<sup>256</sup> Ibid.

<sup>257</sup> Ibid.

<sup>258</sup> Ibid.

<sup>259</sup> Ibid.

<sup>260</sup> Ibid.

<sup>261</sup> Raj, A., Jhariya, M. K., Yadav, D. K., Banerjee, A., & Meena, R. S. (2019). Agroforestry: a holistic approach for agricultural sustainability. *Sustainable agriculture, forest and environmental management*, 101-131.

soil health, water retention, and nutrient cycling.<sup>262</sup> These practices enhance soil resilience, reduce erosion, and increase agricultural productivity, ultimately contributing to food security.<sup>263</sup> Climate-smart water management practices, such as efficient irrigation systems, rainwater harvesting, and water-use efficiency techniques, ensure optimal water use in agriculture.<sup>264</sup> By reducing water losses and improving water availability during periods of water stress, these practices enhance crop productivity and food security.<sup>265</sup> Agroforestry integrates trees with crops or livestock to create sustainable and diverse farming systems.<sup>266</sup> Trees provide numerous benefits, including shade, windbreaks, soil conservation, and improved biodiversity.<sup>267</sup> Agroforestry systems contribute to food security by diversifying income sources, enhancing soil fertility, and providing sustainable production systems.<sup>268</sup> Developing and adopting climate-resilient crop varieties that can tolerate heat, drought, pests, and diseases is essential for ensuring food security.<sup>269</sup> These crop varieties are bred to withstand the challenges posed by climate change and maintain productivity under adverse conditions, thus reducing the risk of crop failure.<sup>270</sup>

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<sup>262</sup> Ibid.

<sup>263</sup> Ibid.

<sup>264</sup> Ibid.

<sup>265</sup> Ibid.

<sup>266</sup> Raj, A., et.al. (2019).

<sup>267</sup> Dasgupta, S., Meisner, C., & Wheeler, D. (2007). Is environmentally friendly agriculture less profitable for farmers? Evidence on integrated pest management in Bangladesh. *Applied Economic Perspectives and Policy*, 29(1), 103-118.

<sup>268</sup> Ibid.

<sup>269</sup> Ibid.

<sup>270</sup> Ibid.

Integrated Pest Management (IPM): Implementing IPM practices reduces reliance on chemical pesticides and promotes the use of environmentally friendly pest control methods.<sup>271</sup> By integrating biological controls, cultural practices, and pest-resistant crop varieties, IPM enhances resilience, reduces production losses, and ensures sustainable food production.<sup>272</sup> Climate-smart livestock management practices, such as rotational grazing, improved feed efficiency, and manure management, contribute to food security by promoting sustainable livestock production. These practices reduce greenhouse gas emissions, optimize resource use, and enhance animal health and productivity.<sup>273</sup>

Promoting sustainable and diverse agricultural systems is essential for enhancing resilience in the face of climate change and ensuring long-term food security.<sup>274</sup> Sustainable and diverse agricultural systems are better equipped to cope with climate-related challenges.<sup>275</sup> By incorporating a variety of crops, livestock, and management practices, these systems can adapt to changing environmental conditions, reducing the risk of crop failures and food shortages.<sup>276</sup> Sustainable and diverse agricultural systems support and enhance ecosystem services, such as pollination, natural pest control, and nutrient cycling. Preserving biodiversity and ecological balance in agricultural landscapes enhances resilience, as these

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<sup>271</sup> Ibid.

<sup>272</sup> Ibid.

<sup>273</sup> Ibid.

<sup>274</sup> Zougmore, R. B., Partey, S. T., Ouédraogo, M., Torquebiau, E., & Campbell, B. M. (2018). Facing climate variability in sub-Saharan Africa: analysis of climate-smart agriculture opportunities to manage climate-related risks. *Cahiers Agricultures (TSI)*, 27(3), 1-9.

<sup>275</sup> Ibid.

<sup>276</sup> Ibid.



services contribute to crop productivity and stability.<sup>277</sup> Diverse cropping systems, cover cropping, and organic matter management practices improve soil health and fertility. Healthy soils with good structure, water-holding capacity, and nutrient availability are more resilient to climate extremes and can support sustained agricultural productivity.<sup>278</sup>

Monoculture systems are more susceptible to pest and disease outbreaks.<sup>279</sup> In contrast, diverse agricultural systems provide natural pest control mechanisms, such as beneficial insects and microbial communities, which help suppress pests and reduce the need for chemical interventions.<sup>280</sup> Sustainable agricultural systems prioritize efficient resource use, including water, energy, and nutrients.<sup>281</sup> By minimizing waste and optimizing resource utilization, these systems reduce environmental impacts, conserve resources, and promote long-term agricultural productivity.<sup>282</sup> Promoting sustainable and diverse agricultural systems benefits rural communities by providing diverse income opportunities.

## **VIII. Conclusion**

Sustainable agriculture plays a critical role in achieving environmental stewardship and ensuring food security in the face of global challenges. Throughout this discussion, key points that emphasize the importance of sustainable farming practices have been addressed, including how sustainable agriculture integrates ecological principles, resource efficiency, and social considerations to

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<sup>277</sup> Zougmore, R. B., et.al. (2018).

<sup>278</sup> Ibid.

<sup>279</sup> Dickinson III, J. C. (1972). Alternatives to monoculture in the humid tropics of Latin America. *The Professional Geographer*, 24(3), 217-222.

<sup>280</sup> Ibid.

<sup>281</sup> Ibid.

<sup>282</sup> Ibid.

foster long-term environmental, economic, and social well-being; it embraces practices such as organic farming, permaculture, regenerative agriculture, and agroecology, which prioritize soil health, biodiversity, and ecosystem resilience; sustainable agriculture promotes water management, reduces chemical inputs, and implements precision farming and innovative technologies to enhance efficiency and minimize environmental impacts; and it recognizes the importance of sustainable packaging, reducing food waste, and adopting circular economy approaches to improve the environmental sustainability of the food supply chain.

The importance of sustainable agriculture cannot be overstated. It represents a vital pathway towards achieving environmental stewardship and ensuring food security for present and future generations. By safeguarding soil health, conserving water resources, preserving biodiversity, and reducing pollution, sustainable agriculture mitigates environmental degradation and protects ecosystems.<sup>283</sup> Sustainable practices sequester carbon, reduce greenhouse gas emissions, and enhance the resilience of agricultural systems, thus helping to mitigate climate change impacts.<sup>284</sup> Sustainable agriculture enhances food security by promoting diverse and resilient farming systems, reducing reliance on external inputs, and improving access to nutritious and culturally appropriate food.<sup>285</sup> Sustainable farming practices improve farm profitability, foster local economic development, and enhance the resilience of farming communities.<sup>286</sup>

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<sup>283</sup> Dickinson III, J. C. (1972).

<sup>284</sup> Ibid.

<sup>285</sup> Ibid.

<sup>286</sup> Ibid.

To realize the full potential of sustainable agriculture, a collective effort is needed. Farming should embrace sustainable farming practices, diversify crops, prioritize soil health, conserve water resources, and engage in knowledge sharing and capacity building initiatives. Develop and implement policies that incentivize sustainable farming practices, promote research and innovation, provide financial support, and establish regulatory frameworks that protect natural resources and support farmers in transitioning to sustainable models. Make informed choices by supporting local and sustainable food systems, reducing food waste, and demanding transparency and accountability from food producers and retailers. Working together, we can create a greener future where sustainable agriculture is at the forefront of our food systems. Let us cultivate sustainability, nurture resilient agriculture, and pave the way for a more prosperous, equitable, and resilient world.

## **References**

- Abah, J., Ishaq, M. N., & Wada, A. C. (2010). The role of biotechnology in ensuring food security and sustainable agriculture. *African Journal of Biotechnology*, 9(52), 8896-8900.
- Ahmad, M., Muhammad, W., & Sajjad, A. (2020). Ecological management of cotton insect pests. *Cotton Production and Uses: Agronomy, Crop Protection, and Postharvest Technologies*, 213-238.
- Altieri, M. A., Nicholls, C. I., Henao, A., & Lana, M. A. (2015). Agroecology and the design of climate change-resilient farming systems. *Agronomy for sustainable development*, 35(3), 869-890.
- Anderson, M. D., & Rivera-Ferre, M. (2021). Food system narratives to end hunger: extractive versus regenerative. *Current Opinion in Environmental Sustainability*, 49, 18-25.
- Barea, J. M., Azcón, R., & Azcón-Aguilar, C. (2005). Interactions between mycorrhizal fungi and bacteria to improve plant nutrient cycling and soil structure. *Microorganisms in soils: roles in genesis and functions*, 195-212.
- Basiago, A. D. (1998). Economic, social, and environmental sustainability in development theory and urban planning practice. *Environmentalist*, 19(2), 145-161.

- Chartzoulakis, K., & Bertaki, M. (2015). Sustainable water management in agriculture under climate change. *Agriculture and Agricultural Science Procedia*, 4, 88-98.
- Darnhofer, I., Lindenthal, T., Bartel-Kratochvil, R., & Zollitsch, W. (2010). Conventionalisation of organic farming practices: from structural criteria towards an assessment based on organic principles. A review. *Agronomy for sustainable development*, 30, 67-81.
- Dasgupta, S., Meisner, C., & Wheeler, D. (2007). Is environmentally friendly agriculture less profitable for farmers? Evidence on integrated pest management in Bangladesh. *Applied Economic Perspectives and Policy*, 29(1), 103-118.
- De Ponti, T., Rijk, B., & Van Ittersum, M. K. (2012). The crop yield gap between organic and conventional agriculture. *Agricultural systems*, 108, 1-9.
- Dickinson III, J. C. (1972). Alternatives to monoculture in the humid tropics of Latin America. *The Professional Geographer*, 24(3), 217-222.
- Diop, M., Chirinda, N., Beniaich, A., El Gharous, M., & El Mejahed, K. (2022). Soil and Water Conservation in Africa: State of Play and Potential Role in Tackling Soil Degradation and Building Soil Health in Agricultural Lands. *Sustainability*, 14(20), 13425.

- Edge, J. M., Benedict, J. H., Carroll, J. P., & Reding, H. K. (2001). Bollgard cotton: an assessment of global economic, environmental, and social benefits.
- El-Ramady, H. R., Alshaal, T. A., Amer, M., Domokos-Szabolcsy, É., Elhawat, N., Prokisch, J., & Fári, M. (2014). Soil quality and plant nutrition. *Sustainable Agriculture Reviews 14: Agroecology and Global Change*, 345-447.
- Hansen, L., Noe, E., & Højring, K. (2006). Nature and nature values in organic agriculture. An analysis of contested concepts and values among different actors in organic farming. *Journal of Agricultural and Environmental Ethics*, 19, 147-168.
- Fenster, T. L., LaCanne, C. E., Pecenka, J. R., Schmid, R. B., Bredeson, M. M., Busenitz, K. M., ... & Lundgren, J. G. (2021). Defining and validating regenerative farm systems using a composite of ranked agricultural practices. *F1000Research*, 10.
- Ferguson, R. S., & Lovell, S. T. (2014). Permaculture for agroecology: design, movement, practice, and worldview. A review. *Agronomy for sustainable development*, 34, 251-274.
- Fiebrig, I., & Van De Wiel, M. (2021). Usefulness of Surface Water Retention Reservoirs Inspired by 'Permaculture Design': A Case Study in Southern Spain Using Bucket Modelling. *A Nexus Approach for Sustainable Development: Integrated Resources Management in Resilient Cities and Multifunctional Land-use Systems*, 57-79.

- Flora, C. B. (2010). Food security in the context of energy and resource depletion: Sustainable agriculture in developing countries. *Renewable agriculture and food systems*, 25(2), 118-128.
- Habib, B., & Fadaee, S. (2022). Permaculture: A Global Community of Practice. *Environmental Values*, 31(4), 441-462
- Hathaway, M. D. (2016). Agroecology and permaculture: addressing key ecological problems by rethinking and redesigning agricultural systems. *Journal of Environmental Studies and Sciences*, 6, 239-250.
- Holland, J. M. (2004). The environmental consequences of adopting conservation tillage in Europe: reviewing the evidence. *Agriculture, ecosystems & environment*, 103(1), 1-25.
- Horrigan, L., Lawrence, R. S., & Walker, P. (2002). How sustainable agriculture can address the environmental and human health harms of industrial agriculture. *Environmental health perspectives*, 110(5), 445-456.
- Hobbs, P. R. (2007). Conservation agriculture: what is it and why is it important for future sustainable food production?. *The Journal of Agricultural Science*, 145(2), 127.
- Huber, B., Schmid, O., & Napo-Bitantem, G. (2015). Standards and regulations. *The World of Organic Agriculture. Statistics and Emerging Trends*, 126-133.

- Jacobsen, B. J. (1997). Role of plant pathology in integrated pest management. *Annual review of phytopathology*, 35(1), 373-391.
- Jestratičević, I., Maystorovich, I., & Vrabič-Brodnjak, U. (2022). The 7 Rs sustainable packaging framework: Systematic review of sustainable packaging solutions in the apparel and footwear industry. *Sustainable Production and Consumption*, 30, 331-340.
- Jouzi, Z., Azadi, H., Taheri, F., Zarafshani, K., Gebrehiwot, K., Van Passel, S., & Lebailly, P. (2017). Organic farming and small-scale farmers: Main opportunities and challenges. *Ecological economics*, 132, 144-154.
- Korlakunta, R. S. (2022). Groundwater Crisis in Southern Rural India: Understanding Farmers' Perspectives and Local Participatory Mitigation Strategies.
- Khalid, I., Mukhtar, A., & Ahmed, Z. (2014). Water scarcity in South Asia: a potential conflict of future decades. *Journal of Political Studies*, 21(1), 259.
- Lal, R. (2020). Regenerative agriculture for food and climate. *Journal of soil and water conservation*, 75(5), 123A-124A.
- Lechenet, M., Bretagnolle, V., Bockstaller, C., Boissinot, F., Petit, M. S., Petit, S., & Munier-Jolain, N. M. (2014). Reconciling pesticide reduction with economic and environmental sustainability in arable farming. *PloS one*, 9(6), e97922.



- Mall, R. K., Gupta, A., & Sonkar, G. (2017). Effect of climate change on agricultural crops. In *Current developments in biotechnology and bioengineering* (pp. 23-46). Elsevier.
- McLennon, E., Dari, B., Jha, G., Sihi, D., & Kankarla, V. (2021). Regenerative agriculture and integrative permaculture for sustainable and technology driven global food production and security. *Agronomy Journal*, 113(6), 4541-4559.
- McMichael, A. J., & Lindgren, E. (2011). Climate change: present and future risks to health, and necessary responses. *Journal of internal medicine*, 270(5), 401-413.
- Misra, A. K. (2014). Climate change and challenges of water and food security. *International Journal of Sustainable Built Environment*, 3(1), 153-165.
- Nagarajan, G., & Minu, R. I. (2018). Wireless soil monitoring sensor for sprinkler irrigation automation system. *Wireless Personal Communications*, 98, 1835-1851.
- Neuhoff, D., Tashi, S., Rahmann, G., & Denich, M. (2014). Organic agriculture in Bhutan: potential and challenges. *Organic agriculture*, 4, 209-221.
- Porkka, M., Gerten, D., Schaphoff, S., Siebert, S., & Kummu, M. (2016). Causes and trends of water scarcity in food production. *Environmental research letters*, 11(1), 015001.
- Raj, A., Jhariya, M. K., Yadav, D. K., Banerjee, A., & Meena, R. S. (2019). Agroforestry: a holistic approach for agricultural

sustainability. Sustainable agriculture, forest and environmental management, 101-131.

Rejesus, R. M., & Jones, M. S. (2020). Perspective: enhancing economic evaluations and impacts of integrated pest management farmer field schools (IPM-FFS) in low-income countries. *Pest Management Science*, 76(11), 3527-3536.

Rodrigues, P. B. (2021). *The Prospect of Permaculture as a Part of Gastronomic Tourism in New Zealand* (Doctoral dissertation, Auckland University of Technology).

Rijal, S. (2019). *Agroforestry System: approaches for climate change mitigation and adaptation*. *Big Data In Agriculture (BDA)*, 1(2), 23-25.

Roux-Rosier, A., Azambuja, R., & Islam, G. (2018). Alternative visions: Permaculture as imaginaries of the Anthropocene. *Organization*, 25(4), 550-572.

Sala, S., McLaren, S. J., Notarnicola, B., Saouter, E., & Sonesson, U. (2017). In quest of reducing the environmental impacts of food production and consumption. *Journal of cleaner production*, 140, 387-398.

Salomon, M. J., & Cavagnaro, T. R. (2022). Healthy soils: The backbone of productive, safe and sustainable urban agriculture. *Journal of Cleaner Production*, 130808.

SALIU, F., Luqman, M., & Alkhaz'leh, H. S. (2023). The Impact of Sustainable Agriculture Practices on Crop Yields and Soil

Health. *International Journal of Research and Advances in Agricultural Sciences*, 2(2), 1-13.

Seufert, V., Ramankutty, N., & Foley, J. A. (2012). Comparing the yields of organic and conventional agriculture. *Nature*, 485(7397), 229-232.

Smith, R. G., Atwood, L. W., & Warren, N. D. (2014). Increased productivity of a cover crop mixture is not associated with enhanced agroecosystem services. *PloS one*, 9(5), e97351.

Tal, A. (2018). Making conventional agriculture environmentally friendly: moving beyond the glorification of organic agriculture and the demonization of conventional agriculture. *Sustainability*, 10(4), 1078.

Tamburini, G., Bommarco, R., Wanger, T. C., Kremen, C., Van Der Heijden, M. G., Liebman, M., & Hallin, S. (2020). Agricultural diversification promotes multiple ecosystem services without compromising yield. *Science advances*, 6(45), eaba1715.

Thrupp, L. A. (2000). Linking agricultural biodiversity and food security: the valuable role of agrobiodiversity for sustainable agriculture. *International affairs*, 76(2), 265-281.

Trigo, A., Marta-Costa, A., & Fragoso, R. (2021). Principles of sustainable agriculture: Defining standardized reference points. *Sustainability*, 13(8), 4086.

- Veteto, J. R., & Lockyer, J. (2008). Environmental anthropology engaging permaculture: moving theory and practice toward sustainability. *Culture & Agriculture*, 30(1-2), 47-58.
- Ubisi, N. R., Mafongoya, P. L., Kolanisi, U., & Jiri, O. (2017). Smallholder farmer's perceived effects of climate change on crop production and household livelihoods in rural Limpopo province, South Africa. *Change and Adaptation in Socio-Ecological Systems*, 3(1), 27-38.
- Wander, M. M., & Drinkwater, L. E. (2000). Fostering soil stewardship through soil quality assessment. *Applied Soil Ecology*, 15(1), 61-73.
- Wezel, A., Bellon, S., Doré, T., Francis, C., Vallod, D., & David, C. (2009). Agroecology as a science, a movement and a practice. A review. *Agronomy for sustainable development*, 29, 503-515.
- Zougmore, R. B., Partey, S. T., Ouédraogo, M., Torquebiau, E., & Campbell, B. M. (2018). Facing climate variability in sub-Saharan Africa: analysis of climate-smart agriculture opportunities to manage climate-related risks. *Cahiers Agricultures (TSI)*, 27(3), 1-9

## **Fragile Ecosystems, Fragile Peace: Examining the Fragility of Peace and Security in the Face of Climate Change in Northern Kenya**

*By: Ndirangu Ngunjiri\**

### **Abstract**

*This paper investigates the fundamental issue of environmental change and its unfavorable effect on harmony and security in Northern Kenya. Northern Kenya Counties (NKC), more so climate change in transforming and redefining the way society think about security and peace, northern Kenya is highly vulnerable to climate change, including flooding, droughts and, most recently, a locust infestation. This is likely to tackle on resource use problems in NKCs, this involves activities that connect between climate change and conflict and to increase understanding among policymakers, academics, and the general public. The study was conducted based on primary data from 45 cases in NKCs. In total, 37 archetypical patterns were extracted, and the following implications were observed, projected climate change poses a serious threat to Kenya's national security; it acts as a threat multiplier for instability in some of the most volatile regions in Kenya. Climate change-related shifts in rainfall patterns and increased frequency of droughts have led to resource scarcity and competition, exacerbating existing social and economic vulnerabilities. Local authorities lack the resources, capacity, and coordination needed to effectively manage the impacts of climate change on communities. Climate change-related environmental degradation has led to increased migration and displacement. These findings benefit Northern Kenya Counties and other regions pursuing people dependent on natural resources for their livelihoods. Conflict-sensitive adaptation strategies are needed. Such strategies should take into*

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*account the potential unintended consequences of adaptation measures on conflict dynamics and prioritize the participation of marginalized communities in decision-making processes. International support is critical to addressing the climate change threat to peace and security in NKC.*

*The disruption of traditional livelihoods due to climate change further compounds insecurity in Northern Kenya. Pastoralists, heavily dependent on grazing lands and water sources, face immense challenges as these resources become increasingly scarce (Kilian, 2021). Losing livelihood opportunities pushes individuals into Poverty, erodes social cohesion, and increases vulnerability to exploitation and radicalization. Disenfranchised youth, lacking viable economic alternatives, are particularly susceptible to recruitment by extremist groups, posing additional security risks within the region. (Rachael, 2022).*

*The security implications of climate change in Northern Kenya extend beyond the region. Its proximity to conflict-prone areas such as Somalia and South Sudan heightens security risks. According to (Kintai, 2023), Climate-induced migration and resource scarcity create conditions conducive to the spread of violent extremism and arms trafficking. The resulting destabilization can spill over into neighboring regions, exacerbating conflicts and burdening fragile states. Addressing climate change and its security implications requires collaborative regional efforts and comprehensive strategies to build resilience and promote sustainable development.*

*In conclusion, climate change severely threatens peace and security in Northern Kenya, exacerbating existing vulnerabilities and tensions. Urgent action is necessary to comprehensively address climate change, integrating climate resilience, conflict prevention, sustainable development, and effective governance. By doing so, Northern Kenya can build a resilient and secure future for its communities, mitigating the security risks amplified by climate change.*

**Keywords:** *Climate Change, Peace, Kenya, Poverty, Conflict, Water, Environment, Pasture*

## **1. Introduction**

Environmental change significantly compromises harmony and security, and one of the places where this danger is more noticeable is Northern Kenya (Kimtai, 2023). Arranged in a district previously troubled with various difficulties, including destitution, political precariousness, and ethnic pressures, environmental change compounds existing weaknesses, elevates social strains, and subverts harmony and security (Rachael, 2022). This section investigated the complicated connection between environmental change and its antagonistic impacts on the harmony and security of Northern Kenya. By digging into the different elements of this perplexing issue, this paper revealed insight into the dire requirement for complete methodologies to address environmental change to cultivate security, versatility, and manageable advancement in the area.

Northern Kenya is an immense and different locale described by its delicate biological system, bone-dry and semi-parched lands, and overwhelmingly provincial populace (Africa, 2020). The district has various ethnic gatherings, including the Turkana, Samburu, Borana, Rendille, and Gabra, each with unmistakable social customs and job rehearses. Notwithstanding, the difficulties the effects of environmental change intensify these networks face.

Climate change has become progressively clear in Northern Kenya, appearing through changing precipitation patterns, rising temperatures, and outrageous climate periods (Kilian, 2021). Delayed dry seasons have become more continuous, leaving the area wrestling with water shortage, lessening fields, and diminished

farming efficiency (Rachael, 2022). Such climate instigated difficulties seriously undermining the area's social texture, monetary steadiness, harmony, and security. One of the most significant consequences of climate change in Northern Kenya is the escalation of resource scarcity (Ruto, 2009). As rainfall becomes increasingly erratic, agricultural yields decline, exacerbating food insecurity and economic hardships. Pastoralists, who rely on grazing lands and water sources, face tremendous challenges as these vital resources become scarce. The resulting competition for limited resources intensifies tensions and conflicts within and between communities. Cattle rustling, land disputes, and skirmishes over water sources have become distressingly common, eroding social cohesion and stability (ZAWYA, n.d.).

Moreover, climate change-induced displacement has become a pressing concern in Northern Kenya (Ruto, 2009). Desertification, prolonged droughts, and unpredictable weather patterns force communities to abandon their homes in search of alternative livelihoods and resources (Kilian, 2021). The resulting influx of migrants into resource-constrained areas strains local resources and infrastructure, intensifying competition and conflicts over land, water, and essential services. Displaced individuals face heightened vulnerabilities and are often exposed to exploitation and abuse, further exacerbating social tensions and compromising security (Lamprey, n.d.).

Disrupting traditional livelihoods due to climate change further compounds insecurity in Northern Kenya (J.M.Lewis, 1963). Pastoralists, who have practiced nomadic herding for generations, find their way of life threatened by diminishing pasturelands and water sources. This loss of livelihood opportunities pushes



individuals into Poverty and erodes community cohesion and stability (Kilian, 2021). The disenchanted youth, lacking economic prospects, become vulnerable to recruitment by extremist groups, posing additional security risks and exacerbating existing conflicts (Lamprey, n.d.).

The environmental change represents a severe and multifaceted danger to harmony and security in Northern Kenya (Lamprey, n.d). The unfavorable effects of climate change intensify asset shortage, sabotage livelihoods, debilitate establishments, and enhance territorial security gambles. Critical and deliberate activity is expected to address environmental change completely, advance practical turn of events, fabricate flexibility, and cultivate harmony and dependability. Tending to environmental change in Northern Kenya can prepare for a safer, prosperous, and strong future for the locale's networks (Kilian, 2021).

## **2. Some examples of climate change as a threat to peace and security**

Climate change has emerged as a critical global challenge, with far-reaching implications for various sectors, including peace and security. This literature review aims to provide an overview of the existing research and scholarly discourse on climate change as a threat to peace and security in Northern Kenya. By synthesizing the essential findings and perspectives from previous studies, this review aims to contribute to a deeper understanding of the region's complex dynamics and implications of climate change.

### **2.1 Climate Change and Resource Scarcity:**

Climate change in Northern Kenya has significant ramifications for asset shortage, which adds to clashes and pressures inside the region

(ZAWYA, n.d.). The changing rainfall patterns, unusual climate occasions, and delayed dry spells related to environmental change have brought about water shortage, diminished rural efficiency, and disagreements regarding restricted assets like land and water. These difficulties have been broadly contemplated, uncovering the multifaceted connection between asset shortage, environmental change, and clashes in Northern Kenya. Asset-based viciousness is a considerable sign of struggles set off by environmental change-prompted asset shortage in Northern Kenya. Studies have archived various contentions over regular assets, like animal robbery and attacks, escalated by ecological difficulties (Kintai, 2023).

Resource based violence is not exclusively determined by rivalry for scarce assets but, conversely, is impacted by social, financial, and political variables (Ongoro, 2010). These struggles frequently arise from a mind-boggling transaction of verifiable complaints, power elements, and financial variations. Understanding the complex idea of struggles in Northern Kenya is pivotal for creating compelling procedures to address and relieve the effects of environmental change on asset shortage and security. Livestock theft and raiding are prevalent forms of resource-based violence in Northern Kenya. As climate change reduces the availability of suitable grazing lands and water sources, competition over these resources intensifies, leading to conflicts between pastoralist communities. The struggle to secure adequate pasture for livestock drives some individuals to resort to stealing or raiding the livestock of other communities, further fueling tensions and exacerbating existing conflicts (Ongoro, 2010).

Land disputes and conflicts over land ownership are other manifestations of resource-based violence influenced by climate change (African, 2017). As land degradation and desertification

expand in arid and semi-arid areas, communities face increased competition for fertile land. Disputes arise over land rights, access to productive agricultural areas, and grazing lands, often resulting in confrontations and violence. These conflicts are driven not only by the scarcity of land but also by underlying issues of historical land tenure, inadequate governance, and ineffective dispute-resolution mechanisms.

For one to address the complex dynamics of resource-based violence in Northern Kenya, one requires a comprehensive approach beyond addressing immediate resource scarcity (Wairimu, 2017).

Endeavors ought to zero in on supportable assets, the executives, fair dispersion of assets, reinforcing administration frameworks, advancing compromise systems, and tending to fundamental financial and political elements (Wairimu, 2017). Building versatility, encouraging exchange, and advancing collaboration among networks are fundamental for accomplishing long-haul harmony, security, and practical asset usage, even with environmental change-prompted asset shortage (Wairimu, 2017).

By understanding the linkages between environmental change, asset shortage, and clashes, policymakers, and partners can foster designated mediations that address the main drivers of asset-based savagery, advance reasonable asset executives' practices, and cultivate tranquil concurrence in Northern Kenya (Wairimu, 2017).

## **2.2 Climate-Induced Displacement**

Environmental change in Northern Kenya has prompted the removal of networks because of desertification, land corruption, delayed dry spells, and water shortage (Opiyo, n.d.). These natural difficulties

force individuals to leave their conventional grounds and look for elective jobs, significantly interrupting their lives and the social texture of country networks. Environmental change adds to the developing dry and semi-bone-dry locales in Northern Kenya. As desertification advances, already tenable grounds become unacceptable for farming and other work exercises. This extension uproots networks from their customary terrains and makes their vocations impractical.

Land disputes brought about by climate change decrease the ripeness and efficiency of agrarian terrains in Northern Kenya (Muigua, n.d.). The antagonistic impacts of environmental change include delayed dry spells, inconsistent precipitation designs, expanded soil disintegration, corrupt soil quality, and exhaust fundamental supplements. Thus, ranchers and country networks are compelled to forsake their territories because of the lessened limit of the dirt to help feasible agrarian practices. This deficiency of valuable rural land further worsens the difficulties looked by networks in the area. Prolonged droughts and water scarcity drive communities in Northern Kenya to migrate in search of accessible water sources (Rachael, O. 2022). As water becomes increasingly scarce, competition and conflicts arise between migrating and host communities over limited water resources. This competition strains already scarce resources and heightens tensions within and between communities (Muigua, n.d.).

The loss of grazing lands due to prolonged droughts forces pastoralist communities to move with their livestock in search of suitable pastures. This displacement leads to conflicts and resource competition between migrating pastoralist groups and settled communities along migration routes. The strain on available grazing

lands and water sources intensifies existing social and ethnic divisions, creating further instability in the region (Lamprey, n.d.).

Addressing the challenges of climate-induced displacement in Northern Kenya requires comprehensive strategies focusing on sustainable land management, diversification of livelihood activities, and supporting affected communities. Implementing measures to mitigate desertification and land degradation, such as reforestation, soil conservation, and water harvesting techniques, can help restore the productivity of degraded lands. Developing resilient water management systems and promoting sustainable agricultural practices can alleviate the impacts of prolonged droughts and water scarcity (Kintai, 2023). Additionally, supporting pastoralist communities with access to grazing lands, veterinary services, and alternative income-generating activities can contribute to their resilience and reduce conflicts along migration routes.

By implementing these strategies, Northern Kenya can address the root causes of climate-induced displacement, mitigate conflicts arising from resource competition, and foster sustainable and resilient communities (Rachael, O. 2022). The protection and restoration of livelihoods, along with the preservation of cultural practices and traditional knowledge, are essential for ensuring the wellbeing and stability of affected populations.

### **2.3 Strained Resources and Heightened Tensions**

Climate change-induced migration and displacement in Northern Kenya significantly strain resources and heighten social tensions (Detges, 2014). The influx of migrants into host communities creates challenges related to resource availability, social integration, and competition over land and water (Detges, 2014). These factors

contribute to potential conflicts and instability within the region. The arrival of migrants strains the resources and infrastructure of host communities in Northern Kenya. The sudden increase in population places a burden on basic amenities such as water, food, healthcare, and housing. The limited availability of these resources leads to competition and can create tensions between the host communities and the newly arrived migrants (Detges, 2014). The process of integrating migrants into host communities poses social and cultural challenges. Differences in traditions, customs, and resource-sharing may result in social tensions and exclusion. The presence of diverse ethnic groups and the need to navigate unfamiliar social dynamics can lead to misunderstandings and conflicts between the host and migrant communities (J.M.Lewis, 1963).

Migrant communities often compete with host communities for fertile land and grazing areas. The scarcity of available land resources exacerbates existing land disputes and ownership conflicts, leading to heightened insecurity and tensions (J.M.Lewis, 1963). Disputes over land and grazing rights can escalate into violent confrontations and perpetuate a cycle of conflict. Migrants and host communities vie for limited water resources, intensifying conflicts and tensions. As water sources become strained, competition over access to water increases, aggravating existing social and ethnic divisions. Disputes over water management and infrastructure exacerbate the already fragile situation, posing a threat to peace and stability in the region (Otunga, 2023).

Displaced communities facing similar challenges and relying on the same limited resources may engage in conflicts and violent confrontations (Otunga, 2023). Competition over water points, grazing lands, and livelihood opportunities can fracture social

cohesion and further instability within the displaced communities. Displacement and resource competition can potentially exacerbate ethnic and political tensions in Northern Kenya. Manipulation of ethnic identities and competition over resources can escalate into inter-communal conflicts (Otunga, 2023). This further fragments community and undermines peace and security in the region.

Addressing the challenges posed by human displacement and migration requires comprehensive strategies that focus on conflict resolution, equitable resource sharing, and integrating displaced communities into host communities (Kimtai, 2023). Northern Kenya can foster peace, security, and social cohesion amidst climate-induced migration pressures by promoting inclusive approaches and sustainable resource management. Efforts to address the root causes of conflicts, support host communities, and ensure the fair distribution of resources are crucial to building a resilient and harmonious society (Otunga, 2023).

Climate change impacts in Northern Kenya significantly undermine livelihoods, exacerbating Poverty, food insecurity, and economic instability (Otunga, 2023). This section explores the dimensions of livelihood insecurity and its implications for peace and security in the region. Climate change significantly impacts agriculture in Northern Kenya, affecting crop productivity and food security (Kilian, 2021). Erratic rainfall patterns and prolonged droughts disrupt agricultural activities and reduce crop yields. Farmers struggle to secure reliable water sources for irrigation, making it challenging to sustain their livelihoods and maintain consistent agricultural productivity. Climate-related hazards such as floods or dry spells contribute to crop failures and food shortages (Kilian, 2021). Reduced access to nutritious food increases vulnerability to malnutrition, particularly

among marginalized communities who rely heavily on agriculture for sustenance. Desertification and droughts reduce grazing lands and water sources, negatively impacting pastoralist communities. The decline in available pasture and water affects livestock productivity, leading to economic losses and posing challenges to the traditional pastoralist way of life (Kilian, 2021).

Climate change-related stresses such as heatwaves and disease outbreaks affect livestock health, leading to significant mortality rates. The loss of livestock reduces income generation, exacerbating Poverty and food insecurity among pastoralist communities. Climate change influences water availability and quality, posing challenges for communities in accessing clean water (Kilian, 2021).

Changing rainfall patterns and increased water demand strain water sources, resulting in water scarcity and reduced water quality. Limited access to clean water affects communities' health, hygiene, and overall wellbeing. Water scarcity forces women and girls to travel long distances to collect water, impacting their education and exposing them to safety risks (Rachael, O. 2022). The disproportionate responsibility placed on women for securing water exacerbates gender inequalities.

#### **2.4 Vulnerability and Extremist Recruitment:**

Climate change-induced vulnerabilities contribute to social and economic instability, creating conditions that can facilitate extremist recruitment (Rachael, O. 2022). Livelihood disruptions and economic instability resulting from climate change contribute to increased poverty rates. Poverty, in turn, drives social discontent, creating conditions conducive to recruitment into extremist groups (Rachael, O. 2022). Climate change-induced resource scarcity exacerbates



existing inequalities in resource distribution. Perceptions of injustice and marginalization can fuel social tensions and undermine peace and security (ZAWYA, n.d.). Vulnerability resulting from livelihood insecurity makes communities susceptible to exploitation by criminal networks. Recruitment into illicit activities, such as smuggling, can contribute to social instability and insecurity. Furthermore, disillusionment and limited economic opportunities resulting from climate-induced livelihood insecurities can make individuals more susceptible to radical ideologies, thus increasing the potential for extremist recruitment and engagement (Wairimu, 2017).

Livelihood insecurity intensifies youth unemployment and limited income-generating opportunities (Rono, 2023). Marginalized youth populations are more likely to be recruited into criminal activities or extremist groups. Frustrations from limited livelihood prospects can lead to social unrest and youth-led protests. Unaddressed grievances among youth can further escalate into violence and instability, undermining peace and security (Rono, 2023). Addressing livelihood insecurities requires comprehensive approaches that enhance resilience, promote sustainable agriculture, improve water resource management, and create economic opportunities for communities in Northern Kenya. By addressing the root causes of livelihood insecurities, the region can foster stability, reduce vulnerabilities, and strengthen peace and security (Rono, 2023).

## **2.5 Weakening of Institutions**

The impacts of climate change in Northern Kenya extend beyond the environmental and socioeconomic spheres, also affecting the strength and effectiveness of institutions (Wairimu, 2017). This section explored how climate change weakens institutions and the implications for peace and security. Northern Kenya faces

governance challenges in effectively addressing climate change and its impacts. Challenges associated with climate change strain government budgets, diverting resources from other essential sectors. Limited financial capacity hinders investing in adaptive measures and effective response strategies. Inadequate human resources, technical expertise, and institutional frameworks hinder effectively addressing climate-related issues (Rono, 2023). Limited capacity for monitoring, early warning systems, and data collection undermine preparedness and response efforts. The lack of comprehensive policies and strategies addressing climate change impacts hampers effective governance. Policy gaps contribute to ad hoc decision-making and hinder long-term adaptation and mitigation efforts. Inadequate coordination among different levels of government undermines cohesive responses to climate change. The lack of harmonized approaches hinders the implementation of climate adaptation and mitigation measures (Damdnijav, 2015).

Climate change poses challenges to the security sector in Northern Kenya, escalation of conflicts over limited resources places additional demands on security forces to maintain law and order (ZAWYA, n.d.). Police and security personnel face challenges managing resource-based disputes and maintaining peace during migration influxes. Climate change impacts, such as floods and storms, pose risks to critical infrastructure, including energy facilities and transportation networks. Security forces are tasked with protecting infrastructure from damage and ensuring the safety of affected communities (Damdnijav, 2015). Increased climate-induced migration and the influx of refugees burden border control and management systems. Security forces face challenges maintaining border security while managing humanitarian needs and population movements. Population movements resulting from climate change

can lead to tensions and conflicts between host communities and migrants (Damdnijav, 2015). Security forces are critical in preventing and managing cross-border conflicts and maintaining regional stability.

The judicial and legal systems encounter challenges in addressing climate-induced disputes and protecting land tenure and property rights (Damdnijav, 2015). Increasing resource-related conflicts overwhelm the capacity of judicial systems, resulting in significant case backlogs. Delays in resolving disputes contribute to prolonged tensions and the potential escalation of conflicts. Legal frameworks may not sufficiently address the complexities of climate-induced disputes and resource conflicts (Damdnijav, 2015). The lack of specific laws and regulations related to climate change and resource scarcity limits the effectiveness of legal interventions.

Climate change impacts create challenges in defining and enforcing land tenure and property rights. Disputes over land ownership and access are compounded, leading to legal uncertainties and potential conflicts (Damdnijav, 2015). Vulnerable and marginalized communities face difficulty asserting their land and property rights. Inadequate legal protection and limited access to justice perpetuate inequalities and undermine security. Addressing the weakening of institutions requires strengthening governance structures, enhancing institutional capacity, and improving policy frameworks (ACLED, 2023). Effective coordination, adequate resource allocation, and legal reforms are crucial in building resilient institutions capable of addressing the complex challenges posed by climate change. By bolstering institutions, Northern Kenya can better uphold peace, security, and the rule of law in the face of environmental transformations (ACLED, 2023).

### **3. Regional Security Implications**

The impact of climate change in Northern Kenya extends beyond local communities, posing regional security implications (ACLED, 2023). This section examined the various dimensions of regional security challenges arising from climate change and their implications for peace and stability. Climate change-induced water scarcity intensifies competition for transboundary water sources shared with neighboring regions or countries. Disputes over water allocation and infrastructure development may strain regional relations and escalate tensions (Kilian, 2021). Resource-based conflicts and migration flows from climate change can spill across borders, leading to regional insecurity. Escalating violence and displacement in one area may trigger a ripple effect, impacting neighboring regions and countries (ACLED, 2023).

Climate-induced changes in grazing patterns force pastoralist communities to migrate across borders for suitable grazing areas. Overlapping claims and competition for limited resources can result in conflicts and strained relations between border communities. Climate change impacts livestock husbandry, affecting cross-border trade and disrupting economic activities and livelihoods. Environmental challenges, trade disputes, and border restrictions can strain regional economic integration and cooperation (Rachael, 2022).

Climate change vulnerability in Northern Kenya increases the risk of extremism and terrorism. Climate change-induced socioeconomic insecurities, including food insecurity and livelihood disruptions, create fertile ground for extremism (Wairimu, 2017). Vulnerable communities facing limited opportunities may become more susceptible to radicalization and recruitment. Climate-induced displacement and migration can lead to the concentration of

vulnerable populations in specific areas or refugee camps. These situations increase the risk of radicalization and the exploitation of grievances by extremist groups, posing regional security threats (Rachael, 2022).

The escalation of resource-based conflicts resulting from climate change may attract the involvement of armed groups and militias (Wairimu, 2017). Militarization of conflicts exacerbates regional insecurity and undermines peacebuilding efforts. Climate-induced conflicts and security vacuums may allow extremist elements to infiltrate vulnerable areas (Rachael, 2022). Exploiting local grievances and weakened governance structures can lead to the establishment of extremist strongholds. Climate change presents cross-border climate challenges that require regional cooperation and coordination. Climate change impacts, such as deforestation and land degradation, affect ecosystems and biodiversity in trans boundary areas (Rachael, 2022). Loss of ecosystem services can have cascading effects on the environment and livelihoods, straining regional cooperation. Climate change-induced ecosystem changes and natural resource availability can impact regional economies and cooperation. Disputes over shared resources, such as fisheries or forests, can strain diplomatic relations and hinder regional stability (African, 2017).

Climate-induced migration and refugee flows across borders result in demographic changes in receiving regions. The influx of displaced populations can disrupt social dynamics, strain resources, and potentially lead to social tensions and conflicts. Climate-induced displacement burdens neighboring regions, stretching their capacity to provide humanitarian assistance. Overburdened host communities may face challenges in maintaining stability and meeting the needs of both displaced and local populations. Addressing the regional

security implications of climate change in Northern Kenya requires robust regional cooperation, diplomatic engagement, and conflict resolution mechanisms. Strengthening cross-border collaboration, promoting shared resource management, and addressing the socioeconomic root causes of conflicts are crucial in fostering regional stability and peace in the face of climate change challenges (Kimtai, 2023).

#### **4. Exhaustive Methodologies for Strength and Peacebuilding**

Climate change represents an imposing test to the harmony and security of Northern Kenya, requiring far-reaching systems to construct versatility and cultivate harmony even with natural dangers. The locale's weakness to environmental change intensifies existing financial variations and uplifts the gamble of contentions over scarce assets. Proactive and diverse methodologies are required to address these intricate difficulties, incorporating environmental versatility and peacebuilding endeavors. A few essential techniques can be taken on to moderate the effects of environmental change and advance reasonable harmony in Northern Kenya:

**Local area Based Variation Initiatives:** Connecting with neighborhood networks in the turn of events and execution of environment transformation techniques is fundamental. This incorporates advancing customary information and practices that have supported networks for ages, for example, water-gathering methods, feasible land the executives, and environment-versatile horticulture. Local area contribution upgrades responsibility for and guarantees that variation measures align with nearby necessities and social standards (Kimtai, 2023).

**Enhancement of Livelihoods:** Breaking the reliance on environment delicate exercises like itinerant crowding or downpour took care of horticulture is pivotal for diminishing weakness to environmental change. Empowering the expansion of livelihoods can include supporting elective pay-producing exercises, professional preparation, and the advancement of non-agrarian areas. Differentiated livelihoods give a security net during environment-instigated stuns and lessen the strain on standard assets (Kintai, 2023).

**Improved access to climate Information:** Timely and exact climate data is crucial for viable direction and readiness. Implementing environment-checking frameworks and laying out early advance notice mechanisms can engage communities to expect and answer climate-related gambles. This can assist with preventing clashes emerging from asset shortage and uprooting.

**Supportable Resource Management:** Executing supportable practices for overseeing regular resources, for example, water sources and pasturelands, is central. Empowering dependable land use and guaranteeing fair admittance to assets can moderate struggles and advance collaboration among ethnic gatherings and networks (Kilian, 2021).

**Compromise Mechanisms:** Reinforcing neighborhood compromise mechanisms is fundamental for forestalling and moderating struggles exacerbated by climate change. Customary compromise processes and formal foundation sought to be upheld and incorporated into peacebuilding endeavors to address asset disagreements and alleviate pressures (Kintai, 2023).

**Capacity Building and Education:** Putting resources into training and building can upgrade people's and communities' flexibility. Preparing programs on environmental variation, disaster readiness, and maintainable practices can outfit nearby populations with the abilities and information to adapt to changing ecological circumstances (Lamprey, n.d.).

**Cooperative Administration and Policy:** Compelling climate strength and peacebuilding require coordinating efforts among partners, including legislatures, non-administrative associations, and local area pioneers. Participating in participatory navigation and advancing comprehensive strategies can prompt more compelling and feasible results (Damdnijav, 2015).

By coordinating these extensive techniques, Northern Kenya can improve its flexibility to environmental change and cultivate a tranquil and secure network climate. Building environment versatility and advancing harmony are commonly supporting targets that request aggregate endeavors and supported responsibility from all partners.

## **5. Loss of Occupations: Driving People Group into Poverty**

The deficiency of customary livelihoods because of environmental change hastened an emergency of neediness and social flimsiness among communities in Northern Kenya (Lamprey, n.d.). The area's dependence on climate delicate exercises, for example, pastoralism and downpour, took care of agribusiness, opening networks to the staggering effects of drawn-out dry spells, decreasing pasturelands, and erratic atmospheric conditions. The outcomes of this deficiency of job-open doors are extensive and have enormous ramifications for the locale's general steadiness:



**Monetary Vulnerability:** The disturbance of customary occupations prompts decreased family pay and financial steadiness. Numerous families wind up caught in patterns of destitution, unfit to get necessities, training, and medical services. The absence of monetary possibilities can worsen social strains and add to local area clashes.

**Food Insecurity:** Declining rural efficiency and diminished admittance to water assets leave networks defenseless against food weakness. The food shortage and rising food costs further strain families, influencing wholesome results and intensifying weaknesses, especially among kids and weak populations (African, 2017).

**Removal and Migration:** As agricultural lands are compromised, communities must look for elective resources and vocations elsewhere. This environment-initiated uprooting puts weight on as of now Resource compelled regions and can prompt strains and clashes with host communities over admittance to resources (Muigua, n.d.).

**Youth Vulnerability:** Disturbed vocations can leave youngsters with restricted open doors for training and business, making them defenseless to enlistment by fanatic gatherings or commitment to crimes. The disappointed youth represent extra security gambles and add to the breakdown of social attachment.

**Social Instability:** The deficiency of occupations sabotages the social texture of networks that have depended on conventional practices for quite a long time. As the contest for assets heightens, social ties debilitate, and clashes arise over waning assets, endangering the area's dependability and tranquil conjunction.

To address the difficulties presented by the deficiency of occupations, purposeful endeavors are expected to advance maintainable financial open doors and improve the strength of networks to environmental change:

- **Interest in Diversification:** Empowering the expansion of occupations past climate delicate exercises can make elective pay hotspots for networks. This can include supporting limited-scope organizations, miniature endeavors, and maintainable horticultural practices that are less powerless against environmental fluctuation (Rono, 2023).
- **Social Wellbeing Nets:** Executing social security net projects can offer transitory help to weak communities during seasons of emergency. These projects can incorporate money moves, food help, and other social insurance measures to reduce quick difficulties (Muigwa, n.d.).
- **Abilities preparing and Education:** Putting resources into schooling and abilities preparation can enable people to adjust to changing conditions and seek after job potential open doors in non-rural areas. Giving admittance to schooling can likewise open entryways for better work possibilities for youth (Wairimu, 2017).
- **Versatility Building Initiatives:** Incorporating climate strength into advancement tasks can upgrade communities' capacity to endure climate stuns and recuperate from ecological debacles. Such drives might incorporate water into the executive's projects, afforestation endeavors, and economic land use rehearses.

- **Local area Empowerment:** Connecting with networks in the dynamic cycles connected with work drives encourages possession and manageability. Enabling nearby voices and including them in project arranging and execution lead to additional powerful results (Rachael, 2022).

By tending to the deficiency of vocations and advancing practical financial open doors, Northern Kenya can pursue diminishing destitution, upgrading social solidness, and encouraging a more robust and secure future for its networks. It is essential to coordinate these endeavors with more extensive environmental versatility and peacebuilding techniques to make a complete way to deal with and address the perplexing difficulties presented by environmental change in the district.

## **5.1 Conclusion**

The threats posed by climate change to peace and security in Northern Kenya are significant and multifaceted. This chapter has explored the various dimensions of these threats, including the changing rainfall patterns, erratic weather events, prolonged droughts, human displacement and migration, livelihood insecurity, weakening of institutions, and regional security implications. The interplay of these factors creates a complex web of challenges that, if left unaddressed, can have severe consequences for the region's stability and well-being.

Changing rainfall patterns, erratic weather events, and prolonged droughts disrupt traditional livelihoods, leading to decreased agricultural productivity, crop failures, food insecurity, and challenges for pastoralist communities. Competition for limited resources, resource-based violence, and land disputes exacerbate

community tensions. Livelihood insecurity, in turn, contributes to increased poverty levels, social discontent, vulnerability to exploitation, and youth insecurity, which extremist groups can exploit. The weakening of institutions, including governance, security sector, and judicial and legal system challenges, hinders effective response and adaptation to climate change impacts. Limited capacity, policy gaps, strained resources, and inadequate legal frameworks impede the ability to address the multifaceted challenges of climate change. As a result, institutional weaknesses undermine governance, exacerbate conflicts, and create conditions conducive to instability and insecurity (J.M.Lewis, 1963).

Furthermore, climate change in Northern Kenya has regional security implications. Transboundary resource conflicts, increased vulnerability to extremism and terrorism, and cross-border environmental challenges strain regional relations and cooperation. Water scarcity, resource competition, cross-border livestock grazing, and migration flows create tensions and conflicts between neighboring communities. Additionally, the socioeconomic insecurities from climate change can foster radicalization and provide opportunities for extremist elements to exploit grievances and establish strongholds (Detges, 2014).

In conclusion, addressing the climate change threat to peace and security in Northern Kenya requires a comprehensive and integrated approach. It necessitates sustainable resource management, adaptive strategies, strengthened governance structures, and enhanced regional cooperation. Investing in climate-resilient agriculture, water resource management, and livelihood diversification can help mitigate the impacts of changing weather patterns and promote sustainable development. Moreover, addressing the root causes of

conflicts, promoting inclusive governance, and ensuring equitable access to resources is crucial in reducing vulnerabilities and fostering peace. Strengthening institutions, improving policy frameworks, and enhancing coordination and collaboration among stakeholders can enhance preparedness, response capacity, and resilience to climate change impacts.

The challenges posed by climate change in Northern Kenya are not insurmountable, but they require concerted efforts and long-term commitment from local, national, and regional actors. By recognizing the interconnectedness of environmental, social, and economic dimensions and addressing the underlying causes of vulnerability, Northern Kenya can strive toward a more secure and sustainable future. Only through collective action, effective governance, and regional cooperation can the region successfully navigate the climate change threats and build a resilient and peaceful society for generations to come.

## References

ACLED. (2023, 3). *Increasing security challenges in Kenya*. Retrieved from ACLED: <https://acleddata.com/2023/03/02/kenya-context-assessment-increasing-security-challenges-in-kenya/>

Africa, E. (2020). *Expert Africa*. Retrieved from Expert Africa Kenya: <https://www.expertafrica.com/kenya/northern-kenya>

African, N. (2017, 6). *Drought, indigeneity, and land conflict in Northern Kenya*. Retrieved from Delivering the Vision of a prosperous africa: <https://newafricanmagazine.com/15659/>

Damdnijav, M. (2015). *Institutional failure in kenya and a way forward*. Retrieved from Journal of Political Inquiry: [http://www.jpinyu.com/wp-content/uploads/2015/01/institutional\\_failure\\_in\\_kenya\\_and\\_a\\_way\\_forward1.pdf](http://www.jpinyu.com/wp-content/uploads/2015/01/institutional_failure_in_kenya_and_a_way_forward1.pdf)

Detges, A. (2014). *The spatial logic of pastoralist violence in northern kenya*. Retrieved from Science Direct: <https://www.sciencedirect.com/science/article/abs/pii/S0962629814000559>

J.M.Lewis. (1963). *The problem of the Northern Frontier District in Kenya*. Retrieved from Sage Journals: <https://journals.sagepub.com/doi/abs/10.1177/030639686300500104?journalCode=raca>

Kilian. (2021, January). *Climate Change in Northern Kenya: A Dangerous Water Crisis*. Retrieved from Water and Energy for Food.

Kimtai, A. (2023, January). *Enhancing Peace and Security in Kenya through Mitigation of Climate Change*. Retrieved from KIIPRA:

<https://kippra.or.ke/enhancing-peace-and-security-in-kenya-through-mitigation-of-climate-change/#:~:text=Climate%20change%20is%20a%20driver,communal%20resources%20and%20boundary%20disputes.>

Lamprey, H. (n.d.). *Pastoralism and Desert Encroachment in Northern Kenya*. Retrieved from JSTOR: <https://www.jstor.org/stable/4312657>

Muigua, K. (n.d.). *Natural Resource conflicts in kenya*. Retrieved from Kariuki Muigua Advocates: <https://www.sciencedirect.com/science/article/abs/pii/S0962629814000559>

Ongoro, E. B. (2010). *Climate change and pastoralist livelihoods shifts in Northern Kenya the case of Samburu East District, Kenya*. Retrieved from University of Nairobi Research Archive: <http://erepository.uonbi.ac.ke/handle/11295/3994>

Opiyo, F. (n.d.). *CORE*. Retrieved from Resource based conflicts in drought-prone north: <https://core.ac.uk/download/pdf/55712054.pdf>

Otunga, M. (2023). *IOM UN Migration*. Retrieved from Surviving the Drought: The Struggle and Resilience of Pastoralist Communities in Northern Kenya: <https://storyteller.iom.int/stories/surviving-drought-struggle-and-resilience-pastoralist-communities-northern-kenya>

Rachael, O. (2022). *Climate Change and drought in Northern Kenya*. Retrieved from Zawya: [https://www.zawya.com/en/economy/africa/climate-change-and-drought-in-northern-kenya-v8vio8qd#:~:text=Kenya%20is%20among%20the%20least,arid%20land%20\(ASAL\)%20counties.](https://www.zawya.com/en/economy/africa/climate-change-and-drought-in-northern-kenya-v8vio8qd#:~:text=Kenya%20is%20among%20the%20least,arid%20land%20(ASAL)%20counties.)

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**(2023) Journal of cmsd Volume 10(5)**

Rono, P. (2023). *Unraveling the channels of food security*. Retrieved from ScienceDirect:

<https://www.sciencedirect.com/science/article/pii/S2475299122145051>

Ruto, S. J. (2009). *UNESDOC Digital Library*. Retrieved from Unesco: <https://unesdoc.unesco.org/ark:/48223/pf0000186617>

Wairimu, M. (2017). *Natural Resource as a source of conflict-case study in northern kenya*. Nairobi. Retrieved from University of Nairobi Report Archives:

[http://erepository.uonbi.ac.ke/bitstream/handle/11295/105834/Kamau\\_Natural%20Resource%20As%20A%20Source%20Of%20Conflict-%20Case%20Study%20In%20Northern%20Kenya%20\(2012-2016\).pdf?sequence=1](http://erepository.uonbi.ac.ke/bitstream/handle/11295/105834/Kamau_Natural%20Resource%20As%20A%20Source%20Of%20Conflict-%20Case%20Study%20In%20Northern%20Kenya%20(2012-2016).pdf?sequence=1)

ZAWYA. (n.d.). *Climate Change and drought in Northern Kenya*. Retrieved from Zawya:

<https://www.zawya.com/en/economy/africa/climate-change-and-drought-in-northern-kenya->

[v8vio8qd#:~:text=Kenya%20is%20among%20the%20least,arid%20land%20\(ASAL\)%20counties.](https://www.zawya.com/en/economy/africa/climate-change-and-drought-in-northern-kenya-v8vio8qd#:~:text=Kenya%20is%20among%20the%20least,arid%20land%20(ASAL)%20counties.)



## Actualizing Africa's Green Dream

By: Hon. Dr. Kariuki Muigua\*

### Abstract

*The paper 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. The paper examines the progress made towards achieving green growth in Africa. It further explores the challenges facing realization of green economy in Africa. The paper also proposes solutions towards actualizing Africa's green dream.*

### 1.0 Introduction

The concept of 'greening' economies has become a pertinent concern in global politics in the wake of challenges facing the planet including the threat of climate change<sup>1</sup>. Effects of climate change such as rising temperatures, drought, crop failure, desertification, depletion of natural resources, water scarcity and rising sea levels have had significant impacts on human development, economic development and environmental sustainability<sup>2</sup>. Consequently, climate change

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<sup>1</sup> Bergius. M., 'Towards a Green Modernization Development Discourse: The New Green Revolution in Africa.' *Journal of Political Ecology*, 2019

<sup>2</sup> Muigua. K., 'Nurturing Our Environment for Sustainable Development.' Glenwood Publishers Limited, 2016

mitigation and adaptation are vital in fostering Sustainable Development<sup>3</sup>. Proponents of green growth view it as an opportunity to strike a balance between human development, environmental conservation and economic development<sup>4</sup>. Greening growth can thus support the realization of Sustainable Development by taking into account environmental protection, economic development and social concerns which are key considerations in the Sustainable Development agenda<sup>5</sup>.

The term 'green economy' has been defined as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities<sup>6</sup>. It has also been defined as policy focus that emphasizes environmentally sustainable economic progress to foster low-carbon, socially inclusive development<sup>7</sup>. Green Growth is one of the strategies to achieve sustainable development that focuses on greening conventional economic systems and developing a green economy, where economic

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<sup>3</sup> <sup>3</sup> 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 03/07/2022)

<sup>4</sup> Bergius. M., 'Towards a Green Modernization Development Discourse: The New Green Revolution in Africa.' Op Cit

<sup>5</sup> Fitzmaurice. M., 'The Principle of Sustainable Development in International Development Law.' *International Sustainable Development Law.*, Vol 1.

<sup>6</sup> United Nations Economic Commission for Europe., 'Greening the Economy: Mainstreaming the Environment into Economic Development.' Available at

<https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=796&menu=1515> (Accessed on 03/07/2023)

<sup>7</sup> United Nations Economic and Social Commission for Asia and the Pacific., 'Green Growth Uptake in Asia-Pacific Region.' Available at

[https://unece.org/fileadmin/DAM/env/cep/CEP-20/ppp/Item10\\_b\\_\\_ESCAP\\_GreenGrowthUptake\\_e\\_sm.pdf](https://unece.org/fileadmin/DAM/env/cep/CEP-20/ppp/Item10_b__ESCAP_GreenGrowthUptake_e_sm.pdf) (Accessed on 03/07/2023)

prosperity can go hand-in-hand with ecological sustainability<sup>8</sup>. Various approaches have been taken towards greening economies. In the global North, the main components in the green economy transition have been technological and market-based solutions to existing industrial sectors as well as fiscal instruments in environmental governance<sup>9</sup>. Further, in the global South, green economy implementation majorly focuses on environmental protection along with modernization and shifts in access to and control over forestry, freshwater, fisheries, energy and agriculture among other natural resources<sup>10</sup>.

The paper critically examines actualization of Africa's green dream. It explores the progress made towards greening economies in Africa. The paper further discusses opportunities and challenges facing the attainment of green growth in Africa. It also suggests recommendations towards actualizing Africa's green dream for Sustainable Development.

## **2.0 Green Growth in Africa: Opportunities and Challenges**

The concept of 'green economies' has received widespread attention since the Rio+20 conference.<sup>11</sup> The outcome of the Conference affirmed the role of green economy in the context of sustainable development and poverty eradication as one of the important tools available for achieving Sustainable Development<sup>12</sup>. It calls upon

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<sup>8</sup> Ibid

<sup>9</sup> Bailey, I & Caprotti. F. 'The Green Economy: Functional Domains and Theoretical Directions of Enquiry.' *Environment and Planning*, No. 46 of 2014.

<sup>10</sup> Ibid

<sup>11</sup> Bergius. M., 'Towards a Green Modernization Development Discourse: The New Green Revolution in Africa.' Op Cit

<sup>12</sup> United Nations., 'The Future we Want: Outcome document of the United Nations Conference on Sustainable Development held in Rio de Janeiro, Brazil, from 20–22 June 2012.' Available at

states to embrace green economies as a tool of eradicating poverty as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth's ecosystems<sup>13</sup>. The outcome of the Rio+20 Conference further recognizes the importance of green economy in enhancing our ability to manage natural resources sustainably and with lower negative environmental impacts, increasing resource efficiency and reduction of waste<sup>14</sup>.

Since the outcome of the Rio+ 20 Conference, the concept of green economy has been embraced at the global, regional and national levels. The universal call for green growth is stipulated under the United Nations 2030 Agenda for Sustainable Development which envisions development which balances social, economic and environmental sustainability<sup>15</sup>. The Sustainable Development Goals seek to promote green economies through measures such as ensuring access to affordable and clean energy; promoting sustainable industrialization, innovation and infrastructure; promoting the growth of sustainable cities and communities and combating climate change<sup>16</sup>. Achieving the Sustainable Development agenda is essential in fostering green economies in Africa.

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<https://sustainabledevelopment.un.org/content/documents/733FutureWeWant.pdf>  
(Accessed on 03/07/2023)

<sup>13</sup> Ibid

<sup>14</sup> Ibid

<sup>15</sup> United Nations Development Programme., 'Sustainable Development Goals.' Available at

[https://www.google.com/search?q=undp&oq=UNDP&gs\\_lcrp=EgZjaHJvbWUqDwgAEAAAYQxjjAhixAxiKBTIPCAAQABhDGOMCGLEDGIoFMhIIARAUgEMYxwEYsQMY0QMYigUyCQgCEAAAYQxiKBTIJCAMQABhDGIoFMgYIBBBFGDwyBggFEEUYPDIGCAYQRRg8MgYIBxBFGDzSAQgyNzM2ajFqN6gCALACAA&sourceid=chrome&ie=UTF-8](https://www.google.com/search?q=undp&oq=UNDP&gs_lcrp=EgZjaHJvbWUqDwgAEAAAYQxjjAhixAxiKBTIPCAAQABhDGOMCGLEDGIoFMhIIARAUgEMYxwEYsQMY0QMYigUyCQgCEAAAYQxiKBTIJCAMQABhDGIoFMgYIBBBFGDwyBggFEEUYPDIGCAYQRRg8MgYIBxBFGDzSAQgyNzM2ajFqN6gCALACAA&sourceid=chrome&ie=UTF-8) (Accessed on 03/07/2023)

<sup>16</sup> Ibid

At the regional level, the *Africa Union's Agenda 2063* sets out the aspirations of prosperous Africa based on inclusive growth and Sustainable Development<sup>17</sup>. It seeks to achieve this goal through measures such as promoting sustainable and inclusive economic growth; ensuring sustainable management of natural resources in Africa; fostering sustainable consumption and production patterns; fostering climate resilience and natural disasters preparedness and prevention and embracing renewable energy in Africa<sup>18</sup>. Realizing the aspirations of Agenda 2063 is paramount in actualizing Africa's green dream. In addition, the *Agreement Establishing the African Continental Free Trade Area (AfCFTA)*<sup>19</sup> seeks to promote and attain sustainable and inclusive socio-economic development in the region. It recognizes the need to promote sustainable development in accordance with the Sustainable Development Goals as vital in achieving the economic integration of the African continent<sup>20</sup>. There is need to promote the vision of the AfCFTA in order to actualize Africa's green dream.

In Kenya, the Constitution embraces Sustainable Development as one of the national values and principles of governance<sup>21</sup>. It further encompasses several provisions that are vital in attaining green growth in Kenya including the recognition of the right to a clean and healthy environment<sup>22</sup>. The Constitution also stipulates certain

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<sup>17</sup> Africa Union., 'Agenda 2063: The Africa we Want.' Available at [https://au.int/sites/default/files/documents/33126-doc-framework\\_document\\_book.pdf](https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf) (Accessed on 03/07/2023)

<sup>18</sup> Ibid

<sup>19</sup> African Union., 'Agreement Establishing the African Continental Free Trade Area.' Available at [https://au.int/sites/default/files/treaties/36437-treaty-consolidated\\_text\\_on\\_cfta\\_-\\_en.pdf](https://au.int/sites/default/files/treaties/36437-treaty-consolidated_text_on_cfta_-_en.pdf) (Accessed on 03/07/2023)

<sup>20</sup> Ibid

<sup>21</sup> Constitution of Kenya, 2010., Article 10 (2) (d), Government Printer, Nairobi.

<sup>22</sup> Ibid, Article 42

obligations in respect of the environment which include ensuring sustainable exploitation, utilisation, management and conservation of the environment and natural resources; achieving and maintaining a tree cover of at least ten per cent of the land area of Kenya; establishing systems of environmental impact assessment, environmental audit and monitoring of the environment and eliminating processes and activities that are likely to endanger the environment<sup>23</sup>. Implementing these among other provisions of the Constitution will enhance green growth in Kenya.

Green growth has been embraced in Africa through measures such as promoting the use of clean and renewable sources of energy. There have been increased investments in renewable sources of energy such as solar, wind, hydro, geothermal and green hydrogen<sup>24</sup>. Clean and renewable sources of energy are essential in climate change mitigation and adaptation and actualizing the green dream<sup>25</sup>. Agenda 2063 recognizes the importance of renewable sources of energy in ensuring environmental sustainability and climate resilient economies and communities towards attaining Sustainable Development in Africa<sup>26</sup>. Africa has vast resource potential in wind, solar, hydro, and geothermal energy and falling costs are increasingly bringing renewables within reach<sup>27</sup>. It has been pointed out that renewable sources of energy can help address many of Africa's social,

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<sup>23</sup> Ibid, Article 69

<sup>24</sup> Hafner. M et al., 'Prospects for Renewable Energy in Africa.' *Energy in Africa*, 2018, pp 47-75

<sup>25</sup> Crane. D., 'My Clean-Energy Green Dream.' Available at <https://www.greenbiz.com/article/myclean-energy-green-dream> (Accessed on 03/07/2023)

<sup>26</sup> Africa Union., 'Agenda 2063: The Africa we Want.' Op Cit

<sup>27</sup> International Renewable Energy Agency., 'Renewable Energy Market Analysis: Africa and its Regions.' Available at <https://www.irena.org/publications/2022/Jan/Renewable-Energy-Market-Analysis-Africa> (Accessed on 03/07/2023)

economic, health and environmental challenges and foster the realization of a climate-safe future in which sustainable development prerogatives are met<sup>28</sup>. There is need for increased investments in renewable sources of energy in Africa in order to actualize the green dream.

In addition, green revolution is also being witnessed in the agricultural sector in Africa. Technologies such as genetic engineering have been adopted to transfer the nitrogen-fixing capabilities of legumes such as peas and beans into cereal crops<sup>29</sup>. This has facilitated the attainment of higher yields, without the use of expensive fertilizers<sup>30</sup>. This approach also aids in the reduction in the use of chemical nitrogen fertilizers, which contribute substantially to both carbon emissions and environmental pollution<sup>31</sup>. Some African countries have also adopted regenerative agricultural practices such as crop rotation, agroforestry, use of drought- and heat-resistant crops, integrated pest control systems, water harvesting and irrigation<sup>32</sup>. This has helped in fostering high-yielding, resilient, and adaptive practices that constitute an African approach to climate-smart agriculture<sup>33</sup>. Greening of the agricultural sector is vital in actualizing Africa's green dream.

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<sup>28</sup> Ibid

<sup>29</sup> Conrow. J., 'Borlaug's Dream is Being Realized.' Available at <https://allianceforscience.org/blog/2017/04/borlaugs-dream-is-being-realized/> (Accessed on 03/07/2023)

<sup>30</sup> Ibid

<sup>31</sup> Ibid

<sup>32</sup> Climate Champions. 'How Regenerative Agriculture Can Increase Africa's Food Production.' Available at <https://climatechampions.unfccc.int/call-to-action-for-climate-resilient-sustainable-food-systems-in-africa/> (Accessed on 03/07/2023)

<sup>33</sup> Ibid

Further, there has been progress towards actualizing Africa's green dream through the adoption of sustainable waste management practices. Countries such as Rwanda and Kenya have banned the use of plastic bags due to their negative environmental impacts<sup>34</sup>. This has promoted improved waste management and environmental conservation in these countries<sup>35</sup>. In addition there has been growth of sustainability startups aimed at promoting efficient waste management through measures such as treatment, recycling of waste and conversion of waste into useful products such as compost and biofuel briquettes<sup>36</sup>.

Progress has also been made towards fostering green growth in the African tourism sector through eco-resorts or family villages in countries such as Rwanda<sup>37</sup>. Africa is a continent that is rich in cultural and ecological heritage and recreational development has been identified as one of the measures of promoting green growth in the tourism sector<sup>38</sup>. This has enhanced sustainability and social growth through a combination of agriculture, the commitment of local businesses and educating and recruitment of local staff in such projects<sup>39</sup>.

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<sup>34</sup> Behuria. P., 'Ban the (plastic) Bag? Explaining Variation in the Implementation of Plastic Bag Bans in Rwanda, Kenya and Uganda.' *EPC: Politics and Space*, 2021, P 1-18

<sup>35</sup> Ibid

<sup>36</sup> Forbes., 'Meet The African Green Entrepreneurs Showing the West How It's Done.' Available at <https://www.forbes.com/sites/davidroetter/2021/12/14/meet-the-african-green-entrepreneurs-showing-the-west-how-its-done/?sh=6d46b5bf51cb> (Accessed on 03/07/2023)

<sup>37</sup> MTD., 'Green Dream Rwanda.' Available at <https://www.mtdls.nl/en/news/newsarchive/q/nid/337/title/green-dream-rwanda> (Accessed on 03/07/2023)

<sup>38</sup> Ibid

<sup>39</sup> Ibid



Despite the progress made towards actualizing Africa's green dream, several concerns have hindered the attainment of this ideal. It has been pointed out that the transition towards renewable energy has not been fully embraced due to factors such as insufficient investments with only 2% of global investments in renewable energy in the last two decades being made in Africa, with significant regional disparities<sup>40</sup>. This has significantly affected access to clean cooking fuels and technologies in most parts of Africa<sup>41</sup>. Further, it has been asserted that African countries especially those in the North African region which have untapped renewable energy sources including hydrogen have struggled to meet their own renewable energy targets, often as a result of unattractive investment conditions, insufficiently developed legal frameworks for renewable energy development and uneven and inconsistent implementation of regulations<sup>42</sup>. It is necessary to address these challenges in order to actualize Africa's green dream in the energy sector.

In addition, it has been observed that agricultural practices that supported African communities in the past such as slash-and-burn cultivation and crop rotation are now driving the sector's decline<sup>43</sup>.

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<sup>40</sup> International Renewable Energy Agency., 'Renewable Energy Market Analysis: Africa and its Regions.' Op Cit

<sup>41</sup> Ibid

<sup>42</sup> EN: Former., 'North Africa's Hydrogen Potential.' Available at [https://www.enformer.com/en/north-africashydrogenpotential/?etcc\\_med=SEA&etcc\\_par=Google&etcc\\_cmp=Energysystems&etcc\\_grp=135634609600&etcc\\_bky=hydrogen%20africa&etcc\\_mty=p&etcc\\_plc=&etcc\\_ctv=580888668376&etcc\\_bde=c&etcc\\_var=CjwKCAjw44mlBhAQEiwAqP3eViMmP67xkwkqMl4FIRbBPvWOgaNcBckR9BJMhu0bOUf1s-OG4JKuwhoCga4QAvD\\_BwE&gad=1&gclid=CjwKCAjw44mlBhAQEiwAqP3eViMmP67xkwkqMl4FIRbBPvWOgaNcBckR9BJMhu0bOUf1s-OG4JKuwhoCga4QAvD\\_BwE](https://www.enformer.com/en/north-africashydrogenpotential/?etcc_med=SEA&etcc_par=Google&etcc_cmp=Energysystems&etcc_grp=135634609600&etcc_bky=hydrogen%20africa&etcc_mty=p&etcc_plc=&etcc_ctv=580888668376&etcc_bde=c&etcc_var=CjwKCAjw44mlBhAQEiwAqP3eViMmP67xkwkqMl4FIRbBPvWOgaNcBckR9BJMhu0bOUf1s-OG4JKuwhoCga4QAvD_BwE&gad=1&gclid=CjwKCAjw44mlBhAQEiwAqP3eViMmP67xkwkqMl4FIRbBPvWOgaNcBckR9BJMhu0bOUf1s-OG4JKuwhoCga4QAvD_BwE) (Accessed on 03/07/2023)

<sup>43</sup> African Wildlife Foundation., 'Sustainable Agriculture.' Available at <https://www.awf.org/community/sustainable-agriculture> (Accessed on 03/07/2023)

These practices combined with long-term ecological impacts of chemical-heavy farming systems contribute to land degradation and crop failure<sup>44</sup>. The situation is worsened by changing weather patterns as result of the threat of climate change and unstable sociopolitical dynamics hindering the attainment of food security<sup>45</sup>. There is need to address concerns in the agricultural sector in order to actualize Africa's green dream.

It also been asserted that despite the abundance of water resources in Africa including lakes, rivers, swamps and underground aquifers, there has been degradation and underutilization of these water resources<sup>46</sup>. Concerns such as pollution, poor agricultural practices and the effects of climate change have affected the quality and quantity of water resources in Africa<sup>47</sup>. This has hindered actualizing Africa's green dream in other areas including agriculture and food production, energy, manufacturing and processing, tourism and health due to the centrality of water in Africa's pursuit of the Sustainable Development Goals<sup>48</sup>. It is imperative that concerns in the water sector be addressed in order to foster Sustainable Development and actualize Africa's green dream.

As a result of the foregoing concerns, it has been observed that Africa continues to lag behind other regions of the world in achieving the

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<sup>44</sup> Ibid

<sup>45</sup> Ibid

<sup>46</sup> Mugagga. F, & Nabaasa. B., 'The Centrality of Water Resources to the Realization of Sustainable Development Goals (SDG). A Review of Potentials and Constraints on the African Continent.' *International Soil and Water Conservation Research*, Volume 4, No. 3, 2016

<sup>47</sup> Ibid

<sup>48</sup> Ibid

Sustainable Development agenda<sup>49</sup>. The continent has huge potential to achieve green growth and the transition into green economies. There is need to deal with the above concerns in order to actualize Africa's green dream.

### **3.0 Way Forward**

In order to actualize Africa's green dream, it is necessary to upscale investments in green energy sources as renewable energy<sup>50</sup>. The continent has vast potential for renewable sources for energy which remains untapped<sup>51</sup>. Challenges such as unattractive investment conditions, insufficiently developed legal frameworks for renewable energy development and uneven and inconsistent implementation of regulations have hindered attainment of the green dream in the energy sector in Africa<sup>52</sup>. African countries must address these concerns by creating attractive investment environments, developing efficient legal frameworks on renewable energy and implementing effective regulations in order to enhance the uptake of renewable sources of energy.<sup>53</sup> Further, there is need for adoption of market liberalization policies in the energy sector such as supporting public-private investment, improved private sector access to electricity generation and issuing of green bonds in order to promote renewable sources of energy in Africa<sup>54</sup>. This will fast track realization of Africa's green dream in the energy sector.

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<sup>49</sup> Begashaw. B., 'Africa and the Sustainable Development Goals: A long Way to go.' Available at <https://www.brookings.edu/articles/africa-and-the-sustainable-development-goals-a-long-way-to-go/> (Accessed on 03/07/2023)

<sup>50</sup> Hafner. M et al., 'Prospects for Renewable Energy in Africa.' Op Cit

<sup>51</sup> Ibid

<sup>52</sup> EN: Former., 'North Africa's Hydrogen Potential.' Op Cit

<sup>53</sup> Ibid

<sup>54</sup> Ibid

Further, there is need to adopt green agricultural practices such as regenerative agriculture. Regenerative agricultural practices can aid in fostering climate resilient and sustainable green economies in Africa by avoiding the key problems of highly industrialized agriculture production that damage soil health, including vast tracts of mono-cultivated land, chemical runoffs, overexploitation of water resources, and high chemical and hormonal residue levels in food<sup>55</sup>. This will promote the attainment of food security in Africa while also contributing towards climate change mitigation and adaptation in the quest towards Sustainable Development<sup>56</sup>. African countries should thus adopt regenerative agricultural practices such as effective soil systems including no tilling and low tilling, crop rotation, use of drought and heat resistant crops, agroforestry, water harvesting, irrigation and green pest control measures<sup>57</sup>. This will enhance actualization of the green dream in the agricultural sector in Africa.

In addition it is vital to promote sustainable utilization and management of water resources in Africa. Water plays a fundamental role in the attainment of Sustainable Development. To this extent, it has been observed that there is a clear nexus between properly managed water resources, economic development and social wellbeing which are key pillars of the sustainable development agenda<sup>58</sup>. The importance of water is recognized under the 2030 Agenda for Sustainable Development which seeks to ensure the

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<sup>55</sup> Climate Champions. 'How Regenerative Agriculture Can Increase Africa's Food Production.' Op Cit

<sup>56</sup> Davis. L.R et al., 'Farmer Led Regenerative Agriculture for Africa.' Available at <https://discovery.ucl.ac.uk/id/eprint/10106717/1/LunnRockcliffe%2C%20Davies%20et%20al.%202020%20RA%20report.pdf> (Accessed on 03/07/2023)

<sup>57</sup> Ibid

<sup>58</sup> Koudstaal.R et al., 'Water and Sustainable Development' available at <https://www.ircwash.org/sites/default/files/210-92WA-11000.pdf> (Accessed on 03/07/2023)

availability and sustainable management of water and sanitation for all<sup>59</sup>. However, challenges have been witnessed in the water sector in Africa such as degradation and underutilization of these water resources<sup>60</sup>. It has been observed that sustainable management of water resources and access to safe water and sanitation are essential for unlocking economic growth and productivity, and providing significant leverage for existing investments in health and education<sup>61</sup>. There is need to improve the management of water and water resources in Africa through measures such pollution control, effective waste management, use of water smart landscaping and irrigation and sustainable utilization of water through reusing among other measures<sup>62</sup>. This will promote the attainment of sustainable development goal 6 geared towards enhancing access to clean water and sanitation for all while also actualizing Africa's green dream in the water sector.

Further, Africa should adopt green value chains for minerals. It has been observed that Africa is endowed with a variety of minerals that are central to decarbonization such as the Democratic Republic of the Congo (DRC) which produces over 70% of the world's cobalt, DRC and Zambia which supply 10% of global copper and Mozambique and South Africa which hold significant reserves of graphite,

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<sup>59</sup> United Nations, Department of Economic and Social Affairs, *Sustainable Development goal 6- clean water and sanitation*, available at <https://sdgs.un.org/goals/goal6> (Accessed on 03/07/2023)

<sup>60</sup> Mugagga. F, & Nabaasa. B., 'The Centrality of Water Resources to the Realization of Sustainable Development Goals (SDG). A Review of Potentials and Constraints on the African Continent.' Op Cit

<sup>61</sup> United Nations Environment Programme, 'Goal 6: Clean Water and Sanitation' available at <https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-6> (Accessed on 03/07/2023)

<sup>62</sup> Mugagga. F, & Nabaasa. B., 'The Centrality of Water Resources to the Realization of Sustainable Development Goals (SDG). A Review of Potentials and Constraints on the African Continent.' Op Cit

platinum metals, lithium among other countries<sup>63</sup>. It has been observed that the opportunities presented by the global green mineral boom and domestic achievements such as the African Continental Free-Trade Area can help facilitate development of regional value chains for green economy products in the mining sector<sup>64</sup>. There is need to tap into these opportunities in order foster green value chains towards actualizing Africa's green dream.

Finally, Africa must fast track the attainment of the Sustainable Development goals and the Sustainable Development agenda. It has been argued that Africa continues to lag behind other regions of the world in achieving the Sustainable Development agenda<sup>65</sup>. The continent has made slow progress in attaining goals such as ending extreme poverty, promoting access to clean water and sanitation, promoting quality education and achieving gender equality<sup>66</sup>. There is need to enhance the attainment of Sustainable Development Goals in Africa through measures such as increased funding, improved public and private partnerships, strengthening domestic legislations, embracing technology and support from the international community<sup>67</sup>. This will accelerate attainment of Sustainable Development in Africa whilst actualizing Africa's green dream.

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<sup>63</sup> Economic Commission for Africa., 'African Countries Urged to Prioritize Green Value Chains for Minerals.' Available at <https://www.un.org/africarenewal/magazine/february-2023/african-countries-urged-prioritize-green-value-chains-minerals> (Accessed on 03/07/2023)

<sup>64</sup> Ibid

<sup>65</sup> Begashaw. B., 'Africa and the Sustainable Development Goals: A long Way to go.' Op Cit

<sup>66</sup> UNDP., 'New Africa SDGs Report shows Slow Progress, Calls for Greater Action to Meet Targets.' Available at <https://www.undp.org/africa/press-releases/new-africa-sdgs-report-shows-slow-progress-calls-greater-action-meet-targets> (Accessed on 03/07/2023)

<sup>67</sup> Ibid

#### **4.0 Conclusion**

The concept of 'green economy' is vital in fostering Sustainable Development at the global, regional and national levels<sup>68</sup>. Green growth has been embraced in Africa through measures such as adoption of renewable sources of energy, regenerative agricultural practices and sustainable waste management<sup>69</sup>. However, despite this progress, several concerns hinder effective attainment of green growth in Africa. These include insufficient investments in renewable energy, underutilization and degradation of water resources, poor agricultural practices in some areas and failure to accelerate attainment of the Sustainable Development Goals<sup>70</sup>. There is need to address these challenges by upscaling investments in green energy sources such as renewable energy, adopting green agricultural practices such as regenerative agriculture, promoting sustainable utilization and management of water resources, adopting green value chains for minerals and fast tracking attainment of the Sustainable Development Goals<sup>71</sup>. This will enhance green growth and attainment of Sustainable Development in Africa. Actualizing Africa's Green Dream is an idea worth implementing.

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<sup>68</sup> Bergius. M., 'Towards a Green Modernization Development Discourse: The New Green Revolution in Africa.' Op Cit

<sup>69</sup> Climate Champions. 'How Regenerative Agriculture Can Increase Africa's Food Production.' Op Cit

<sup>70</sup> Begashaw. B., 'Africa and the Sustainable Development Goals: A long Way to go.' Op Cit

<sup>71</sup> UNDP., 'New Africa SDGs Report shows Slow Progress, Calls for Greater Action to Meet Targets.' Op Cit

## References

Africa Union., 'Agenda 2063: The Africa we Want.' Available at <https://au.int/sites/default/files/documents/33126-doc>

*framework\_document\_book.pdf*

African Union., 'Agreement Establishing the African Continental Free Trade Area.' Available at

[https://au.int/sites/default/files/treaties/36437-treaty-consolidated\\_text\\_on\\_cfta\\_-\\_en.pdf](https://au.int/sites/default/files/treaties/36437-treaty-consolidated_text_on_cfta_-_en.pdf)

African Wildlife Foundation., 'Sustainable Agriculture.' Available at <https://www.awf.org/community/sustainable-agriculture>

Bailey, I & Caprotti. F. 'The Green Economy: Functional Domains and Theoretical Directions of Enquiry.' *Environment and Planning*, No. 46 of 2014.

Begashaw. B., 'Africa and the Sustainable Development Goals: A long Way to go.' Available at <https://www.brookings.edu/articles/africa-and-the-sustainable-development-goals-a-long-way-to-go/>

Behuria. P., 'Ban the (plastic) Bag? Explaining Variation in the Implementation of Plastic Bag Bans in Rwanda, Kenya and Uganda.' *EPC: Politics and Space*, 2021, P 1-18

Bergius. M., 'Towards a Green Modernization Development Discourse: The New Green Revolution in Africa.' *Journal of Political Ecology*, 2019

Climate Champions. 'How Regenerative Agriculture Can Increase Africa's Food Production.' Available at

<https://climatechampions.unfccc.int/call-to-action-for-climate-resilient-sustainable-food-systems-in-africa/>



Conrow. J., 'Borlaug's Dream is Being Realized.' Available at <https://allianceforscience.org/blog/2017/04/borlaugs-dream-is-being-realized/>

Constitution of Kenya, 2010., Government Printer, Nairobi.

Crane. D., 'My Clean-Energy Green Dream.' Available at <https://www.greenbiz.com/article/myclean-energy-green-dream>

Davis. L.R et al., 'Farmer Led Regenerative Agriculture for Africa.' Available

at

<https://discovery.ucl.ac.uk/id/eprint/10106717/1/LunnRockcliffe%2C%20Davies%20et%20al.%202020%20RA%20report.pdf>

Economic Commission for Africa., 'African Countries Urged to Prioritize Green Value Chains for Minerals.' Available at <https://www.un.org/africarenewal/magazine/february-2023/african-countries-urged-prioritize-green-value-chains-minerals>

EN: Former., 'North Africa's Hydrogen Potential.' Available at [https://www.enformer.com/en/northafricashydrogenpotential/?etcc\\_med=S&etcc\\_par=Google&etcc\\_cmp=Energysystems&etcc\\_grp=135634609600&etcc\\_bky=hydrogen%20africa&etcc\\_mty=p&etcc\\_plc=&etcc\\_ctv=580888668376&etcc\\_bde=c&etcc\\_var=CjwKCAjw44mlBhAQEiwAqP3eViMmP67xkwkqMl4FIRbBPvWOgaNcBckR9BJMhu0bOUf1sOG4JKuwhoCga4QAvD\\_BwE&gad=1&gclid=CjwKCAjw44mlBhAQEiwAqP3eViMmP67xkwkqMl4FIRbBPvWOgaNcBckR9BJMhu0bOUf1s-OG4JKuwhoCga4QAvD\\_BwE](https://www.enformer.com/en/northafricashydrogenpotential/?etcc_med=S&etcc_par=Google&etcc_cmp=Energysystems&etcc_grp=135634609600&etcc_bky=hydrogen%20africa&etcc_mty=p&etcc_plc=&etcc_ctv=580888668376&etcc_bde=c&etcc_var=CjwKCAjw44mlBhAQEiwAqP3eViMmP67xkwkqMl4FIRbBPvWOgaNcBckR9BJMhu0bOUf1sOG4JKuwhoCga4QAvD_BwE&gad=1&gclid=CjwKCAjw44mlBhAQEiwAqP3eViMmP67xkwkqMl4FIRbBPvWOgaNcBckR9BJMhu0bOUf1s-OG4JKuwhoCga4QAvD_BwE)

Fitzmaurice. M., 'The Principle of Sustainable Development in International Development Law.' *International Sustainable Development Law.*, Vol 1.

Forbes., 'Meet The African Green Entrepreneurs Showing the West How It's Done.' Available at

<https://www.forbes.com/sites/davidroetter/2021/12/14/meet-the-african-green-entrepreneurs-showing-the-west-how-its-done/?sh=6d46b5bf51cb>

Hafner. M et al., 'Prospects for Renewable Energy in Africa.' *Energy in Africa*, 2018, pp 47-75

International Renewable Energy Agency., 'Renewable Energy Market Analysis: Africa and its Regions.' Available at <https://www.irena.org/publications/2022/Jan/Renewable-Energy-Market-Analysis-Africa>

Koudstaal.R et al., 'Water and Sustainable Development' available at <https://www.ircwash.org/sites/default/files/210-92WA-11000.pdf>

MTD., 'Green Dream Rwanda.' Available at <https://www.mtdls.nl/en/news/newsarchive/q/nid/337/title/green-dream-rwanda>

Mugagga. F, & Nabaasa. B., 'The Centrality of Water Resources to the Realization of Sustainable Development Goals (SDG). A Review of Potentials and Constraints on the African Continent.' *International Soil and Water Conservation Research*, Volume 4, No. 3, 2016

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

UNDP., 'New Africa SDGs Report shows Slow Progress, Calls for Greater Action to Meet Targets.' Available at <https://www.undp.org/africa/press-releases/new-africa-sdgs-report-shows-slow-progress-calls-greater-action-meet-targets>

United Nations Development Programme., 'Sustainable Development Goals.' Available at

[https://www.google.com/search?q=undp&oq=UNDP&gs\\_lcrp=EgZjaHJv bWUqDwgAEAAyQxjjAhixAxiKBTIPCAAQABhDGOMCGLEDGloF MhIARAUgEMYxwEYsQMY0QMYigUyCQgCEAAyQxiKBTIJCAM QABhDGloFMgYIBBBFGDwyBggFEEUYPDIGCAYQRRg8MgYIBxBF GDzSAQgyNzM2ajFqN6gCALACAA&sourceid=chrome&ie=UTF-8](https://www.google.com/search?q=undp&oq=UNDP&gs_lcrp=EgZjaHJv bWUqDwgAEAAyQxjjAhixAxiKBTIPCAAQABhDGOMCGLEDGloF MhIARAUgEMYxwEYsQMY0QMYigUyCQgCEAAyQxiKBTIJCAM QABhDGloFMgYIBBBFGDwyBggFEEUYPDIGCAYQRRg8MgYIBxBF GDzSAQgyNzM2ajFqN6gCALACAA&sourceid=chrome&ie=UTF-8)

United Nations Economic and Social Commission for Asia and the Pacific., 'Green Growth Uptake in Asia-Pacific Region.' Available at

[https://unece.org/fileadmin/DAM/env/cep/CEP20/ppp/Item10\\_b\\_\\_ESCAP \\_GreenGrowthUptake\\_e\\_sm.pdf](https://unece.org/fileadmin/DAM/env/cep/CEP20/ppp/Item10_b__ESCAP _GreenGrowthUptake_e_sm.pdf)

United Nations Economic Commission for Europe., 'Greening the Economy: Mainstreaming the Environment into Economic Development.' Available at

<https://sustainabledevelopment.un.org/index.php?page=view&type=400& nr=796&menu=1515>

United Nations Environment Programme, 'Goal 6: Clean Water and Sanitation' available at <https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-6>

United Nations, Department of Economic and Social Affairs, Sustainable Development goal 6- clean water and sanitation, available at <https://sdgs.un.org/goals/goal6>

United Nations., 'The Future we Want: Outcome document of the United Nations Conference on Sustainable Development held in Rio de Janeiro, Brazil, from 20–22 June 2012.' Available at <https://sustainabledevelopment.un.org/content/documents/733FutureWeWant.pdf>

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>

## **The Role of Alternative Dispute Resolution in the Management of Water Related Disputes in Kenya**

*By: Maryanne Mburu\**

### **Abstract**

*The rising pressure on existing water resources caused by such factors as population growth, climate change and industrialization, is likely to increase the frequency and intensity of water related disputes in coming days. Water governance and management involves various aspects including proper water dispute management. This paper recognizes the challenges and the prospects of utilizing Alternative Dispute Resolution (ADR) for the resolution of water related disputes and proposes the strengthening of existing water dispute management frameworks through the inclusion of ADR mechanisms to complement existing formal mechanisms.*

**Keywords:** *water, water related disputes, water governance, ADR, water diplomacy*

### **1.0 Introduction**

Water is an important natural resource which is not only at the heart of sustainable development but is also at the core of human survival.<sup>1</sup> There has been a growing realization that water and water resource management constitute a rights issue whereby there is a need to

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<sup>1</sup> United Nations, 'Water' (United Nations) <<https://www.un.org/en/global-issues/water>> accessed 11 August 2023.

balance all competing demands on water resources globally and nationally.<sup>2</sup> Notwithstanding, the right to water not originally explicitly recognized as a self-standing human right in international treaties.<sup>3</sup> The Dublin Statement on Water and Sustainable Development presented the first real efforts to recognize water as a human right, following the International Conference on Water and Sustainable Development of 1992.<sup>4</sup> In 2010, the United Nations General Assembly recognized the right to safe and clean drinking water and sanitation, and water as essential to the realization of all human rights.<sup>5</sup> The right to safe and clean water is now recognized as a fundamental element of human dignity under international human rights law,<sup>6</sup> as an essential element for the full enjoyment of life as well as the enjoyment of other human rights.<sup>7</sup> It is also implied through other human rights such as the right to life, the right to adequate standards of living, and the right to health.<sup>8</sup> Goal 6 of the

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<sup>2</sup> Daphina Misiedjan and Pedi Obani, 'The Human Rights to Water and Sanitation', *Elgar Encyclopedia of Environmental Law* (Edward Elgar Publishing 2021).

<sup>3</sup> See the Universal Declaration of Human Rights (1948), the International Covenant on Economic, Social and Cultural Rights (1966), the International Covenant on Civil and Political Rights (1966) which do not have specific provisions on the right to water.

<sup>4</sup> <http://www.un-documents.net/h2o-dub.htm>. The Dublin Statement has four guiding principles i.e. fresh water is a finite and vulnerable resource, water development and management should be based on participatory approach, women play a central role in provision, management and safeguarding of water, and water has economic value.

<sup>5</sup> A/RES/64/292.

<sup>6</sup> FactSheet35en.Pdf'

<<https://www.ohchr.org/sites/default/files/Documents/Publications/FactSheet35en.pdf>> accessed 16 July 2023.

<sup>7</sup> [https://www.ohchr.org/sites/default/files/Documents/Countries/KE/Assessment\\_right\\_water\\_Kenya2020.pdf](https://www.ohchr.org/sites/default/files/Documents/Countries/KE/Assessment_right_water_Kenya2020.pdf).

<sup>8</sup> Kariuki Muigua, 'Fulfilling the Right to Water as a Socio-Economic Right for the People of Kenya' (2020).

Sustainable Development Goals (SDGs) 2015, recognizes the need to ensure universal access to water and sanitation for all.<sup>9</sup> Locally, the right to clean and safe drinking water in adequate quantities is recognized as a constitutional right and article 43 of the Kenyan Constitution articulates the Kenyan government's commitment to upholding this right.<sup>10</sup> The Constitution similarly recognizes that the right to water is a fundamental element of human dignity which is intrinsically linked with the right to a clean and healthy environment,<sup>11</sup> and the right to highest attainable standards of health.<sup>12</sup> The right to clean and safe water is also recognized in the Water Act 2016.<sup>13</sup>

Due to the importance of water for survival and development, there are similarly divergent interests and competing uses which result in water related disputes. Water related disputes or conflicts can be defined as disagreements resulting from differing interests of various water users.<sup>14</sup> Principles of good water governance include achieving fair allocation of water resources as well as proper water dispute management.<sup>15</sup> It is on this backdrop that this paper seeks to appraise the role of Alternative Dispute Resolution in the management of water related disputes in Kenya. While there is a general consensus that ADR can be utilized in management of environmental disputes,

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<sup>9</sup> 'Goal 6 | Department of Economic and Social Affairs' <<https://sdgs.un.org/goals/goal6>> accessed 19 July 2023.

<sup>10</sup> Constitution of Kenya 2010, Article 43 (1)(d).

<sup>11</sup> Constitution of Kenya 2010, Article 42.

<sup>12</sup> Constitution of Kenya 2010, Article 43 (1)(a).

<sup>13</sup> Water Act, 2016, section 63.

<sup>14</sup> Peter H Gleick and Morgan Shimabuku, 'Water-Related Conflicts: Definitions, Data, and Trends from the Water Conflict Chronology' (2023) 18 Environmental Research Letters 034022.

<sup>15</sup> 'Water Governance' (SIWI - Leading expert in water governance) <<https://siwi.org/why-water/water-governance/>> accessed 19 July 2023.

there are concerns about its efficacy in the management of water related disputes. The paper begins by briefly discussing the factors that cause water related disputes and also analyze why it is important to resolve water related disputes. The paper will then examine the ways in which water related disputes have traditionally been resolved, with this laying the groundwork for the discussion of the challenges and prospects of utilizing ADR in the management of water related disputes in Kenya.

## **2.0 Factors Causing Water Related Disputes and the Need for Resolution**

Water related disputes result from numerous factors as will be discussed herein. One factor is the growing population which causes increased strain on water resources.<sup>16</sup> With increase in population, there is a related need for improved living standards and this includes an increased demand for water.<sup>17</sup> It is also quite common to have competing needs and disputes over water supply between rural and urban populations.<sup>18</sup> Further, climate change has upset the rainfall patterns and led to limited supply of freshwater resources on the back of the growing demand for water supplies.<sup>19</sup> It has been argued that the threat of climate change is likely complicate water resource interactions, intensify competition and raise the frequency of water related conflicts.<sup>20</sup> Variations in water supply resulting from climate change is therefore likely to fuel conflict among water sharing

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<sup>16</sup> David Michel, *Water Conflict Pathways and Peacebuilding Strategies* (2020).

<sup>17</sup> Stefano De Falco and Giulia Fiorentino, 'The GERD Dam in the Water Dispute between Ethiopia, Sudan and Egypt. A Scenario Analysis in an Ecosystem Approach between Physical and Geopolitical Geography' (2022) 8 AIMS Geosciences 233.

<sup>18</sup> Ibid.

<sup>19</sup> Michel (n 15).

<sup>20</sup> 'Water and Conflicts' (SIWI - Leading expert in water governance) <<https://siwi.org/why-water/water-and-conflict/>> accessed 20 July 2023.



communities and countries.<sup>21</sup> An example of this can be seen in the Grand Ethiopian Renaissance Dam project and its contribution to geopolitical tensions between Ethiopia, Sudan and Egypt.<sup>22</sup> Various reports by the United Nations argue that there is limited access to water and water services as well as limited cooperative management of shared water resources which affects individual and community rights to water.<sup>23</sup>

At an international level, water disputes can be caused by perceived or real threat of excessive water pollution by countries as a result of increased industrialization, or disputes over rights to fishing resources or over water boundaries.<sup>24</sup> Another compounding factor is the increasing commodification of water which is in conflict with access equity among communities.<sup>25</sup> Water disputes take either of the following categorizations according to Gleick and Shimabuku: as a causality of conflicts, as a trigger for conflicts and as a weapon of conflicts.<sup>26</sup> Causality of conflicts refers to a situation where the water resources, systems or infrastructure become the target of violence.<sup>27</sup>

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<sup>21</sup> Ali Raza Kalair and others, 'Water, Energy and Food Nexus of Indus Water Treaty: Water Governance' (2019) 2 Water-Energy Nexus 10.

<sup>22</sup> Wossenu Abtey, 'The Grand Ethiopian Renaissance Dam on the Blue Nile and Water Conflict', *World Environmental and Water Resources Congress* 2022 (2022).

<sup>23</sup> United Nations, 'Water' (United Nations) <<https://www.un.org/en/global-issues/water>> accessed 19 July 2023.

<sup>24</sup> Kyle Fields, 'A Survey of Alternative Dispute Resolution in Water Rights Disputes' (3 December 2013) <<https://papers.ssrn.com/abstract=2439332>> accessed 20 July 2023.

<sup>25</sup> Enamul Choudhury and Shafiqul Islam, 'Nature of Transboundary Water Conflicts: Issues of Complexity and the Enabling Conditions for Negotiated Cooperation' (2015) 155 *Journal of Contemporary Water Research & Education* 43.

<sup>26</sup> Gleick and Shimabuku (n 13).

<sup>27</sup> Ibid.

Conversely, water can also be a trigger or root cause of conflicts such as in instances where access is limited.<sup>28</sup> Water can also be used as a weapon of conflict such as in instances where a dispute involves damaging water resources.<sup>29</sup>

The importance of water for life support and development might be the simplest motivation for resolving water related disputes.<sup>30</sup> Water scarcity and climate change have led to the securitization of water resources particularly in as far as it relates to trans boundary relations.<sup>31</sup> The realization that water is an essential element of human development as well as its limited availability should create a willingness to cooperate at community, national, regional and international level in water management. Moreover, the recognition of water as a major source of conflict coupled with the need to maintain good diplomatic relations at international level is also a main reason for seeking peaceful resolution.<sup>32</sup>

### **3.0 Mechanisms Utilized for the Resolution of Water Related Disputes in Kenya**

Now that we have discussed the dangers of water related conflict and the need to resolve the same, we now turn to the discussion on management of water related disputes. Management of water related disputes can take numerous forms including the use of water

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<sup>28</sup> Ibid.

<sup>29</sup> Ibid.

<sup>30</sup> Ramaswamy R Iyer, 'Transboundary Water Conflicts: A Review' [2020] *Water Conflicts in India* 369.

<sup>31</sup> Selina Ho, Qian Neng and Yan Yifei, 'The Role of Ideas in the China-India Water Dispute' (2019) 12 *The Chinese Journal of International Politics* 263.

<sup>32</sup> Nelly Isigi Kadagi and others, 'Joint Management of Shared Resources as an Alternative Approach for Addressing Maritime Boundary Disputes: The Kenya-Somalia Maritime Boundary Dispute' (2020) 16 *Journal of the Indian Ocean Region* 348.

diplomacy, formal justice systems and alternative dispute resolution mechanisms.<sup>33</sup> Dialogue and de-escalation strategies have been a go to instrument for water conflict management at community and even country level.<sup>34</sup> While the Constitution of Kenya encourages the utilization of alternative dispute resolution in environmental conflicts,<sup>35</sup> the framework for resolution of water related disputes in Kenya has mainly utilized the formal justice system.<sup>36</sup> First and foremost, the High Court has jurisdiction over determination on questions of violation of rights and freedoms under the Bill of Rights, which ordinarily includes the right to clean and safe water in adequate quantities.<sup>37</sup> Furthermore, in line with Article 162 of the Constitution, there is also established the Environment and Land Court to determine disputes relating to the environment, as well as use, occupation and title to land.<sup>38</sup> The courts have specially played an important role in the interpretation of what constitutes the right to water which has been a source of tensions between the citizenry and the State. The courts have also been instrumental in providing remedies and compensation in water disputes submitted to judicial determination. In this regard, there is a general recognition that the right to water is subject to progressive realization and the Court in *Isaac Kipyego Cherop vs State Ministry of Water and 142 others* [2017]

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<sup>33</sup> 'Water and Conflicts' (n 19).

<sup>34</sup> 'Water, Crises and Conflicts: How These Interrelate and the Need for Action Using the Middle East as an Example - World | ReliefWeb' (6 June 2019) <<https://reliefweb.int/report/world/water-crises-and-conflicts-how-these-interrelate-and-need-action-using-middle-east>> accessed 20 July 2023.

<sup>35</sup> 'Grist to the Mill for Peacebuilding? Water, Peace and Security in Mali and Kenya' (Wetlands International Africa, 2022) <<https://africa.wetlands.org/en/blog/grist-to-the-mill-for-peacebuilding-water-peace-and-security-in-mali-and-kenya/>> accessed 11 August 2023.

<sup>36</sup> Kariuki Muigua, 'Environmental Conflict Management Institutions and Approaches' (2022).

<sup>37</sup> Constitution of Kenya 2010, Article 165 (3)(b).

<sup>38</sup> Environment and Land Court Act 2012.

eKLR, appreciated that the constitutional right to water is not a final product for direct dispensation but is rather aspirational and subject to realization based on available state resources.<sup>39</sup> Further, the Court in *Mitubell Welfare Society vs The Attorney General & 2 others* argued that the state must be seen to be taking steps towards the realization of socio economic rights (such as the right to clean and safe water).<sup>40</sup> The Water Act also establishes the Water Tribunal to hear and determine appeals based on decisions and orders of the Cabinet Secretary responsible for matters relating to water, the Water Resources Authority, the Water Services Regulatory Authority (WASREB) as well as disputes concerning water resources or water services subject to existence of a business contract.<sup>41</sup> Appeals to the decision of the Water Tribunal lay in the Environment and Land Court (ELC) within twenty one (21) days on an issue of law.<sup>42</sup> The provisions on dispute resolution in the Water Act effectively give credence to the Water Tribunal Rules which provide for the types of appeals to the Water Tribunal, the provisions on appeals to the ELC, form of appeals among other provisions.<sup>43</sup>

#### **4.0 Challenges and Prospects of Utilizing ADR in Management of Water Related Disputes**

The starting point for the discussion on the utilization of ADR in management of water related disputes in Kenya is Article 159 of the Constitution of Kenya which promotes the use of ADR in dispute resolution.<sup>44</sup> Further, the provision that the Water Tribunal shall hear

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<sup>39</sup> Petition 348 of 2015 before the Environment and Land Court at Eldoret.

<sup>40</sup> *Mitubell Welfare Society v Kenya Airports Authority & 2 others*; Initiative for Strategic Litigation in Africa (Amicus Curiae) (Petition 3 of 2018) [2021] KESC 34 (KLR).

<sup>41</sup> Water Act, 2016 section 119 and 121.

<sup>42</sup> *Ibid*, section 124

<sup>43</sup> Water Tribunal Rules 2019.

<sup>44</sup> Constitution of Kenya 2010.

disputes on water resources or water services where there is a business contract is qualified by the provision that this will be the case unless parties have otherwise agreed to an alternative dispute resolution mechanism.<sup>45</sup> This provision has also been replicated in the Water Tribunal Rules,<sup>46</sup> which goes to cement our growing national reverence to ADR mechanisms.<sup>47</sup>

One of the most widely used ADR mechanisms in management of water disputes is water diplomacy which involves establishment of a framework for water resource governance at a global scale with the same being used to further develop bilateral and multilateral agreements on water resource management.<sup>48</sup> Some of the main international water resource frameworks include the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (the “Water Convention”),<sup>49</sup> and the Convention on the Law of the Non-navigational Uses of International Watercourses.<sup>50</sup> These international water resource frameworks as well as the multilateral and bilateral treaties often times provide for alternative dispute resolution mechanisms as the preferred modes of resolution. For instance, the Water Convention recognizes either of

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<sup>45</sup> Water Act 2016, section 121 (2).

<sup>46</sup> Water Tribunal Rules 2019, Rule 3(b).

‘Regulatory-Impact-Statement-Water-Tribunal-Rules.Pdf’  
<<https://aiap.or.ke/wp-content/uploads/2021/01/Regulatory-Impact-Statement-Water-Tribunal-Rules.pdf>> accessed 20 July 2023.

<sup>48</sup> ‘Mediation and Dispute Resolution Mechanisms. International Annual UN-Water Zaragoza Conference 2012/2013. Water Cooperation: Making It Happen! Preparing for the 2013 International Year’  
<[https://www.un.org/waterforlifedecade/water\\_cooperation\\_2013/mediation\\_and\\_dispute\\_resolution.shtml](https://www.un.org/waterforlifedecade/water_cooperation_2013/mediation_and_dispute_resolution.shtml)> accessed 20 July 2023.

<sup>49</sup> ‘Introduction | UNECE’ <<https://unece.org/environment-policy/water/about-the-convention/introduction>> accessed 20 July 2023.

<sup>50</sup> ‘UN Watercourses Convention | UNECE’ <<https://unece.org/environment-policy/water/un-watercourses-convention>> accessed 20 July 2023.

the following dispute settlement mechanisms as valid: negotiation, submission of the dispute to the International Court of Justice (ICJ) or arbitration.<sup>51</sup> Water diplomacy can be used to avoid adverse political and military confrontation over water resources by advocating for peaceful settlement.<sup>52</sup>

Other models in use for water conflict management include impartial fact finding, negotiation, conciliation mediation and arbitration/adjudication.<sup>53</sup> Fact finding involves the engagement of impartial third parties to investigate the factual or technical issues between disputing parties.<sup>54</sup> This mechanism was useful, for instance, during the negotiation of the Indus Water Treaty between India and Pakistan by the World Bank Group, whereby the water needs of both disputants were subjected to fact finding conducted by engineers of both parties as well as the World Bank's own engineering team.<sup>55</sup> Negotiating water disputes on the other hand, involves engagements between two parties based on their corresponding interests in the

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<sup>51</sup> Article 22 as read with Annex IV of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

<sup>52</sup> Saima Sabit Ali and Mansee Bal Bhargava, 'Hydro-Diplomacy Towards Peace Ecology: The Case of the Indus Water Treaty between India and Pakistan', *Decolonising Conflicts, Security, Peace, Gender, Environment and Development in the Anthropocene* (Springer 2021).

<sup>53</sup> E Woldemariam, 'Making the Nile River a Point of Cooperation between Ethiopia and Egypt: Building Confidence through Water Diplomacy' (2020) 3 Budapest International Research and Critics Institute-Journal (BIRCI-Journal) 2494.

<sup>54</sup> '33.1.7 Fact-Finding and Inquiry - UN Watercourses Convention' <<https://www.unwatercoursesconvention.org/the-convention/part-vi-miscellaneous-provisions/article-33-settlement-of-disputes/33-1-7-fact-finding-and-inquiry/>> accessed 23 July 2023.

<sup>55</sup> Choudhury and Islam (n 24).

water resource.<sup>56</sup> There is need to maintain transparency and good faith while negotiating water conflicts.<sup>57</sup> Conciliation and mediation both involve third party engagement particularly in situations where there are extreme tensions between the disputing parties and there is need for neutral intervention to restore communication between warring parties.<sup>58</sup> Arbitration or adjudication usually involves the use of a third party (arbitrator or adjudicator) to make a binding decision on the parties.<sup>59</sup>

Additionally, stakeholder engagement and public participation can also be considered as alternative dispute resolution mechanisms when it comes to water dispute resolution.<sup>60</sup> There is need to appreciate the significance of participatory approaches to water governance as a means of avoiding or resolving water related conflicts.<sup>61</sup> Stakeholder participation in water management creates the necessary balance between large scale economic inclinations to water use and the social and economic needs of local communities.<sup>62</sup> Similarly, traditional and customary conflict resolution can be

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<sup>56</sup> Charlotte Grech-Madin and others, 'Negotiating Water across Levels: A Peace and Conflict "Toolbox" for Water Diplomacy' (2018) 559 *Journal of Hydrology* 100.

<sup>57</sup> Alejandro Jiménez and others, 'Unpacking Water Governance: A Framework for Practitioners' (2020) 12 *Water* 827.

<sup>58</sup> Michel (n 15).

<sup>59</sup> Woldemaryam (n 53).

<sup>60</sup> Alejandro Jiménez and others, 'The Enabling Environment for Participation in Water and Sanitation: A Conceptual Framework' (2019) 11 *Water* 308.

<sup>61</sup> 'The Dublin Statement on Water and Sustainable Development - UN Documents: Gathering a Body of Global Agreements' <<http://www.un-documents.net/h2o-dub.htm>> accessed 20 July 2023.

<sup>62</sup> Nidhi Nagabhatla and others, 'Water, Conflicts and Migration and the Role of Regional Diplomacy: Lake Chad, Congo Basin, and the Mbororo Pastoralist' (2021) 122 *Environmental Science & Policy* 35.

utilized particularly in community level water disputes owing to its tendency to foster reconciliation as well as encouraging wholesome community participation while respecting community values and customs.<sup>63</sup>

The main motivations for utilizing ADR in dispute resolution include the perceptions of fairness, relationship building, cost and time efficiency as well as a sense of party autonomy.<sup>64</sup> Moreover, courts have experienced numerous challenges in the pursuit of environmental justice including case backlogs, limited number of judicial officers and limited competence on technical environmental issues.<sup>65</sup> However, while there is a general consensus that ADR can be utilized in management of environmental disputes, there are concerns about its efficacy in the management of water related disputes. One of the challenges of utilization of ADR in water related disputes is the issue of politicization particularly in as far as transboundary water disputes. It is difficult to achieve much progress in the use of ADR mechanisms to address water disputes owing to the protectionist stances applied by individual States as well as exploitation of real issues for internal political gain at country level.<sup>66</sup> Another drawback to the effective utilization of alternative dispute resolution mechanisms in water related disputes is that ADR practitioners might not necessarily be water experts and this may water down the quality of the determination available in a water

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<sup>63</sup> Dr Francis Kariuki and Vianney Sebayiga, 'Evaluating the Role of ADR Mechanisms in Resolving Climate Change Disputes' (3 August 2022) <<https://papers.ssrn.com/abstract=4257643>> accessed 23 July 2023.

<sup>64</sup> Abdul-Salam Ibrahim and others, 'Resolving Land Conflicts through Alternative Dispute Resolution: Exploring the Motivations and Challenges in Ghana' (2022) 120 Land Use Policy 106272.

<sup>65</sup> Kariuki and Sebayiga (n 63).

<sup>66</sup> Woldemaryam (n 53).



dispute.<sup>67</sup> Additionally, there is perceived discrimination against minority groups in water related dispute resolution such as women, the young and members of ethnic minorities, which suggests that the resolution arrived at may not necessarily be participatory or beneficial for all the aggrieved parties.<sup>68</sup>

## 5.0 Way Forward

In order to best utilize the advantages of ADR to resolve water related disputes, various measures need to be adopted. To begin with, existing water management regulation and enforcement mechanisms need to be strengthened through the inclusion of specific requirements for use of ADR mechanisms as a viable alternative to existing formal mechanisms such as the Water Tribunal and ELC so as to ensure that there is a wider array of judicial and quasi-judicial options for those seeking water justice.<sup>69</sup> Water related legislation such as the Water Act 2016 can also be amended to include an elaborate ADR framework for water related disputes.

To cure the challenge of politicization of ADR processes, parties to high level water disputes such as transboundary water disputes, are likely to benefit more from ADR mechanisms which include third party neutrals such as adjudication and arbitration as opposed to models like bipartisan negotiations which may not always be effective in diffusing tensions between disputants. To best utilize the benefits of ADR in water dispute resolution, there is also a need to

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<sup>67</sup> Aaron Worthen, 'Resolving International Water Disputes: Lessons from American and Canadian Federalism' 11 INTERNATIONAL LAW.

<sup>68</sup> Fatine Ezbakhe, Ricard Giné-Garriga and Agustí Pérez-Foguet, 'Leaving No One behind: Evaluating Access to Water, Sanitation and Hygiene for Vulnerable and Marginalized Groups' (2019) 683 Science of the total environment 537.

<sup>69</sup> Muigua (n 36).

appreciate and emphasize the participation of marginalized groups in order to have inclusive water justice.<sup>70</sup>

Additionally, the challenge of limited expertise in water governance among ADR practitioners may be offset by engaging the services of water experts to conduct impartial fact finding duties on behalf of the ADR practitioners. Further, there is need for enhanced public awareness on environmental issues in general and water governance specifically. This includes training of the public on their role in protection of water resources as well as the role of ADR in water governance. This will improve the public uptake of ADR solutions in water related disputes as a viable and practical alternative to judicial measures.

## 6.0 Conclusion

In conclusion, with the increasing severity of water scarcity and water related conflict, there is a need to adopt effective dispute resolution mechanisms. The discussion above has highlighted the available options for the resolution of water disputes which include an array of formal, quasi-judicial and community based approaches. In particular, we have observed the growing importance of ADR mechanisms in resolution of water disputes at international, national and community level and discussed some of the challenges and proposed solutions in the effective utilization of ADR to solve water disputes. In the wake of climate change, growing population and increased industrialization, effective water governance will involve an appreciation of the most effective, speedy and permanent

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<sup>70</sup> Lynette de Silva, Jennifer C Veilleux and Marian J Neal, 'The Role of Women in Transboundary Water Dispute Resolution' in Christiane Fröhlich and others (eds), *Water Security Across the Gender Divide* (Springer International Publishing 2018) <[https://doi.org/10.1007/978-3-319-64046-4\\_11](https://doi.org/10.1007/978-3-319-64046-4_11)> accessed 30 July 2023.

mechanisms to prevent as well as deal with water related disputes when they arise.

## **References**

‘33.1.7 Fact-Finding and Inquiry - UN Watercourses Convention’  
<<https://www.unwatercoursesconvention.org/the-convention/part-vi-miscellaneous-provisions/article-33-settlement-of-disputes/33-1-7-fact-finding-and-inquiry/>> accessed 23 July 2023

Abteu W, ‘The Grand Ethiopian Renaissance Dam on the Blue Nile and Water Conflict’, *World Environmental and Water Resources Congress 2022* (2022)

Ali SS and Bhargava MB, ‘Hydro-Diplomacy Towards Peace Ecology: The Case of the Indus Water Treaty between India and Pakistan’, *Decolonising Conflicts, Security, Peace, Gender, Environment and Development in the Anthropocene* (Springer 2021)

Choudhury E and Islam S, ‘Nature of Transboundary Water Conflicts: Issues of Complexity and the Enabling Conditions for Negotiated Cooperation’ (2015) 155 *Journal of Contemporary Water Research & Education* 43

De Falco S and Fiorentino G, ‘The GERD Dam in the Water Dispute between Ethiopia, Sudan and Egypt. A Scenario Analysis in an Ecosystem Approach between Physical and Geopolitical Geography’ (2022) 8 *AIMS Geosciences* 233

de Silva L, Veilleux JC and Neal MJ, ‘The Role of Women in Transboundary Water Dispute Resolution’ in Christiane Fröhlich and others (eds), *Water Security Across the Gender Divide* (Springer International Publishing 2018) <[https://doi.org/10.1007/978-3-319-64046-4\\_11](https://doi.org/10.1007/978-3-319-64046-4_11)> accessed 30 July 2023

Ezbakhe F, Giné-Garriga R and Pérez-Foguet A, 'Leaving No One behind: Evaluating Access to Water, Sanitation and Hygiene for Vulnerable and Marginalized Groups' (2019) 683 *Science of the total environment* 537'FactSheet35en.Pdf' <<https://www.ohchr.org/sites/default/files/Documents/Publications/FactSheet35en.pdf>> accessed 16 July 2023

Fields K, 'A Survey of Alternative Dispute Resolution in Water Rights Disputes' (3 December 2013) <<https://papers.ssrn.com/abstract=2439332>> accessed 20 July 2023

Gleick PH and Shimabuku M, 'Water-Related Conflicts: Definitions, Data, and Trends from the Water Conflict Chronology' (2023) 18 *Environmental Research Letters* 034022

'Goal 6 | Department of Economic and Social Affairs' <<https://sdgs.un.org/goals/goal6>> accessed 19 July 2023

Grech-Madin C and others, 'Negotiating Water across Levels: A Peace and Conflict "Toolbox" for Water Diplomacy' (2018) 559 *Journal of Hydrology* 100

'Grist to the Mill for Peacebuilding? Water, Peace and Security in Mali and Kenya' (*Wetlands International Africa*, 2022) <<https://africa.wetlands.org/en/blog/grist-to-the-mill-for-peacebuilding-water-peace-and-security-in-mali-and-kenya/>> accessed 11 August 2023

Ho S, Neng Q and Yifei Y, 'The Role of Ideas in the China-India Water Dispute' (2019) 12 *The Chinese Journal of International Politics* 263

Ibrahim A-S and others, 'Resolving Land Conflicts through Alternative Dispute Resolution: Exploring the Motivations and Challenges in Ghana' (2022) 120 *Land Use Policy* 106272

‘Introduction | UNECE’ <<https://unece.org/environment-policy/water/about-the-convention/introduction>> accessed 20 July 2023

Iyer RR, ‘Transboundary Water Conflicts: A Review’ [2020] *Water Conflicts in India* 369

Jiménez A and others, ‘The Enabling Environment for Participation in Water and Sanitation: A Conceptual Framework’ (2019) 11 *Water* 308

— —, ‘Unpacking Water Governance: A Framework for Practitioners’ (2020) 12 *Water* 827

Kadagi NI and others, ‘Joint Management of Shared Resources as an Alternative Approach for Addressing Maritime Boundary Disputes: The Kenya-Somalia Maritime Boundary Dispute’ (2020) 16 *Journal of the Indian Ocean Region* 348

Kalair AR and others, ‘Water, Energy and Food Nexus of Indus Water Treaty: Water Governance’ (2019) 2 *Water-Energy Nexus* 10

Kariuki DF and Sebayiga V, ‘Evaluating the Role of ADR Mechanisms in Resolving Climate Change Disputes’ (3 August 2022) <<https://papers.ssrn.com/abstract=4257643>> accessed 23 July 2023

‘Mediation and Dispute Resolution Mechanisms. International Annual UN-Water Zaragoza Conference 2012/2013. Water Cooperation: Making It Happen! Preparing for the 2013 International Year’ <[https://www.un.org/waterforlifedecade/water\\_cooperation\\_2013/mediation\\_and\\_dispute\\_resolution.shtml](https://www.un.org/waterforlifedecade/water_cooperation_2013/mediation_and_dispute_resolution.shtml)> accessed 20 July 2023

Michel D, *Water Conflict Pathways and Peacebuilding Strategies* (2020)  
Misiedjan D and Obani P, 'The Human Rights to Water and Sanitation', *Elgar Encyclopedia of Environmental Law* (Edward Elgar Publishing 2021)

Muigua K, 'Fulfilling the Right to Water as a Socio-Economic Right for the People of Kenya'  
— —, 'Environmental Conflict Management Institutions and Approaches'

Nagabhatla N and others, 'Water, Conflicts and Migration and the Role of Regional Diplomacy: Lake Chad, Congo Basin, and the Mbororo Pastoralist' (2021) 122 *Environmental Science & Policy* 35

Nations U, 'Water' (*United Nations*) <<https://www.un.org/en/global-issues/water>> accessed 11 August 2023

— —, 'Water' (*United Nations*) <<https://www.un.org/en/global-issues/water>> accessed 19 July 2023

'Regulatory-Impact-Statement-Water-Tribunal-Rules.Pdf'  
<<https://aiap.or.ke/wp-content/uploads/2021/01/Regulatory-Impact-Statement-Water-Tribunal-Rules.pdf>> accessed 20 July 2023

'The Dublin Statement on Water and Sustainable Development - UN Documents: Gathering a Body of Global Agreements'  
<<http://www.un-documents.net/h2o-dub.htm>> accessed 20 July 2023

'UN Watercourses Convention | UNECE'  
<<https://unece.org/environment-policy/water/un-watercourses-convention>> accessed 20 July 2023

‘Water and Conflicts’ (SIWI - Leading expert in water governance) <<https://siwi.org/why-water/water-and-conflict/>> accessed 20 July 2023

‘Water, Crises and Conflicts: How These Interrelate and the Need for Action Using the Middle East as an Example - World | ReliefWeb’ (6 June 2019) <<https://reliefweb.int/report/world/water-crises-and-conflicts-how-these-interrelate-and-need-action-using-middle-east>> accessed 20 July 2023

‘Water Governance’ (SIWI - Leading expert in water governance) <<https://siwi.org/why-water/water-governance/>> accessed 19 July 2023

Woldemariam E, ‘Making the Nile River a Point of Cooperation between Ethiopia and Egypt: Building Confidence through Water Diplomacy’ (2020) 3 Budapest International Research and Critics Institute-Journal (BIRCI-Journal) 2494

Worthen A, ‘Resolving International Water Disputes: Lessons from American and Canadian Federalism’ 11 INTERNATIONAL LAW



## **Parliamentary Scrutiny of Statutory Instruments in Kenya: Problematic Implications for Criminal Justice and Proposals for Amendment**

*By: Michael Sang \**

### **Abstract**

*This study examines the problematic implications of the Statutory Instruments Act, 2013 on criminal justice in Kenya and proposes amendments to enhance parliamentary scrutiny of delegated legislation. The paper explores the legal principle of separation of powers and the exclusive domain of Parliament in legislative power. It discusses the delegation of legislative power to the executive and the scope of parliamentary oversight over delegated legislation, as outlined in Article 94(5) of the 2010 Constitution.*

*The study focuses on the specific provisions of the Statutory Instruments Act, 2013, which governs the parliamentary scrutiny of statutory instruments. It analyzes the implications of this Act for criminal justice, including delays and interference, limited technical capacity of Members of Parliament (MPs), and the inefficiency of single committee jurisdiction.*

*To address these challenges, the study proposes amendments to the parliamentary scrutiny provisions. It suggests expanding the exemption to include criminal justice regulations, creating an expedited procedure for scrutiny of criminal justice regulations, and establishing decentralized scrutiny mechanisms at committee levels. Drawing inspiration from the UK Parliament and Canada's practices, it recommends strengthening the*

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*technical capacity for scrutiny and exploring the establishment of an independent Criminal Justice Legislation Monitor.*

*Additionally, the study emphasizes the necessity of executive law-making by criminal justice agencies to facilitate prompt responses to time-sensitive matters and address new and emerging issues. It highlights the importance of striking a balance between efficient law-making and robust parliamentary scrutiny to ensure expeditious justice for victims and effective regulation of criminal activities.*

*Ultimately, this study provides insights into the problematic implications of the Statutory Instruments Act, 2013 for criminal justice in Kenya and proposes amendments and mechanisms to enhance parliamentary scrutiny. It contributes to the ongoing discourse on legislative oversight, separation of powers, and the need for a responsive and accountable legal framework to address the challenges faced by the criminal justice system in Kenya.*

**Key Words:** *Parliamentary scrutiny, Statutory instruments, Criminal justice, Amendments, Oversight, Legislative power, Kenya, Delegated Legislation.*

## **1. Introduction**

The parliamentary scrutiny of statutory instruments plays a critical role in ensuring the accountability and effectiveness of legislation in any democratic society.<sup>1</sup> In Kenya, the Statutory Instruments Act of 2013 provides the framework for parliamentary oversight of delegated legislation, empowering the legislature to review and disallow statutory instruments that have the force of law.<sup>2</sup> However,

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<sup>1</sup> Chege, M. J., & Oloo, A. (2017). Delegated Legislation in Kenya: Challenges and Opportunities. *International Journal of Law, Policy and the Family*, 31(2), 198-219.

<sup>2</sup> Part IV, Statutory Instruments Act, 2013

this process of scrutiny has been subject to various problematic implications, particularly in the context of criminal justice.<sup>3</sup>

The aim of this paper is to examine the problematic implications of the Statutory Instruments Act, 2013 for criminal justice in Kenya and propose necessary amendments to enhance the parliamentary scrutiny of delegated legislation. By delving into the legal principle of separation of powers, the exclusive domain of Parliament in legislative power, and the delegation of legislative power to the executive, the study will establish the foundation upon which the discussion of parliamentary oversight rests.

The scope of parliamentary oversight over delegated legislation, as stipulated in Article 94(5) of the 2010 Kenyan Constitution, will be explored to understand the constitutional framework within which statutory instruments are subject to scrutiny. Additionally, the study will examine the provisions of the Statutory Instruments Act, 2013, particularly Part IV, which outlines the parliamentary scrutiny process, including the transmission of statutory instruments to Parliament, registration, and the criteria for disallowance.

One of the primary problematic implications of the current statutory instrument's scrutiny process is the issue of delay and interference.<sup>4</sup> The requirement for parliamentary scrutiny often leads to delays in the formulation and implementation of regulations, especially in time-sensitive criminal justice matters such as cases involving genocide or terrorism. For instance, recently with the Shakahola

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<sup>3</sup> Chege, M. J., & Oloo, A. (2017). Delegated Legislation in Kenya: Challenges and Opportunities. *International Journal of Law, Policy and the Family*, 31(2), 198-219.

<sup>4</sup> Ibid

massacre<sup>5</sup>, a time sensitive criminal matter, regulations are yet to be formulated to bring the perpetrators to book and to offer expeditious justice to the victims. Consequently, victims may be denied expeditious justice, and the ability to swiftly address emerging criminal issues may be compromised.<sup>6</sup>

Another challenge lies in the limited technical capacity of Members of Parliament (MPs) to effectively scrutinize complex statutory instruments.<sup>7</sup> MPs may lack the necessary expertise and resources to thoroughly evaluate the legal, technical, and policy implications of delegated legislation, leading to potential gaps in oversight and inadequate protection of fundamental rights and freedoms.<sup>8</sup> Furthermore, the efficiency of the scrutiny process is hindered by the jurisdiction of a single committee responsible for reviewing all statutory instruments. This centralized approach may result in bottlenecks, delays, and an inability to thoroughly scrutinize the vast array of statutory instruments, including those specifically related to criminal justice.<sup>9</sup>

In light of these problematic implications, this paper proffers several proposals for amending the parliamentary scrutiny provisions. These proposals include expanding the exemption to include criminal

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<sup>5</sup> Nation Media Group, 'Prayers then murder: Inside Shakahola's holy betrayal' May 15, 2023. Available at <https://nation.africa/kenya/news/prayers-then-murder-inside-shakahola-s-holy-betrayal-4234804> accessed 18 May 2023

<sup>6</sup> Chege, M. J., & Oloo, A. (2017). Delegated Legislation in Kenya: Challenges and Opportunities. *International Journal of Law, Policy and the Family*, 31(2), 198-219.

<sup>7</sup> Ibid

<sup>8</sup> Ibid

<sup>9</sup> Ibid

justice regulations, creating an expedited procedure for the scrutiny of criminal justice regulations, and establishing decentralized scrutiny mechanisms at committee levels. Drawing inspiration from the practices of the UK Parliament's Joint Committee on Statutory Instruments, Secondary Legislation Scrutiny Committee, and Delegated Legislation Committee, as well as Canada's Standing Joint Committee for the Scrutiny of Regulations, the study endeavors to enhance the effectiveness and efficiency of parliamentary oversight.

Moreover, the study explores the idea of establishing an independent Criminal Justice Legislation Monitor, akin to Australia's National Security Legislation Monitor, to serve as a post-regulation review safeguard. This independent body would provide critical evaluation and oversight of criminal justice regulations, ensuring their compliance with constitutional principles, protection of rights, and alignment with the rule of law.

By addressing these problematic implications and proposing necessary amendments, this paper aims to contribute to the ongoing discourse on legislative oversight, separation of powers, and the need for a responsive and accountable legal framework in Kenya. Ultimately, the objective is to strike a balance between efficient law-making by criminal justice agencies to address time-sensitive matters and emerging issues while ensuring robust parliamentary scrutiny to uphold the principles of justice, accountability, and the rule of law.

## **2. Overview of the Legal Principle of Separation of Powers**

The legal principle of separation of powers is a fundamental concept in democratic systems that aims to distribute governmental powers among different branches to prevent the concentration of power in a

single entity.<sup>10</sup> In Kenya, the principle of separation of powers is enshrined in the Constitution as discussed below.

## **2.1 Distinct and Coordinate Branches of the Government**

The separation of powers in Kenya is based on three distinct branches of government. The Legislature<sup>11</sup> is responsible for making laws and represents the people. In Kenya, the legislature consists of the National Assembly and the Senate. It plays a critical role in scrutinizing and amending legislation, including statutory instruments, to ensure they align with the intentions and principles of the primary legislation.<sup>12</sup> The Executive<sup>13</sup> is responsible for implementing and enforcing laws. It includes the President, the Cabinet, and various government ministries and agencies. The executive is responsible for formulating and issuing statutory instruments, providing detailed regulations and guidelines for the implementation of laws passed by the legislature.<sup>14</sup> The Judiciary<sup>15</sup> interprets and applies the law. It ensures that laws are implemented fairly, resolves disputes, and upholds the rights and liberties of individuals. The judiciary plays a crucial role in reviewing the actions of the executive and the legislature, including the scrutiny of statutory instruments for their constitutionality and compliance with the law.<sup>16</sup>

The principle of separation of powers aims to maintain a system of checks and balances, ensuring that no single branch of government

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<sup>10</sup> Montesquieu, *the Spirit of Laws*, at pp. 151–52.

<sup>11</sup> Chapter 8, Constitution of Kenya 2010

<sup>12</sup> Ibid

<sup>13</sup> Chapter 9, The Constitution of Kenya 2010

<sup>14</sup> Ibid

<sup>15</sup> Chapter 10, The Constitution of Kenya 2010

<sup>16</sup> Ibid

becomes too powerful or infringes on the functions and independence of the others.<sup>17</sup> It serves as a safeguard against abuse of power, promotes accountability, and protects individual rights and liberties.<sup>18</sup>

In the context of parliamentary scrutiny of statutory instruments in Kenya, the principle of separation of powers is particularly relevant. The legislature's role in scrutinizing these instruments is crucial to ensure that the executive's exercise of regulatory power remains within the boundaries set by the primary legislation.<sup>19</sup> Through parliamentary scrutiny, the legislature can assess the impact of statutory instruments on criminal justice, propose amendments, and safeguard the rights and interests of the public.<sup>20</sup>

Understanding the legal principle of separation of powers helps provide a framework for examining the roles and responsibilities of each branch of government and how they interact in the context of parliamentary scrutiny of statutory instruments in Kenya.

## **2.2 Legislative Power as the Exclusive Domain of Parliament**

In Kenya, the Constitution grants the exclusive power of legislative authority to Parliament except under authority conferred by the Constitution or by legislation.<sup>21</sup> This means that only Parliament,

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<sup>17</sup> Charles de Secondat, Baron de Montesquieu, *The Spirit of Laws*, translated by Thomas Nugent, revised ed. (New York: Colonial Press, 1899), Book 11, s. 6, pp. 151–162 at 151.

<sup>18</sup> Ibid

<sup>19</sup> Njeru, P. W. (2018). The Role of Parliamentary Committees in Legislation Making Process in Kenya. *International Journal of Academic Research in Business and Social Sciences*, 8(11), 503-515.

<sup>20</sup> Ibid

<sup>21</sup> Article 94(5) of The CoK 2010

through its two houses (the National Assembly and the Senate), has the constitutional mandate to make laws for the country, except if such authority is granted by the Constitution or other legislation. Article 94 of the Kenyan Constitution outlines the role of Parliament. Parliament is responsible for making laws for the country. The process of making laws involves introducing, debating, and passing bills that become Acts of Parliament upon assent by the President.<sup>22</sup> Parliament has the power to oversee the actions of the executive and other arms of government to ensure they are in line with the Constitution and the law.<sup>23</sup> Parliament represents the people of Kenya and their interests. It provides a platform for citizens to express their views and concerns and for Members of Parliament to advocate for their constituents.<sup>24</sup> Parliament has the power to allocate public funds and control government expenditure through its role in the budget-making process.<sup>25</sup>

Regarding the parliamentary scrutiny of statutory instruments, the exclusive legislative authority of Parliament means that only Parliament has the power to scrutinize and amend these instruments. The Statutory Instruments Act provides for a process through which Parliament can review and approve or reject statutory instruments that the executive has issued. This shall be addressed later in the study.

### **2.3 Delegation of Legislative Power to the Executive**

In Kenya, while the Constitution grants the exclusive legislative power to Parliament, it also allows for the delegation of certain

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<sup>22</sup> Article 115 *ibid*

<sup>23</sup> Article 95, 96 *ibid*

<sup>24</sup> *ibid*

<sup>25</sup> *ibid*



legislative powers to the Executive<sup>26</sup>. Delegation of legislative power refers to the authority granted by Parliament to the Executive to make subsidiary legislation, such as regulations, orders, or bylaws that provide details and guidance for the implementation of primary legislation.<sup>27</sup>

The delegation of legislative power to the Executive is based on the principle that Parliament cannot effectively address every detail and technicality required for the proper functioning of laws. Delegating certain legislative powers to the Executive allows for more flexible and efficient governance by enabling the executive branch to respond to changing circumstances or specialized expertise.<sup>28</sup>

The primary legislation passed by Parliament often includes provisions that authorize the Executive to make subsidiary legislation within specific parameters. These parameters may include the scope, purpose, and conditions under which the subsidiary legislation can be created.<sup>29</sup>

The Constitution provides guidelines to ensure that the delegation of legislative power is exercised in a responsible manner. Some key principles and safeguards include:

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<sup>26</sup> Article 94 (6), CoK, 2010

<sup>27</sup> Ben Sihanya (2014) —Background, status, operational mechanisms and enhancing quality of delegated legislation in Kenya, Presentation during the Retreat of the Senate Committee on delegated Legislation and chairpersons of the Committees on delegated Legislation of the County assemblies at Serena Beach Hotel, Mombasa, on February 20, 2014, *op. cit.*

<sup>28</sup> Ibid

<sup>29</sup> Ibid

**1. Substantive Limitations:** The Constitution imposes limitations on the subject matter or scope of delegated legislation. It ensures that the Executive does not exceed its authority by making regulations on matters that are beyond the scope of the delegated power.<sup>30</sup>

**2. Procedural Safeguards:** The Constitution may prescribe the procedures and requirements that the Executive must follow when making subsidiary legislation. This ensures transparency and accountability in the legislative process.<sup>31</sup>

**3. Parliamentary Scrutiny:** Delegated legislation is subject to parliamentary scrutiny. Parliament has the power to review and examine the subsidiary legislation made by the Executive to ensure that it is within the scope of the delegated authority and does not infringe upon fundamental rights or exceed the intended purpose of the primary legislation.<sup>32</sup>

**4. Sunset Clauses:** Sunset clauses can be included in the primary legislation to limit the duration of delegated legislation. These clauses require the Executive to review and renew the subsidiary legislation within a specified time frame, ensuring periodic review and accountability.<sup>33</sup>

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<sup>30</sup> Article 94 (6), CoK, 2010

<sup>31</sup> Ben Sihanya (2014) —Background, status, operational mechanisms and enhancing quality of delegated legislation in Kenya,| Presentation during the Retreat of the Senate Committee on delegated Legislation and chairpersons of the Committees on delegated Legislation of the County assemblies at Serena Beach Hotel, Mombasa, on February 20, 2014, *op. cit.*

<sup>32</sup> Article 94 (6), CoK, 2010; Part IV of the Statutory Instruments Act, 2013

<sup>33</sup> Ben Sihanya (2014) —Background, status, operational mechanisms and enhancing quality of delegated legislation in Kenya,| Presentation during the Retreat of the Senate Committee on delegated Legislation and

While the delegation of legislative power to the Executive allows for flexibility and efficiency, it is important to maintain a balance of power. The Constitution establishes the principle that Parliament retains ultimate control and oversight over delegated legislation, ensuring that the Executive does not abuse or overstep its authority.<sup>34</sup>

## **2.4 Parliamentary Control Over Delegated Legislation**

Parliamentary control over delegated legislation in Kenya is an essential aspect of ensuring accountability, transparency, and the adherence to constitutional principles in the legislative process.<sup>35</sup> While the Executive is delegated certain legislative powers to make subsidiary legislation, Parliament retains the authority to exercise control and scrutiny over these delegated powers.<sup>36</sup>

First, Parliament has the power to scrutinize delegated legislation to ensure it is within the scope of the delegated authority and consistent with the primary legislation's intentions. The delegated legislation is subject to review, examination, and potential amendment by the relevant parliamentary committees.<sup>37</sup> Parliament may also establish specialized committees, such as the Delegated Legislation Committee, responsible for reviewing delegated legislation. These

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chairpersons of the Committees on delegated Legislation of the County assemblies at Serena Beach Hotel, Mombasa, on February 20, 2014, *op. cit*

<sup>34</sup> Ibid

<sup>35</sup> Ben Sihanya (2020) —Legislative Power, Structure and Process in Kenya and Africa, in Ben Sihanya (2020) *Constitutional Democracy, Regulatory and Administrative Law in Kenya and Africa Vol. 1: Presidency, Premier, Legislature, Judiciary, Commissions, Devolution, Bureaucracy and Administrative Justice in Kenya*, Sihanya Mentoring & Prof Ben Sihanya Advocates, Nairobi & Siaya, Chapter 6.

<sup>36</sup> Ibid.

<sup>37</sup> Part IV, Statutory Instruments Act, 2013

committees analyze the content, intent, and compliance of the delegated legislation, providing recommendations and proposals for amendment or approval to the House.<sup>38</sup>

In addition, Parliament has the power to pass a resolution approving or rejecting delegated legislation. The resolution acts as an endorsement or rejection of the delegated legislation, indicating Parliament's consent or disapproval.<sup>39</sup> Parliament also retains the authority to repeal or amend delegated legislation if it is found to be inconsistent with the Constitution, the primary legislation, or public interest. This power ensures that Parliament can rectify any issues or concerns arising from the subsidiary legislation.<sup>40</sup>

Moreover, Parliament may provide opportunities for public input and consultation during the scrutiny of delegated legislation. This allows the public and stakeholders to express their views and concerns, contributing to the transparency and democratic nature of the legislative process.<sup>41</sup> In exceptional cases, Parliament has the power to override or annul delegated legislation that is deemed to exceed the delegated authority or infringe upon constitutional rights. This power acts as a check on potential executive overreach in the exercise of delegated legislative powers.<sup>42</sup>

These mechanisms of parliamentary control over delegated legislation in Kenya aim to ensure that the subsidiary legislation is in

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<sup>38</sup> Committee on Delegated Legislation website available at <http://www.parliament.go.ke/the-national-assembly/committees/committee-on-delegated-legislation> accessed 18 May 2023

<sup>39</sup> Part IV, Statutory Instruments Act, 2013

<sup>40</sup> Ibid

<sup>41</sup> Sections 2, 4(c), 5(3) (b), 5A (1)(a) of the Statutory Instruments Act, 2013

<sup>42</sup> Section 18 ibid

line with the Constitution, the primary legislation, and the principles of good governance. By exercising scrutiny and oversight, Parliament safeguards against the potential abuse of delegated legislative powers and upholds democratic principles in the lawmaking process.

### **3. Legislative Power in Kenya and the Role of Parliamentary Oversight of Executive Law-Making in Kenya**

#### **3.1 Article 94 (5) of the 2010 Constitution and the legal basis of delegated legislation**

Article 94(5) of the 2010 Kenyan Constitution is a crucial provision that emphasizes the exclusive authority of Parliament to make provisions having the force of law in Kenya. It clearly states that no person or body, other than Parliament, can exercise legislative powers unless authorized by the Constitution or by legislation enacted by Parliament. Article 94 (6) stipulates that An Act of Parliament, or legislation of a county, that confers on any State organ, State officer or person the authority to make provision having the force of law in Kenya, as contemplated in clause (5), shall expressly specify the purpose and objectives for which that authority is conferred, the limits of the authority, the nature and scope of the law that may be made, and the principles and standards applicable to the law made under the authority.

These constitutional provisions establish the legal basis for delegated legislation in Kenya. Delegated legislation refers to the power granted by Parliament to the Executive or other bodies to make subsidiary laws that provide detailed regulations, guidelines, or specific provisions for the implementation of primary legislation.<sup>43</sup>

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<sup>43</sup> Apollo Mboya (2014) —Curb abuse of delegated legislation by the executive, —January 22, 2014 The

As discussed above, The Constitution outlines the framework within which legislative powers are exercised. It provides the overarching principles and limitations on the exercise of delegated legislation, ensuring that the powers delegated by Parliament are consistent with the Constitution's provisions.<sup>44</sup> Parliament, as the supreme lawmaking body, enacts primary legislation that sets out the broad principles and policy objectives of a particular subject matter. Primary legislation often includes provisions authorizing the Executive or other bodies to make subsidiary legislation within specific parameters.<sup>45</sup>

In addition, an enabling act is a piece of primary legislation that specifically confers powers on the Executive or other bodies to make delegated legislation. This act defines the scope, purpose, procedures, and limitations for making subsidiary legislation.<sup>46</sup> Delegated legislation must be authorized by an act of Parliament. Parliament, through its legislative process, grants the authority to the Executive or other bodies to make subsidiary legislation. The enabling act provides the legal basis and authority for the delegation of legislative powers.<sup>47</sup>

The role of parliamentary oversight of executive law-making is significant in ensuring accountability and the proper exercise of

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Standard Digital News Website at  
[http://www.standardmedia.co.ke/?articleID=2000103004&story\\_title=curbabuse-of-delegated-legislation-by-executive&pageNo=1](http://www.standardmedia.co.ke/?articleID=2000103004&story_title=curbabuse-of-delegated-legislation-by-executive&pageNo=1) accessed 18 May 2023

<sup>44</sup> Article 94, CoK 2010

<sup>45</sup> Apollo Mboya (2014) —Curb abuse of delegated legislation by the executive, —January 22, 2014 The

Standard Digital News Website at  
[http://www.standardmedia.co.ke/?articleID=2000103004&story\\_title=curbabuse-of-delegated-legislation-by-executive&pageNo=1](http://www.standardmedia.co.ke/?articleID=2000103004&story_title=curbabuse-of-delegated-legislation-by-executive&pageNo=1) accessed 18 May 2023

<sup>46</sup> Ibid

<sup>47</sup> Ibid

delegated legislative powers. Parliament has the responsibility to oversee the executive's exercise of delegated powers, ensuring that the subsidiary legislation aligns with the Constitution, the primary legislation, and the principles of good governance.<sup>48</sup>

Article 94(5) emphasizes the exclusive role of Parliament in the law-making process and underscores the importance of parliamentary oversight. Through committees and parliamentary debates, Parliament scrutinizes delegated legislation, examines its content, and ensures that it is within the scope of the delegated authority. If necessary, Parliament can propose amendments, reject delegated legislation, or initiate the repeal or amendment of existing legislation.<sup>49</sup> Parliamentary oversight ensures that executive law-making is subject to democratic principles, public scrutiny, and accountability. It serves as a check and balance mechanism, preventing potential abuse or excessive exercise of delegated powers and upholding the principles of separation of powers and rule of law.<sup>50</sup>

### **3.2 Scope of Parliamentary Oversight of Delegated Legislation**

The scope of parliamentary oversight of delegated legislation in Kenya encompasses various aspects to ensure effective scrutiny, accountability, and adherence to constitutional principles. The primary role of Parliament is to review and examine the delegated legislation made by the Executive or other bodies to ensure that it

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<sup>48</sup> Ibid

<sup>49</sup> Ibid

<sup>50</sup> Ibid

aligns with the Constitution, the primary legislation, and the principles of good governance.<sup>51</sup>

Parliament examines the content of delegated legislation to ensure it is within the scope of the authority delegated by the primary legislation. This includes assessing whether the regulations, orders, or bylaws are clear, unambiguous, and necessary for the effective implementation of the primary legislation.<sup>52</sup> Parliament also ensures that the delegated legislation does not violate any provisions of the Constitution. It examines whether the subsidiary laws are consistent with fundamental rights, separation of powers, and other constitutional principles.<sup>53</sup>

Parliament scrutinizes the procedures followed in making delegated legislation to ensure that they conform to the requirements set out in the enabling act or primary legislation. This includes assessing whether there was proper public consultation, notification, or any necessary approvals during the law-making process.<sup>54</sup> Parliament also considers the public interest and the potential impact of delegated legislation on various stakeholders. It may hold public hearings or consult with relevant stakeholders to gather input, suggestions, and concerns related to the subsidiary legislation.<sup>55</sup>

Further, Parliament assesses whether the delegated legislation is appropriate, necessary, and proportional to achieve the objectives of

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<sup>51</sup> Odhiambo, E.S. (2017). Parliament's Role in the Scrutiny of Delegated Legislation in Kenya: A Comparative Analysis. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, 9(2), 04517010.

<sup>52</sup> Ibid

<sup>53</sup> Ibid

<sup>54</sup> Ibid

<sup>55</sup> Ibid



the primary legislation. It examines whether the regulations or guidelines strike a reasonable balance between achieving policy goals and protecting individual rights and freedoms.<sup>56</sup> Parliament also has the power to propose amendments to delegated legislation if it identifies shortcomings or areas requiring improvement. It can also reject the subsidiary legislation if it finds it inconsistent with the Constitution, the primary legislation, or public interest.<sup>57</sup>

Finally, Parliament may review the effectiveness and continued relevance of delegated legislation by incorporating sunset clauses or other review mechanisms. These mechanisms require periodic evaluation and renewal of the subsidiary legislation to ensure its ongoing necessity and compliance.<sup>58</sup>

The study posits that the scope of parliamentary oversight ensures that delegated legislation remains subject to democratic principles, public accountability, and adherence to constitutional provisions. It allows Parliament to act as a check on potential executive overreach, ensuring that subsidiary laws are made within the delegated authority and do not infringe upon fundamental rights or unduly restrict individual liberties. By exercising its oversight role, Parliament plays a vital role in maintaining the balance of powers, upholding the rule of law, and safeguarding the interests of the public in the law-making process.

### **3.3 Parliamentary Control of Law Making by the Executive**

Parliamentary control of law-making by the executive in Kenya is a crucial mechanism to ensure accountability, transparency, and

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<sup>56</sup> Ibid

<sup>57</sup> Ibid; part IV of the Statutory Instruments Act, 2013

<sup>58</sup> Ibid

adherence to constitutional principles.<sup>59</sup> It is the responsibility of Parliament to exercise oversight over the executive's law-making activities, including the formulation of legislation through delegated powers.

Parliament grants the executive delegated legislative powers through enabling acts.<sup>60</sup> These acts specify the scope and limits of the executive's authority to make subsidiary legislation. Parliament exercises control by scrutinizing and approving these enabling acts, ensuring that the delegated powers are granted within proper parameters.<sup>61</sup> Parliament examines the subsidiary legislation proposed by the executive. This scrutiny involves reviewing the content, intent, and compliance of the delegated legislation with the Constitution and the primary legislation. Parliamentary committees, such as the Delegated Legislation Committee, play a vital role in analyzing and recommending necessary amendments or rejection of the proposed legislation.<sup>62</sup>

After reviewing the delegated legislation, Parliament can pass a resolution to either approve or reject it. This resolution is an important mechanism for parliamentary control, indicating Parliament's consent or disapproval of the subsidiary legislation. Rejection by Parliament forces the executive to reconsider or revise the proposed legislation.<sup>63</sup> Parliament also has the power to propose amendments to delegated legislation or initiate the repeal of existing

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<sup>59</sup> Wambua, D. (2019). Parliament's Oversight Role in the Implementation of Statutory Instruments in Kenya. *African Journal of Political Science and International Relations*, 13(1), 1-13.

<sup>60</sup> Ibid

<sup>61</sup> Ibid

<sup>62</sup> Ibid; Part IV of the Statutory Instruments Act, 2013

<sup>63</sup> Ibid

legislation. This power allows Parliament to rectify any issues, inconsistencies, or gaps in the law, ensuring that the legislation aligns with the Constitution and the needs of the public.<sup>64</sup>

Moreover, Parliamentary control involves allowing public participation in the law-making process. Parliament provides opportunities for public input and consultation on delegated legislation, ensuring that diverse perspectives and concerns are considered. Public participation enhances transparency, accountability, and legitimacy of the legislative process.<sup>65</sup> Members of Parliament also have the right to question cabinet secretaries and hold them accountable for the legislative decisions made by the executive. Through parliamentary debates and question sessions, MPs can critically examine the executive's law-making actions, seeking clarifications, expressing concerns, and proposing alternative approaches.<sup>66</sup>

Parliamentary control of law-making by the executive ensures that the legislative process is subject to democratic principles, transparency, and accountability. It prevents potential executive overreach, safeguards the rights and interests of citizens, and upholds the separation of powers enshrined in the Constitution. By exercising its oversight role, Parliament plays a critical part in maintaining a balance of powers and ensuring that laws and regulations are made in the best interests of the country and its citizens.

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<sup>64</sup> Ibid

<sup>65</sup> Sections 2, 4(c), 5(3) (b), 5A (1)(a) of the Statutory Instruments Act, 2013

<sup>66</sup> Article 153 (3) of the CoK 2010.

### **3.4 Merits and Disadvantages of Parliamentary Scrutiny of Delegated Legislation**

Parliamentary scrutiny of delegated legislation in Kenya has both merits and disadvantages.

#### **Merits of Parliamentary Scrutiny:**

One is Democratic Accountability. Parliamentary scrutiny ensures democratic accountability by subjecting delegated legislation to the scrutiny of elected representatives. It provides an opportunity for lawmakers to examine the content, intent, and impact of the subsidiary legislation, ensuring that it aligns with the needs and aspirations of the public.<sup>67</sup>

Second, is Expertise and Specialization. Parliament has access to diverse expertise and knowledge across various sectors. Parliamentary scrutiny allows for the utilization of this expertise, as lawmakers can critically analyze the technical aspects of delegated legislation. This helps in improving the quality of the legislation and addressing potential loopholes or unintended consequences.<sup>68</sup>

Third, is Protection of Fundamental Rights. Parliamentary oversight of delegated legislation safeguards fundamental rights and freedoms. It ensures that the subsidiary legislation does not infringe upon these rights and is consistent with the constitutional provisions.

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<sup>67</sup> Odhiambo, E.S. (2017). Parliament's Role in the Scrutiny of Delegated Legislation in Kenya: A Comparative Analysis. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, 9(2), 04517010.

<sup>68</sup> Ibid

Lawmakers can identify any provisions that may unduly restrict individual liberties or violate constitutional principles.<sup>69</sup>

Public Participation and Transparency is another merit. Parliamentary scrutiny provides a platform for public participation and transparency in the law-making process. It allows for public input, consultations, and feedback, ensuring that the voices of the affected stakeholders are heard. This fosters transparency, inclusiveness, and legitimacy in the legislative decision-making.<sup>70</sup>

### **Disadvantages of Parliamentary Scrutiny:**

**1. Time-Consuming Process:** Parliamentary scrutiny can be time-consuming, especially when there is a significant volume of delegated legislation to be reviewed. Delays in the scrutiny process may lead to the postponement of implementation or result in legislation being rushed through without adequate consideration.<sup>71</sup>

**2. Lack of Technical Expertise:** While Parliament consists of elected representatives with diverse backgrounds, they may not always possess the technical expertise required to fully understand complex or specialized delegated legislation. This limitation may result in insufficient scrutiny or the reliance on external experts, which can further prolong the process.<sup>72</sup>

**3. Political Considerations:** Parliamentary scrutiny may be influenced by political considerations, potentially affecting the objectivity and impartiality of the process. Political agendas and

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<sup>69</sup> Ibid

<sup>70</sup> Ibid

<sup>71</sup> Odundo, P. O., & Njiraini, P. (2017). The Role of Parliament in Controlling Delegated Legislation in Kenya: A Review of the Statutory Instruments Act 2013. *International Journal of Innovation and Economic Development*, 3(6), 34-42.

<sup>72</sup> Ibid

party affiliations can sometimes overshadow the substantive review of delegated legislation, leading to biased decision-making.<sup>73</sup>

**4. Inefficiency and Ineffectiveness:** The scrutiny process may not always be efficient and effective in identifying all potential issues or flaws in the delegated legislation. This can result in laws being implemented with unintended consequences or requiring subsequent amendments or corrections.<sup>74</sup>

**5. Striking the Right Balance:** Striking the right balance between preserving the intent of the primary legislation and allowing necessary flexibility for the executive to make subsidiary legislation can be challenging. The scrutiny process must find a balance between providing clear guidance and preventing excessive interference in the executive's law-making functions.<sup>75</sup>

#### **4. Parliamentary Scrutiny of Statutory Instruments in Kenya and its Problematic Implications for Criminal Justice**

##### **4.1 The Statutory Instruments Act, 2013**

The Statutory Instruments Act, 2013 establishes a framework for the parliamentary scrutiny of statutory instruments, outlining the procedures, responsibilities, and consequences of the scrutiny process. Part IV of the Act specifically focuses on the parliamentary scrutiny of statutory instruments. Here is a breakdown of the key provisions and implications:

**1. Transmission and Tabling of Statutory Instruments:** The Act requires every Cabinet Secretary responsible for a regulation-making authority to transmit a copy of the statutory instrument to the

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<sup>73</sup> Ibid

<sup>74</sup> Ibid

<sup>75</sup> Ibid

responsible Clerk of the relevant House of Parliament within seven sitting days after its publication. Additionally, all regulation-making authorities must submit copies of statutory instruments to the National Assembly. The responsible Clerk registers these instruments for tabling before the respective House.<sup>76</sup>

**2. Ceasing of Effect for Non-Tabling:** If a statutory instrument is not laid before the relevant House within the stipulated timeframe, it ceases to have effect immediately after the last day for tabling. However, this does not prejudice any actions taken under the statutory instrument before it becomes void.<sup>77</sup>

**3. Referral to Committee:** Every statutory instrument issued after the commencement of the Act is referred to a committee (or any other established committee) responsible for reviewing and scrutinizing statutory instruments. The Committee is also authorized to scrutinize previously published statutory instruments.<sup>78</sup>

**4. Principles Guiding Scrutiny:** The Committee, in its scrutiny process, is guided by principles of good governance, the rule of law, and specific considerations. These considerations include whether the statutory instrument aligns with the Constitution, the enabling legislation, or other written laws, as well as its impact on fundamental rights and freedoms.<sup>79</sup>

**5. Reporting and Recommendations:** The Committee is required to make a report to Parliament containing a resolution recommending the revocation of statutory instruments that fail to meet the relevant considerations. If the Committee fails to produce a report within the

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<sup>76</sup> Section 11, Statutory Instruments Act, 2013

<sup>77</sup> Ibid

<sup>78</sup> Section 12, *ibid*

<sup>79</sup> Section 13, *ibid*

specified timeframe, the statutory instrument is deemed to have met the relevant considerations.<sup>80</sup>

**6. Extension of Time:** The National Assembly has the power to extend the time prescribed for handling a statutory instrument by a resolution, with a maximum extension period of twenty-one days.<sup>81</sup>

**7. Consultation with Regulation-Making Authorities:** The Committee is encouraged to confer with the regulation-making authority responsible for the statutory instrument before tabling the report to Parliament. This provides an opportunity for discussions, information sharing, and potential modifications.<sup>82</sup>

**8. Annulment and Revocation:** When a report on a statutory instrument is tabled in Parliament, the instrument is deemed to be annulled if Parliament passes a resolution to that effect. If Parliament adopts a report or resolution recommending revocation, the statutory instrument is revoked, and the regulation-making authority is obligated to publish the revocation within fourteen days.<sup>83</sup>

### **9. Exemptions**

The Committee may exempt certain statutory instruments or class of statutory instruments from scrutiny if the Committee is satisfied that the scrutiny is not reasonably practical due to the number of regulations in that class.<sup>84</sup>

### **Implications of the Act**

The Statutory Instruments Act, 2013 establishes a comprehensive framework for the parliamentary scrutiny of statutory instruments in Kenya. It ensures that these instruments undergo thorough

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<sup>80</sup> Section 15, *ibid*

<sup>81</sup> *Ibid*

<sup>82</sup> Section 16, *ibid*

<sup>83</sup> Section 18 & 19, *ibid*

<sup>84</sup> Section 14, *ibid*



examination and evaluation, with the aim of promoting good governance, upholding the rule of law, and safeguarding constitutional principles. By providing a mechanism for scrutiny, reporting, and potential revocation, the Act enhances transparency, accountability, and the protection of fundamental rights and freedoms.<sup>85</sup>

The Act recognizes the importance of parliamentary involvement in the law-making process, particularly in relation to delegated legislation. It mandates that statutory instruments be transmitted to Parliament for scrutiny, allowing elected representatives to assess their content, legality, and potential implications. This enhances democratic decision-making and provides an opportunity for public participation through consultations and input.<sup>86</sup>

The guiding principles for scrutiny specified in the Act, such as adherence to the Constitution, protection of fundamental rights, and proper delegation of legislative powers, are essential for maintaining the integrity of delegated legislation. They serve as benchmarks to evaluate the validity and appropriateness of statutory instruments, ensuring they do not infringe upon constitutional rights or unduly limit judicial review.<sup>87</sup>

The Act also emphasizes the importance of timely tabling, scrutiny, and reporting to prevent undue delays in the legislative process. The provision for extension of time, although limited, recognizes that

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<sup>85</sup> Karimi, F., & Wanyama, D. N. (2018). The Implications of the Statutory Instruments Act on the Delegated Legislation Process in Kenya. *International Journal of Business, Humanities and Technology*, 8(6), 104-114.

<sup>86</sup> Ibid

<sup>87</sup> Ibid

complex or voluminous statutory instruments may require additional scrutiny to ensure comprehensive evaluation.<sup>88</sup>

However, it is essential to acknowledge some potential challenges. The efficiency of the scrutiny process may depend on the availability of resources, technical expertise, and adequate time allocation for thorough evaluation. Striking a balance between effective scrutiny and avoiding unnecessary delays can be a delicate task.<sup>89</sup>

Furthermore, the Act focuses primarily on procedural aspects of scrutiny, such as the identification of specific criteria and considerations for evaluation. It is crucial to ensure that the scrutiny process also addresses substantive issues, such as the potential impact of statutory instruments on marginalized communities, social justice, and the overall well-being of the population.<sup>90</sup>

## **4.2 The Necessity of Executive Law-making by Criminal Justice Agencies**

### **4.2.1 Facilitating Prompt Responses to Time-Sensitive Matters**

Executive law-making by criminal justice agencies is necessary to facilitate prompt responses to time-sensitive matters within the realm of criminal justice. There are several reasons why swift action is crucial in addressing such issues. First, is Emerging Crimes and Criminal Tactics. <sup>91</sup>Criminal activities are not static and continuously evolve to exploit new technologies, social dynamics, and

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<sup>88</sup> Ibid

<sup>89</sup> Ibid

<sup>90</sup> Ibid

<sup>91</sup> Kung'u, J. W., & Tidimane, S. (2017). Legal and Procedural Implications of the Statutory Instruments Act in Kenya. *Journal of Law, Policy and Globalization*, 60, 57-65.

vulnerabilities. Prompt executive law-making allows criminal justice agencies to respond quickly to emerging crimes or criminal tactics. For example, in cases of cybercrime, where criminals exploit digital platforms for illegal activities, timely regulations are necessary to enable law enforcement agencies to investigate and prosecute offenders effectively.<sup>92</sup>

Second, is Public Safety and Security. Immediate threats to public safety and security require swift action. Criminal justice agencies, such as the police or intelligence services, may need to deploy specific measures or strategies to prevent or address imminent risks. Executive law-making empowers these agencies to swiftly implement regulations that enhance public safety, such as imposing restrictions or controls in emergency situations.<sup>93</sup>

Third, is Crisis Management and Disaster Response. During crises or natural disasters, criminal justice agencies are often involved in managing the aftermath and maintaining order. Executive law-making enables them to establish temporary measures, curfews, or other necessary regulations to ensure public safety and effective disaster response. These regulations can be crucial in facilitating the coordination of emergency services, protecting vulnerable populations, and restoring normalcy.<sup>94</sup>

Fourth, is Urgent Operational Requirements. Criminal justice agencies may require immediate adjustments to their operational procedures or capabilities to address emerging challenges. Executive law-making allows them to quickly adapt their internal policies,

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<sup>92</sup> Ibid

<sup>93</sup> Ibid

<sup>94</sup> Ibid

guidelines, or protocols to enhance their effectiveness. For instance, changes in investigative techniques, evidence collection, or forensic practices may require prompt adjustments through regulations.<sup>95</sup>

It is important to note that while executive law-making facilitates prompt responses, it should still operate within a framework that ensures accountability, respect for fundamental rights, and adherence to the rule of law. The exercise of delegated legislative powers by criminal justice agencies should be subject to appropriate oversight and scrutiny by Parliament to prevent potential abuses and ensure that the regulations align with constitutional principles.<sup>96</sup>

#### **4.2.2 Addressing and New and Emerging Issues**

Executive law-making by criminal justice agencies is essential for addressing new and emerging issues within the realm of criminal justice. As society evolves and new challenges arise, criminal justice agencies must have the ability to respond effectively.<sup>97</sup>

Criminal behavior constantly adapts to changes in technology, social dynamics, and global trends. Executive law-making enables criminal justice agencies to proactively address emerging forms of crime, such as cybercrime, human trafficking, or terrorism. By enacting regulations, these agencies can establish frameworks for investigation, prosecution, and prevention of these novel criminal activities.<sup>98</sup>

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<sup>95</sup> Ibid

<sup>96</sup> Ibid

<sup>97</sup> Okeyo, E. O., & Gekonge, C. N. (2017). Implications of the Statutory Instruments Act on the Legislative Process in Kenya. *African Journal of Law and Criminology*, 7(1), 72-82.

<sup>98</sup> Ibid

In addition, New and emerging issues often require legal and policy frameworks that may not be adequately covered by existing legislation. Executive law-making empowers criminal justice agencies to bridge these gaps by formulating regulations that address specific aspects of the issue at hand. This allows for more targeted and efficient enforcement of the law and ensures that the criminal justice system remains responsive to evolving societal needs.<sup>99</sup>

Furthermore, advancements in technology pose both opportunities and challenges for law enforcement. Executive law-making enables criminal justice agencies to keep pace with technological developments and establish guidelines and regulations that govern their use in investigations, evidence collection, and surveillance. This ensures that the criminal justice system can effectively leverage technological advancements while safeguarding individual rights and privacy.<sup>100</sup>

New and emerging issues also often have cross-border dimensions, requiring collaboration and cooperation between countries. Executive law-making enables criminal justice agencies to enact regulations that align with international standards, agreements, and obligations. This facilitates effective cooperation in areas such as extradition, mutual legal assistance, and the harmonization of laws to combat transnational crimes.<sup>101</sup>

Executive law-making is not limited to addressing existing issues but also plays a crucial role in preventing potential problems. Criminal justice agencies can use their delegated legislative powers to establish

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<sup>99</sup> Ibid

<sup>100</sup> Ibid

<sup>101</sup> Ibid

preventive measures and strategies. For example, regulations can be enacted to enhance crime prevention initiatives, public awareness campaigns, or early intervention programs targeting specific risk factors or vulnerable populations.<sup>102</sup>

Executive law-making should still be subject to parliamentary oversight and scrutiny to ensure transparency, accountability, and adherence to constitutional principles. The role of Parliament in reviewing and scrutinizing the regulations issued by criminal justice agencies helps maintain the balance between effective and responsive law enforcement and the protection of individual rights and liberties.<sup>103</sup>

#### **4.3 Problematic Implications of the Statutory Instruments Act, 2013 for Criminal Justice**

##### **4.3.1 Delay and Interference**

The Statutory Instruments Act, 2013 in Kenya has several problematic implications for criminal justice, particularly in terms of delay and interference. These issues can significantly impact the effective administration of justice and have consequences for both victims and the accused.

First, is Delayed Implementation.<sup>104</sup> The Act requires statutory instruments to be transmitted to the responsible Clerk for tabling before the relevant House of Parliament within seven sitting days

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<sup>102</sup> Ibid

<sup>103</sup> Ibid

<sup>104</sup> Otieno, J. (2015). The Implications of Statutory Instruments Act, 2013 on the Delegated Legislation Process in Kenya. *International Journal of Social Sciences and Entrepreneurship*, 2(8), 13-22.

after publication. However, the process of parliamentary scrutiny can be time-consuming, leading to delays in the implementation of important regulations. This delay can be particularly problematic in criminal justice, where timely action is crucial for maintaining public safety, protecting victims, and ensuring efficient investigations and prosecutions.<sup>105</sup> A good example here would be the Shakahola massacre where victims are yet to get justice and perpetrators are yet to be brought to book.

Second, is Impaired Responsiveness.<sup>106</sup> The requirement of parliamentary scrutiny for all statutory instruments can interfere with the ability of criminal justice agencies to respond promptly to emerging issues or changing circumstances. Criminal activities often evolve rapidly, and law enforcement agencies need the flexibility to adapt their strategies and tactics accordingly. The need for extensive parliamentary oversight may hinder their ability to address new challenges in a timely manner, potentially compromising public safety and the effectiveness of criminal justice efforts.<sup>107</sup>

Third, is Interference with Expertise.<sup>108</sup> Criminal justice agencies, such as the police, prosecutors, and specialized units, possess specific expertise in addressing complex issues related to crime and law enforcement. However, the requirement for parliamentary scrutiny may subject their decisions and actions to external interference from non-experts. This interference can lead to unnecessary delays, political considerations overshadowing professional judgments, and

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<sup>105</sup> Ibid

<sup>106</sup> Ibid

<sup>107</sup> Ibid

<sup>108</sup> Ibid

the dilution of specialized knowledge in the formulation of regulations.<sup>109</sup>

Fourth, is Inadequate Addressing of Urgent Matters.<sup>110</sup> Criminal justice often deals with urgent matters that require immediate action, such as terrorism, organized crime, or public emergencies. The procedural requirements imposed by the Act may hinder the swift implementation of necessary measures to address these urgent issues. Delays in enacting regulations or obtaining parliamentary approval can impede the ability of law enforcement agencies to respond effectively, potentially compromising public safety and the timely administration of justice.<sup>111</sup>

Finally, is Burden on Resources.<sup>112</sup> The process of parliamentary scrutiny can place a significant burden on the resources and capacities of criminal justice agencies. The preparation and submission of statutory instruments for scrutiny, engagement with parliamentary committees, and responding to queries and recommendations can divert valuable time, manpower, and financial resources from core operational activities. This diversion of resources may impact the efficiency and effectiveness of criminal justice agencies in fulfilling their primary functions.<sup>113</sup>

The study posits that the Statutory Instruments Act, 2013 and its requirements for parliamentary scrutiny can result in delays, interference, and hindered responsiveness within the criminal justice

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<sup>109</sup> Ibid

<sup>110</sup> Ibid

<sup>111</sup> Ibid

<sup>112</sup> Ibid

<sup>113</sup> Ibid



system. These implications can undermine the ability of law enforcement agencies to address emerging issues promptly, jeopardize public safety, and strain available resources. It is important to strike a balance between parliamentary oversight and the need for timely and effective criminal justice responses to ensure the smooth administration of justice and the protection of the rights of both victims and the accused.

#### **4.3.2 Limited Technical Capacity of Members of Parliament (MPs)**

Another problematic implication of the Statutory Instruments Act, 2013 for criminal justice is the limited technical capacity of Members of Parliament (MPs) who are responsible for scrutinizing the statutory instruments. This limitation can have significant consequences for the effectiveness and quality of parliamentary oversight. Key points to consider include the following:

**1. Complex and Technical Nature:** Statutory instruments often involve complex legal and technical matters, requiring a deep understanding of the subject matter and legal intricacies.<sup>114</sup> However, not all MPs may possess the necessary expertise in specific areas related to criminal justice, such as forensic science, cybercrime, or advanced investigative techniques. This limited technical capacity can hinder their ability to fully comprehend the implications and intricacies of the statutory instruments being reviewed, potentially leading to incomplete or inadequate scrutiny.<sup>115</sup>

**2. Insufficient Time and Resources:** MPs have diverse responsibilities and are involved in various legislative activities.

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<sup>114</sup> Mwangi, S. K., & Juma, J. (2019). Implications of the Statutory Instruments Act on the Law-Making Process in Kenya: A Case Study of Nairobi County Government. *African Journal of Governance and Development*, 8(1), 212-223.

<sup>115</sup> Ibid

Given the limited time available for parliamentary scrutiny, MPs may face challenges in thoroughly examining the content and implications of the statutory instruments. The lack of dedicated time and resources for training and capacity-building in the specific domains of criminal justice can further exacerbate this issue. As a result, the scrutiny process may be rushed, leading to less comprehensive assessments of the potential impact of the statutory instruments on criminal justice.<sup>116</sup>

**3. Reliance on External Expertise:** To compensate for the limited technical capacity, MPs may rely on external experts or advisors to assist them in understanding the complexities of the statutory instruments. While seeking external expertise can be beneficial, it also introduces challenges, such as ensuring the independence and credibility of the experts and the availability of adequate resources to engage them. Furthermore, the reliance on external experts may contribute to a fragmented understanding of the issues at hand, as different experts may have varying viewpoints or biases.<sup>117</sup>

**4. Influence of Political Considerations:** MPs are political representatives accountable to their constituents and political parties. This political dimension can sometimes overshadow the technical aspects of the scrutiny process. MPs may be influenced by political agendas, party positions, or public opinion, which can affect their impartiality and objective evaluation of the statutory instruments. The limited technical capacity combined with political pressures may compromise the rigor and effectiveness of the scrutiny, potentially leading to decisions that are not solely based on merit or the best interests of criminal justice.<sup>118</sup>

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<sup>116</sup> Ibid

<sup>117</sup> Ibid

<sup>118</sup> Ibid

The study avers that addressing the limited technical capacity of MPs requires concerted efforts to enhance their knowledge and understanding of criminal justice issues. This can be achieved through specialized training programs, briefings by subject-matter experts, and the establishment of dedicated parliamentary committees or units with a focus on criminal justice. By equipping MPs with the necessary technical skills and knowledge, the scrutiny of statutory instruments can be more robust, comprehensive, and better aligned with the complexities of criminal justice matters. The limited technical capacity of MPs in scrutinizing statutory instruments related to criminal justice poses a challenge to effective oversight. Addressing this issue is crucial to ensure informed decision-making, enhance the quality of parliamentary scrutiny, and mitigate the potential problematic implications of the Statutory Instruments Act, 2013 on criminal justice.

#### **4.3.3 Inefficiency of single committee jurisdiction**

Another problematic implication of the Statutory Instruments Act, 2013 for criminal justice is the inefficiency of having a single committee responsible for the scrutiny of all statutory instruments. As cited hereinabove, Kenya currently has the Committee on Delegated Legislation to perform this role. This approach can pose challenges in effectively reviewing and analyzing the diverse range of instruments related to criminal justice. Some key points to consider include the following:

**1. Broad Spectrum of Criminal Justice Instruments:** Criminal justice encompasses various aspects, including legislation related to law enforcement, criminal procedure, sentencing, corrections, and victim protection, among others. Each area requires specialized knowledge and expertise to ensure effective scrutiny. However, having a single

committee responsible for reviewing all statutory instruments in the criminal justice domain may result in a lack of specialization and depth of understanding in specific areas.<sup>119</sup>

**2. Overburdened Committee:** With the responsibility of scrutinizing all statutory instruments related to criminal justice, the single committee may face a significant workload. The committee members might struggle to dedicate sufficient time and attention to thoroughly analyze each instrument, leading to potential oversight or inadequate scrutiny. The volume and complexity of the instruments can overwhelm the capacity of the committee, hindering its ability to provide comprehensive oversight.<sup>120</sup>

**3. Limited Subject-Matter Expertise:** The single committee may consist of MPs with diverse backgrounds and expertise, but they may not possess the specialized knowledge required to comprehensively review all aspects of criminal justice instruments. The lack of subject-matter expertise can limit their ability to identify potential issues, assess the impact on criminal justice practices, and make informed recommendations. This limitation can result in superficial scrutiny and potential oversights in the review process.<sup>121</sup>

**4. Delays in Review and Decision-Making:** The broad jurisdiction of the single committee, coupled with the workload, may lead to delays in the review and decision-making process. The committee might struggle to allocate sufficient time for thorough discussions, consultations, and the formulation of recommendations. As a result, the timely review and enactment of necessary statutory instruments

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<sup>119</sup> Okeyo, E. O., & Gekonge, C. N. (2017). Implications of the Statutory Instruments Act on the Legislative Process in Kenya. *African Journal of Law and Criminology*, 7(1), 72-82.

<sup>120</sup> Ibid

<sup>121</sup> Ibid

for effective criminal justice practices may be hindered, potentially impacting the administration of justice and public safety.<sup>122</sup>

**5. Lack of Diversity of Perspectives:** Having a single committee responsible for scrutinizing all criminal justice statutory instruments may limit the representation of diverse perspectives. Different aspects of criminal justice require insights from various stakeholders, including law enforcement agencies, legal experts, human rights organizations, and victim support groups. Without adequate representation from these stakeholders, the scrutiny process may overlook critical considerations, leading to incomplete assessments and potential gaps in the statutory instruments.<sup>123</sup>

To address the inefficiency of single committee jurisdiction, it may be beneficial to establish specialized subcommittees or working groups within the main committee. These subcommittees can focus on specific areas of criminal justice, allowing for deeper expertise, targeted scrutiny, and more efficient review processes. Additionally, seeking input from external experts, stakeholders, and relevant professional bodies can provide valuable insights and ensure a more comprehensive analysis of the statutory instruments.<sup>124</sup>

## **5. Proposals for Amending the Parliamentary Scrutiny Provisions of the Statutory Instruments Act**

### **5.1 Expanding the Exemption to include Criminal Justice Regulations**

One proposal for amending the parliamentary scrutiny provisions of the Statutory Instruments Act is to expand the exemption to include

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<sup>122</sup> Ibid

<sup>123</sup> Ibid

<sup>124</sup> Ibid

criminal justice regulations. Currently, as mentioned hereinabove, the Act exempts rules, regulations, and orders emanating from a court of competent jurisdiction in Kenya from the requirement of parliamentary scrutiny.<sup>125</sup> However, there is a need to consider extending this exemption to certain criminal justice regulations.

Criminal justice regulations often deal with time-sensitive matters such as emergency response, counterterrorism measures, or addressing new and emerging threats. These regulations require prompt action and implementation to ensure public safety and effective law enforcement. By exempting certain criminal justice regulations from parliamentary scrutiny, the process of enacting and implementing such regulations can be expedited, enabling timely responses to evolving criminal activities.<sup>126</sup>

In addition, Criminal justice regulations involve specialized knowledge and expertise, including inputs from law enforcement agencies, legal professionals, and subject-matter experts. By exempting certain criminal justice regulations from parliamentary scrutiny, the relevant criminal justice agencies can exercise their expertise in formulating and implementing regulations based on their specialized knowledge. This can enhance the quality and effectiveness of the regulations, as the agencies are best positioned to understand the operational realities and technical nuances of criminal justice.<sup>127</sup>

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<sup>125</sup> Section 14, Statutory Instruments Act, 2013

<sup>126</sup> Karimi, F., & Wanyama, D. N. (2018). The Implications of the Statutory Instruments Act on the Delegated Legislation Process in Kenya. *International Journal of Business, Humanities and Technology*, 8(6), 104-114.

<sup>127</sup> Ibid

Furthermore, Criminal justice is an ever-evolving field, with new challenges, emerging technologies, and changing crime patterns. The exemption of certain criminal justice regulations from parliamentary scrutiny can provide the flexibility and agility needed to address these evolving issues promptly. It allows criminal justice agencies to adapt and respond swiftly to emerging threats and enact regulations without delays caused by the parliamentary scrutiny process, which can be time-consuming.<sup>128</sup>

While expanding the exemption, it is crucial to ensure that appropriate safeguards and mechanisms for oversight and accountability are in place. This can include regular reporting to Parliament on the regulations enacted under the exemption, periodic reviews of the regulations' implementation, and mechanisms for public consultation and feedback. These measures can help maintain transparency, accountability, and public trust in the exercise of executive law-making powers within the criminal justice system.<sup>129</sup>

It is however essential to strike a balance between the need for expeditious law-making in criminal justice and the principles of separation of powers and parliamentary oversight. The expanded exemption should be carefully defined, clearly specifying the types of criminal justice regulations that would qualify for exemption based on their nature, urgency, and potential impact. This ensures that the exemption remains within the boundaries of constitutional principles and does not undermine the fundamental role of Parliament in overseeing the executive's exercise of legislative power.<sup>130</sup>

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<sup>128</sup> Ibid

<sup>129</sup> Ibid

<sup>130</sup> Ibid

## 5.2 Creating an Expedited Procedure for Scrutiny of Criminal Justice Regulations

Another proposal for amending the Parliamentary Scrutiny Provisions of the Statutory Instruments Act is to create an expedited procedure specifically for the scrutiny of criminal justice regulations. This proposal aims to address the need for prompt and efficient scrutiny of regulations in the criminal justice domain. Some points to consider include:

1. **Separate Track for Criminal Justice Regulations:** Establishing a separate track or process within the parliamentary scrutiny framework specifically dedicated to criminal justice regulations can expedite their review. This dedicated track can prioritize the scrutiny of such regulations, recognizing the time-sensitive nature of criminal justice matters.<sup>131</sup>
2. **Specialized Committee or Subcommittee:** To ensure efficient scrutiny of criminal justice regulations, a specialized committee or subcommittee can be formed with members possessing relevant expertise in criminal justice and related fields. This committee can have a focused mandate to review and analyze criminal justice regulations, ensuring a more thorough and expedited scrutiny process.<sup>132</sup>
3. **Streamlined Timelines:** The expedited procedure should include streamlined timelines for the review of criminal justice regulations. These timelines should be shorter than those applied to other types of regulations, reflecting the urgency and importance of criminal

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<sup>131</sup> Otieno, W., & Juma, J. (2020). Strengthening Parliamentary Oversight of Statutory Instruments in Kenya. *Journal of Politics and Law*, 13(4), 10-20

<sup>132</sup> Ibid



justice matters. Establishing clear deadlines and ensuring adherence to them can avoid unnecessary delays in the scrutiny process.<sup>133</sup>

**4. Enhanced Technical Capacity:** To facilitate the expedited scrutiny of criminal justice regulations, members of the specialized committee or subcommittee should receive adequate training and support to enhance their technical understanding of criminal justice issues. This can include providing resources, access to expert advice, and regular updates on relevant developments in the field.<sup>134</sup>

**5. Collaborative Approach:** The expedited procedure should encourage collaboration and coordination between the executive and the specialized committee or subcommittee. This can involve early consultation and engagement with criminal justice agencies during the formulation of regulations to address any potential concerns or issues upfront. Such collaboration can help streamline the scrutiny process by minimizing the need for extensive revisions or clarifications.<sup>135</sup>

**6. Sunset Clauses and Review Mechanisms:** To ensure ongoing effectiveness and relevance, criminal justice regulations subject to the expedited procedure should include sunset clauses or periodic review requirements. This allows for regular assessments of their impact, effectiveness, and continued necessity. The specialized committee or subcommittee can play a key role in conducting these reviews and making recommendations for any required amendments or revisions.<sup>136</sup>

The study avers that by creating an expedited procedure for the scrutiny of criminal justice regulations, the aim is to strike a balance

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<sup>133</sup> Ibid

<sup>134</sup> Ibid

<sup>135</sup> Ibid

<sup>136</sup> Ibid

between the need for efficiency and the importance of parliamentary oversight. This approach recognizes the unique requirements of the criminal justice system and the necessity for timely responses to evolving challenges. However, it is crucial to ensure that the expedited procedure does not compromise transparency, accountability, and the principles of good governance.

### **5.3 Establishing a decentralized scrutiny mechanisms at committee levels**

One proposal for amending the Parliamentary Scrutiny Provisions of the Statutory Instruments Act is to establish decentralized scrutiny mechanisms at the committee level, drawing inspiration from the UK Parliament's three committees: the Joint Committee on Statutory Instruments, the Secondary Legislation Scrutiny Committee, and the Delegated Legislation Committee.<sup>137</sup> These committees play a crucial role in scrutinizing delegated legislation in the UK, and a similar approach can be considered in Kenya.

**1. Joint Committee on Statutory Instruments:** The Joint Committee on Statutory Instruments is a bicameral committee composed of members from both the House of Commons and the House of Lords. Its primary function is to scrutinize statutory instruments and report on any unusual or noteworthy features, including potential issues related to vires (the authority under which the instrument is made) and drafting. The committee examines the technical aspects of statutory instruments and ensures their compliance with legislative powers.<sup>138</sup>

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<sup>137</sup> Elliott, M., & Varuhas, J. (2017). Delegated legislation in the United Kingdom: An overview. In *Delegated Legislation in Australia and New Zealand* (pp. 197-220). Sydney University Press.

<sup>138</sup> Ibid

**2. Secondary Legislation Scrutiny Committee:** The Secondary Legislation Scrutiny Committee, also known as the SLSC, operates in the House of Lords. This committee examines statutory instruments and draws the attention of the House to any significant or interesting instruments, as well as those that may raise concerns or require further scrutiny. The SLSC focuses on matters such as policy, principle, and public interest rather than the technical aspects of the instruments.<sup>139</sup>

**3. Delegated Legislation Committee:** The Delegated Legislation Committee operates in the House of Commons. It is responsible for considering statutory instruments and deciding whether to approve them. This committee provides an opportunity for detailed examination and debate on the instruments, allowing Members of Parliament to raise concerns, propose amendments, and ultimately decide on their approval or rejection.<sup>140</sup>

In the context of amending the Parliamentary Scrutiny Provisions of the Statutory Instruments Act in Kenya, the establishment of similar committees can enhance the scrutiny process. By forming dedicated committees with members who possess expertise in specific areas, the scrutiny process can benefit from their in-depth knowledge. Members with relevant backgrounds in criminal justice, legal affairs, and related fields can provide valuable insights and ensure a comprehensive review of the statutory instruments.<sup>141</sup>

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<sup>139</sup> Ibid

<sup>140</sup> Ibid

<sup>141</sup> Makori, A. (2019). Comparative study of parliamentary oversight of delegated legislation in the United Kingdom and Kenya. *The Pan African Journal of Justice and Human Rights*, 2(1), 78-98.

In addition, with decentralized committees, the workload can be distributed, allowing for a more focused and efficient scrutiny process. Each committee can concentrate on specific aspects of the statutory instruments related to their area of expertise, ensuring thorough examination within a reasonable timeframe.<sup>142</sup> The committees can also tailor their recommendations based on the specific implications and concerns raised by the statutory instruments in the criminal justice domain. This targeted approach can result in more effective recommendations for amendments, modifications, or rejection, addressing the unique challenges and requirements of criminal justice regulations.<sup>143</sup>

Further, decentralized committees can provide a platform for open discussions, debates, and public hearings on the statutory instruments. This enhances transparency and ensures that the concerns and perspectives of different stakeholders, including the public, are taken into account during the scrutiny process. It also strengthens accountability by making the scrutiny process more visible and accessible to the public.<sup>144</sup> The establishment of decentralized committees can also streamline the decision-making process by allowing detailed scrutiny and deliberation at the committee level. This can help expedite the overall scrutiny process while ensuring comprehensive analysis and consideration of the implications of the statutory instruments.<sup>145</sup>

The study postulates that it is important to adapt and customize the structure and functions of these committees to the Kenyan

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<sup>142</sup> Ibid

<sup>143</sup> Ibid

<sup>144</sup> Ibid

<sup>145</sup> Ibid

parliamentary system and legal framework. Careful consideration should be given to the composition of the committees, their roles and responsibilities, and the coordination mechanisms with other relevant bodies within the Kenyan legislative framework.

#### **5.4 Strengthening technical capacity for scrutiny**

Another proposal for amending the Parliamentary Scrutiny Provisions of the Statutory Instruments Act is to strengthen the technical capacity for scrutiny by drawing inspiration from Canada's Standing Joint Committee for the Scrutiny of Regulations.<sup>146</sup> This committee is supported by a team of dedicated staff, including analysts, clerks, researchers, and receives allocation from the Parliamentary Budget Officer.<sup>147</sup> The 1918 Supreme Court of Canada judgment in *In Re Gray* remains the leading judgment on the constitutionality of delegation. In that case, the Supreme Court squarely addressed the question, and the judgment is seen to have endorsed a broad capacity for Parliament to delegate its lawmaking powers to others.<sup>148</sup> By adopting a similar approach in Kenya, the technical capacity for scrutiny can be enhanced. Here's how it can be beneficial:

**1. Expert Support Staff:** The inclusion of dedicated support staff, such as analysts, clerks, and researchers, can provide valuable expertise and assistance to the committee members involved in scrutinizing statutory instruments. These staff members can help in conducting detailed analysis, researching legal aspects, evaluating policy implications, and preparing reports. Their specialized

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<sup>146</sup> Wambulwa, Z., & Olubayi, P. (2021). Enhancing parliamentary oversight of delegated legislation in Kenya: Lessons from the Canadian model. *Journal of Politics and Law*, 14(4), 14-26.

<sup>147</sup> Ibid

<sup>148</sup> *In Re Gray*, [1918] SCR 150, 42 DLR 1

knowledge and skills can contribute to a more thorough and effective scrutiny process.<sup>149</sup>

**2. In-depth Analysis:** The availability of support staff allows for comprehensive analysis of statutory instruments, including their legal, technical, and policy aspects. They can review the instruments in detail, identify any potential issues or gaps, and provide expert opinions and recommendations to the committee. This ensures a rigorous examination of the instruments and increases the likelihood of identifying problematic provisions or implications.<sup>150</sup>

**3. Timely and Accurate Information:** Support staff can assist in gathering relevant information, collecting data, and conducting research on specific issues related to the statutory instruments. They can provide timely updates and summaries of legislative changes, judicial decisions, and other relevant developments that may impact the scrutiny process. This ensures that the committee is well-informed and up-to-date, enabling them to make informed decisions and recommendations.<sup>151</sup>

**4. Efficient Workflow:** The presence of support staff helps streamline the workflow of the committee. They can assist in organizing meetings, preparing agendas, managing documentation, and coordinating communication between committee members and stakeholders. Their administrative support ensures that the scrutiny process runs smoothly and efficiently, allowing the committee members to focus on the substantive aspects of the scrutiny.<sup>152</sup>

**5. Access to Independent Analysis:** Inclusion of support staff can facilitate access to independent analysis and expert opinions. They can collaborate with external experts, consult legal scholars, or seek

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<sup>149</sup> Ibid

<sup>150</sup> Ibid

<sup>151</sup> Ibid

<sup>152</sup> Ibid

inputs from relevant stakeholders to obtain diverse perspectives on the statutory instruments. This enriches the scrutiny process and helps in considering a wide range of viewpoints, leading to more robust and comprehensive recommendations.<sup>153</sup>

**6. Enhanced Budgetary Support:** Allocating resources from the Parliamentary Budget Officer can ensure that the committee has adequate financial support to carry out its functions effectively. Sufficient funding can be allocated for research, training, expert consultations, and other necessary expenses. This enables the committee to operate independently and with the necessary resources to fulfill its scrutiny mandate.<sup>154</sup>

The study avers that by strengthening the technical capacity for scrutiny through the inclusion of support staff, Kenya can enhance the effectiveness and efficiency of the scrutiny process for statutory instruments. However, it's important to consider the specific requirements and context of the Kenyan parliamentary system and allocate appropriate resources accordingly. This may involve establishing dedicated positions, developing collaboration with external experts or institutions, and providing sufficient budgetary support.

### **5.5 Exploring the Idea of Independent Criminal Justice Legislation Monitor**

Another proposal for amending the Parliamentary Scrutiny Provisions of the Statutory Instruments Act is to explore the idea of establishing an independent Criminal Justice Legislation Monitor as a post-regulation review safeguard. This concept can be modeled after Australia's independent National Security Legislation Monitor.

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<sup>153</sup> Ibid

<sup>154</sup> Ibid

Australia's independent National Security Legislation Monitor (NSLM) is an important institution that plays a crucial role in ensuring accountability and oversight in the field of national security legislation. The NSLM was established in 2010 as an independent statutory office to review and monitor the operation, effectiveness, and implications of Australia's national security laws.<sup>155</sup>

The primary objective of the NSLM is to assess whether the national security laws appropriately balance national security concerns with the protection of individual rights and freedoms. It conducts independent reviews of legislation and provides recommendations to the government on any amendments or improvements that may be necessary.<sup>156</sup> The NSLM operates with a high degree of independence, which is crucial for ensuring impartial and objective evaluations. It has the power to access relevant information and seek assistance from experts in various fields. The NSLM's reports and recommendations are made public, allowing for transparency and accountability in the legislative process.<sup>157</sup>

One of the significant contributions of the NSLM is its role in conducting post-legislative reviews. It assesses the actual impact of national security laws on individuals, communities, and institutions, identifying any unintended consequences or potential infringements on rights and freedoms. This approach enables ongoing evaluation

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<sup>155</sup> Mendes, Errol. "Australia's Independent National Security Legislation Monitor: A Critical Assessment." *Journal of Parliamentary Information*, vol. 1, no. 2, 2013, pp. 84-104.

<sup>156</sup> Ibid

<sup>157</sup> Ibid



and refinement of the legislative framework to ensure it remains effective, proportionate, and respects fundamental rights.<sup>158</sup>

Australia's model can be beneficial to Kenya in the following ways:

1. **Enhanced Accountability:** An independent Criminal Justice Legislation Monitor would serve as a dedicated body responsible for reviewing and assessing the impact and effectiveness of criminal justice legislation in Kenya. This would ensure an additional layer of accountability and oversight over the executive's law-making powers. The monitor would act as an independent watchdog, evaluating the compatibility of legislation with constitutional principles, human rights standards, and the rule of law.<sup>159</sup>

2. **Specialized Expertise:** The Criminal Justice Legislation Monitor would be staffed with legal and subject matter experts who have in-depth knowledge and understanding of criminal justice issues. These experts can critically analyze the impact of legislation on the criminal justice system, identify potential gaps or flaws, and propose necessary amendments or improvements. Their expertise would contribute to a comprehensive and informed evaluation of the legislation.<sup>160</sup>

3. **Timely and Targeted Reviews:** The independent monitor would have the authority to conduct reviews of specific criminal justice legislation or regulations based on emerging concerns or at regular intervals. This proactive approach would ensure that the legislation remains effective, relevant, and responsive to evolving societal needs. By conducting timely reviews, the monitor can identify potential

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<sup>158</sup> Ibid

<sup>159</sup> Khamala, C. N., & Gachuki, J. (2020). Strengthening parliamentary scrutiny of delegated legislation in Kenya: Lessons from Australia. *Journal of Politics and Law*, 13(4), 13-26.

<sup>160</sup> Ibid

issues, propose necessary changes, and contribute to the ongoing improvement of criminal justice laws.<sup>161</sup>

**4. Public Confidence:** The existence of an independent Criminal Justice Legislation Monitor would enhance public confidence in the legislative process and the criminal justice system as a whole. The monitor's impartiality and expertise would provide assurance to the public that their rights and interests are being protected, and that legislative measures are subject to rigorous scrutiny. This transparency and accountability would contribute to a more trusted and effective criminal justice system.<sup>162</sup>

**5. Recommendations for Improvement:** Through its reviews, the monitor would be able to make evidence-based recommendations for improving criminal justice legislation. These recommendations can address issues such as clarity of provisions, proportionality of penalties, protection of fundamental rights, and effectiveness in achieving the intended objectives. The monitor's suggestions would guide lawmakers in crafting better legislation and help address any problematic implications that may arise.<sup>163</sup>

**6. Collaboration and Engagement:** The Criminal Justice Legislation Monitor can actively engage with relevant stakeholders, including government agencies, civil society organizations, legal experts, and affected individuals or communities. This collaborative approach would ensure a broad range of perspectives are considered and incorporated into the review process. It would also foster dialogue and cooperation between different actors involved in criminal justice, leading to more effective and responsive legislation.<sup>164</sup>

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<sup>161</sup> Ibid

<sup>162</sup> Ibid

<sup>163</sup> Ibid

<sup>164</sup> Ibid

The study advances the argument that it is important to tailor the establishment of an independent Criminal Justice Legislation Monitor to the specific needs and context of Kenya's legal system. This may involve defining the mandate, powers, and resources of the monitor through legislation or constitutional provisions. The selection and appointment process of the monitor should prioritize independence, expertise, and integrity to ensure the credibility and effectiveness of the monitoring body.

## **6. Conclusion**

The parliamentary scrutiny of statutory instruments is a crucial aspect of legislative oversight in Kenya, ensuring the accountability, legality, and effectiveness of delegated legislation. However, the current provisions of the Statutory Instruments Act, 2013 have raised problematic implications for criminal justice in the country. This paper has explored these implications and proposed several amendments to enhance the scrutiny process and address the challenges at hand.

Throughout this discussion, the study has highlighted the necessity of striking a balance between the need for prompt responses to time-sensitive criminal justice matters and the imperative of robust parliamentary scrutiny. While acknowledging the importance of executive law-making by criminal justice agencies, the study has emphasized the significance of effective oversight to safeguard fundamental rights, uphold the rule of law, and promote accountability.

The examination of the legal principles of separation of powers, the exclusive domain of Parliament in legislative power, and the delegation of legislative power to the executive has provided a solid

foundation for understanding the constitutional framework within which statutory instruments are scrutinized. Moreover, the study has delved into the scope of parliamentary oversight as outlined in Article 94(5) of the 2010 Kenyan Constitution, which serves as a guide for evaluating the compliance of statutory instruments with constitutional provisions.

In identifying the problematic implications of the current statutory instruments scrutiny process, the study has highlighted the issues of delay and interference, limited technical capacity of Members of Parliament, and the inefficiency of a single committee jurisdiction. These challenges undermine the efficacy and efficiency of parliamentary scrutiny, potentially leading to gaps in oversight and the infringement of fundamental rights and freedoms.

To address these challenges, this paper has proposed several amendments to the Statutory Instruments Act, 2013. Firstly, expanding the exemption to include criminal justice regulations would facilitate the timely formulation and implementation of regulations necessary to address time-sensitive criminal matters. Secondly, establishing an expedited procedure for the scrutiny of criminal justice regulations would ensure that urgent cases are given the necessary attention without compromising the principles of accountability and transparency. Additionally, the study has proposed the creation of decentralized scrutiny mechanisms at committee levels, drawing inspiration from the practices of the UK Parliament's Joint Committee on Statutory Instruments, Secondary Legislation Scrutiny Committee, and Delegated Legislation Committee. This decentralized approach would alleviate bottlenecks, enhance efficiency, and allow for more comprehensive scrutiny of the

vast array of statutory instruments, including those related to criminal justice.

Furthermore, this paper has explored the idea of establishing an independent Criminal Justice Legislation Monitor, modeled after Australia's National Security Legislation Monitor, to serve as a post-regulation review safeguard. This independent body, supported by dedicated staff and resources, would play a vital role in evaluating the impact and compliance of criminal justice regulations, ensuring their alignment with constitutional principles and the rule of law.

The amendments proposed in this paper aim to enhance the effectiveness and efficiency of parliamentary scrutiny of statutory instruments in Kenya, particularly in the context of criminal justice. By addressing the problematic implications and reinforcing the principles of justice, accountability, and the rule of law, these amendments seek to foster a legal framework that balances the need for expedient law-making with the necessity of robust parliamentary oversight.

It is hoped that this study contributes to the ongoing discourse on parliamentary scrutiny, separation of powers, and the improvement of legislative processes in Kenya. By strengthening the mechanisms of oversight and enhancing the technical capacity of Members of Parliament, we can ensure that the formulation and implementation of delegated legislation, especially in the realm of criminal justice, is carried out in a manner that upholds the principles of justice, protects fundamental rights, and promotes the overall well-being of society.

## References

Apollo Mboya (2014) —Curb abuse of delegated legislation by the executive, —January 22, 2014 The Standard Digital News Website at [http://www.standardmedia.co.ke/?articleID=2000103004&story\\_title=curebabuse-of-delegated-legislation-by-executive&pageNo=1](http://www.standardmedia.co.ke/?articleID=2000103004&story_title=curebabuse-of-delegated-legislation-by-executive&pageNo=1)

Ben Sihanya (2014) —Background, status, operational mechanisms and enhancing quality of delegated legislation in Kenya, Presentation during the Retreat of the Senate Committee on delegated Legislation and chairpersons of the Committees on delegated Legislation of the County assemblies at Serena Beach Hotel, Mombasa, on February 20, 2014, *op. cit.*

Ben Sihanya (2020) —Legislative Power, Structure and Process in Kenya and Africa, in Ben Sihanya (2020) *Constitutional Democracy, Regulatory and Administrative Law in Kenya and Africa Vol. 1: Presidency, Premier, Legislature, Judiciary, Commissions, Devolution, Bureaucracy and Administrative Justice in Kenya*, Sihanya Mentoring & Prof Ben Sihanya Advocates, Nairobi & Siaya, Chapter 6.

Charles de Secondat, Baron de Montesquieu, *The Spirit of Laws*, translated by Thomas Nugent, revised ed. (New York: Colonial Press, 1899), Book 11, s. 6, pp. 151–162 at 151.

Chege, M. J., & Oloo, A. (2017). Delegated Legislation in Kenya: Challenges and Opportunities. *International Journal of Law, Policy and the Family*, 31(2), 198-219.

Committee on Delegated Legislation website available at <http://www.parliament.go.ke/the-national-assembly/committees/committee-on-delegated-legislation>

Elliott, M., & Varuhas, J. (2017). Delegated legislation in the United Kingdom: An overview. In *Delegated Legislation in Australia and New Zealand* (pp. 197-220). Sydney University Press.

Karimi, F., & Wanyama, D. N. (2018). The Implications of the Statutory Instruments Act on the Delegated Legislation Process in Kenya. *International Journal of Business, Humanities and Technology*, 8(6), 104-114.

Khamala, C. N., & Gachuki, J. (2020). Strengthening parliamentary scrutiny of delegated legislation in Kenya: Lessons from Australia. *Journal of Politics and Law*, 13(4), 13-26.

Kung'u, J. W., & Tidimane, S. (2017). Legal and Procedural Implications of the Statutory Instruments Act in Kenya. *Journal of Law, Policy and Globalization*, 60, 57-65.

Makori, A. (2019). Comparative study of parliamentary oversight of delegated legislation in the United Kingdom and Kenya. *The Pan African Journal of Justice and Human Rights*, 2(1), 78-98.

Montesquieu, *the Spirit of Laws*, at pp. 151-52.

Mwangi, S. K., & Juma, J. (2019). Implications of the Statutory Instruments Act on the Law-Making Process in Kenya: A Case Study of Nairobi County Government. *African Journal of Governance and Development*, 8(1), 212-223.

Nation Media Group, 'Prayers then murder: Inside Shakahola's holy betrayal' May 15, 2023. Available at <https://nation.africa/kenya/news/prayers-then-murder-inside-shakahola-s-holy-betrayal-4234804>

Njeru, P. W. (2018). The Role of Parliamentary Committees in Legislation Making Process in Kenya. *International Journal of Academic Research in Business and Social Sciences*, 8(11), 503-515.

Odhiambo, E.S. (2017). Parliament's Role in the Scrutiny of Delegated Legislation in Kenya: A Comparative Analysis. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, 9(2), 04517010.

Odundo, P. O., & Njiraini, P. (2017). The Role of Parliament in Controlling Delegated Legislation in Kenya: A Review of the Statutory Instruments Act 2013. *International Journal of Innovation and Economic Development*, 3(6), 34-42.

Okeyo, E. O., & Gekonge, C. N. (2017). Implications of the Statutory Instruments Act on the Legislative Process in Kenya. *African Journal of Law and Criminology*, 7(1), 72-82.

Otieno, J. (2015). The Implications of Statutory Instruments Act, 2013 on the Delegated Legislation Process in Kenya. *International Journal of Social Sciences and Entrepreneurship*, 2(8), 13-22.

Otieno, W., & Juma, J. (2020). Strengthening Parliamentary Oversight of Statutory Instruments in Kenya. *Journal of Politics and Law*, 13(4), 10-20

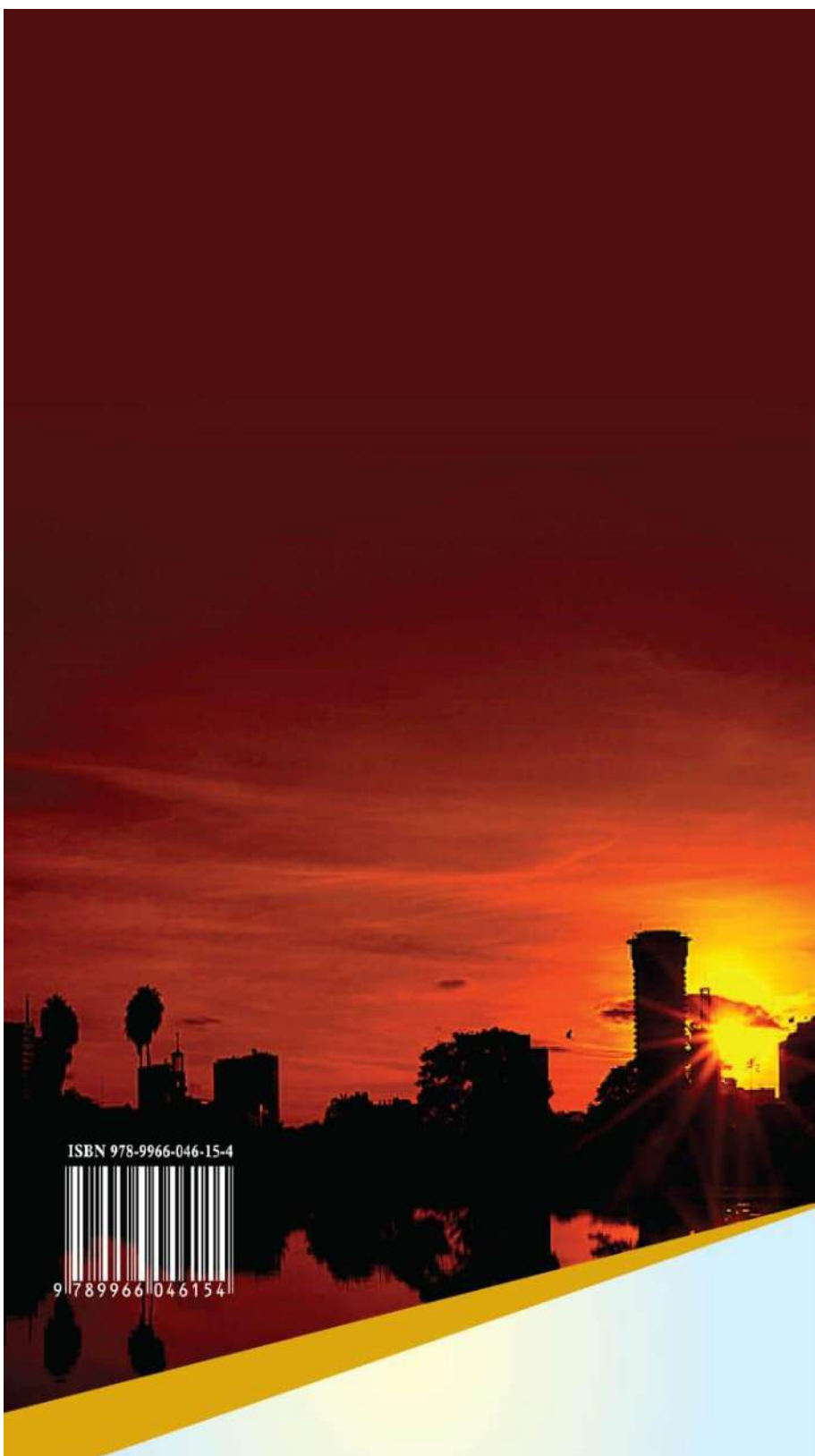
Statutory Instruments Act, 2013



The Constitution of Kenya 2010

Wambua, D. (2019). Parliament's Oversight Role in the Implementation of Statutory Instruments in Kenya. *African Journal of Political Science and International Relations*, 13(1), 1-13.

Wambulwa, Z., & Olubayi, P. (2021). Enhancing parliamentary oversight of delegated legislation in Kenya: Lessons from the Canadian model. *Journal of Politics and Law*, 14(4), 14-26.



ISBN 978-9966-046-15-4



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