

Justice, Sustainability, and Indigenous Wisdom in Africa:

*Pathways to a Green and
Equitable Future*



Kariuki Muigua

Justice, Sustainability, and Indigenous Wisdom in Africa:
Pathways to a Green and Equitable Future | Kariuki Muigua | 2025

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Hon. Prof. Kariuki Muigua, Ph.D; FClArb; Ch.Arb; OGW

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Author's Note

This book, *Justice, Sustainability, and Indigenous Wisdom in Africa: Pathways to a Green and Equitable Future*, emerges from years of reflection, research, and dialogue on how Africa can chart a more just, inclusive and ecologically balanced future. It draws inspiration from both modern legal and policy frameworks, and from the enduring wisdom of African communities whose knowledge systems have long sustained harmony between people and nature.

In bringing together these perspectives, I seek to affirm that Africa's path to sustainability must be grounded in justice, economic, and environmental and that Indigenous Knowledge is not a relic of the past, but a living repository of solutions. This work represents a continuing journey toward transforming law and policy into tools that uphold human dignity, equity and ecological balance.

The ideas presented herein are shaped by my work as a scholar, practitioner, and advocate of environmental justice, alternative dispute resolution, and sustainable development. My hope is that this book serves as both an academic contribution and a moral invitation. A call to rethink our responsibilities to one another and to the Earth.

This book is a curated collection of articles originally published on my website and related academic platforms. Each piece has been revised, harmonized, and expanded to form a coherent body of work that reflects the overarching theme of justice, sustainability, and Indigenous Knowledge in Africa.

Prof. Kariuki Muigua PhD. C.Arb. FCI Arb. OGW

November, 2025.

Nairobi Kenya

Dedication

To the people of Africa
whose wisdom, resilience, and love for the land
continue to illuminate the path toward justice and sustainability.

And to the next generation
may you inherit not a planet in peril,
but a continent restored, rebalanced, and renewed.

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Above all, I give thanks to God for His grace, guidance and sustaining presence in every step of this journey.

List of Statutes and International Instruments

Charter of the United Nations, United Nations, 24 October 1945, 1 UNTS XVI.

Constitution of Kenya, 2010. Government Printer, Nairobi.

Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), United Nations General Assembly, 18 December 1979, United Nations Treaty Series, vol. 1249, p. 13.

Convention on the Rights of the Child (CRC), United Nations General Assembly, 20 November 1989, United Nations Treaty Series, vol. 1577, p. 3.

International Covenant on Economic, Social and Cultural Rights (ICESCR), United Nations General Assembly, 16 December 1966, United Nations Treaty Series, vol. 993.

Occupational Safety and Health Act, Cap. 236A. Government Printer, Nairobi.

Occupational Safety and Health Convention, 1981 (No. 155). International Labour Organization (ILO).

The Dispute Resolution Bill, 2025. Government Printer, Nairobi.

Universal Declaration of Human Rights (UDHR), United Nations General Assembly, 10 December 1948, 217 A (III).

PART I – FOUNDATIONS OF JUSTICE AND SUSTAINABILITY

Introduces the philosophical, legal, and ethical underpinnings of justice as the cornerstone of sustainable development. It reimagines Africa's trajectory from 'sustained underdevelopment' to a future grounded in equity, participation, and environmental harmony.

From 'Sustained Under-development' to 'Sustainable Development': Moving Africa to a Prosperous and Green Future through Justice and Collaboration

Abstract

This paper discusses how Africa can attain a prosperous and green future through justice and collaboration. The paper examines the current status of Sustainable Development in Africa. It posits that Africa faces numerous environmental, social and economic challenges undermining the continent's progress towards Sustainable Development. In light of these challenges, the paper asserts that moving from sustained under-development to Sustainable Development is key in ensuring a prosperous and green future for people and planet in Africa. It examines how justice and collaboration can be harnessed towards fostering Sustainable Development for a prosperous and green future in Africa.

1.0 Introduction

Achieving Sustainable Development is a vital goal for both people and planet. It has been argued that it is necessary to forge a new relationship between people and planet in light of mounting environmental, social, and economic challenges that are prevalent throughout the world¹. The United Nations 2030 Agenda for Sustainable Development² acknowledges that global problems including poverty, rising inequalities within and among nations, gender inequalities, unemployment, global health threats, conflicts, and more frequent and intense natural disasters are undermining development with severe consequences for humanity and nature³. These challenges are worsened by environmental threats including depletion of natural resources, environmental degradation, desertification, drought, freshwater scarcity, loss of biodiversity, and climate change⁴. In light of these challenges, Sustainable Development has become a clarion call towards establishing harmony between humanity and nature and tackling environmental, social, and economic problems facing the world for a more prosperous future for both people and planet⁵.

¹ United Nations Environment Programme., 'The Triple Planetary Crisis: Forging a New Relationship Between People and the Earth' Available at https://www.unep.org/news-and-stories/speech/triple-planetary-crisis-forging-new-relationship-between-people-and-earth?gad_source=1&gclid=EAIaIQobChMI5Jf4zJXihwMVr6KDBx2jcx22EAAYASAAEgIqsfD_BwE (Accessed on 04/11/2025)

² United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 04/11/2025)

³ Ibid

⁴ Ibid

⁵ United Nations Environment Programme., 'The Triple Planetary Crisis: Forging a New Relationship Between People and the Earth' Op Cit

Sustainable Development has therefore emerged as a key ideal and principle aimed at meeting human development goals and needs while at the same time ensuring the ability of nature to provide the natural resources and ecosystem services upon which the economy and society depends⁶. Sustainable Development seeks to promote development that meets the needs of the present generations without compromising the ability of future generations to meet their own needs⁷. It has been argued that Sustainable Development requires an integrated approach that takes into consideration environmental protection, economic prosperity and social equity⁸. The *2030 Agenda for Sustainable Development* sets out the global vision for sustainability⁹. It envisions attainment of the environmental, economic, and social facets of Sustainable Development through 17 interconnected and mutually reinforcing Sustainable Development Goals (SDGs)¹⁰.

Achieving Sustainable Development is a vital goal for Africa. It has been argued that challenges such as poverty, hunger, food insecurity, drought, health threats, water scarcity, climate change, wars and conflicts, unemployment, inequalities and poor governance threaten the Sustainable Development agenda in the continent¹¹. Addressing these among other challenges is therefore necessary in reversing the trend of sustained under-development in Africa towards Sustainable Development.

This paper discusses how Africa can attain a prosperous and green future through justice and collaboration. The paper examines the current status of Sustainable Development in Africa. It posits that Africa faces numerous environmental, social and economic challenges undermining the continent's progress towards Sustainable Development. In light of these challenges, the paper asserts that moving from sustained under-development to Sustainable Development is key in ensuring a prosperous and green future for people and planet in Africa. It examines how justice and collaboration can be harnessed towards fostering Sustainable Development for a prosperous and green future in Africa.

⁶ Mensah, J., 'Sustainable Development: Meaning, history, principles, pillars, and implications for human action: Literature review' *Cogent Social Sciences*, Volume 5, Issue 1

⁷ World Commission on Environment and Development., 'Our Common Future.' Oxford, (Oxford University Press, 1987)

⁸ United Nations., 'Sustainability' Available at <https://www.un.org/en/academic-impact/sustainability> (Accessed on 04/11/2025)

⁹ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Op Cit

¹⁰ Ibid

¹¹ African Development Bank., 'The way Forward to Achieving Sustainable Development in Africa.' Available at https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/ADR15_chapter_8.pdf (Accessed on 04/11/2025)

2.0 The Status of Sustainable Development in Africa

Achieving Sustainable Development remains a challenge for Africa. It has been argued that the continent is still far from achieving most of the SDGs¹². For example, Africa contains the largest remaining share of global extreme poverty with approximately 400 million Africans still living in worse forms of poverty¹³. Although the levels of poverty in Africa are predicted to decrease in the coming years, the continent will still remain the poorest region compared to the rest of the world¹⁴. Further, Africa is not on track to meet the food security and nutrition targets stipulated under SDG 2 with millions of people in the continent suffering from moderate to severe levels of food insecurity, hunger and undernourishment¹⁵. It is estimated that hunger affects one in five people living in Africa¹⁶. Consequently, Africa has been classified as the most food-insecure region in the world¹⁷.

Gender inequalities are also prevalent in Africa undermining progress towards Sustainable Development. It has been observed that discriminatory laws and policies and societal norms continue to pose significant barriers for women and girls when it comes to accessing economic resources, education opportunities, property ownership, and financial services, limiting their opportunities and impeding job creation and economic growth in Africa¹⁸. Africa also faces several challenges in ensuring good health and well-being for its citizens. Factors such as disparities in access to health services, poor health policies and infrastructure, limited public health expenditure, poverty and conflicts limit the ability of citizens to access quality, modern,

¹² United Nations Economic Commission for Africa., 'Africa SDGs Progress Report: Is the Continent on Track to Achieve the 2030 Goals?' Available at <https://www.uneca.org/africa-sdgs-progress-report-is-the-continent-on-track-to-achieve-the-2030-goals%3F#:~:text=%C3%97-.Africa%20SDGs%20Progress%20Report:%20Is%20the%20Continent%20on,to%20Achieve%20the%202030%20Goals?&text=The%20Africa%20Sustainable%20Development%20Goal,sustainable%20development%20path%20by%202030>. (Accessed on 04/11/2025)

¹³ Institute for Security Studies., 'Reducing Poverty in Africa: Huge Potential, But More Realistic Goals Needed.' Available at <https://issafrica.org/about-us/press-releases/reducing-poverty-in-africa-huge-potential-but-more-realistic-goals-needed#:~:text=Policies%20that%20may%20boost%20poverty,and%20promote%20progressive%20social%20change> (Accessed on 04/11/2025)

¹⁴ Ibid

¹⁵ Food and Agriculture Organization of the United Nations., 'Africa Regional Overview of Food Security and Nutrition' Available at <https://openknowledge.fao.org/server/api/core/bitstreams/c6c81d5f-e337-4b3e-8330-555c9ed0e741/content> (Accessed on 04/11/2025)

¹⁶ AUDA-NEPAD., 'Ending hunger in Africa: The elimination of hunger and food insecurity on the African by 2025: Conditions for success' Available at <https://www.nepad.org/caadp/publication/ending-hunger-africa-elimination-of-hunger-and-food-insecurity-african-2025> (Accessed on 04/11/2025)

¹⁷ World Vision., 'Africa hunger crisis: Facts, FAQs, and how to help' Available at <https://www.worldvision.org/hunger-news-stories/africa-hunger-famine-facts> (Accessed on 04/11/2025)

¹⁸ United Nations Economic Commission for Africa., '2025 Africa sustainable development report' Available at <https://www.uneca.org/2025-africa-sustainable-development-report> (Accessed on 04/11/2025)

effective and appropriate health services in Africa¹⁹. In addition, it has been argued that the quality of employment remains a significant barrier towards achieving Sustainable Development in Africa as evidenced by cases of youth unemployment, gender disparities in employment, child labor, skills mismatches and high levels of informal employment²⁰.

Conflicts and wars also fuel under-development in Africa. The continent has been highly susceptible to intra and inter- state wars and conflicts for many decades²¹. Frequent wars and conflicts are being experienced across the African continent, which are fueled by various factors, including disputes over natural resources, fight for political control, poverty, negative ethnicity, religion, environmental causes, and external influence among others²². For example, many African countries that are rich in natural resources including oil, gas and minerals have been caught up in vicious cycles of conflicts undermining the potential of these resources to spur development²³. According to the United Nations, conflicts and wars have been a major hindrance in the quest towards Sustainable Development in Africa²⁴. The prevalence of wars and conflicts is therefore a major cause of sustained under-development in Africa.

Africa also faces numerous environmental challenges that affect the continent's development efforts. For example, it has been pointed out that Africa is facing the prospect of environmental calamity in the form of the triple planetary crisis comprising of climate change, nature and biodiversity loss, and pollution and waste which are affecting both people and planet²⁵. Further, due to poor environmental governance, Africa faces several challenges including illegal mining, illegal logging, unregulated fishing, illegal trade in wildlife and environmental degradation and loss²⁶. These challenges result in the loss of a huge share of Africa's natural capital fueling underdevelopment in the continent²⁷.

¹⁹ Ibid

²⁰ Ibid

²¹ Olaosebikan. A., 'Conflicts in Africa: Meaning, Causes, Impact and Solution.' *African Research Review*, Volume 4, No. 4 (2010)

²² Muigua. K., 'Towards Effective Peacebuilding and Conflict Management in Kenya.' Available at <https://kmco.co.ke/wp-content/uploads/2021/05/Towards-Peacebuilding-and-Conflict-Management-in-Kenya.docx-Kariuki-Muigua-MAY-2021x.pdf> (Accessed on 04/11/2025)

²³ Henri. A., 'Natural Resources Curse: A Reality in Africa.' *Resources Policy*, Volume 63, 2019

²⁴ United Nations., 'Promotion of Durable Peace and Sustainable Development in Africa.' Available at https://www.un.org/osaa/sites/www.un.org.osaa/files/docs/2109875_osaa_sg_report_web_new.pdf (Accessed on 04/11/2025)

²⁵ United Nations Environment Programme., 'Fostering Collaboration to Address Environmental Challenges in Africa.' Available at <https://www.unep.org/news-and-stories/speech/fostering-collaboration-address-environmental-challenges-africa> (Accessed on 04/11/2025)

²⁶ United Nations Environment Programme., 'Our work in Africa' Available at <https://www.unep.org/regions/africa/our-work-africa> (Accessed on 04/11/2025)

²⁷ Ibid

From the foregoing, it is evident that achieving Sustainable Development remains a challenge in Africa. It has been argued that the current pace of progress in Africa is insufficient to achieve the SDGs by 2030²⁸. Challenges such as poverty, hunger, food insecurity, drought, wars and conflicts, water scarcity, climate change, poor governance, unemployment and inequalities contribute to underdevelopment in Africa²⁹. It is imperative to address these challenges in order to move from sustained under-development to Sustainable Development in Africa.

3.0 Moving Africa to a Prosperous and Green Future through Justice and Collaboration

Achieving Sustainable Development is a vital goal towards a green and prosperous future in Africa. The continent faces several social, economic and environmental challenges which undermine progress towards Sustainable Development. However, Africa also has several opportunities that can unlock a green and prosperous future. For example, the continent has abundant natural resources including arable land, water, forests, minerals, oil and gas, and renewable sources of energy which provide immense opportunities to unlock a green and prosperous future³⁰. In particular, it has been argued that Africa's abundant renewable sources of energy including wind, solar, hydro and geothermal energy can help address many of the continent's social, economic, health and environmental challenges and foster the realization of a green, climate-safe and resilient future in which Sustainable Development prerogatives are met³¹. Due to the abundance of renewable sources of energy in the continent and the availability of critical raw materials including cobalt, bauxite, nickel, manganese, graphite, chromium and copper, it has been argued that Africa is at the heart of a green, low-carbon and climate resilient future³².

Africa's vast arable land also provides opportunities for a prosperous and green future. It has been argued that by embracing sustainable agricultural practices including organic farming, precision agriculture, and agroforestry, Africa can achieve food security and minimize the environmental impacts of agriculture and food production including biodiversity loss and climate change towards Sustainable Development³³. Further, due to its rich blue economy

²⁸ United Nations Economic Commission for Africa., '2025 Africa sustainable development report' Op Cit

²⁹ African Development Bank., 'The way Forward to Achieving Sustainable Development in Africa.' Op Cit

³⁰ African Development Bank Group., 'Green Growth' Available at <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/green-growth-initiative/background> (Accessed on 05/11/2025)

³¹ 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 05/11/2025)

³² Mo Ibrahim Foundation., 'Africa's Critical Minerals: Africa at the Heart of a Low-Carbon Future' Available at <https://mo.ibrahim.foundation/sites/default/files/2022-11/minerals-resource-governance.pdf> (Accessed on 05/11/2025)

³³ African Development Bank Group., 'Africa's Green Growth Agenda: Unlocking Opportunities for a Climate-Resilient Future' Available at <https://www.afdb.org/en/news-and-events/press-releases/africas-green-growth-agenda-unlocking-opportunities-climate-resilient-future-81858#:~:text=%E2%80%9CFor%20the%20African%20Development%20Bank,its%20people%20and%20the%20planet> (Accessed on 05/11/2025)

From 'Sustained Under-development' to 'Sustainable Development': Moving Africa to a Prosperous and Green Future through Justice and Collaboration

potential, Africa can also foster a prosperous and green future by strengthening sustainable marine and coastal tourism and fisheries³⁴. In addition, the successful implementation of the African Continental Free Trade Area (AfCFTA) can unlock a prosperous and green future in Africa including through the development of green regional value chains³⁵.

From the foregoing, it is evident that Africa has immense potential to transition from sustained under-development to Sustainable Development. African Union's *Agenda 2063*³⁶ sets out a strategic framework for inclusive growth and sustainable Development in Africa. It seeks to foster a prosperous Africa based on inclusive growth and Sustainable Development³⁷. Agenda 2063 identifies several aspirations, goals, and priority areas towards achieving a prosperous and green future in Africa³⁸. It has been argued that actualizing the aspirations, goals, and targets of the Agenda 2063 can accelerate the Sustainable Development agenda in Africa³⁹.

In order to ensure a prosperous and green future in Africa, it is imperative to pursue justice and collaboration. It has been argued that justice is at the heart of Sustainable Development by providing opportunities to ensure inclusive and equitable economic growth, empowering the poor and the marginalized for social equity, and safeguarding the environment for present and future generations⁴⁰. Justice ensures that economic, social and environmental governance frameworks and policies are equitable, responsive, and accessible to all, therefore playing a critical role in achieving various aspects of Sustainable Development⁴¹. Strengthening justice systems and processes enables traditionally marginalized populations including the youth, the elderly, women, migrants to participate in legal processes that promote inclusive growth in sectors such as health, employment, education, housing, environmental governance and

³⁴ United Nations Environment Programme., 'Africa's green business opportunities are abundant, UNEP study shows' Available at <https://www.unep.org/news-and-stories/press-release/africas-green-business-opportunities-are-abundant-unep-study-shows> (Accessed on 05/11/2025)

³⁵ United Nations 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 05/11/2025)

³⁶ Africa Union., 'Agenda 2063: The Africa we Want' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 05/11/2025)

³⁷ Ibid

³⁸ Ibid

³⁹ United Nations Development Programme., '2023 Africa Sustainable Development Report.' Available at <https://www.undp.org/africa/publications/2023-africa-sustainable-development-report> (Accessed on 05/11/2025)

⁴⁰ International Development Law Organization., 'Doing Justice to Sustainable Development: Integrating the Rule of Law Into the Post-2015 Development Agenda' Available at <https://www.idlo.int/sites/default/files/pdfs/publications/Doing%20Justice%20to%20Sustainable%20Development.pdf> (Accessed on 05/11/2025)

⁴¹ SDG Resource Centre., 'Access to Justice.' Available at <https://sdgresources.relx.com/tags/access-justice> (Accessed on 05/11/2025)

entrepreneurship towards Sustainable Development⁴². The role of justice in the Sustainable Development discourse is recognised under the 2030 Agenda for Sustainable Development. SDG 16 seeks to promote peaceful and inclusive societies for Sustainable Development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels⁴³. It has been argued that SDG 16's emphasis on justice is critical in ensuring fairness and legal protection for all persons, and especially the most vulnerable since it calls for the establishment and strengthening of institutions at all levels to deliver justice effectively, transparently, and without undue delay for Sustainable Development⁴⁴. Strengthening justice systems in Africa is therefore important in realising Sustainable Development.

Collaboration is also an effective strategy towards achieving Sustainable Development in Africa. It has been argued that collaboration is vital in ensuring a prosperous and green future since it enables diverse stakeholders including governments, the private sector and the public to work together towards common solutions in the quest for Sustainable Development⁴⁵. Through collaboration, it is possible to foster stringer partnerships that can accelerate progress towards Sustainable Development by mobilizing resources, sharing knowledge, promoting the creation and transfer of environmentally sound technologies, and building capacity⁴⁶. SDG 17 urges states to collaborate on key issues including finance, technology, capacity-building and trade towards achieving Sustainable Development⁴⁷. Collaboration is therefore key in achieving Sustainable Development in Africa. It has been argued that the scale, scope and complexity of economic, environmental and social transformation required to realize the Sustainable Development agenda means that no one state or sector – government, business, civil society or academia – will be able to manage the transformation alone⁴⁸. Collaboration in Africa is key in building bridges between countries and cultures, promoting mutual understanding and respect, and strengthening regional

⁴² Organisation for Economic Co-operation and Development., 'Leveraging the SDGs for Inclusive Growth: Delivering Access to Justice for All.' Available at <https://www.oecd.org/gov/delivering-access-to-justice-for-all.pdf> (Accessed on 05/11/2025)

⁴³ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' Op Cit

⁴⁴ SDG Resource Centre., 'Access to Justice.' Op Cit

⁴⁵ United Nations Environment Programme., 'Goal 17: Partnerships for the Goals' Available at <https://www.unep.org/topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-17#:~:text=Goal%2017%20and%20the%20environment,management%20and%20processing%2C%20and%20mitigation.> (Accessed on 05/11/2025)

⁴⁶ Ibid

⁴⁷ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' Op Cit

⁴⁸ World Economic Forum., 'Why Collaboration will be Key to Achieving the Sustainable Development Goals' Available at <https://www.weforum.org/agenda/2017/01/realising-the-potential-of-cross-sector-partnerships/> (Accessed on 05/11/2025)

partnerships for Sustainable Development⁴⁹. It is therefore imperative for African countries to collaborate on key issues including trade under AfCFTA, finance, environmental protection, and technology development and transfer in order to achieve a prosperous and green future for Sustainable Development⁵⁰.

4.0 Conclusion

Achieving Sustainable Development remains a significant hurdle for Africa. Challenges such as poverty, hunger, food insecurity, drought, health threats, water scarcity, climate change, wars and conflicts, unemployment, inequalities and poor governance are contributing to sustained under-development in the continent⁵¹. However, the continent also has immense opportunities to achieve a prosperous and green future including vast arable land, abundant critical raw materials and renewable sources of energy, huge blue economy potential, and trade under AfCFTA⁵². By strengthening justice and collaboration, Africa can unlock its Sustainable Development potential for a prosperous and green future. It is therefore necessary to design appropriate, equitable, accessible, affordable and responsive justice systems in Africa including through embracing Alternative Dispute Resolution (ADR) processes such as mediation, conciliation, negotiation and arbitration in order to achieve Sustainable Development⁵³. These processes emphasize harmony, collaboration, humanness and togetherness over individual interests therefore creating a conducive environment for economic, social, cultural and political development towards realizing the Sustainable Development agenda⁵⁴. Further, it is imperative to strengthen collaboration between states and between governments, the private sector and the public in order to accelerate progress towards Sustainable Development by mobilizing resources, sharing knowledge, promoting the creation and transfer of environmentally sound technologies, and building capacity⁵⁵.

Strengthening justice and collaboration is therefore vital towards moving Africa from 'Sustained Under-Development' to Sustainable Development.

⁴⁹ Africa Connect., 'Partnering to Maximise SDG Actions (SDG 17): The Efforts of African RENS' <https://africaconnect3.net/partnering-to-maximise-sdg-actions-sdg-17-the-efforts-of-african-rents/> (Accessed on 05/11/2025)

⁵⁰ Ibid

⁵¹ African Development Bank., 'The way Forward to Achieving Sustainable Development in Africa.' Op Cit

⁵² African Development Bank Group., 'Green Growth' Op Cit

⁵³ Muigua. K., 'Alternative Dispute Resolution and Access to Justice.' Glenwood Publishers Limited, 2015

⁵⁴ Muigua. K., & Kariuki. F., 'ADR, Access to Justice and Development in Kenya.' Available at <https://kmco.co.ke/wp-content/uploads/2018/08/ADR-access-to-justice-and-development-in-Kenya-Revised-version-of-20.10.14.pdf> (Accessed on 05/11/2025)

⁵⁵ United Nations Environment Programme., 'Goal 17: Partnerships for the Goals' Op Cit

Ecocentrism and Environmental Governance in Africa: Conserving Nature for its Intrinsic and Spiritual Value?

Abstract

This paper critically examines how Africa can embrace sound environmental governance through ecocentrism. The paper conceptualizes ecocentrism. It argues that ecocentrism is a vital approach towards strengthening environmental governance by conserving nature for its intrinsic and spiritual value. Due to its important role in ensuring sound environmental governance, the paper suggests ways through which Africa can adopt ecocentrism towards effectively conserving nature for Sustainable Development.

1.0 Introduction

The concept of environmental governance covers rules, practices, approaches and processes that guide the management of the environment and natural resources¹. It has been argued that environmental governance extends beyond government regulations and interventions to involve other stakeholders such as the private sector, non-governmental organizations (NGOs), and the public in environmental decision-making². According to the United Nations Environment Programme (UNEP), environmental governance refers to the rules, policies and institutions that shape how humans interact with the environment³. In addition to rules, policies and norms that guide how humans interact with the environment, the concept of environmental governance also addresses who makes environmental decisions, how environmental decisions are made and carried out, the scientific information needed for environmental decision-making and how the public and major stakeholders can participate in the decision-making processes⁴. Environmental governance therefore includes a wide range of legal and other tools employed in both the public and private sectors to strengthen environmental protection⁵.

Sound environmental governance plays a key role in fostering Sustainable Development. It has been argued that building robust environmental governance systems can safeguard the planet and human rights including the right to a clean, healthy and sustainable environment⁶. Sound environmental governance ensures inclusive, participatory, just and fair approaches in managing

¹ Environmental Governance., Available at <https://www.manglai.io/en/glossary/environmental-governance> (Accessed on 23/09/2025)

² Ibid

³ United Nations Environment Programme., 'About environmental rights and governance' Available at <https://www.unep.org/explore-topics/environmental-governance/about-environmental-rights-and-governance> (Accessed on 23/09/2025)

⁴ United Nations Environment Programme., 'Environmental Governance' Available at <https://www.unep.org/regions/west-asia/regional-initiatives/environmental-governance> (Accessed on 23/09/2025)

⁵ Environmental Law Institute., 'Environmental Governance' Available at <https://www.eli.org/environmental-governance> (Accessed on 23/09/2025)

⁶ United Nations Environment Programme., 'About environmental rights and governance' Op Cit

the environment and natural resources⁷. Through this, it is possible to maintain and improve the ability of environmental systems to function appropriately and provide ecosystem services such as clean air, water, food, energy and climate regulation on an ongoing basis⁸. Sound environmental governance is therefore vital in fostering a healthy and prosperous planet for both humanity and nature, now and in the future⁹.

Strengthening environmental governance is therefore vital in the quest towards Sustainable Development. However, achieving this ideal remains elusive for the global community. For instance, environmental threats including the triple planetary crisis of climate change, pollution and biodiversity loss, are worsening all over the world demonstrating weaknesses in environmental governance systems¹⁰. Further, it has been pointed out that environmental governance systems in most countries are strained, with marginalized groups including women, the youth, indigenous peoples and local communities often excluded from environmental decision-making processes¹¹. In the African context, challenges such as weak institutions and capacity, lack of political incentives, and insufficient public awareness including limited access to information related to environmental rights and limited access to the appropriate decision-making forums, especially at the local level undermine effective, inclusive and accountable environmental governance¹². The shortcomings in environmental governance systems both globally and in Africa are contributing to challenges such as poverty, climate change, loss of biodiversity, water scarcity, environmental degradation, inequitable distribution of natural resources, loss of arable land, food insecurity, and coastal degradation and wetlands intrusion¹³. Strengthening environmental governance is therefore a key agenda at all levels towards Sustainable Development.

This paper critically examines how Africa can embrace sound environmental governance through ecocentrism. The paper conceptualizes ecocentrism. It argues that ecocentrism is a vital approach towards strengthening environmental governance by conserving nature for its intrinsic and spiritual value. Due to its important role in ensuring sound environmental governance, the paper

⁷ Bennett. N.J., & Satterfield. T., 'Environmental governance: A practical framework to guide design, evaluation, and analysis' Available at <https://conbio.onlinelibrary.wiley.com/doi/10.1111/conl.12600> (Accessed on 23/09/2025)

⁸ Ibid

⁹ United Nations Environment Programme., 'Environmental Governance' Op Cit

¹⁰ United Nations Development Programme., 'Environmental Governance: Bolstering inclusive and effective governance systems that champion environmental justice and sustainability' Available at <https://www.undp.org/nature/our-work-areas/environmental-governance> (Accessed on 23/09/2025)

¹¹ Ibid

¹² The Access Initiative., 'The Road to Realizing Environmental Rights In Africa: Moving From Principles to Practice' Available at https://accessinitiative.org/wp-content/uploads/2022/10/22.01_rep_access_initiative_v583-4.pdf (Accessed on 23/09/2025)

¹³ Environmental Governance in Africa., Available at <https://www.connect4climate.org/learn/article/environmental-governance-in-africa> (Accessed on 23/09/2025)

suggests ways through which Africa can adopt ecocentrism towards effectively conserving nature for Sustainable Development.

2.0 The Place of Ecocentrism in Environmental Governance

Ecocentrism is the idea that everything in the natural world has its own intrinsic value and deserves moral consideration¹⁴. This concept emphasizes the intrinsic value of nature and places a moral obligation on humanity to respect and conserve the environment for the benefit of present and future generations¹⁵. Further, ecocentrism has been described as an ethical and moral perspective that emphasizes the intrinsic and spiritual value of the natural world, advocating for its importance independent of human interests¹⁶. It is an ideal which recognizes the intrinsic value in all lifeforms and ecosystems themselves, including their abiotic components¹⁷.

Ecocentrism therefore finds inherent value in all of nature. It has been argued that this approach takes a much wider view of the world than anthropocentrism¹⁸. The concept of anthropocentrism presupposes that human beings are more valuable than all other organisms¹⁹. While anthropocentrism predicts a moral obligation only towards other human beings, ecocentrism emphasizes the interconnectedness of all species and ecosystems and places an ethical and moral obligation on human beings to live in harmony with nature²⁰. Ecocentrism recognises the Earth as the ultimate source of value, meaning and enablement for all beings, including – but not only – human beings²¹. It focuses on ecological integrity of the Earth's ecosystems, wild places, and natural processes upon which all beings are completely dependent²². Ecocentrism is therefore a worldview that recognizes the intrinsic value in ecosystems and the biological and physical elements that they comprise, as well as in the ecological processes that connect them²³.

¹⁴ Proctor. J. D., 'Nature, Concepts of: Environmental and Ecological' Available at <https://www.sciencedirect.com/science/article/abs/pii/B0080430767041280> (Accessed on 23/09/2025)

¹⁵ Ibid

¹⁶ Ecocentrism., Available at <https://www.ebsco.com/research-starters/science/ecocentrism> (Accessed on 23/09/2025)

¹⁷ Washington, W et al., 'Why Ecocentrism is the Key Pathway to Sustainability' Available at <https://scholarlypublications.universiteitleiden.nl/access/item%3A2901740/view> (Accessed on 23/09/2025)

¹⁸ Ibid

¹⁹ Ibid

²⁰ Rulke. J et al., 'How Ecocentrism and Anthropocentrism Influence Human–Environment Relationships in a Kenyan Biodiversity Hotspot' Available at <https://www.mdpi.com/2071-1050/12/19/8213#:~:text=Among%20the%20different%20types%20of,%E2%80%9Cwhy%E2%80%9D%20is%20more%20important.> (Accessed on 23/09/2025)

²¹ What is Ecocentrism? (A Definition)., Available at <https://www.ecologicalcitizen.net/what-is.php?t=ecocentrism-definition> (Accessed on 23/09/2025)

²² Ibid

²³ Gray. J., & Whyte. I., & Curry. P., 'Ecocentrism: What it means and what it implies' Available at <https://www.ecologicalcitizen.net/pdfs/v01n2-02.pdf> (Accessed on 23/09/2025)

Applying ecocentrism is a suitable approach towards fostering sound environmental governance²⁴. For example, it has been argued that in order to preserve a healthy environment for current and future generations, ecocentrism must prevail over anthropocentrism²⁵. Through its recognition of humanity's duties towards nature, ecocentrism is central in solving environmental challenges facing the planet including climate change, biodiversity loss and pollution²⁶. Under ecocentrism human needs, like the needs of other species, are secondary to those of the Earth as the sum of its ecosystems²⁷. This ideal therefore places a moral obligation on humanity to protect the planet for the benefit of all living species and ecosystems, now and in the future²⁸. It offers a robust ethical analysis of the negative impact that humans are having on the community of life on Earth and the physical systems on which it is dependent²⁹.

Due to its recognition of the intrinsic and spiritual value of nature, it has been argued that achieving a clean, healthy and sustainable environment starts with embracing and applying ecocentrism³⁰. By recognising the interconnectedness of all species and life systems on Earth, it is possible for human beings to take sound action towards conserving nature³¹. An ecocentric approach can foster sound environmental governance since it requires human actions to prioritize the well-being of ecosystems and other living species, particularly in situations where these interests conflict with human development³².

The *Earth Charter*³³ advances an ecocentric worldview towards strengthening environmental governance. The Charter recognizes that all beings are interdependent and every form of life has value regardless of its worth to human beings³⁴. It expresses compassion for humanity and nature as a whole, and urges justice for both³⁵. The Earth Charter therefore emphasizes harmony between humanity and nature which is a core ideal under ecocentrism. In addition, the 2030

²⁴ Taylor. B., 'The Need for Ecocentrism in Biodiversity Conservation' Available at <https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/cobi.13541> (Accessed on 23/09/2025)

²⁵ Open Global Rights., 'Ecocentrism: A Refusal to Compromise on Ecological Integrity' Available at <https://www.openglobalrights.org/ecocentrism-refusal-to-compromise-ecological-integrity/> (Accessed on 23/09/2025)

²⁶ Ibid

²⁷ Gray. J., & Whyte. I., & Curry. P., 'Ecocentrism: What it means and what it implies' Op Cit

²⁸ Ibid

²⁹ Ibid

³⁰ A Sustainable Environment Starts With Ecocentrism., Available at <https://www.populationmedia.org/the-latest/a-sustainable-environment-starts-with-ecocentrism> (Accessed on 23/09/2025)

³¹ Ibid

³² Ecocentrism., Op Cit

³³ Earth Charter., Available at <https://earthcharter.org/wp-content/uploads/2020/06/Booklet-Earth-Charter-52-FINAL.pdf> (Accessed on 23/09/2025)

³⁴ Ibid

³⁵ Ibid

*Agenda for Sustainable Development*³⁶ envisions a world where humanity lives in harmony with nature and in which wildlife and other living species are protected³⁷. At its core are 17 Sustainable Development Goals (SDGs) which seeks to foster sustainability by promoting environmental conservation, economic development, and social progress³⁸. Applying an ecocentric approach can accelerate progress towards the SDGs by protecting the planet from degradation including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, biodiversity loss and pollution so that it can support the needs of present and future generations³⁹.

Embracing ecocentrism is therefore key towards fostering sound environmental governance for sustainability.

3.0 Embracing Ecocentrism for Sound Environmental Governance in Africa

It is imperative to apply ecocentrism towards strengthening environmental governance in Africa. It has been argued that sound environmental governance in Africa is constrained by weak governance systems which fail to integrate governance principles of inclusion, accountability and responsiveness in environmental policies and programs⁴⁰. As a result, key stakeholders including the civil society, women, indigenous peoples and local communities are often excluded from decision-making processes undermining sound environmental governance⁴¹. Failure to achieve sound environmental governance in Africa is harming nature through unsustainable exploitation of the continent's natural resources, deforestation, pollution, land degradation, climate change and biodiversity loss⁴².

Due to the environmental governance challenges in Africa, embracing ecocentrism provides a suitable approach towards conserving nature for its intrinsic and spiritual value. Ecocentrism finds intrinsic and spiritual value in nature and requires human beings to live in harmony with the natural world⁴³. It expands moral consideration to ecosystems as a whole, emphasizing the

³⁶ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 23/09/2025)

³⁷ Ibid

³⁸ Ibid

³⁹ Ibid

⁴⁰ United Nations Development Programme., 'Environmental Governance' Available at <https://www.undp.org/governance/environmental-governance> (Accessed on 24/09/2025)

⁴¹ Ibid

⁴² United Nations Environment Programme., 'Fostering Collaboration to Address Environmental Challenges in Africa.' Available at <https://www.unep.org/news-and-stories/speech/fostering-collaboration-address-environmental-challenges-africa> (Accessed on 24/09/2025)

⁴³ Frantz, P., Rego, F., & Barbas, S., 'Ecocentrism vs. Anthropocentrism: To the Core of the Dilemma to Overcome It' Available at <https://pmc.ncbi.nlm.nih.gov/articles/PMC12152000/> (Accessed on 24/09/2025)

intrinsic worth of all living and nonliving components of nature⁴⁴. Embracing an ecocentric approach can therefore bolster environmental governance by placing a moral and ethical obligation on human beings to conserve nature for its intrinsic and spiritual value.

Ecocentrism is a worldview that has a rich history in Africa. It has been argued that ecocentrism has been with humanity for many centuries with indigenous peoples and local communities living in harmony with nature and considering many aspects of the natural world as sacred⁴⁵. The land and natural resources on which indigenous peoples depend are inextricably linked to their identities, cultures, livelihoods, as well as their physical and spiritual well-being⁴⁶. It has been pointed out that indigenous and local communities in Africa attach importance to some natural resources that may be revered as shrines, dwelling places for ancestors and sacred sites where rites of passage and other cultural celebrations take place⁴⁷. For instance Africa's mountains and forests are important centres of cultural integrity and heritage⁴⁸. They are a source of cultural, spiritual, and religious significance for many communities in the continent⁴⁹.

Communities in Africa therefore appreciate nature for its intrinsic and spiritual value. It is therefore imperative to embrace and apply ecocentrism towards strengthening environmental governance. This worldview is appreciated all over Africa and has been utilised by indigenous peoples and local communities in achieving harmony with nature. Indigenous philosophies in Africa including *Ubuntu* and the principles of Ma'at emphasize balance, harmony, and respect for the natural world for its intrinsic and spiritual value⁵⁰. They view humanity and nature as interconnected with human beings being an integral part of a greater cosmic order⁵¹. It has been argued that by applying these principles, it is possible to foster greater environmental stewardship by requiring human beings to respect nature and combat practices such as pollution, biodiversity loss, ecosystem degradation and climate change which threaten harmony with nature⁵².

⁴⁴ Ibid

⁴⁵ Washington, W et al., 'Why Ecocentrism is the Key Pathway to Sustainability' Op Cit

⁴⁶ World Bank Group., 'Indigenous Peoples' Available at <https://www.worldbank.org/en/topic/indigenouspeoples#:~:text=Indigenous%20Peoples%20are%20distinct%20social,which%20they%20have%20been%20displaced> (Accessed on 24/09/2025)

⁴⁷ Muigua. K., Wamukoya. D & Kariuki. F., 'Natural Resources and Environmental Justice in Kenya.' Glenwood Publishers Limited, 2015

⁴⁸ United Nations Environment Programme., 'Africa Mountains Atlas' Available at <https://www.unep.org/resources/report/africa-mountains-atlas#:~:text=The%20mountains%20of%20Africa%20provide,Environment%20under%20review> (Accessed on 24/09/2025)

⁴⁹ Ibid

⁵⁰ Ayoub. R., 'The First Sustainability Practices on Earth: Ancient Egypt's 42 Laws of Ma'at' Available at https://www.researchgate.net/publication/388007800_The_First_Sustainability_Practices_on_Earth_Ancient_Egypt's_42_Laws_of_Maat (Accessed on 24/09/2025)

⁵¹ Ibid

⁵² Ibid

Ecocentrism therefore has a long and rich history in Africa. It is therefore imperative to foster this approach towards achieving sound environmental governance in Africa. Human beings should therefore live in harmony with nature and conserve it for its intrinsic and spiritual value⁵³. Further, it is imperative to strengthen environmental education in Africa. It has been argued that environmental education can enable individuals, communities, and organizations learn more about the environment, and develop skills and understanding about how to address global environmental challenges⁵⁴. Environmental education can also influence humanity's attitudes and perceptions towards the environment⁵⁵. Environmental education has been described as a key tool that can transform values, behaviors and visions towards the environment⁵⁶. Strengthening environmental education can therefore enable human beings to appreciate and conserve nature for its intrinsic and spiritual value. Further, it is imperative to embrace the role of indigenous peoples and local communities in environmental governance Africa since they have been custodians of the environment for many centuries due to their traditional ecological practices which emphasize harmony with nature⁵⁷.

4.0 Conclusion

Ecocentrism provides an effective approach towards strengthening environmental governance in Africa. It places a moral and ethical obligation on human beings to conserve nature for its intrinsic and spiritual value. This worldview has a rich history in Africa and has been practiced by indigenous peoples and local communities for many centuries⁵⁸. It is therefore necessary to embrace and apply ecocentrism in Africa by fostering harmony with nature, strengthening environmental education and enhancing the participation of indigenous peoples and local communities in environmental governance. Embracing ecocentrism in Africa is a key and practical approach towards strengthening environmental governance by conserving nature for its intrinsic and spiritual value.

⁵³ Ibid

⁵⁴ United Nations Environment Programme., 'Environmental Education' Available at <https://www.unep.org/regions/latin-america-and-caribbean/regional-initiatives/strengthening-environmental-governance-3> (Accessed on 24/09/2025)

⁵⁵ Ibid

⁵⁶ Ibid

⁵⁷ Egeruoh-Adindu. I., 'Leveraging Indigenous Knowledge for Effective Environmental Governance in West Africa.' Available at <https://www.scirp.org/journal/paperinformation?paperid=121949#:~:text=Indigenous%20knowledge%20systems%20such%20as,effective%20in%20promoting%20environmental%20sustainability> (Accessed on 24/09/2025)

⁵⁸ Ayoub. R., 'The First Sustainability Practices on Earth: Ancient Egypt's 42 Laws of Ma'at' Op Cit

Environmental Justice through Mediation in Africa: Reflecting on Language, Context and Gender Roles

Abstract

This paper critically examines the role of mediation in fostering environmental justice in Africa. The paper argues that mediation is a suitable and effective process towards realising environmental justice in Africa. It discusses the key features and benefits of mediation that make it appropriate in enhancing environmental justice in Africa. Due to its advantages, the paper argues that there is need to embrace mediation in order to attain environmental justice in Africa. The paper explores how mediation can be effectively harnessed with emphasis on language, context and gender roles in order to promote environmental justice in Africa.

1.0 Introduction

Securing environmental justice is a key and necessary imperative in Africa. The continent faces multiple environmental threats that disproportionately affect vulnerable groups and communities. For example, environmental challenges including deforestation, land degradation, pollution, biodiversity loss and climate change are prevalent all over Africa with adverse consequences for indigenous peoples, local communities, women, the youth and other vulnerable groups in the continent¹. Further, despite being endowed with natural resources including arable land, forests, water, oil, gas and minerals, Africa loses a huge percentage of its natural capital through activities such as illicit financial flows, illegal mining, illegal logging, the illegal trade in wildlife, unregulated fishing and environmental degradation and loss undermining development². The extraction of Africa's natural resources is also usually done without the Free, Prior and Informed Consent (FPIC) of the people of Africa leading to human rights abuses and resource-based conflicts³.

In light of the foregoing, it has become vital to realise environmental justice in Africa. Environmental justice involves the equitable treatment and involvement of people of all races, cultures, nations, and socioeconomic backgrounds in the development, implementation, and enforcement of environmental programs, laws and policies⁴. This concept envisages the just treatment and meaningful involvement of all people in environmental decision-making processes in order to ensure full protection from disproportionate environmental and health impacts, and

¹ Jeffang. K., 'Hope for Environmental Justice in Africa' Available at <https://dialogue.earth/en/justice/hope-for-environmental-justice-in-africa/> (Accessed on 16/10/2025)

² United Nations Environment Programme., 'Our Work in Africa' Available at <https://www.unep.org/regions/africa/our-work-africa> (Accessed on 16/10/2025)

³ Africa's struggle for environmental justice in an age of death., Available at <https://africanarguments.org/2023/06/africa-struggle-for-environmental-justice-in-an-age-of-death/#:~:text=The%20struggle%20for%20environmental%20justice,was%20overlooked%20as%20mere%20conquest.> (Accessed on 16/10/2025)

⁴ United Nations Development Programme., 'Environmental Justice: Securing our Right to a Clean, Healthy and Sustainable Environment' Available at <https://www.undp.org/sites/g/files/zskgke326/files/2022-06/Environmental-Justice-TechnicalReport.pdf> (Accessed on 16/10/2025)

foster equitable access to a clean, healthy, sustainable, and resilient environment⁵. Environmental justice encompasses the right to have access to natural resources; not to suffer disproportionately from environmental policies, laws and regulations; and the right to environmental information, participation and involvement in decision-making⁶. It provides a framework for addressing environmental inequities, disparate impact of environmental crises, and unequal protection in environmental matters⁷.

Pursuing environmental justice in Africa is therefore necessary in protecting people and planet. This approach provides a platform for accountability towards the protection of human and environmental rights and the prevention and punishment of wrongs related to the disproportionate impacts of environmental challenges on the poor and vulnerable in society including climate change, pollution and degradation of ecosystem services, and from inequitable access to and benefits from the use of natural assets and extractive resources⁸. By fostering environmental justice in Africa, it is possible to ensure the equitable distribution of environmental risks and benefits⁹; fair and meaningful participation in environmental decision-making by all people including indigenous peoples, local communities, women and the youth¹⁰; recognition of community ways of life, local and indigenous knowledge, and cultural difference¹¹; and the capability of communities and individuals to function and flourish in a clean, healthy and sustainable environment¹². Actualising environmental justice is therefore a crucial process towards sustainability in Africa.

This paper critically examines the role of mediation in fostering environmental justice in Africa. The paper argues that mediation is a suitable and effective process towards realising environmental justice in Africa. It discusses the key features and benefits of mediation that make

⁵ Environmental Justice Factsheet., Available at <https://css.umich.edu/publications/factsheets/sustainability-indicators/environmental-justice-factsheet> (Accessed on 11/06/2025)

⁶ Ako. R., 'Resource Exploitation and Environmental Justice: the Nigerian Experience' Available at <https://www.elgaronline.com/display/edcoll/9781848446793/9781848446793.00011.xml> (Accessed on 16/10/2025)

⁷ Ekhaton. E., & Agbaitoro. G., 'The Role of Environmental Justice in Promoting the Rule of Law in Natural Resource Conflict Resolution in Africa: A Case Study of Nigeria' Available at https://www.researchgate.net/publication/366640118_The_Role_of_Environmental_Justice_in_Promoting_the_Rule_of_Law_in_Natural_Resource_Conflict_Resolution_in_Africa_A_Case_Study_of_Nigeria (Accessed on 16/10/2025)

⁸ United Nations Development Programme., 'Environmental Justice: Comparative Experiences in Legal Empowerment' Available at <https://www.undp.org/sites/g/files/zskgke326/files/publications/Environmental-Justice-Comparative-Experiences.pdf> (Accessed on 16/10/2025)

⁹ Akeem. A., 'Critical Notes on Environmental Justice and Sustainable Development' *International Journal of Sociology and Anthropology*, Volume 10, No. 3, :21-26

¹⁰ Ibid

¹¹ Ibid

¹² Ibid

it appropriate in enhancing environmental justice in Africa. Due to its advantages, the paper argues that there is need to embrace mediation in order to attain environmental justice in Africa. The paper explores how mediation can be effectively harnessed with emphasis on language, context and gender roles in order to promote environmental justice in Africa.

2.0 Role of Mediation in Promoting Environmental Justice

Mediation is a process of conflict management wherein parties to a conflict meet with a mutually selected person who assists them in the negotiation of their differences¹³. Further, mediation has also been defined as a private and voluntary dispute resolution process in which a neutral person, a mediator, helps the parties to reach their own negotiated agreement¹⁴. According to the United Nations, mediation is a process whereby a third party assists two or more parties, with their consent, to prevent, manage or resolve a conflict by helping them to develop mutually acceptable agreements¹⁵. It has been correctly noted that a mediation has no power to impose an outcome upon the parties¹⁶. Rather, the role of a mediator is to overcome any impasse and encourage the parties to reach their own mutually satisfactory and amicable settlement¹⁷. A mediator facilitates communication, promotes understanding, focuses the parties on their interests, and uses creative problem- solving to enable the parties to reach their own agreement¹⁸.

Mediation is an effective process in fostering environmental justice. It has been argued that the premise of mediation is that in the right environment, parties to a conflict can improve their relationships and move towards cooperation¹⁹. Mediation is an appropriate process in conflict management since it encourages active listening while also promoting open and respectful communication therefore helping parties to break down barriers including cultural barriers thus building trust and strengthening their relationships²⁰. Mediation provides parties an opportunity to collaboratively design creative solutions to conflict and repair or even strengthen their relationships²¹. Mediation focuses on the interests on the parties and provides a platform for

¹³ Mediation Defined: What is Mediation?., Available at <https://www.jamsadr.com/mediation-defined/> (Accessed on 16/10/2025)

¹⁴ What is Mediation?., Available at <https://www.hkiac.org/mediation/what-is-mediation> (Accessed on 16/10/2025)

¹⁵ United Nations., 'Guidance for Effective Mediation' Available at <https://www.hkiac.org/mediation/what-is-mediation> (Accessed on 16/10/2025)

¹⁶ What is Mediation?., Op Cit

¹⁷ Ibid

¹⁸ Bercovitch. J., 'Mediation Success or Failure: A Search for the Elusive Criteria.' *Cardozo Journal of Conflict Resolution*, Vol. 7, p 289

¹⁹ United Nations., 'Guidance for Effective Mediation' Op Cit

²⁰ Saaida. M., 'Peace Studies: Conflict Resolution and Mediation Strategies' Available at https://www.researchgate.net/publication/372289839_Peace_Studies_Conflict_Resolution_and_Mediation_Strategies (Accessed on 16/10/2025)

²¹ What is Mediation?., Available at <https://www.nyc.gov/site/oath/conflict-resolution/what-is-mediation.page#:~:text=Mediation%20is%20a%20constructive%20conversation,conflict%20and%20repair%20professional%20relationships> (Accessed on 16/10/2025)

collaboration enabling parties to come up with mutually satisfactory outcomes²². Mediation contains several key features and provides numerous benefits including informality, flexibility, efficiency, confidentiality, party autonomy and the ability to promote expeditious and cost-effective management of disputes making it an effective process in dispute resolution²³.

The foregoing attributes and advantages make mediation an ideal process towards attaining environmental justice. For instance, since it focuses on cooperation, mediation is a crucial tool for resolving environmental conflicts by fostering dialogue among stakeholders and encouraging collaborative problem-solving²⁴. Mediation can ensure collaborative outcomes and inclusive decision-making processes involving multiple stakeholders including indigenous peoples, local communities, investors and outcomes towards promoting environmental justice²⁵. Mediation has been described as a powerful approach that can ensure the inclusion and participation of vulnerable groups in environmental decision-making processes towards realising environmental justice including through the right to FPIC²⁶.

It has been argued that environmental justice seeks to protect the most vulnerable individuals and communities from the adverse impacts of environmental threats including climate change and pollution and to ensure the fair treatment and meaningful involvement of all people in the development, implementation and enforcement of environmental laws and policies²⁷. Mediation is suitable in achieving these objectives since it ensures the inclusion and participation of vulnerable and marginalized segments of the society including women, the youth, local communities and indigenous peoples in environmental decision-making processes²⁸. It has been argued that mediation is a viable tool for individuals and communities to give their own voices, to share in decision-making, and to promote innovative solutions in respect of environmental

²² United Nations Environment Programme., 'Natural Resources and Conflict: A Guide for Mediation Practitioners' Available at https://peacemaker.un.org/sites/peacemaker.un.org/files/NRCMediation_UNDPAUNEP2015_0.pdf (Accessed on 16/10/2025)

²³ Muigua. K., 'Resolving Conflicts through Mediation in Kenya.' Glenwood Publishers Limited, 2nd Edition., 2017

²⁴ Mediation in Environmental Conflicts: Approaches and Case Studies., Available at <https://blogs.psico-smart.com/blog-mediation-in-environmental-conflicts-approaches-and-case-studies-162228> (Accessed on 16/10/2025)

²⁵ Ibid

²⁶ Buxton. A., & Wilson. E., 'FPIC and the Extractive Industries: A Guide to Applying the Spirit of Free, Prior and Informed Consent in Industrial Projects' Available at <https://www.ied.org/16530ied> (Accessed on 16/10/2025)

²⁷ What is Environmental Justice?., Available at <https://communitylawandmediation.ie/centre-for-environmental-justice/environmental-justice/> (Accessed on 16/10/2025)

²⁸ Muigua. K., 'Attaining Environmental Justice through Alternative Dispute Resolution' Available at <https://kmco.co.ke/wp-content/uploads/2023/07/Attaining-Environmental-Justice-through-Alternative-Dispute-Resolution.pdf> (Accessed on 16/10/2025)

problems towards actualising the ideal of environmental justice²⁹. In addition, mediation also provides a platform for parties to environmental conflicts to access justice in a timely, cost-effective, flexible and appropriate manner in the quest towards environmental justice³⁰. Mediation enhances collaboration and cooperation towards effective management of environmental conflicts which is key especially for long-term projects such as those involving renewable energy and water³¹. Embracing mediation is therefore necessary in the pursuit of environmental justice.

3.0 Securing Environmental Justice in Africa through Mediation

Africa is facing numerous environmental injustices. For example, the continent's rich extractives sector is causing environmental injustices by impacting arable land, fueling destruction of ecosystems critical to rural livelihoods, and leading to pollution of air and water thus impacting human health and ecosystem services with disproportionate effects on vulnerable populations in the continent³². In addition, Africa's natural resources including oil, gas, and minerals are usually exploited by foreign entities at the expense of the continent's development perpetuating poverty and underdevelopment therefore causing environmental injustices³³. In addition, climate change causes environmental injustices in Africa. The extreme impacts of climate change including drought, water scarcity, and severe flooding are disproportionately affecting the poor, women, the youth, the elderly, indigenous peoples and local communities in Africa despite the continent's negligible contribution to the climate crisis³⁴.

In light of the foregoing, fostering environmental justice is necessary in protecting vulnerable populations and the environment in Africa. Mediation provides an effective platform towards securing environmental justice in Africa. By focusing on collaboration, mediation encourages consensus-building and the participation of all stakeholders in environmental decision-making processes towards realising environmental justice³⁵. It also encourages the amicable management

²⁹ Environmental Law Institute., 'A Community Guide to Using Alternative Dispute Resolution to Secure Environmental Justice' Available at <https://www.eli.org/environmental-governance/community-guideusing-alternative-dispute-resolution-secure-1> (Accessed on 16/10/2025)

³⁰ Muigua. K., 'Attaining Environmental Justice through Alternative Dispute Resolution' Op Cit

³¹ Environmental Law Institute., 'A Community Guide to Using Alternative Dispute Resolution to Secure Environmental Justice' Op Cit

³² United Nations Development Programme., 'Environmental Justice: Comparative Experiences in Legal Empowerment' Op Cit

³³ Bassey. N., 'The Struggle for Environmental Justice in Africa' Available at <https://www.downtoearth.org.in/africa/the-struggle-for-environmental-justice-in-africa-90314#:~:text=The%20struggle%20for%20environmental%20justice%20in%20Africa%20is%20complex%20and,not%20inanimate%20or%20lifeless%20entities>. (Accessed on 17/10/2025)

³⁴ United Nations Environment Programme., 'Responding to Climate Change.' Available at <https://www.unep.org/regions/africa/regional-initiatives/responding-climate-change> (Accessed on 17/10/2025)

³⁵ Mediation in Environmental Conflicts: Approaches and Case Studies., Op Cit

of environmental conflicts thus providing a basis for maintaining and improving relationships which is crucial for the success of long-term environmental projects³⁶.

Embracing mediation is therefore necessary towards achieving environmental justice in Africa. Mediation has been practiced in Africa for many centuries³⁷. It has been argued that mediation has been an appropriate and viable process for conflict resolution in Africa for many centuries since it is rooted in the culture and customs of the people of Africa³⁸. It is therefore necessary to adopt mediation in the African context in order to achieve the ideal of environmental justice. It has been argued that in the African context, corrective and reconciliatory mechanisms are the primary means of conflict resolution³⁹. At the core of conflict management in African societies is the concept of *Ubuntu* which emphasizes respect, tolerance, cooperation, forgiveness, compromise and collaboration⁴⁰. Therefore, in order to effectively utilise mediation towards achieving environmental justice, it is imperative to focus on *Ubuntu*, collaboration, peace and compromise⁴¹.

There is also need to ensure that mediation processes are conducted in African languages. It has been argued that at the heart of peacemaking is language, which is vital to effective communication and understanding among stakeholders and peace actors⁴². Ensuring that mediation processes are conducted in African languages is necessary in involving key stakeholders including indigenous peoples and local communities in the pursuit of environmental justice⁴³. Through this, it is possible to fully understand the context and dynamics of conflicts, ensure effective participation of all actors, strengthen negotiations, and ensure agreements that are acceptable by all parties⁴⁴.

In addition, it is imperative to appreciate and embrace gender roles in mediation. For instance, it has been argued that women are underrepresented in peace negotiations and conflict resolution

³⁶ Muigua. K., 'Attaining Environmental Justice through Alternative Dispute Resolution' Op Cit

³⁷ Muigua. K., 'Resolving Conflicts through Mediation in Kenya.' Op Cit

³⁸ Ibid

³⁹ Our Mediation Heritage., Available at <https://www.conflictdynamics.co.za/Blog/Our-Mediation-Heritage-%20?swcfpc=1> (Accessed on 17/10/2025)

⁴⁰ Ibid

⁴¹ Muigua. K., 'Mediation under the African Sunset: Harnessing Ubuntu, Collaboration and Peace' Available at <https://kmco.co.ke/articles-publications/mediation-under-the-african-sunset-harnessing-ubuntu-collaboration-and-peace/> (Accessed on 17/10/2025)

⁴² Language, Conflict Mitigation and Mediation Processes in Kaduna State, Nigeria., Available at <https://kujenga-amani.ssric.org/2022/03/02/language-conflict-mitigation-and-mediation-processes-in-kaduna-state-nigeria/#:~:text=This%20essay%20focuses%20on%20the,are%20acceptable%20to%20all%20concerned.> (Accessed on 17/10/2025)

⁴³ Ibid

⁴⁴ Ibid

efforts⁴⁵. The inclusion of women in mediation processes is therefore key in not only advancing gender equality but also fostering sustainable and durable peace⁴⁶. The participation of women in mediation and peace processes can ensure that more and diverse members are involved in peacemaking⁴⁷. As a result, this can build the credibility of mediation processes and increase local ownership of the process and its results⁴⁸. Embracing gender roles including through fostering the role of women in mediation is therefore key towards fostering environmental justice.

4.0 Conclusion

Mediation is a viable and effective process towards securing environmental justice for people and planet in Africa. It is therefore necessary to encourage the appropriate use of mediation in Africa in the quest towards environmental justice. This involves embracing mediation in the African context, utilising local and indigenous languages in mediation processes and appreciating gender roles including through involving women in mediation processes. Achieving environmental justice through mediation in Africa is therefore necessary and possible for sustainability.

⁴⁵ United Nations., 'Why we need more women mediators' Available at <https://www.un.org/en/peace-and-security/why-we-need-more-women-mediators> (Accessed on 17/10/2025)

⁴⁶ Ibid

⁴⁷ United Nations Women., 'Conflict prevention and resolution' Available at <https://www.unwomen.org/en/what-we-do/peace-and-security/conflict-prevention-and-resolution> (Accessed on 17/10/2025)

⁴⁸ Ibid

Integrating Sustainability into Arbitration and ADR for Justice and Development

Abstract

Achieving sustainability has become an urgent priority for the entire world in light of mounting environmental, social, and economic challenges including the triple planetary crisis of climate change, pollution and biodiversity loss. Sustainability provides a pathway towards forging harmony between humanity and nature and ensuring a safe, healthy and livable planet for current and future generations. Sustainability is a cross-cutting theme that requires urgent and transformative action across all sectors in order to foster environmental conservation, social progress, and economic development for the benefit of current and future generations. It is therefore a pertinent ideal in dispute resolution ensuring that conflicts and disputes are resolved in a manner that is environmentally and socially responsible, as well as economically viable for peace, justice and development. This paper examines how sustainability can be moulded into arbitration and ADR for justice and development. It argues that integrating sustainability into arbitration and ADR is a vital ideal in the quest towards effective and timely justice for development. The paper suggests interventions towards integrating sustainability into arbitration and ADR for justice and development.

1.0 Introduction

Attaining sustainability is an urgent and crucial goal for the global community. According to the United Nations Environment Programme (UNEP), it has become imperative to forge a new relationship between people and the planet in light of mounting environmental, social, and economic challenges facing the world¹. These problems include poverty, rising inequalities within and among nations, gender inequalities, unemployment, global health threats, conflicts, and more frequent and intense natural disasters². These challenges are worsened by environmental threats including depletion of natural resources, environmental degradation, desertification, drought, freshwater scarcity, loss of biodiversity, and climate change³. At the core of these problems is the triple planetary crisis of climate change, pollution, and biodiversity loss⁴. Achieving sustainability is therefore a key ideal towards forging harmony between humanity and nature and ensuring a safe, healthy and livable planet for current and future generations⁵.

¹ United Nations Environment Programme., 'The Triple Planetary Crisis: Forging a New Relationship Between People and the Earth' Available at https://www.unep.org/news-and-stories/speech/triple-planetary-crisis-forging-new-relationship-between-people-and-earth?gad_source=1&gclid=EAIaIQobChMI5Jf4zJXihwMVr6KDBx2jcx22EAAYASAAEgIqsfD_BwE (Accessed on 14/03/2025)

² United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 14/03/2025)

³ Ibid

⁴ United Nations Climate Change., 'What is the Triple Planetary Crisis?' Available at <https://unfccc.int/news/what-is-the-triple-planetary-crisis> (Accessed on 14/03/2025)

⁵ United Nations Environment Programme., 'The Triple Planetary Crisis: Forging a New Relationship Between People and the Earth' Op Cit

The ideal of sustainability involves creating and maintaining the conditions under which humanity and nature can exist in productive harmony to support present and future generations⁶. Sustainability entails the integration of environmental health, social equity and economic vitality in order to create thriving, healthy, diverse and resilient communities now and in the future⁷. Sustainability thus envisages striking a balance between economic, social, and environmental factors to ensure that resources are used in a way that is not only environmentally sustainable but also socially equitable and economically viable in the long term⁸.

Realising sustainability thus requires an integrated approach that takes into consideration environmental concerns along with economic development and social equity⁹. This ideal is being pursued through the concept of Sustainable Development which seeks to achieve development that meets the needs of the present generations without compromising the ability of future generations to meet their own needs¹⁰. At the global level, the United Nation's *2030 Agenda for Sustainable Development*¹¹ envisions attainment of the ideal of sustainability through 17 Sustainable Development Goals (SDGs) which seek to strike a balance between social, economic and environmental facets of sustainability¹².

Sustainability is a cross-cutting theme that requires urgent and transformative action across all sectors in order to foster environmental conservation, economic growth, and social progress¹³. It has been argued that sustainability is a pertinent ideal in dispute resolution in order to ensure that conflicts and disputes are resolved in a manner that is environmentally and socially responsible, as well as economically viable especially in the corporate world, where many disputes are related to environmental issues such as pollution, climate change, resource depletion, and deforestation¹⁴. This paper examines how sustainability can be moulded into arbitration and ADR for justice and development. It argues that integrating sustainability into

⁶ United States Environmental Protection Agency., 'What is Sustainability.' Available at <https://www.epa.gov/sustainability/learn-about-sustainability> (Accessed on 14/03/2025)

⁷ What is Sustainability?., Available at <https://www.sustain.ucla.edu/what-is-sustainability/> (Accessed on 14/03/2025)

⁸ Sustainability: A Better Tomorrow, But How?., Available at <https://www.green.earth/sustainability> (Accessed on 14/03/2025)

⁹ United Nations., 'Sustainability' Available at <https://www.un.org/en/academic-impact/sustainability> (Accessed on 14/03/2025)

¹⁰ World Commission on Environment and Development., 'Our Common Future.' Oxford, (Oxford University Press, 1987)

¹¹ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Op Cit

¹² Ibid

¹³ United Nations., 'Take Action for the Sustainable Development Goals' Available at <https://www.un.org/sustainabledevelopment/sustainable-development-goals/> (Accessed on 14/03/2025)

¹⁴ Gupta. A., & Bajpai. A., 'Green Dispute Resolution: A Sustainable way of Resolving Disputes' Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4855128 (Accessed on 14/03/2025)

arbitration and ADR is a vital ideal in the quest towards effective and timely justice for development. The paper suggests interventions towards integrating sustainability into arbitration and ADR for justice and development.

2.0 The need for Sustainability in Arbitration and ADR

ADR is an umbrella term that covers a wide range of tools and skills that are utilised to manage conflicts and disputes without resort to courts¹⁵. ADR can also be described as a set of processes which seek to resolve disputes in non-adversarial ways in order to reach outcomes of mutual benefit for all parties¹⁶. According to the United Nations, ADR (also referred to as ‘*Appropriate Dispute Resolution*’) is a general term, used to define a set of approaches and techniques aimed at resolving disputes in a non-confrontational manner¹⁷. ADR is an all-encompassing term covering various processes and techniques including negotiation, mediation, arbitration, conciliation, adjudication, expert determination, early neutral evaluation, and Traditional Dispute Resolution Mechanisms (TDRMs)¹⁸. According to the United Nations, ADR covers a broad spectrum of approaches, from party-to-party engagement in negotiations as the most direct way to reach a mutually accepted resolution, to arbitration and adjudication at the other end, where a third party imposes a solution upon the parties¹⁹. Further, somewhere along the axis of ADR techniques, between these two extremes, lies mediation, a process by which a third party aids the disputants to reach a mutually agreed solution²⁰.

Arbitration and other ADR processes are considered appropriate in fostering justice and development²¹. These techniques provide numerous advantages in the administration of justice including a system with procedural flexibility, a broad range of remedial options, and a focus on

¹⁵ Environmental Law Institute., ‘A Community Guide to Using Alternative Dispute Resolution to Secure Environmental Justice’ Available at <https://www.eli.org/environmental-governance/community-guideusing-alternative-dispute-resolution-secure-1> (Accessed on 14/03/2025)

¹⁶ World Intellectual Property Organization., ‘Alternative Dispute Resolution for Disputes Related to Intellectual Property and Traditional Knowledge, Traditional Cultural Expressions and Genetic Resources’ Available at <https://www.wipo.int/edocs/pubdocs/en/wipo-pub-rn2023-5-8-en-alternative-dispute-resolution-for-disputes-related-to-intellectual-property-and-traditional-knowledge-traditional-cultural-expressions-and-genetic-resources.pdf> (Accessed on 14/03/2025)

¹⁷ United Nations., ‘Alternative Dispute Resolution Approaches and their Application in Water Management: A Focus on Negotiation, Mediation and Consensus Building’ Available at https://www.un.org/waterforlifedecade/water_cooperation_2013/pdf/adr_background_paper.pdf (Accessed on 17/02/2025)

¹⁸ Muigua. K., ‘Alternative Dispute Resolution and Access to Justice in Kenya.’ Glenwood Publishers Limited, 2015

¹⁹ United Nations., ‘Alternative Dispute Resolution Approaches and their Application in Water Management: A Focus on Negotiation, Mediation and Consensus Building’ Op Cit

²⁰ Ibid

²¹ Muigua. K., & Kariuki. F., ‘ADR, Access to Justice and Development in Kenya’ Available at <https://kmco.co.ke/wp-content/uploads/2018/08/ADR-access-to-justice-and-development-in-Kenya-Revised-version-of-20.10.14.pdf> (Accessed on 14/03/2025)

individualized justice²². Further, ADR allows for more creative and collaborative solutions than that those available in traditional litigation²³. With the exception of binding arbitration, the goal of ADR is to provide a forum for disputing parties to work towards a voluntary, consensual agreement, as opposed to having a judge or other authority impose a determination upon them²⁴. Due to their advantages, arbitration and ADR mechanisms play a fundamental role in enhancing access to justice²⁵. By enhancing access to justice, arbitration and ADR processes promote the rule of law and development²⁶.

As a result of their pertinent role in enhancing justice and development, arbitration and ADR have been embraced at the global and national levels. At the global level the *Charter of the United Nations*²⁷ encourages a peaceful approach towards managing conflicts amongst states. The Charter provides that parties to a dispute shall first of all seek a solution by *negotiation, enquiry, mediation, conciliation, arbitration*, judicial settlement, resort to regional agencies or arrangements, or other *peaceful means* of their own choice²⁸ (Emphasis added). At a national level, the *Constitution of Kenya*²⁹ mandates courts and tribunals to promote ADR mechanisms including reconciliation, mediation, arbitration and TDRMs³⁰.

It has been observed that sustainability has become a pertinent concern in arbitration and ADR in order to foster justice and development³¹. As the world grapples with environmental challenges, disputes related to resource conservation, biodiversity, pollution, and climate change are on the rise³². For example, the environmental effects of climate change, especially the depletion of natural resources creates conditions that increase the risk of violent conflict³³. For

²² Main. T., 'ADR: The New Equity.' Available at https://www.researchgate.net/profile/ThomasMain/publication/228182886_ADR_The_new_equity/links/53d00e470cf2fd75bc5c57a5/ADR-The-newequity.pdf (Accessed on 14/03/2025)

²³ JAMS ADR., 'What is ADR' Available at <https://www.jamsadr.com/adr-spectrum/> (Accessed on 14/03/2025)

²⁴ Alternative Dispute Resolution., Available at <https://www.dol.gov/general/topic/labor-relations/adr#:~:text=Types%20of%20ADR%20include%20arbitration,%2C%20neutral%20factfinding%2C%20and%20minitrals>. (Accessed on 14/03/2025)

²⁵ Muigua. K., & Kariuki. F., 'ADR, Access to Justice and Development in Kenya' Op Cit

²⁶ Ibid

²⁷ United Nations, Charter of the United Nations, 24 October 1945, 1 UNTS XVI

²⁸ Ibid, article 33 (1)

²⁹ Constitution of Kenya., 2010., Government Printer, Nairobi

³⁰ Ibid, article 159 (2) (c)

³¹ Synergizing Alternative Dispute Resolution, Sustainability and Infrastructure Development., Available at <https://onlinelibrary.wiley.com/page/journal/15411508/call-for-papers/si-2024-001260#:~:text=This%20special%20issue%20will%20primarily,and%20in%20a%20timely%20manner> (Accessed on 14/03/2025)

³² Ibid

³³ International Institute for Sustainable Development., 'Climate change and conflict: Lessons from Community Conservancies in Northern Kenya' Available at https://www.iisd.org/system/files/publications/climate_change_conflict_kenya.pdf (Accessed on 14/03/2025)

example, rising temperatures, more severe and frequent extreme weather events, and erratic rainfall patterns cause or exacerbate volatile food prices, insecure livelihoods, and large-scale displacement therefore posing the risk of conflicts³⁴. Climate change fuels water scarcity, crop failure, food insecurity, migration, and displacement of populations increasing the risk of conflict and violence³⁵. Further, pollution is also fueling conflicts when poor and marginalised groups suffer the environmental and health consequences of unsustainable development programmes³⁶.

The quest for energy transition towards sustainability is also fueling disputes in the energy sector including joint venture/contractual disputes, claims arising from weather conditions in renewable energy projects, construction related disputes, technology related disputes, investor/state disputes, and regulatory disputes³⁷.

The complex nature of these disputes calls for efficient and timely resolution in order to foster sustainability and development³⁸. It has been argued that as environmental and developmental disputes become more complex, arbitration and ADR must continue to evolve to meet these new challenges³⁹. Integrating sustainability into arbitration and ADR is therefore vital towards justice and sustainability.

At the same time, the current practice of arbitration and ADR raises sustainability concerns. For example, arbitration and ADR has been associated with negative environmental impacts including too much use of physical documents and carbon emissions in international arbitration and mediation associated with modes of transport such as aeroplanes⁴⁰. In light of these concerns, there have been calls to embrace green arbitration and ADR towards sustainability⁴¹.

Integrating sustainability into arbitration and ADR is therefore vital for justice and development.

³⁴ United Nations Department of Political and Peacebuilding Affairs., 'The Implications of Climate Change for Mediation and Peace Processes' Available at <https://peacemaker.un.org/sites/peacemaker.un.org/files/DPPAPracticeNote-TheImplicationsOfClimateChangeForMediationandPeaceProcesses.pdf> (Accessed on 14/03/2025)

³⁵ Froese. R., & Janpeter. S, 'The Nexus of Climate Change, Land Use, and Conflicts' (2019)

³⁶ Environmental Conflicts: Key Issues and Management Implications., Available at <https://www.accord.org.za/ajcr-issues/environmental-conflicts/> (Accessed on 14/03/2025)

³⁷ McMahon. M., Shah. P., 'The Rise of Renewable Energy Disputes and Arbitration.' Available at <https://www.stewartslaw.com/news/rise-of-renewable-energy-disputes/> (Accessed on 14/03/2025)

³⁸ Synergizing Alternative Dispute Resolution, Sustainability and Infrastructure Development., Op Cit

³⁹ Ibid

⁴⁰ Embracing Greener Arbitrations: A Journey Towards Sustainability., Available at <https://www.lexology.com/library/detail.aspx?g=a37895da-c14d-4c3f-9fbb-8d05b5ccd551> (Accessed on 14/03/2025)

⁴¹ Ibid

3.0 Towards Sustainability in Arbitration and ADR

It is imperative to integrate sustainability into arbitration and ADR. Integrating sustainability into arbitration and ADR is integral towards achieving the vision of the 2030 Agenda for Sustainable Development by promoting peaceful and inclusive societies where justice and the rule of law are upheld⁴². Further, this approach is crucial in fostering sound environmental conservation through effective, efficient and timely management of resource conservation, biodiversity, pollution, and climate change disputes for Sustainable Development⁴³. Various tools and approaches are available towards integrating sustainability into arbitration and ADR for justice and development.

For example, Environmental, Social, and Governance (ESG) provides a framework through which sustainability can be effectively moulded into arbitration and ADR⁴⁴. ESG is a holistic framework that measures the sustainable and ethical behaviour and impacts of businesses⁴⁵. ESG has also been defined as a framework used to assess an organization's business practices and performance on various sustainability and ethical issues⁴⁶. According to the United Nations Development Programme (UNDP), ESG is a model of sustainable business development that is based on responsible attitude towards the environment, high social responsibility, and good governance⁴⁷. ESG seeks to achieve sustainable, responsible and ethical investment by incorporating environmental, social and governance factors in corporate decision making⁴⁸. This concept urges businesses to embrace environmental factors including environmental sustainability, energy efficiency, waste management, water conservation and climate change concerns such as climate resilience and low carbon development⁴⁹; social tenets such as improving employee and social

⁴² Synergizing Alternative Dispute Resolution, Sustainability and Infrastructure Development., Op Cit

⁴³ Ibid

⁴⁴ Muigua. K., 'Infusing Environmental, Social, and Governance Tenets into Arbitration and Alternative Dispute Resolution' Available at <https://kmco.co.ke/wp-content/uploads/2024/04/Infusing-Environmental-Social-and-Governance-Tenets-into-Arbitration-and-Alternative-Dispute-Resolution.pdf> (Accessed on 15/03/2025)

⁴⁵ Environmental, social, and governance (ESG)., Available at <https://www.climatepartner.com/en/knowledge/glossary/environmental-social-governance-esg> (Accessed on 15/03/2025)

⁴⁶ What is ESG (environmental, social and governance)?., Available at <https://www.techtarget.com/whatis/definition/environmental-social-and-governance-ESG> (Accessed on 15/03/2025)

⁴⁷ United Nations Development Programme., 'ESG: From Challenges to Opportunities' Available at <https://www.undp.org/belarus/stories/esg-challenges-opportunities#:~:text=January%2016%2C%202024,social%20responsibility%2C%20and%20good%20governance.> (Accessed on 15/03/2025)

⁴⁸ 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

⁴⁹ African Development Bank Group., 'Environmental, Social and Governance (ESG).' Available at <https://www.afdb.org/en/topics-and-sectors/topics/environmental-social-and-governance-esg> (Accessed on 15/03/2025)

welfare and fostering inclusive participation with stakeholders⁵⁰; and governance factors including fostering good governance practices internally and externally in order to realize sustainability⁵¹.

The goal of ESG is to integrate Environmental, Social and Governance factors in corporate activities in order to enhance the sustainability and social impact of business activities⁵². Embracing the ESG framework and its tenets is crucial in helping companies rethink their values and align business strategies in line with the Sustainable Development Agenda and its SDGs⁵³.

Arbitration and ADR are well suited in managing ESG disputes towards sustainability. For instance, arbitration allows parties to appoint specialised arbitrators with the requisite skills to manage technical ESG disputes including energy, climate change and investment disputes⁵⁴. In addition, utilising mediation in managing ESG related disputes can offer a quick, flexible, consensual, and win-win solution based on the mutually accepted interests of the parties therefore enhancing a sustainability-oriented business culture⁵⁵. Mediation is ideal in managing ESG disputes where there is need to preserve consumer and business relationships allowing parties to collaborate towards mutually satisfying and long-lasting outcomes⁵⁶. The transnational applicability of ADR processes such as international arbitration and international mediation further makes these processes ideal in managing cross border ESG disputes including both commercial and investment disputes⁵⁷. Arbitration and ADR therefore provides a viable forum for effective management of ESG disputes while also promoting ESG tenets for sustainability.

Another core approach towards integrating sustainability into arbitration and ADR involves upholding human rights⁵⁸. The 2030 Agenda for Sustainable Development acknowledges that protecting human rights is vital in the quest towards sustainability⁵⁹. Upholding human rights in arbitration and ADR is therefore crucial. It has been observed that human rights guide arbitral

⁵⁰ Ibid

⁵¹ Ibid

⁵² Li, T.T et al., 'ESG: Research Progress and Future Prospects.' *Sustainability*, No. 13 of 2021.

⁵³ United Nations Development Programme., 'ESG: From Challenges to Opportunities' Op Cit

⁵⁴ Arbitration is fast becoming the frontrunner for ESG-related disputes in Africa., Available at <https://www.herbertsmithfreehills.com/notes/africa/2024-posts/arbitration-is-fast-becoming-the-frontrunner-for-esg-related-disputes-in-africa> (Accessed on 15/03/2025)

⁵⁵ Gramatidis.B & Emvalomenos. D., 'Sustainability in Dispute Resolution -Mediation as an ESG Practice.' Available at <https://www.bahagram.com/sustainability-in-dispute-resolution-mediation-as-an-esgpractice/> (Accessed on 15/03/2025)

⁵⁶ Ibid

⁵⁷ ESG-Related Arbitrations: A New Kid on the Block., Available at <https://www.schoenherr.eu/content/esg-related-arbitrations-a-new-kid-on-the-block> (Accessed on 15/03/2025)

⁵⁸ Muigua. K., 'Reflections on Human Rights in Arbitration' Available at <https://kmco.co.ke/wp-content/uploads/2023/06/Reflections-on-Human-Rights-in-Arbitration.pdf> (Accessed on 15/03/2025)

⁵⁹ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Op Cit

proceedings in international arbitration by prescribing procedural safeguards⁶⁰. It is therefore vital to ensure procedural safeguards in relation to impartiality and independence of the tribunal and enhance access to justice through arbitration and ADR in order to protect human rights⁶¹. The idea of business and human rights arbitration is specifically designed to arbitrate human rights impacts or failures to respect human rights in the global supply chain⁶². The *United Nations Guiding Principles on Business and Human Rights*⁶³ enshrine the corporate responsibility to respect human rights. Further, the *Hague Rules on Business and Human Rights Arbitration*⁶⁴ flow from the Guiding Principles and provide a framework through which business entities can be compelled to comply with human rights through arbitration. It is necessary to implement the Guiding Principles and the Hague Rules in order to uphold human rights through arbitration for sustainability.

In addition, there is need to embrace green arbitration and ADR⁶⁵. The practice of arbitration and ADR can raise a significant carbon footprint as a result of too much use of paperwork, energy in offices, and travelling in international arbitration and international mediation⁶⁶. It is therefore vital to adopt green arbitration and ADR through the use of electronic correspondence and electronic submissions⁶⁷; avoiding printing unnecessarily and promoting the use of electronic bundles at hearings⁶⁸; encouraging the use of videoconferencing facilities as an alternative to travel⁶⁹; selecting suppliers and service providers that are committed to reducing their environmental impact⁷⁰; and avoiding unnecessary travel and offsetting carbon emissions for ADR-related travel⁷¹.

⁶⁰ Agius. M., 'Human Rights in International Arbitration' Available at <https://globalarbitrationreview.com/review/the-european-arbitration-review/2023/article/human-rights-in-international-arbitration> (Accessed on 15/03/2025)

⁶¹ Ibid

⁶² Ibid

⁶³ United Nations Guiding Principles on Business and Human Rights., Available at https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinesshr_en.pdf (Accessed on 15/03/2025)

⁶⁴ The Hague Rules on Business and Human Rights Arbitration., Available at https://www.cilc.nl/cms/wp-content/uploads/2019/12/The-Hague-Rules-on-Business-and-HumanRights-Arbitration_CILC-digital-version.pdf (Accessed on 15/03/2025)

⁶⁵ The Green Pledge., Available at <https://www.greenerarbitrations.com/sign-green-pledge#:~:text=The%20Green%20Pledge&text=The%20Campaign%20addresses%20the%20need,carbon%20footprint%20when%20resolving%20disputes> (Accessed on 15/03/2025)

⁶⁶ Ibid

⁶⁷ Ibid

⁶⁸ Ibid

⁶⁹ Muigua. K., 'Green Arbitration: Aligning Arbitration with Sustainable Development.' Available at <http://kmco.co.ke/wp-content/uploads/2023/04/Green-Arbitration-Aligning-Arbitration-with-Sustainable-Development-Kariuki-Muigua-April-2023.pdf> (Accessed on 15/03/2025)

⁷⁰ Ibid

⁷¹ Ibid

4.0 Conclusion

Achieving sustainability is a collective effort that requires the participation of all stakeholders including in the field of dispute resolution. Arbitration and ADR are therefore integral in the quest towards sustainability. It is important to foster sustainability into arbitration and ADR by utilising these processes to manage ESG disputes and uphold ESG tenets, protecting human rights in arbitration and ADR, and adopting green arbitration and ADR⁷². Integrating sustainability into arbitration and ADR is vital in the quest towards justice and development.

⁷² Muigua. K., 'Infusing Environmental, Social, and Governance Tenets into Arbitration and Alternative Dispute Resolution' Op Cit

PART II – CLIMATE JUSTICE AND ENERGY TRANSITION

Explores Africa's role in global climate governance, emphasizing the importance of fair financing, inclusive energy transitions, and local adaptation. It advocates for climate justice that prioritizes vulnerable communities and balances development with ecological stewardship.

Climate Action in Africa: Protecting Forests from Degradation and Biodiversity Loss through Collaborative Approaches

Abstract

This paper examines how Africa can strengthen climate action by protecting forests from degradation and biodiversity loss. The paper argues that forests play a crucial role in strengthening climate action and protecting people and planet. It posits that Africa has rich forest ecosystems that are integral in climate action while also providing other benefits for the people of Africa. However, despite ensuring the well-being of people and planet, the paper argues that forest ecosystems in Africa are facing mounting threats including through degradation and biodiversity loss. The paper notes that these challenges undermine the health of people and planet in Africa due to loss of vital ecosystem services including climate regulation. Consequently, the paper argues that protecting forests in Africa is vital towards strengthening climate action for sustainability. It discusses how collaborative approaches can be utilised to protect forests from degradation and biodiversity loss for effective climate action in Africa.

1.0 Introduction

Effective climate action is a key priority for Africa in the quest towards sustainability. Despite having the least greenhouse gas emissions, Africa stands out disproportionately as the most vulnerable region in the world to climate change and its impacts¹. It has been pointed out that Africa is already facing climate change and is amongst the regions that will experience the most devastating consequences of projected climate trends in the future². Many parts of Africa are warming at a faster rate than the global average and facing an above-average sea-level rise³. Climate change is profoundly impacting African countries in numerous ways by fueling water scarcity, damaging agricultural harvests, affecting lifestyles, and amplifying gender and other dimensions of inequality⁴.

Climate change is therefore a major threat to Sustainable Development in Africa. Climate change hinders Sustainable Development in Africa by fuelling economic losses, affecting socio-economic growth and pushing millions of people into extreme levels of poverty⁵. It is also impacting food and water security, ecosystems and economies, fueling displacement and migration and

¹ United Nations Environment Programme., 'Responding to Climate Change' Available at <https://www.unep.org/regions/africa/regional-initiatives/responding-climate-change> (Accessed on 25/09/2025)

² African Development Bank Group., 'Africa and Climate Change' Available at <https://www.afdb.org/en/topics-and-sectors/sectors/climate-change/our-strategy> (Accessed on 25/09/2025)

³ Ibid

⁴ Fonjong. L., Matose. F., & Sonnenfeld. D., 'Climate change in Africa: Impacts, adaptation, and policy responses' Global Environmental Change., Volume 89, December 2024

⁵ African Development Bank Group., 'Climate Change in Africa' Available at <https://www.afdb.org/en/cop25/climate-change-africa> (Accessed on 25/09/2025)

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worsening the threat of conflict over dwindling natural resources in Africa⁶. Extreme climatic events, including floods and droughts, are becoming increasingly frequent and severe in Africa undermining the continent's development agenda⁷.

From the foregoing, it is evident that climate change is a major challenge to both current and future development progress in Africa⁸. Consequently, effective climate action in Africa is necessary for Sustainable Development. African countries have been urged to act urgently now and ensure that systems are in place to deal with negative climate events in the continent now and in the future⁹. Further, it has been argued that Sustainable Development in Africa cannot be achieved without addressing the impacts of climate change on agriculture and food security, conflicts, natural resources, water and disease patterns, all of which have particular impact on the poor and vulnerable¹⁰.

Confronting climate change in Africa is therefore an important agenda towards sustainability. This goal is envisaged under the United Nations 2030 *Agenda for Sustainable Development*¹¹ which acknowledges that climate change is one of the greatest challenges of our time and its adverse impacts undermine the ability of all countries to achieve Sustainable Development¹². Sustainable Development Goal (SDG) 13 under the Agenda urges all states to take urgent action to combat climate change and its impacts towards Sustainable Development¹³. Further, African Union's *Agenda 2063*¹⁴ recognizes that while Africa has played a relatively minor role and contributed little to the accumulation of greenhouse gases and the attendant climate change, it is the most vulnerable region to climate change risks. Agenda 2063 seeks to foster environmentally

⁶ World Meteorological Organization., 'Africa suffers disproportionately from climate change' Available at <https://wmo.int/media/news/africa-suffers-disproportionately-from-climate-change> (Accessed on 25/09/2025)

⁷ Food and Agriculture Organization of the United Nations., 'Climate change impacts, adaptation and links to sustainable development in Africa' Available at <https://www.fao.org/4/i0670e/i0670e03.htm> (Accessed on 25/09/2025)

⁸ Bishop. R., 'Confronting Climate Change' Available at <https://www.brookings.edu/articles/confronting-climate-change/> (Accessed on 25/09/2025)

⁹ Ibid

¹⁰ Food and Agriculture Organization of the United Nations., 'Climate change impacts, adaptation and links to sustainable development in Africa' Op Cit

¹¹ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 25/09/2025)

¹² Ibid

¹³ Ibid

¹⁴ Africa Union., 'Agenda 2063: The Africa we Want.' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 25/09/2025)

sustainable and climate resilient economies and communities in Africa for Sustainable Development¹⁵.

This paper examines how Africa can strengthen climate action by protecting forests from degradation and biodiversity loss. The paper argues that forests play a crucial role in strengthening climate action and protecting people and planet. It posits that Africa has rich forest ecosystems that are integral in climate action while also providing other benefits for the people of Africa. However, despite ensuring the well-being of people and planet, the paper argues that forest ecosystems in Africa are facing mounting threats including through degradation and biodiversity loss. The paper notes that these challenges undermine the health of people and planet in Africa due to loss of vital ecosystem services including climate regulation. Consequently, the paper argues that protecting forests in Africa is vital towards strengthening climate action for sustainability. It discusses how collaborative approaches can be utilised to protect forests from degradation and biodiversity loss for effective climate action in Africa.

2.0 Forests and Climate Action in Africa

Forests are valuable ecosystems which provide numerous benefits for both humanity and nature. For example, it is estimated that forests support more than three-quarters of the world's terrestrial biodiversity¹⁶. Forests have been identified as one of the most biologically rich terrestrial systems¹⁷. Forests offer diverse sets of habitats for plants, animals and micro-organisms, and harbour most of the world's terrestrial species¹⁸. It has been pointed out that forests harbour and provide habitats for most of the Earth's terrestrial biodiversity including plant and tree species, mammals, amphibians and birds¹⁹.

In addition, forests also support human health. For instance, forest reduce risk of natural disasters such as floods, droughts, landslides and other extreme events thus enhancing human health and well-being²⁰. Forests further provide us with clean air and water which are crucial for our health²¹. In addition, millions of people globally especially those in developing countries rely on

¹⁵ Ibid

¹⁶ Greenpop., 'Forest Restoration' Available at <https://greenpop.org/forest-restoration/> (Accessed on 25/09/2025)

¹⁷ Secretariat of the Convention on Biological Diversity., 'Forest Biodiversity' Available at <https://www.cbd.int/doc/meetings/cop/cop-09/media/cop9-press-kit-forest-en.pdf> (Accessed on 25/09/2025)

¹⁸ Ibid

¹⁹ United Nation's Environment Programme., 'Earth's Biodiversity depends on the World's Forests' Available at <https://www.unep-wcmc.org/en/news/earths-biodiversity-depends-on-the-worlds-forests> (Accessed on 25/09/2025)

²⁰ United Nations., 'Forests' Available at <https://sustainabledevelopment.un.org/topics/forests> (Accessed on 25/09/2025)

²¹ United Nations Environment Programme., 'Forests' Available at <https://www.decadeonrestoration.org/types-ecosystem-restoration/forests> (Accessed on 25/09/2025)

traditional medicines for their health most of which originate from plants and trees found in tropical forests²². Further, forests are a source of subsistence, employment opportunities and income to about 25 per cent of the world's population²³. They provide numerous goods for use in households or for commercial purposes including timber, fuelwood, charcoal, medicinal herbs, fruits, and game meat among other products²⁴.

In addition to the foregoing benefits, forests are at the heart of climate action. It has been argued that forests are one of the most important solutions to the climate crisis since they absorb nearly one-third of greenhouse gas emissions generated from the burning of fossil fuels²⁵. Healthy forests play a key role in confronting climate change by acting as effective carbon sinks which absorb and store huge quantities of carbon from the atmosphere²⁶. It has been argued that forests provide humanity with an appropriate solution to remove greenhouse gases from the atmosphere and avoid the worst impacts of climate change²⁷. Forests play a key role in climate action through carbon sequestration. These vital ecosystems sequester carbon by capturing carbon dioxide from the atmosphere and transforming it into biomass through photosynthesis²⁸. The sequestered carbon is then accumulated in the form of biomass, deadwood, litter and in forest soils²⁹. As a result, forests have been identified as one of the most potent solutions to the climate crisis³⁰.

Africa has rich forests ecosystem which play a key role on bolstering climate action. These include tropical rainforests such as the Congo basin rainforests, the Upper Guinea forests of West Africa, forests on mountains and mangrove forests along the East African coast³¹. It has been argued that forests in Africa significantly contribute to climate change mitigation by acting as carbon sinks,

²² Secretariat of the Convention on Biological Diversity., 'Forest Biodiversity' Op Cit

²³ European Investment Bank., 'Forests at the Heart of Sustainable Development: Investing in Forests to Meet Biodiversity and Climate Goals' Available at https://www.eib.org/attachments/lucalli/20220173_forests_at_the_heart_of_sustainable_development_en.pdf (Accessed on 25/09/2025)

²⁴ Introduction: Livelihoods, forests, and conservation., Available at <https://www.cifor-icraf.org/knowledge/publication/1837/> (Accessed on 25/09/2025)

²⁵ International Union for Conservation of Nature., 'Forests and Climate Change' Available at <https://iucn.org/resources/issues-brief/forests-and-climate-change> (Accessed on 25/09/2025)

²⁶ United Nations Development Programme., 'Forests can help us limit climate change – here is how' Available at <https://climatepromise.undp.org/news-and-stories/forests-can-help-us-limit-climate-change-here-how> (Accessed on 25/09/2025)

²⁷ Ibid

²⁸ United Nations Economic Commission for Europe., 'Carbon Sinks and Sequestration' Available at <https://unece.org/forests/carbon-sinks-and-sequestration#:~:text=Forests%20sequester%20carbon%20by%20capturing,litter%20and%20in%20forest%20soils.> (Accessed on 25/09/2025)

²⁹ Ibid

³⁰ International Union for Conservation of Nature., 'Forests and Climate Change' Op Cit

³¹ Forests., Available at <https://www.africanworldheritagesites.org/natural-places/forests.html> (Accessed on 25/09/2025)

sequestering atmospheric carbon dioxide, and keeping it in their soil and biomass³². In particular, the Congo Basin Forest in Africa has been identified as one of the world's most valuable ecosystems since it stores more than 60 billion metric tons of carbon making it an indispensable regional and global resource in climate action³³. In addition, mangrove forests along the East African coast are effective carbon sinks and have been described as carbon removal powerhouses, storing up to 5 times more carbon per area than tropical forests and absorbing it from the atmosphere about 3 times as quickly as tropical forests³⁴. Mangroves have been identified as some of the most carbon-rich ecosystems in the world, storing on average 1,000 tonnes of carbon per hectare in their biomass and underlying soils³⁵.

African forests are therefore a valuable resource towards confronting climate change. However, these valuable ecosystems are facing mounting threats. Human activities including deforestation, agricultural expansion into forests and unsustainable extraction of resources are fuelling degradation and loss of forest biodiversity³⁶. Forests in Africa and all over the world are being degraded because of logging, firewood cutting, pollution and invasive pests³⁷. In addition, trees outside forest ecosystems are also disappearing to make way for houses, roads and dams and for intensive agriculture³⁸. It has been argued that Africa has the highest global net loss of forests³⁹. It is estimated that nearly 4 million hectares of African forests are being cut down each year, which is almost double the speed of the world's deforestation rate⁴⁰. The health and vitality of major forest ecosystems in Africa including the Congo Basin Rainforest is being threatened by human activities including agricultural expansion, mineral exploitation, growing energy needs, and transport and infrastructure development⁴¹.

³² Nzabarinda. V et al., 'Expanding forest carbon sinks to mitigate climate change in Africa' Available at <https://www.sciencedirect.com/science/article/pii/S1364032124005756#:~:text=In%20the%20process%20of%20photosynthesis,gas%20emissions%20and%20climate%20change>. (Accessed on 25/09/2025)

³³ United Nations Environment Programme., 'Supporting sound ecosystem management' Available at <https://www.unep.org/regions/africa/regional-initiatives/supporting-sound-ecosystem-management> (Accessed on 25/09/2025)

³⁴ Wood. K., Ashford. O., 'How Blue Carbon Can Tackle the Climate, Biodiversity and Development Crises' Available at <https://www.wri.org/insights/what-is-blue-carbon-benefits-for-people-planet> (Accessed on 25/09/2025)

³⁵ United Nations Environment Programme., 'Why protecting & restoring blue carbon ecosystems matters' Available at <https://www.unep.org/explore-topics/oceans-seas/what-we-do/protecting-restoring-blue-carbon-ecosystems/why-protecting> (Accessed on 25/09/2025)

³⁶ Nzabarinda. V et al., 'Expanding forest carbon sinks to mitigate climate change in Africa' Op Cit

³⁷ United Nations Environment Programme., 'Forests' Op Cit

³⁸ Ibid

³⁹ Greenpop., 'Forest Restoration' Op Cit

⁴⁰ Igini. M., 'Deforestation in Africa: Causes, Effects, and Solutions' Available at <https://earth.org/deforestation-in-africa/> (Accessed on 25/09/2025)

⁴¹ World Bank Group., 'Sustaining Forests and Livelihoods in a Changing World' Available at <https://www.worldbank.org/en/news/feature/2013/01/29/sustaining-forests-livelihoods-changing-world> (Accessed on 25/09/2025)

The foregoing challenges are undermining effective climate action in Africa. Deforestation and forest degradation is a major source of greenhouse gas emissions undermining effective climate action in Africa⁴². It has been argued that there is a direct link between deforestation, forest degradation and increased carbon emissions in Africa⁴³. Further, deforestation and forest degradation also fuels biodiversity loss and impacts the availability of critical ecosystem services such as clean air, water, food, and medicines with serious impacts for human health and well-being⁴⁴.

In light of the foregoing challenges, it is imperative to protect forests in Africa from degradation and biodiversity loss towards sound climate action.

3.0 Protecting Forests in Africa from Degradation and Biodiversity Loss through Collaborative Approaches

Africa hosts some of the most unique forest ecosystems including the Congo Basin Forest and mangrove forests along the East African Coast. These ecosystems are valuable regional and global resources in climate action since they absorb and store huge volumes of carbon⁴⁵. In addition, forests in Africa provide a host of other benefits for people and planet including vital ecosystem services such as clean air, food, energy and water while also supporting livelihoods and biodiversity⁴⁶. However, forests in Africa are facing mounting threats from human activities leading to deforestation, forest degradation and biodiversity loss⁴⁷. Protecting forests in Africa is therefore key towards strengthening climate action while also ensuring the health and well-being of both humanity and nature.

Protecting forests from degradation and biodiversity loss is a key agenda both globally and in Africa. For example, SDG 15 under the 2030 Agenda for Sustainable Development seeks to inter alia protect, restore and promote sustainable use of terrestrial ecosystems including forests for sustainability⁴⁸. It urges all countries to sustainably manage forests, halt deforestation, restore degraded forests and increase afforestation and reforestation activities in order to effectively protect forests from degradation and biodiversity loss⁴⁹. In addition, protecting and restoring forests is part of the key objectives under the *United Nations Decade on Ecosystem Restoration*⁵⁰ in

⁴² Nzabarinda. V et al., 'Expanding forest carbon sinks to mitigate climate change in Africa' Op Cit

⁴³ Ibid

⁴⁴ United Nations Development Programme., 'Forests can help us limit climate change – here is how' Op Cit

⁴⁵ United Nations Environment Programme., 'Supporting sound ecosystem management' Op Cit

⁴⁶ Nzabarinda. V et al., 'Expanding forest carbon sinks to mitigate climate change in Africa' Op Cit

⁴⁷ Igini. M., 'Deforestation in Africa: Causes, Effects, and Solutions' Op Cit

⁴⁸ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' Op Cit

⁴⁹ Ibid

⁵⁰ United Nations Environment Programme., 'Preventing, Halting, and Reversing Loss of Nature' Available at <https://www.decadeonrestoration.org/> (Accessed on 26/09/2025)

order to protect biodiversity, prevent the mass extinction of species, end poverty, combat climate change and enhance human well-being⁵¹. Further, the *Bonn Challenge*⁵² is a global goal that seeks to restore 350 million hectares of the world's degraded and deforested lands by 2030. The Bonn Challenge has resulted in millions of hectares of degraded and deforested lands being restored globally thus strengthening climate action, enhancing biodiversity conservation, and creating jobs⁵³.

At a continent level, African Union's *Agenda 2063*⁵⁴ acknowledges the special place of forests in Africa's economic, social, and cultural well-being as vital sources of food, energy, construction material, employment, local and foreign trade as well as cultural identity. Agenda 2063 further recognises that forests provide vital environmental services for Africans including controlling soil and water erosion, regulating climatic variability, conserving lakes and wetlands, and freshwater systems⁵⁵. It seeks to ensure that Africa's forests are fully conserved and sustainably used⁵⁶.

Protecting forests from degradation and biodiversity loss is therefore a well-established agenda both globally and in Africa. Achieving this ideal involves several strategies including restoration, reforestation, assisted natural regeneration of trees, agroforestry, and afforestation among other initiatives⁵⁷. It has been argued that halting the loss and degradation of forest ecosystems and promoting their restoration has the potential to contribute over one-third of the total climate change mitigation required by 2030 to meet the objectives of the Paris Agreement⁵⁸. Achieving this goal requires collaborative approaches that involve all stakeholders⁵⁹.

It has been argued that collaborative approaches that involve all levels of government and all stakeholders including the private sector and local communities can lead to better forest conservation efforts⁶⁰. For instance, governments can set and implement laws and policies towards protecting forests including through establishing forest conservation areas, determining which species can be planted in reforestation or agroforestry schemes and what types of organizations can be given rights to access and manage forests⁶¹. Further, collaborative

⁵¹ Ibid

⁵² The Bonn Challenge., Available at <https://www.bonnchallenge.org/> (Accessed on 26/09/2025)

⁵³ Ibid

⁵⁴ African Union., "Agenda 2063: The Africa we Want." Op Cit

⁵⁵ Ibid

⁵⁶ Ibid

⁵⁷ Muigua. K., 'Restoring Landscapes and Ecosystems for Climate Mitigation' Available at <https://kmco.co.ke/wp-content/uploads/2024/02/Restoring-Landscapes-and-Ecosystems-for-Climate-Mitigation.pdf> (Accessed on 26/09/2025)

⁵⁸ International Union for Conservation of Nature., 'Forests and Climate Change' Op Cit

⁵⁹ Ibid

⁶⁰ Collaborative management of forests., Available at <https://cgspace.cgiar.org/items/4bef8c64-4634-411e-9123-d0f03ab31b6a> (Accessed on 26/09/2025)

⁶¹ Ibid

approaches involving the private sector are key in unlocking financing for forest restoration and conservation activities and research initiatives⁶².

In addition, collaborating with the public including local communities and indigenous peoples is vital towards effectively protecting forests from degradation and biodiversity loss⁶³. For example, it has been pointed out that indigenous peoples and local communities relate to forests socially, economically, politically and spiritually⁶⁴. Due to their heavy reliance on forests for the livelihoods and well-being, the health and vitality of forests is a matter of survival for indigenous peoples and local communities globally⁶⁵. Indigenous peoples and local communities in Africa have therefore developed sustainable practices including the use of traditional knowledge, sustainable agriculture and resource management to ensure that forests and other natural resources are well protected⁶⁶. Their indigenous and traditional practices are rooted in a deep understanding of and respect for ecological systems and promote sustainable resource use⁶⁷. Consequently, the practices of indigenous peoples and local communities have a minimal adverse impact on the environment and are highly adaptive to ecological changes, fostering healthy and resilient ecosystems including forests⁶⁸. Collaborating with indigenous peoples and local communities is therefore necessary towards effectively protecting forests from degradation and biodiversity loss.

4.0 Conclusion

Forests in Africa are vital carbon sinks which play a key role in strengthening the continent's response to climate change. However, in light of mounting threats due to human activities, it is imperative to protect forests from degradation and biodiversity loss for effective climate action. Collaborative approaches involving all stakeholders including governments at the national and local levels, the private sector and the public including indigenous peoples and local communities are more effective towards achieving sustainable governance and management of forests⁶⁹.

⁶² United Nations., 'The Private Sector in Forest Financing' Available at <https://www.un.org/en/desa/private-sector-forest-financing> (Accessed on 26/09/2025)

⁶³ Forest Governance., Available at <https://www.un-redd.org/sites/default/files/2021-10/mpdf.pdf> (Accessed on 26/09/2025)

⁶⁴ UN-REDD Programme., 'Indigenous Peoples see the importance of protecting forests but can the rest of the world follow?' Available at <https://www.un-redd.org/post/indigenous-peoples-see-importance-protecting-forests-can-rest-world-follow#:~:text=Why%20are%20Indigenous%20Peoples%20vital,biodiversity%2C%20according%20to%20the%20UNEP>. (Accessed on 26/09/2025)

⁶⁵ United Nations Development Programme., 'Forests can help us limit climate change – here is how' Op Cit

⁶⁶ UN-REDD Programme., 'Indigenous Peoples see the importance of protecting forests but can the rest of the world follow?' Op Cit

⁶⁷ Ibid

⁶⁸ Ibid

⁶⁹ Forest Governance., Op Cit

Climate Action in Africa: Protecting Forests from Degradation and Biodiversity Loss through Collaborative Approaches

Utilising collaborative approaches is therefore an effective strategy towards protecting forests from degradation and biodiversity loss for sound climate action in Africa.

Climate Finance (Re)Engineered: Ensuring Benefits Reach Indigenous and Local Communities for Fairness and Equity

Abstract

This paper critically discusses how climate finance can be appropriately designed to ensure that benefits reach indigenous and local communities. The paper argues that indigenous and local communities are disproportionately affected by climate change. It notes that the impacts of climate change threaten the lives, livelihoods, health and well-being of indigenous and local communities due to their close relationship with nature. The paper argues that despite being adversely affected by climate change, indigenous and local communities often lack adequate financial resources to respond to climate change. Consequently, the paper posits that access to adequate climate finance for indigenous and local communities is crucial in fostering climate justice. It examines how climate finance can be (re)engineered to ensure that benefits reach indigenous and local communities for fairness and equity.

1.0 Introduction

With climate change devastating both people and planet, finance has become a crucial tool towards bolstering climate action for sustainability. The consequences of climate change including intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity are on the rise globally undermining development efforts¹. Climate change has been described as one of the greatest challenges of our time whose adverse impacts undermine the ability of all countries to achieve Sustainable Development². Confronting climate change is therefore vital in fostering sustainability. Sustainable Development Goal (SDG) 13 under the 2030 Agenda for Sustainable Development urges all states to take urgent action to combat climate change and its impacts³.

In order to confront climate change for sustainability, countries have been urged to strengthen mitigation and adaptation efforts⁴. Climate change mitigation involves reducing greenhouse gas emissions and stopping the problem of climate change from growing⁵. Adaptation on the other hand involves learning how to live with the existing threat of climate change and protecting humanity from the future effects of climate change⁶. Finance is crucial in strengthening the

¹ United Nations., 'What is Climate Change?' Available at <https://www.un.org/en/climatechange/what-is-climate-change> (Accessed on 23/10/2025)

² United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 23/10/2025)

³ Ibid

⁴ World Vision., 'How is the World Responding to Climate Change?' Available at https://www.worldvision.com.au/docs/default-source/school-resources/how-is-the-worldresponding-to-climate-change.pdf?sfvrsn=32021b89_0 (Accessed 23/10/2025)

⁵ Ibid

⁶ Ibid

response to climate change through mitigation and adaptation. For instance, it has been correctly noted that finance is needed for mitigation since large-scale investments are required in key sectors such as energy, transport, infrastructure and agriculture in order to significantly reduce greenhouse gas emissions⁷. Further, access to finance is equally important for adaptation, since significant financial resources are needed to adapt to the adverse effects and reduce the impacts of a changing climate⁸. Access to adequate finance is therefore crucial in combating climate change since the adaptation and mitigation efforts that are necessary in enhancing global, regional, national and local responses to climate change require funding⁹.

Climate finance has therefore emerged as a tool and approach towards ensuring the availability of financial resources to tackle climate change. Climate finance refers to local and global financing of public and private investment that seeks to support mitigation of and adaptation to climate change¹⁰. It can also be defined as local, national or transnational financing, drawn from public, private and alternative sources of financing, that seeks to strengthen mitigation and adaptation actions towards tackling climate change¹¹. Climate finance therefore covers all financial flows addressing the causes and consequences of climate change¹². It includes grants provided by multilateral funds, market-based and concessional loans from financial institutions, sovereign green bonds issued by national governments, and resources mobilized through carbon trading and carbon taxes¹³.

It has been argued that climate finance plays a fundamental role in addressing climate change because of the large-scale investments that are needed to transition to a low-carbon global economy and to help societies build resilience and adapt to the impacts of climate change¹⁴. Despite its role in strengthening climate action, the current landscape of climate finance is inadequate with vulnerable groups and populations who are disproportionately impacted by climate change lacking access to sufficient financial resources to respond to the consequences of climate change¹⁵. Unlocking climate finance for the vulnerable is therefore necessary in ensuring equity and fairness in climate action.

⁷ United Nations Climate Change., 'Introduction to Climate Finance' Available at <https://unfccc.int/topics/introduction-to-climate-finance> (Accessed on 23/10/2025)

⁸ Ibid

⁹ Climate Finance., 'Climate Finance Essential for Mitigating and Adapting to Climate Change.' Available at <https://www.iberdrola.com/sustainability/what-is-climate-finance> (Accessed on 23/10/2025)

¹⁰ Hong, H., Karolyi, G. A., & Scheinkman, J.A., 'Climate Finance.' *Review of Financial Studies*, Volume 33, Issue 3 (2020)

¹¹ United Nations Climate Change., 'Introduction to Climate Finance' Op Cit

¹² United Nations Environment Programme., 'Climate Finance' Available at <https://www.unep.org/topics/climate-action/climate-finance> (Accessed on 23/10/2025)

¹³ United Nations Development Programme., 'What is climate finance and why do we need more of it?' Available at <https://climatepromise.undp.org/news-and-stories/what-climate-finance-and-why-do-we-need-more-it> (Accessed on 23/10/2025)

¹⁴ Ibid

¹⁵ Ibid

This paper critically discusses how climate finance can be appropriately designed to ensure that benefits reach indigenous and local communities. The paper argues that indigenous and local communities are disproportionately affected by climate change. It notes that the impacts of climate change threaten the lives, livelihoods, health and well-being of indigenous and local communities due to their close relationship with nature. The paper argues that despite being adversely affected by climate change, indigenous and local communities often lack adequate financial resources to respond to climate change. Consequently, the paper posits that access to adequate climate finance for indigenous and local communities is crucial in fostering climate justice. It examines how climate finance can be (re)engineered to ensure that benefits reach indigenous and local communities for fairness and equity.

2.0 The Need for Climate Finance for Indigenous and Local Communities

Indigenous and local communities are disproportionately impacted by climate change. It has been argued that indigenous peoples and local communities are among the first to face the direct effects of climate change, due to their dependence upon, and close relationship, with the environment and natural resources¹⁶. Indigenous and local communities usually inhabit ecologically sensitive areas such as coastlines, mountains, and forests, making them highly vulnerable to the impacts of climate change including rising sea levels, melting glaciers and floods¹⁷. Further, climate change also threatens the cultures and livelihoods of indigenous and local communities. For example, Traditional Ecological Knowledge (TEK) associated medicines, plants, herbs and animal resources is threatened when these resources are degraded or depleted due to climate change¹⁸. Further, climatic impacts on ecosystems affect indigenous and local livelihoods including hunting and fishing and traditional rites and ceremonies conducted on sacred sites such as forests and mountains¹⁹.

Climate change is therefore a major threat to indigenous and local communities. The vulnerability of indigenous and local communities to climate change is compounded by their reliance on traditional practices and their marginalized status, leaving them less equipped to adapt to the effects of climate change²⁰. According to the United Nations, climate change worsens the difficulties already faced by indigenous and local communities including political and economic marginalization, human rights violations including abuse of their land rights, discrimination and

¹⁶ United Nations., 'Climate Change' Available at <https://www.un.org/development/desa/indigenouspeoples/climate-change.html> (Accessed on 23/10/2025)

¹⁷ World Economic Forum., 'Land, loss and liberation: Indigenous struggles amid the climate crisis' Available at <https://www.weforum.org/stories/2024/02/indigenous-challenges-displacement-climate-change/> (Accessed on 23/10/2025)

¹⁸ The Impacts of Climate Change on Indigenous Communities., Available at <https://indigenousclimatehub.ca/effects-on-indigenous-communities/> (Accessed on 23/10/2025)

¹⁹ Ibid

²⁰ World Economic Forum., 'Land, loss and liberation: Indigenous struggles amid the climate crisis' Op Cit

unemployment²¹. In addition to its environmental impacts, forced relocations and migration due to climate change also result in the erosion of traditional governance, cultural practices and religious beliefs undermining the health and well-being of indigenous and local communities²².

In light of the foregoing, confronting climate change is a matter of justice, equity and fairness for indigenous and local communities. Climate change is posing significant threats to the lives, livelihoods, and traditional knowledge of indigenous and local communities²³. As a result, it has been argued that governments must recognize the rights of indigenous peoples and local communities, provide them with direct access to climate finance and capacity building, and integrate indigenous knowledge into climate action²⁴. Access to climate finance is therefore crucial towards ensuring that indigenous and local communities are well-equipped to respond to the impacts of climate change. However, it has been observed that indigenous and local communities usually operate with limited financial resources making them ill-equipped to respond to climatic emergencies including floods and forest fires²⁵.

Further, indigenous and local communities are often sidelined in climate finance decision-making processes²⁶. For instance, it has been pointed out that indigenous peoples and local communities are not always adequately consulted about the design and implementation of climate adaptation and mitigation projects²⁷. In addition, they do not usually receive equitable access to project benefits, or such benefits are not devised or delivered in a form that is culturally appropriate for indigenous and local communities²⁸. It has been argued that in most instances, climate finance priorities and approaches are defined by global and national interests and as a result, they do not take into account land-connected communities who are adversely impacted by climate change²⁹. As a result, there is need to redesign climate finance in order to ensure that benefits reach indigenous and local communities for fairness and equity.

²¹ United Nations., 'Climate Change' Op Cit

²² World Economic Forum., 'Land, loss and liberation: Indigenous struggles amid the climate crisis' Op Cit

²³ United Nations Development Programme., 'Climate change is a matter of justice - here's why' Available at <https://climatepromise.undp.org/news-and-stories/climate-change-matter-justice-heres-why> (Accessed on 23/10/2025)

²⁴ United Nations Development Programme., 'Indigenous knowledge is crucial in the fight against climate change - here's why' Available at <https://climatepromise.undp.org/news-and-stories/indigenous-knowledge-crucial-fight-against-climate-change-heres-why> (Accessed on 23/10/2025)

²⁵ The Impacts of Climate Change on Indigenous Communities., Op Cit

²⁶ Green Climate Fund., 'Indigenous Peoples' Available at <https://www.greenclimate.fund/projects/sustainability-inclusion/ip> (Accessed on 23/10/2025)

²⁷ Ibid

²⁸ Ibid

²⁹ How Indigenous Peoples and Local Communities are Shaping the Future of Climate Funding., Available at <https://www.fordfoundation.org/news-and-stories/stories/how-indigenous-peoples-and-local-communities-are-shaping-the-future-of-climate-funding/> (Accessed on 23/10/2025)

3.0 Fostering Climate Finance for Indigenous and Local Communities

Climate finance plays a key role in ensuring effective responses to climate change. It has been argued that huge financial resources are needed to support countries in promoting climate change mitigation and adaptation and financing has a critical role to play in this quest³⁰. Climate finance is therefore critical in confronting climate change since sound climate action requires significant financial investments in adaptation and mitigation strategies³¹. It is vital in ensuring low-carbon and climate-resilient development where greenhouse gas emissions are significantly reduced across all sectors³². Enhancing access to climate finance is therefore important in strengthening climate action.

Access to climate finance is particularly important for indigenous and local communities. Due to their close relationship with nature, indigenous peoples and local communities are disproportionately impacted by climate change³³. The consequences of climate change affect the lives, livelihoods, health and cultural practices of indigenous and local communities³⁴. Further, due to historical marginalization, indigenous and local communities also lack the capacity and financial resources required to buffer themselves and recover from the impacts of climate change³⁵. Ensuring access to climate finance for indigenous and local communities is therefore a matter of justice, equity and fairness.

It is therefore imperative to unlock climate finance for indigenous and local communities who are usually excluded from decision-making processes while also not receiving adequate benefits from climate projects in their lands and territories³⁶. Consequently, it is important to fully and effectively engage with indigenous peoples and local communities in the design, development and implementation of climate finance activities in order to uphold their rights, respect their cultural needs and address their unique vulnerabilities to climate change and its impacts³⁷. Indigenous and local communities possess unique knowledge and practices that is key in combating climate change³⁸. The practices of indigenous peoples and local communities are

³⁰ Climate Finance Leadership Initiative., 'Financing Sustainable Infrastructure in Emerging Markets.' Available at https://www.bloomberg.com/cfli/mobilizing-investment/?utm_medium=cpc_search&utm_campaign=NB_ENG_DSAXX_DSAXXXXXXXXXXX_EVG_XXX_XXX_Y0469_EN_EN_X_BLOM_GO_SE_XXX_XXXXXXXXXX&gclid=Cj0KCQjwz8emBhDrARIsAN_NJjS4wepzVumLzWNAJWjkAvoejDfVwY4SO1nlqXkIkvsC5nv0stXd-4H8aAiAhEALw_wcB&gclid=aw.ds (Accessed on 24/10/2025)

³¹ United Nations Development Programme., 'What is climate finance and why do we need more of it?' Op Cit

³² United Nations Climate Change., 'Introduction to Climate Finance' Op Cit

³³ United Nations., 'Climate Change' Op Cit

³⁴ Ibid

³⁵ Ibid

³⁶ Green Climate Fund., 'Indigenous Peoples' Op Cit

³⁷ Ibid

³⁸ United Nations Development Programme., 'Indigenous knowledge is crucial in the fight against climate change – here's why' Op Cit

rooted in harmony with nature and offer effective climate solutions, such as sustainable agriculture techniques, forest management and climate-resilient water management³⁹. It has been argued that indigenous practices have minimal impact on the environment and are highly adaptive to ecological changes, fostering healthy and resilient ecosystems that can withstand climate change and its impacts⁴⁰. Therefore, by providing adequate climate finance for indigenous and local communities, it is possible to implement adaptation and mitigation projects that promote indigenous knowledge and practices, strengthen the rights of indigenous peoples and local communities, and enhance their resilience to climate change and its impacts⁴¹.

4.0 Conclusion

Indigenous and local communities are highly vulnerable to climate change and its impacts. However, the knowledge and practices of indigenous peoples and local communities are also vital in ensuring sound management of the environment and ecosystems and building resilience to climate change and its impacts⁴². Therefore, by (re)engineering climate finance, it is possible to harness the wisdom of indigenous and local communities to confront climate change while also building their resilience through appropriate mitigation and adaptation strategies⁴³. Enhancing access to climate finance for indigenous and local communities is therefore important for justice, equity and fairness.

³⁹ Ibid

⁴⁰ Ibid

⁴¹ Ibid

⁴² Indigenous Peoples and climate financing: Experiences of the Indigenous Peoples Assistance Facility., Available at <https://www.ifad.org/documents/48415603/49744415/ipaf-climate-financing-2025-text.pdf/bcd72213-cdaa-e424-df68-bf854c5488e8?t=1738834759345> (Accessed on 24/10/2025)

⁴³ Ibid

From Platitudes to Action: Achieving True Climate Justice for People and Planet

Abstract

This paper critically discusses how climate justice can be achieved for people and planet. The paper conceptualizes climate justice. It argues that fostering climate justice is vital for both people and planet in light of the disproportionate impacts of climate change across individuals, communities and nations. The paper examines how climate change adversely affects vulnerable populations. In light of its unequal impacts, the paper posits that fostering climate change is crucial towards protecting disadvantaged groups. It discusses ways through which true climate justice can be achieved for people and planet towards sustainability.

1.0 Introduction

The world is currently facing a climate emergency. According to the United Nations, human activities including burning of fossil fuels such as coal, oil and gas, are releasing greenhouse gases that are warming the world faster than at any time in recorded history¹. Energy, industry, transport, buildings, agriculture and land use have been identified as the main sectors causing greenhouse gases that are fuelling the climate crisis². Consequently, warmer temperatures over time are changing weather patterns and disrupting the balance of life on the planet³. This has led to an increase of adverse events including intense droughts, water scarcity, severe wildfires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity⁴. Climate change therefore affects both people and planet. Its adverse impacts are causing dangerous and widespread disruption, depletion and degradation of nature while also affecting the lives, health, livelihoods and well-being of billions of people all over the world⁵.

In light of the foregoing, climate change has been described as one of the greatest challenges of our time whose adverse impacts undermine the ability of all countries to achieve Sustainable Development⁶. It has been argued that climate change affects realization of the Sustainable Development agenda across the world by affecting the sustainability of the planet's ecosystems,

¹ United Nations., 'What is Climate Change?' Available at <https://www.un.org/en/climatechange/what-is-climate-change> (Accessed on 30/10/2025)

² Ibid

³ United Nations., 'Causes and Effects of Climate Change' Available at <https://www.un.org/en/climatechange/science/causes-effects-climate-change> (Accessed on 30/10/2025)

⁴ United Nations., 'What is Climate Change?' Op Cit

⁵ Intergovernmental Panel on Climate Change., 'Climate change: a threat to human wellbeing and health of the planet. Taking action now can secure our future' Available at https://www.ipcc.ch/report/ar6/wg2/downloads/press/IPCC_AR6_WGII_PressRelease-English.pdf (Accessed on 31/10/2025)

⁶ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 31/10/2025)

the stability of the global economy and the future of humankind⁷. Further, the impacts of climate change are felt disproportionately among individuals, communities and nations. For example, climate change has adverse impacts on vulnerable groups and communities including women, the youth, the elderly, people of colour, persons with disabilities and people developing countries⁸. Consequently, effective climate action involves addressing the disproportionate impacts of climate change for justice, equity and human rights. This ideal is envisaged under the concept of climate justice.

This paper critically discusses how climate justice can be achieved for people and planet. The paper conceptualizes climate justice. It argues that fostering climate justice is vital for both people and planet in light of the disproportionate impacts of climate change across individuals, communities and nations. The paper examines how climate change adversely affects vulnerable populations. In light of its unequal impacts, the paper posits that fostering climate change is crucial towards protecting disadvantaged groups. It discusses ways through which true climate justice can be achieved for people and planet towards sustainability.

2.0 Conceptualizing Climate Justice

It has been argued that the consequences of climate change including extreme flooding, severe droughts, warmer temperatures, rising sea levels, and resource scarcity, are not distributed equally, with marginalized and disadvantaged populations often bearing the brunt of these effects⁹. The consequences of climate change are more severe for vulnerable populations including indigenous peoples, local communities, women, the youth, the elderly, the poor and developing countries who have limited means to adapt to adverse climatic events¹⁰. For example, the poor are disproportionately vulnerable to the effects of climate change¹¹. This is because they lack the resources to afford goods and services they need to buffer themselves and recover from the impacts of climate change¹². In addition, it has been argued that indigenous peoples and local communities are among the first to face the direct impacts of climate change, due to their

⁷ Climate Change., 'Meaning, Definition, Causes, Examples and Consequences.' Available at <https://youmatter.world/en/definition/climate-change-meaning-definition-causes-and-consequences/> (Accessed on 31/10/2025)

⁸ Center for Climate Justice., 'What is Climate Justice?' Available at <https://centerclimatejustice.universityofcalifornia.edu/what-is-climate-justice/> (Accessed on 31/10/2025)

⁹ Climate Justice Global Alliance., Available at <https://sdgs.un.org/partnerships/climate-justice-global-alliance> (Accessed on 31/10/2025)

¹⁰ United Nations Development Programme., 'Climate change is a matter of justice – here's why' Available at <https://climatepromise.undp.org/news-and-stories/climate-change-matter-justice-heres-why> (Accessed on 31/10/2025)

¹¹ United Nations Environment Programme., 'Responding to Climate Change' Available at <https://www.unep.org/regions/africa/regional-initiatives/responding-climate-change> (Accessed on 31/10/2025)

¹² Ibid

dependence upon, and close relationship, with the environment and natural resources¹³. According to the United Nations Environment Programme (UNEP), the close relationship and dependency of indigenous peoples and local communities on functioning ecosystems have made them extremely vulnerable to climatic changes and damages in their environments¹⁴. Climate change is posing disproportionate impacts to the lives, livelihoods and traditional knowledge of indigenous peoples and local communities¹⁵.

In addition, climate change has disproportionate impacts on developing countries. It has been observed that developing nations and communities in Africa, Asia, the Caribbean Islands and the Pacific Islands which due to an unfortunate mixture of economic and geographic vulnerability, continue to shoulder the brunt of the burdens of climate change despite their relative innocence in causing it¹⁶. For example, despite having contributed the least to climate change, Africa stands out unfairly as the most vulnerable region in the world to climate change and its impacts¹⁷. African countries are among the lowest producers of global greenhouse gas emissions, yet they are the most vulnerable to adverse climatic events¹⁸. Africa faces exponential collateral damage from the effects of climate change posing systemic risks to its economies, infrastructure investments, water and food systems, public health, agriculture, and livelihoods¹⁹. Climate change is causing food insecurity, stressing water resources, affecting human health, displacing populations and impeding socio-economic development across Africa²⁰. People living in small island nations are also highly vulnerable to climate change²¹. It has been pointed out that the impacts of climate change such as sea-level rise and saltwater intrusion have intensified to the point where whole communities have had to relocate, and protracted droughts are putting

¹³ United Nations., 'Climate Change' Available at <https://www.un.org/development/desa/indigenouspeoples/climate-change.html> (Accessed on 31/10/2025)

¹⁴ United Nations Environment Programme., 'Indigenous Peoples and their Communities' Available at <https://www.unep.org/civil-society-engagement/major-groups-modalities/major-group-categories/indigenous-peoples-and> (Accessed on 31/10/2025)

¹⁵ United Nations Development Programme., 'What is climate justice and why does it matter?' Available at <https://climatepromise.undp.org/news-and-stories/climate-change-matter-justice-heres-why> (Accessed on 31/10/2025)

¹⁶ Giles. M., 'The Principles of Climate Justice at CoP27.' Available at <https://earth.org/principles-ofclimatejustice/#::~:~:text=That%20response%20should%20be%20based,the%20consequences%20of%20climate%20change> (Accessed on 31/10/2025)

¹⁷ United Nations Environment Programme., 'Responding to Climate Change' Op Cit

¹⁸ Fonjong. L., Matose. F., & Sonnenfeld. D., 'Climate change in Africa: Impacts, adaptation, and policy responses' Available at <https://www.sciencedirect.com/science/article/pii/S095937802400116X> (Accessed on 31/10/2025)

¹⁹ African Development Bank Group., 'Climate Change in Africa.' Available at <https://www.afdb.org/en/cop25/climate-change-africa> (Accessed on 31/10/2025)

²⁰ Rao. V., & Yadav. P., 'Confronting Climate Change in Africa.' Available at <https://knowledge.insead.edu/responsibility/confronting-climate-change-africa> (Accessed on 31/10/2025)

²¹ United Nations., 'What is Climate Change?' Op Cit

millions of people at risk of famine²². Climate change therefore has unequal burden on developing countries.

Further, climate change has adverse and uneven impacts on women and girls. According to the United Nations, women and girls, especially those in rural areas face disproportionate impacts from climate change since they make up the majority of the world's poor, who are highly dependent on local natural resources for their livelihoods²³. It has been argued that women and girls are more susceptible to climate change and its impacts due to their dependence on the environment and natural resources for the livelihoods and due to the fact that they have access to fewer resources to adapt and cope with abrupt climatic changes²⁴. Young people are also disproportionately impacted by climate change since they are likely to live with the consequences of climate change for longer timeframes compared to older generations²⁵. Further, due to challenges such as reduced mobility and limited access to resources, the elderly and persons with disabilities are highly vulnerable to the adverse impacts of climate change, including threats to their health, food security, access to water and sanitation, and livelihoods, particularly in developing countries²⁶.

From the foregoing, it is evident that climate change has adverse and unequal impacts on vulnerable individuals, communities and nations including the poor, indigenous peoples, local communities, developing countries, women and girls, the youth, the elderly and persons with disabilities. Climate justice acknowledges these inequalities. Climate justice has been described as the moral and ethical principle that seeks to address the disproportionate impact of climate change on the vulnerable²⁷. It has been argued that climate justice means putting equity, inclusivity and human rights at the core of decision-making and action on climate change²⁸. At its core, climate justice focuses on the protection of human rights and of the most vulnerable including the poor, women and girls, the youth, indigenous peoples and local communities in the face of climate change²⁹. It involves understating climate change as an issue that relates to equity, fairness, ethics and human rights and not just an environmental phenomena³⁰.

²² Ibid

²³ United Nations., 'Why Women are Key to Climate Action' Available at <https://www.un.org/en/climatechange/science/climate-issues/women> (Accessed on 31/10/2025)

²⁴ United Nations Development Programme., 'What is climate justice and why does it matter?' Op Cit

²⁵ Climate Change is a Youth Issue., Available at <https://www.ifad.org/en/w/opinions/climate-change-is-a-youth-issue> (Accessed on 31/10/2025)

²⁶ United Nations Development Programme., 'What is climate justice and why does it matter?' Op Cit

²⁷ Climate Justice Global Alliance., Op Cit

²⁸ United Nations Development Programme., 'Climate change is a matter of justice – here's why' Op Cit

²⁹ Aliozi. Z., 'Climate Justice and Human Rights, in a World in Climate Emergency' Available at <https://repository.gchumanrights.org/server/api/core/bitstreams/2eba3de1-1427-481b-a2d6-07818e00a53b/content> (Accessed on 31/10/2025)

³⁰ United Nations Environment Programme., 'Climate Justice.' Available at <https://leap.unep.org/knowledge/glossary/climate-justice> (Accessed on 31/10/2025)

Climate justice therefore involves focusing on how climate change impacts people differently, unevenly, and disproportionately, as well as redressing the resultant injustices in fair and equitable ways³¹. It is based on the understanding that the adverse impacts of climate change are not felt equitably among people and nations³². Climate justice acknowledges that the worst effects of climate change are felt by the most vulnerable and least responsible for the climate crisis³³. Consequently, climate justice advocates for fair, inclusive and equitable climate solutions that prioritize the needs of those who are most affected by climate change³⁴. This idea seeks to ensure that the burdens and benefits of climate action are distributed fairly and equitably, taking into account historical and systemic inequalities³⁵. It has been argued that climate justice envisages effective climate action which fosters the participation of the people and communities most impacted by climate change including developing countries, indigenous communities, women and children as part of the climate solution in order to achieve equity, justice and inclusivity for all³⁶.

Fostering climate justice is therefore vital for people and planet. Climate justice provides solutions that protect the rights of the vulnerable, ensure transparency and inclusivity in climate action, and amplify the voices of vulnerable communities including through integrating indigenous wisdom and traditional knowledge into climate policy frameworks³⁷. Climate justice promotes pathways that address the root causes of climate change while also tackling a broad range of social, racial, and environmental injustices caused by climate change³⁸. Despite its role in protecting people and planet, several challenges undermine the quest towards climate justice. For instance, disadvantaged individuals and groups including women, the youth, indigenous peoples and local communities face inadequate representation in climate change decision making processes undermining true climate justice³⁹. Further, developing countries lack access to adequate finance and technical resources to respond to climate change⁴⁰. It is imperative to address these challenges in order to foster true climate justice for people and planet.

³¹ Sultana. F., 'Critical Climate Justice.' Available at <https://www.farhanasultana.com/wp-content/uploads/Sultana-Critical-climate-justice.pdf> (Accessed on 31/10/2025)

³² Aliozi. Z., 'Climate Justice and Human Rights, in a World in Climate Emergency' Op Cit

³³ Ibid

³⁴ Climate Justice Global Alliance., Op Cit

³⁵ Ibid

³⁶ Muigua. K., 'Fostering Climate Justice for Sustainable Development.' Available at <https://kmco.co.ke/wp-content/uploads/2023/07/Fostering-Climate-Justice-for-SustainableDevelopment.pdf> (Accessed on 31/10/2025)

³⁷ International Commission of Jurists., 'Why Climate Justice Matters In Kenya: Unpacking The Fairness Of The Climate Crisis' Available at <https://icj-kenya.org/news/why-climate-justice-matters-in-kenya-unpacking-the-fairness-of-the-climate-crisis/> (Accessed on 31/10/2025)

³⁸ Center for Climate Justice., 'What is Climate Justice?' Available at <https://centerclimatejustice.universityofcalifornia.edu/what-is-climate-justice/#:~:text=Climate%20justice%20connects%20the%20climate,least%20responsible%20for%20the%20problem> (Accessed on 31/10/2025)

³⁹ United Nations Development Programme., 'Climate change is a matter of justice – here's why' Op Cit

⁴⁰ Ibid

3.0 Achieving True Climate Justice for People and Planet

Climate change is having disproportionate impacts on vulnerable individuals, communities and nations. Despite contributing negligibly to the climate crisis, indigenous peoples, local communities, women and girls, the youth, the elderly, persons with disabilities and developing countries are unevenly impacted by climate change⁴¹. Achieving climate justice is therefore key in protecting the vulnerable from the adverse impacts of climate change. Climate justice is vital in protecting people and planet by linking human rights with development and climate action, having a people centred approach to climate action, understanding that not everyone has contributed to climate change in the same way and combatting injustices resulting from climate change including social, gender, economic, intergenerational and environmental injustices⁴². Climate justice aims to reduce marginalization, inequalities, exploitation, and oppression, and enhance equity, fairness and justice in climate action⁴³. Fostering climate justice is therefore key in safeguarding people and planet.

In order to achieve true climate justice, it is imperative to ensure that climate action is participatory, inclusive, responsive, transparent and accountable⁴⁴. It has been argued that the voices of vulnerable individuals and communities must be heard and taken into account for climate justice to be realized⁴⁵. Empowering marginalized and disadvantaged groups including women, the youth, persons with disabilities, indigenous peoples and local communities through access to climate information and meaningful participation in climate change decision making processes is therefore important towards true climate justice⁴⁶.

There is also need to protect the human rights of vulnerable individuals and communities. It has been argued that the adverse effects of climate change have a range of implications, both direct and indirect, on the effective enjoyment of human rights⁴⁷. Climate change impacts a wide range of human rights including the right to health, the right to clean water and sanitation, the right to food and the right to housing⁴⁸. It has been argued that the effects of climate change are felt most acutely by those segments of the population who are already in vulnerable situations owing to factors such as geography, poverty, gender, age, indigenous or minority status and disability

⁴¹ Aliozi. Z., 'Climate Justice and Human Rights, in a World in Climate Emergency' Op Cit

⁴² UNICEF., 'What is Climate Justice? and What can we do Achieve it?' Available at <https://www.unicef.org/globalinsight/what-climate-justice-and-what-can-we-do-achieve-it#:~:text=Utilizing%20a%20climate%20justice%20approach,vulnerability%20to%20the%20climate%20crisis>. (Accessed on 31/10/2025)

⁴³ Sultana. F., 'Critical Climate Justice.' Op Cit

⁴⁴ Mary Robinson Foundation Climate Justice., 'Principles of Climate Justice' Available at <https://www.mrfcj.org/principles-of-climate-justice/> (Accessed on 31/10/2025)

⁴⁵ Ibid

⁴⁶ United Nations Development Programme., 'Climate change is a matter of justice – here's why' Op Cit

⁴⁷ Mary Robinson Foundation Climate Justice., 'Incorporating Human Rights into Climate Action' Available at <https://www.mrfcj.org/wp-content/uploads/2016/05/Incorporating-Human-Rights-into-Climate-Action-Version-2-May-2016.pdf> (Accessed on 31/10/2025)

⁴⁸ Ibid

therefore undermining their fundamental human rights⁴⁹. Consequently, protecting the human rights of the vulnerable is fundamental towards achieving true climate justice. For instance, the integration of human rights standards and considerations into climate laws and policies is central to achieving sound climate action for people and planet⁵⁰. Human rights obligations and commitments have the potential to inform and strengthen international, regional and national policymaking on climate change, promoting policy coherence, legitimacy and sustainable outcomes that safeguard people and planet⁵¹. Upholding human rights is therefore necessary towards achieving true climate justice.

In addition, it is vital to enhance access to climate finance for developing countries and regions of the world in order to bolster their ability to respond to the effects of climate change⁵². Access to adequate climate finance is vital in enhancing the capacity of developing countries to confront climate change. Access to adequate finance is crucial in combating climate change since the adaptation and mitigation efforts that are necessary in enhancing global, regional, national and local responses to climate change require funding⁵³. However, it has been observed that access to finance remains a fundamental barrier to effective climate action in developing countries⁵⁴. Sound climate action requires a large amount of investments that may be out of reach for developing countries⁵⁵. Due to their negligible contribution to the climate crisis, climate justice requires developing countries to be supported with adequate funding in order to enhance their capacity to tackle climate change⁵⁶. As a result, there is need for developed countries and international financial institutions to increase climate funding to developing countries in order to enhance their climate resilience through measures such as investments in food security, clean technology, sustainable transport and infrastructure, climate-resilient agriculture, renewable energy, sustainable blue economy and sustainable forestry⁵⁷.

⁴⁹ United Nations Human Rights Council., 'Resolution 10/4. Human Rights and Climate Change' Available at https://ap.ohchr.org/documents/E/HRC/resolutions/A_HRC_RES_10_4.pdf (Accessed on 31/10/2025)

⁵⁰ Mary Robinson Foundation Climate Justice., 'Incorporating Human Rights into Climate Action' Op Cit

⁵¹ United Nations Human Rights Council., 'Resolution 10/4. Human Rights and Climate Change' Op Cit

⁵² Hong, H., 'Climate Finance.' *Review of Financial Studies*, Volume 33, No. 3, 2020

⁵³ Climate Finance., 'Climate Finance Essential for Mitigating and Adapting to Climate Change.' Available at <https://www.iberdrola.com/sustainability/what-is-climate-finance> (Accessed on 31/10/2025)

⁵⁴ United Nations Development Programme., 'What is climate finance and why do we need more of it?' Available at <https://climatepromise.undp.org/news-and-stories/what-climate-finance-and-why-do-we-need-more-it> (Accessed on 31/10/2025)

⁵⁵ Ibid

⁵⁶ Giles. M., 'The Principles of Climate Justice at CoP27.' Available at <https://earth.org/principles-of-climatejustice/#:~:text=That%20response%20should%20be%20based,the%20consequences%20of%20climate%20change> (Accessed on 31/10/2025)

⁵⁷ The World Bank Group., '3 Things You Need to Know About Climate Finance.' Available at <https://www.worldbank.org/en/topic/climatechange/brief/3-things-you-need-to-know-about-climate-finance> (Accessed on 31/10/2025)

Achieving true climate justice also involves enhancing access to justice for vulnerable individuals and communities. By enhancing access to justice, vulnerable groups including the youth, women, indigenous peoples and local communities can be effectively protected through access to remedies and holding countries and organizations accountable in respect of laws and policies on climate change⁵⁸. Further, it has been argued that access to justice can also strengthen prospects for sustaining peace and stability by preventing and resolving climate change conflicts and disputes⁵⁹. It is therefore imperative to enhance access to justice in the climate change discourse including through climate litigation and Alternative Dispute Resolution (ADR) processes such as arbitration and mediation in order to achieve true climate justice for people and planet⁶⁰.

4.0 Conclusion

Achieving true climate justice is vital in light of the disproportionate impacts of climate change on vulnerable individuals, groups, communities and nations. In order to realise this dream, it is imperative to ensure that climate action is participatory, inclusive, responsive, transparent and accountable⁶¹; protect the human rights of vulnerable individuals and communities⁶²; unlock climate finance for developing countries⁶³; and enhance access to justice in climate matters⁶⁴. Achieving true climate justice is therefore a practical and achievable imperative towards protecting people and planet for sustainability.

⁵⁸ Setzer, J., 'Climate Change Litigation: A Review of Research on Courts and Litigants in Climate Governance.' Available at https://www.researchgate.net/profile/JoanaSetzer/publication/331499727_Climate_change_litigation_A_review_of_research_on_courts_and_litigants_in_climate_governance/links/5e89690d92851c2f527f820d/Climate-change-litigation-A-review-ofresearch-on-courts-and-litigants-in-climate-governance.pdf (Accessed on 31/10/2025)

⁵⁹ International Development Law Organization., 'Climate Justice: A Rule of Law Approach for Transformative Climate Action.' Available at <https://www.idlo.int/publications/climate-justice-rule-law-approach-transformative-climate-action> (Accessed on 31/10/2025)

⁶⁰ Ibid

⁶¹ Mary Robinson Foundation Climate Justice., 'Principles of Climate Justice' Op Cit

⁶² Ibid

⁶³ Hong, H., 'Climate Finance.' Op Cit

⁶⁴ International Development Law Organization., 'Climate Justice: A Rule of Law Approach for Transformative Climate Action.' Op Cit

Energy Transition in Africa: Ensuring Inclusivity and Climate Justice for Indigenous and Vulnerable Communities

Abstract

This paper discusses how Africa can ensure inclusivity and justice in its journey towards energy transition. The paper argues that energy transition is a key priority for Africa towards actualising the 2030 Agenda for Sustainable Development and the goals and aspirations of African Union's Agenda 2063. It posits that Africa has immense potential to achieve energy transition due to several favourable factors including the abundance of renewable sources of energy in the continent and the availability of energy transition minerals. Despite its immense potential to actualise energy transition, the paper argues that energy transition in Africa is fuelling justice, equity and human rights concerns. In particular, the paper notes that indigenous and vulnerable communities are often excluded from decision-making processes with their rights also being violated. In light of these challenges, the paper argues that it is imperative to foster equitable energy transition in Africa. It examines how Africa can ensure inclusivity and climate justice for indigenous and vulnerable communities in order to achieve equitable energy transition for Sustainable Development.

1.0 Introduction

Energy transition refers to the transformative shift in how energy is produced, distributed and consumed, with the aim of moving away from fossil fuels towards an energy system centred on clean and sustainable sources of energy such as renewable energy¹. In addition, energy transition has been described as the global energy sector's shift from fossil fuel-based systems of energy production and consumption including oil, natural gas and coal to renewable energy sources like wind and solar². It has been argued that energy transition involves the shift from an energy mix based on fossil fuels to one that produces very limited, if not zero, carbon emissions, based on renewable energy sources³. The concept of energy transition therefore involves shifting energy production, supply and consumption away from fossil fuels and towards clean and sustainable energy sources, with a focus on renewable energy, without derailing economic growth⁴.

Fast-tracking energy transition is a vital agenda globally for both people and planet. For instance, it has been noted that burning of fossil fuels like coal, oil and gas is the primary cause of climate

¹ United Nations Development Programme., 'What is the sustainable energy transition and why is it key to tackling climate change?' Available at <https://climatepromise.undp.org/news-and-stories/what-sustainable-energy-transition-and-why-it-key-tackling-climate-change> (Accessed on 19/09/2025)

² S & P Global., 'What is Energy Transition?' Available at <https://www.spglobal.com/en/research-insights/articles/what-is-energy-transition> (Accessed on 19/09/2025)

³ The Energy Transition., Available at <https://www.enelgreenpower.com/learning-hub/energy-transition> (Accessed on 19/09/2025)

⁴ The Energy Transition., Available at <https://www.pwc.com/id/en/services/energy-transition.html> (Accessed on 19/09/2025)

change⁵. The United Nations points out that fossil fuels are by far the largest contributor to global climate change, accounting for over 75 percent of global greenhouse gas emissions and nearly 90 percent of all carbon dioxide emissions⁶. Fossil fuels also have devastating impacts on human and environmental health. They have been linked to air pollution with severe impacts on people and planet⁷. In addition, since fossil fuels are non-renewable, they can be depleted and therefore, placing too much reliance on them can affect global energy security and supply⁸.

Actualising energy transition therefore provides numerous benefits in the quest towards Sustainable Development. It has been argued that achieving energy transition presents a unique opportunity to address key global challenges including climate change, energy access disparities, poverty, inequality, and health impacts of the energy sector therefore laying the foundation for a sustainable, inclusive and more resilient future⁹. The ideal of global energy transition is envisioned under the United Nations *2030 agenda for Sustainable Development*¹⁰. Under the Agenda, Sustainable Development Goal (SDG) 7 seeks to ensure access to affordable, reliable, sustainable and modern energy for all including through substantially increasing the share of renewable energy in the global energy mix¹¹. Despite its crucial role in the Sustainable Development agenda, it has been argued that global energy transition is undermined by several challenges including renewable energy disputes, human rights violations and injustices against indigenous and vulnerable communities who are often excluded from decision-making processes and displaced from their ancestral lands¹². In light of these challenges, it is imperative to ensure just, equitable and inclusive energy transition for Sustainable Development.

This paper discusses how Africa can ensure inclusivity and justice in its journey towards energy transition. The paper argues that energy transition is a key priority for Africa towards actualising the 2030 Agenda for Sustainable Development and the goals and aspirations of African Union's Agenda 2063. It posits that Africa has immense potential to achieve energy transition due to

⁵ United Nations., 'What is Climate Change?' Available at <https://www.un.org/en/climatechange/what-is-climate-change> (Accessed on 19/09/2025)

⁶ United Nations., 'Renewable Energy - Powering a Safer Future' Available at <https://www.un.org/en/climatechange/raising-ambition/renewable-energy> (Accessed on 19/09/2025)

⁷ Solomon. B., & Krishna. K., 'The Coming Sustainable Energy Transition: History, Strategies, and Outlook.' *Energy Policy* 39 (2011) 7422-7431

⁸ Ibid

⁹ United Nations Development Programme., 'What is the sustainable energy transition and why is it key to tackling climate change?' Op Cit

¹⁰ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 19/09/2025)

¹¹ Ibid

¹² United Nations Environment Programme., 'Critical Energy Transition Minerals' Available at <https://www.unep.org/topics/energy/renewable-energy/critical-energy-transition-minerals> (Accessed on 19/09/2025)

several favourable factors including the abundance of renewable sources of energy in the continent and the availability of energy transition minerals. Despite its immense potential to actualise energy transition, the paper argues that energy transition in Africa is fueling justice, equity and human rights concerns. In particular, the paper notes that indigenous and vulnerable communities are often excluded from decision-making processes with their rights also being violated. In light of these challenges, the paper argues that it is imperative to foster equitable energy transition in Africa. It examines how Africa can ensure inclusivity and climate justice for indigenous and vulnerable communities in order to achieve equitable energy transition for Sustainable Development.

2.0 Energy Transitions in Africa: Opportunities and Challenges

Energy transition is a fundamental goal in Africa. For example, energy access remains a key challenge in the continent with millions of people lacking reliable, affordable, sustainable and modern energy services¹³. It is estimated that nearly half of Africa's population lack access to electricity which is more than 80 per cent of the global population without access to electricity¹⁴. Further, it has been observed that Africa accounts for majority of the world's population without access to electricity and clean sources of cooking¹⁵. According to the International Energy Agency (IEA), enhancing access to energy is a crucial goal for Africa, where nearly 600 million people live without electricity and roughly 1 billion people lack access to clean cooking sources¹⁶.

The continued reliance on fossil fuels and bio-energy sources such as charcoal, wood fuel and dung for cooking is fueling environmental and health concerns in Africa. For example, fossil fuels are causing and worsening the impacts of climate change in Africa¹⁷. Africa is the most vulnerable region globally to climate change and its impacts and therefore effective responses including adopting renewable sources of energy are required in order to confront climate change in the continent¹⁸. In addition, majority of the population in Sub-Saharan Africa lack access to clean and

¹³ United Nations Sustainable Development Group., 'Decoding Africa's Energy Journey: Three Key Numbers' Available at <https://unsdg.un.org/latest/stories/decoding-africa%E2%80%99s-energy-journey-three-key-numbers#:~:text=600%20million%20Africans%20without%20access,access%2C%20according%20to%202022%20data>. (Accessed on 19/09/2025)

¹⁴ Ibid

¹⁵ World Bank Group., 'Energy Access in Eastern and Southern Africa' Available at <https://www.worldbank.org/en/region/afr/brief/afe-energy> (Accessed on 19/09/2025)

¹⁶ International Energy Agency., 'World Energy Investments 2024: Africa' Available at <https://www.iea.org/reports/world-energy-investment-2024/africa> (Accessed on 19/09/2025)

¹⁷ Muigua. K., 'Towards Energy Justice in Kenya.' Available at <https://kmco.co.ke/wp-content/uploads/2020/02/Towards-Energy-Justice-in-Kenya-00000005.pdf> (Accessed on 19/09/2025)

¹⁸ United Nations Environment Programme., 'Responding to climate change' Available at <https://www.unep.org/regions/africa/regional-initiatives/responding-climate-change> (Accessed on 19/09/2025)

affordable energy and depend on traditional fuels for cooking¹⁹. The use of traditional fuels for cooking in Africa is destroying nature through deforestation, destruction of habitats and biodiversity loss, and climate change²⁰. In addition, the use of bio-energy sources for cooking is also linked to more than 500,000 annual deaths globally due to indoor pollution²¹.

In light of the foregoing challenges, achieving energy transition has become a vital sustainability and development objective in Africa. It has been argued that in order to address energy access, climate change, biodiversity loss and pollution concerns in Africa, energy transition is an essential and transformative process aimed at reducing the continent's carbon footprint, safeguarding the environment and fostering socio-economic development²². The ideal of energy transition in Africa is well captured under African Union's *Agenda 2063*²³ which portrays the vision of a Continent where renewable energy including wind, solar, hydro, bioenergy, ocean tidal waves, geothermal and other renewables claim more than half of the energy consumption for households, businesses and organizations²⁴.

Africa has immense potential to achieve energy transition. For example, the continent is rich in renewable energy with wind, solar, hydro, bioenergy, ocean tidal waves, geothermal among other renewables being abundant throughout the continent²⁵. It has been pointed out that Africa is rich in renewable energy resources, including abundant sunlight, strong winds, and geothermal energy which can be harnessed to fast-track energy transition and Sustainable Development²⁶. In addition, Africa has viable deposits of critical raw materials including cobalt,

¹⁹ Bildirici. M & Ozaksoy.F., 'Woody Biomass Energy Consumption and Economic Growth in Sub-Saharan Africa' *Procedia Economics and Finance* 38 (2016) 287 – 293.

²⁰ Energy Access in Africa., Available at https://wwf.panda.org/discover/our_focus/climate_and_energy_practice/what_we_do/changing_energy_use/energy_access_africa/ (Accessed on 19/09/2025)

²¹ United Nations., 'Advancing SDG 7 in Africa.' Available at <https://sdgs.un.org/sites/default/files/2023-06/2023%20Advancing%20SDG7%20in%20the%20Africa-062923.pdf> (Accessed on 19/09/2025)

²² Boucetta. M., 'Towards a Just Energy Transition for Africa' Available at <https://www.policycenter.ma/publications/towards-just-energy-transition-africa#:~:text=To%20address%20climate%20change%2C%20the,demand%20by%20altering%20consumption%20patterns>. (Accessed on 19/09/2025)

²³ Africa Union., 'Agenda 2063: The Africa we Want.' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 19/09/2025)

²⁴ Ibid

²⁵ Ibid

²⁶ AUDA-NEPAD., 'Empowering Africa: Enhancing Access To Electricity Through Renewable Energy' Available at <https://www.nepad.org/blog/empowering-africa-enhancing-access-electricity-through-renewable-energy> (Accessed on 19/09/2025)

bauxite, manganese, graphite, lithium, chromium and rare earth elements²⁷. It has been argued that the transition from fossil fuels to clean energy sources globally depends on the availability and sustainable use of critical energy transition minerals including copper, lithium, nickel and cobalt which are essential components in many of today's rapidly growing clean energy technologies including wind turbines, solar panels and electric vehicles²⁸. Due to the abundance of these vital resources in Africa, it has been argued that the continent is at the heart of a low-carbon future²⁹.

Africa therefore has several favourable factors that can be harnessed towards achieving energy transition. As a result, there has been a growth of investments in renewable energy in Africa. It has been observed that the production of renewable energy is growing in Africa with hydro, solar, wind, geothermal, biofuels and biomass accounting for a significant percentage of the total primary energy produced on the continent³⁰. It has been argued that energy transition is beginning to bear fruit in several African countries with wind and solar power dominating non-hydro renewable energy generation and installed capacity³¹. Further, there has been a significant growth in mining activities aimed at extracting critical raw materials in Africa towards actualising energy transition³².

Despite the foregoing efforts, energy transition in Africa is fuelling several concerns against indigenous and vulnerable communities. For example, wind and solar farms, hydroelectric dams, and geothermal plants needed to adopt renewable energy all require significant land and water resources, often leading to disputes with indigenous and vulnerable communities over land rights and environmental impacts³³. In some instances, renewable energy projects have been implemented in Africa while overlooking the rights of local communities and indigenous peoples who bear the brunt of the environmental and social impacts³⁴. Investors have often been accused of violating the Free, Prior and Informed Consent (FPIC) of indigenous and vulnerable

²⁷ Mo Ibrahim Foundation., 'Africa's Critical Minerals: Africa at the Heart of a Low-Carbon Future' Available at <https://mo.ibrahim.foundation/sites/default/files/2022-11/minerals-resource-governance.pdf> (Accessed on 19/09/2025)

²⁸ United Nations Environment Programme., 'Critical Energy Transition Minerals' Op Cit

²⁹ Mo Ibrahim Foundation., 'Africa's Critical Minerals: Africa at the Heart of a Low-Carbon Future' Op Cit

³⁰ United Nations Conference on Trade and Development., 'Commodities at a Glance: Special Issue on Access to Energy in Sub-Saharan Africa.' Available at Available at <https://unctad.org/publication/commodities-glance-special-issue-access-energy-sub-saharan-africa#:~:text=Access%20to%20energy%20is%20defined,be%20scaled%20up%20over%20time> (Accessed on 19/09/2025)

³¹ United Nations., 'Advancing SDG 7 in Africa.' Op Cit

³² Mo Ibrahim Foundation., 'Africa's Critical Minerals: Africa at the Heart of a Low-Carbon Future' Op Cit

³³ The Role of Fossil Fuel and Renewable Energy Projects in Conflict Across Africa., Available at <https://www.accord.org.za/analysis/the-role-of-fossil-fuel-and-renewable-energy-projects-in-conflict-across-africa/> (Accessed on 19/09/2025)

³⁴ Ibid

communities during the implementation of renewable energy projects³⁵. Renewable energy projects in Africa have come at the expense of human rights, including the loss of land, livelihoods and other rights of indigenous peoples including the right to a clean, healthy and sustainable environment³⁶.

In addition, unsustainable extraction of critical raw materials is a major threat to the environmental rights of indigenous peoples and vulnerable communities since it leads to environmental degradation, deforestation, pollution, climate change and biodiversity loss³⁷. The extraction of critical raw materials needed to actualise energy transitions both globally and in Africa has had negative impacts on indigenous people's rights who are often displaced from their ancestral lands³⁸. Energy transitions in Africa can therefore undermine the rights of indigenous and vulnerable communities. It is imperative to ensure inclusivity and justice for indigenous peoples and vulnerable communities in order to achieve equitable energy transition in Africa for Sustainable Development.

3.0 Ensuring Inclusivity and Climate Justice for Indigenous and Vulnerable Communities in Energy Transition in Africa

Energy transition is a crucial goal for Africa. It has been argued that energy transition will continue transforming the global economic landscape in terms of regulations, energy investments, and technological solutions in the coming decades³⁹. With its abundant renewable sources of energy and critical raw materials, Africa is poised to play a significant role in energy transition while addressing its own Sustainable Development needs⁴⁰. It has been argued that Africa can harness its abundant potential of increasingly cost-competitive renewable energy to service the growing demand for electricity in the continent while avoiding the negative impacts of fossil fuels including oil, gas and coal⁴¹. By realising energy transition, Africa can create new jobs, accelerate economic growth and mitigate the adverse impacts of climate change⁴². With the world shifting towards a more sustainable future through energy transition, Africa has the

³⁵ Ibid

³⁶ Impact of renewable energy projects on Indigenous communities in Kenya., Available at <https://iwgia.org/en/kenya/3534-impact-of-renewable-energy-projects-on-indigenous-communities-in-kenya.html#:~:text=Kenya's%20ambitious%20plan%20to%20transition,energy%20by%20this%20year%2C%202020>. (Accessed on 19/09/2025)

³⁷ United Nations Environment Programme., 'What are energy transition minerals and how can they unlock the clean energy age?' Available at <https://www.unep.org/news-and-stories/story/what-are-energy-transition-minerals-and-how-can-they-unlock-clean-energy-age> (Accessed on 19/09/2025)

³⁸ United Nations Environment Programme., 'Critical Energy Transition Minerals' Op Cit

³⁹ Boucetta. M., 'Towards a Just Energy Transition for Africa' Op Cit

⁴⁰ Ibid

⁴¹ The Renewable Energy Transition in Africa: Powering Access, Resilience and Prosperity., Available at https://www.giz.de/en/downloads/Study_Renewable%20Energy%20Transition%20Africa-EN.pdf (Accessed on 19/09/2025)

⁴² Ibid

capacity to emerge as a key player in the global renewable energy mix⁴³. Energy transition is therefore an achievable dream for Africa.

Africa therefore has immense potential to achieve energy transition. However, it is imperative to ensure inclusivity and climate justice for indigenous peoples and vulnerable communities. Indigenous and vulnerable communities are usually sidelined in renewable energy projects while also facing human rights threats including dispossession from their ancestral lands and environmental degradation⁴⁴. As a result, there is need to ensure inclusivity and participation of indigenous and vulnerable communities in energy transitions including through upholding their right to FPIC⁴⁵. The concept of FPIC is a legal principle that seeks to protect indigenous peoples' collective rights including their right to self-determination, their right to be consulted, their right to participate in decisions that may affect them, and their rights to their lands and resources⁴⁶. It has been argued that FPIC is a process where indigenous peoples and vulnerable communities who may be affected by a project are meaningfully engaged in project design, implementation and decision-making, are fully informed and are able to grant or deny consent at any stage⁴⁷. By promoting FPIC for indigenous and vulnerable communities, it is possible to ensure that energy transition is just and equitable including through the participation of indigenous peoples in renewable energy projects, respect for the land rights of indigenous and vulnerable communities and embracing sustainable and ethical mining practices while extracting critical raw materials⁴⁸.

It is also imperative to foster climate justice for indigenous and vulnerable communities in Africa. It has been argued that indigenous peoples both globally and in Africa are among the first to face the direct consequences of climate change, due to their dependence upon, and close relationship, with the environment and its resources⁴⁹. Climate change worsens the difficulties already faced by indigenous peoples and vulnerable communities including political and economic

⁴³ Ebatamehi. S., 'Top 10 African Countries Leading in Renewable Energy and Green Innovation in 2025' Available at <https://www.africanexponent.com/top-10-african-countries-leading-in-renewable-energy-and-green-innovation-in-2025/> (Accessed on 19/09/2025)

⁴⁴ Impact of renewable energy projects on Indigenous communities in Kenya., Op Cit

⁴⁵ Ibid

⁴⁶ United Nations Development Programme., 'SES Supplemental Guidance: Frequently Asked Questions (FAQs) on Applying Free Prior Informed Consent (FPIC)' Available at <https://ses-toolkit.info.undp.org/sites/g/files/zskgke446/files/SES%20Document%20Library/Uploaded%20October%202016/FINAL%20FPIC%20FAQ%20Guidance%20-%20June%2015%202022.pdf> (Accessed on 19/09/2025)

⁴⁷ Ibid

⁴⁸ United Nations., 'Securing Indigenous Rights in the Energy Transition: Preventing Harm, Ensuring Consent, and Promoting Equity in Transition Minerals Extraction' Available at https://social.desa.un.org/sites/default/files/inline-files/Galina_Angarova_EGM_2024_0.pdf (Accessed on 19/09/2025)

⁴⁹ United Nations., 'Climate Change' Available at <https://www.un.org/development/desa/indigenouspeoples/climate-change.html> (Accessed 19/09/2025)

marginalization, loss of land and resources, human rights violations, discrimination and unemployment⁵⁰. Achieving climate justice for indigenous and vulnerable communities is therefore vital towards effectively confronting climate change. Climate justice focuses on how climate change impacts people differently, unevenly, and disproportionately, as well as redressing the resultant injustices in fair and equitable ways⁵¹. It seeks to reduce marginalization, exploitation, and oppression, and enhance equity and justice in climate action⁵². It involves putting equity and human rights at the core of decision-making and action on climate change⁵³. Climate justice is key in achieving just and equitable energy transition that upholds the rights of the vulnerable including indigenous peoples and vulnerable communities. By fostering climate justice, it is possible to achieve a fair and inclusive shift to clean energy across Africa, ensuring that the continent's most vulnerable populations including indigenous peoples are not left behind⁵⁴. Ensuring climate justice is therefore vital towards just and equitable energy transition in Africa.

4.0 Conclusion

Energy transition is a key agenda both globally and in Africa towards protecting people and planet. Africa has immense potential to achieve energy transition due to several favourable factors including the abundance of renewable energy and critical raw materials⁵⁵. However, energy transition in Africa can potentially undermine the rights of indigenous peoples and vulnerable communities. It is therefore necessary to foster just and equitable energy transition in Africa by protecting indigenous and vulnerable communities. Ensuring inclusivity and climate justice for indigenous peoples and vulnerable communities are urgent and achievable priorities towards achieving a fair and equitable energy transition in Africa for sustainability.

⁵⁰ Ibid

⁵¹ Sultana. F., 'Critical Climate Justice.' Available at <https://www.farhanasultana.com/wp-content/uploads/Sultana-Critical-climate-justice.pdf> (Accessed on 19/09/2025)

⁵² Ibid

⁵³ United Nations Development Programme., 'Climate Change is a Matter of Justice - Here's Why.' Available at <https://climatepromise.undp.org/news-and-stories/climate-change-matter-justice-heres-why> (Accessed on 19/09/2025)

⁵⁴ Thematic Profile: Just Transition and Energy Access., Available at <https://pacja.org/just-transition-and-energy-access-2/#::~:~:text=Overview,million%20without%20clean%20cooking%20solutions.> (Accessed on 19/09/2025)

⁵⁵ Mo Ibrahim Foundation., 'Africa's Critical Minerals: Africa at the Heart of a Low-Carbon Future' Op Cit

From Policy to Climate Action: Decarbonizing Energy for Social Justice and Sustainability

Abstract

This paper examines how energy can be decarbonized for social justice and sustainability. The paper argues that despite the crucial role that energy plays in fostering Sustainable Development, its consumption triggers several threats to people and planet. In particular, the paper posits that the energy sector is a major contributor to the climate crisis with severe consequences for people and planet. In light of these challenges, the paper argues that decarbonizing the energy sector is a vital and effective solution towards bolstering climate action and protecting people and planet. It discusses ways through which the energy sector can be decarbonized for social justice and sustainability.

1.0 Introduction

Energy is a vital resource whose availability, affordability and sustainability is necessary for human progress and prosperity. It has been argued that our everyday life depends on reliable and affordable energy¹. Energy is therefore a key enabler of development. Access to modern, reliable, affordable and sustainable energy is crucial in attaining most of the Sustainable Development Goals (SDGs), including through the eradication of poverty to advancements in health, education, water supply and industrialization, to combating climate change². According to the United Nations, well-established energy systems support all sectors including businesses, healthcare, education, agriculture, infrastructure, transport, communications and high technology³.

Energy therefore provides opportunities to unlock human progress and Sustainable Development. For example, access to clean, modern, affordable, reliable and sustainable sources of energy is necessary for Sustainable Development by reducing greenhouse gas emissions, improving energy access and security, creating jobs, and stimulating socio-economic development across education, healthcare, transport and infrastructure, water and sanitation among other vital areas⁴. On the other hand, lack of access to clean, reliable and sustainable energy contributes to poverty and deprivation and can lead to economic decline⁵. For example, it has been observed that millions of people globally lack access to affordable, reliable, sustainable

¹ United Nations., 'Goal 7: Affordable and Clean Energy' Available at <https://www.un.org/sustainabledevelopment/energy/> (Accessed on 09/11/2025)

² Energy and the Sustainable Development Goals., Available at https://energypedia.info/wiki/Energy_and_the_Sustainable_Development_Goals (Accessed on 09/11/2025)

³ United Nations., 'Goal 7: Affordable and Clean Energy' Op Cit

⁴ The role of renewable energy technologies in sustainable development., Available at <https://timesofindia.indiatimes.com/blogs/voices/the-role-of-renewable-energy-technologies-in-sustainable-development/> (Accessed on 09/11/2025)

⁵ Bradbrook. A., 'Access to Energy Services in a Human Rights Framework.' Available at https://www.un.org/esa/sustdev/sdissues/energy/op/parliamentarian_forum/bradbrook_hr.pdf (Accessed on 09/11/2025)

and modern sources of energy undermining social justice and sustainability⁶. This situation is particularly worse in Sub-Saharan Africa and Asia where lack of clean, reliable and affordable energy affects key sectors including healthcare, agriculture, education and industrialization⁷. At the same time, the consumption of energy is the dominant contributor to climate change, accounting for nearly two-thirds of total global greenhouse gas emissions⁸. In light of these concerns, it has become an urgent global priority to ensure access to affordable, reliable, sustainable and modern energy for people and planet.

This paper examines how energy can be decarbonized for social justice and sustainability. The paper argues that despite the crucial role that energy plays in fostering Sustainable Development, its consumption triggers several threats to people and planet. In particular, the paper posits that the energy sector is a major contributor to the climate crisis with severe consequences for people and planet. In light of these challenges, the paper argues that decarbonizing the energy sector is a vital and effective solution towards bolstering climate action and protecting people and planet. It discusses ways through which the energy sector can be decarbonized for social justice and sustainability.

2.0 Energy, Social Justice and Sustainability: Opportunities and Challenges

Energy plays a key role in ensuring social justice and sustainability. For example, access to clean, reliable and sustainable sources of energy has been identified as a pre-condition for socio-economic development due to its potential to spur economic development and poverty eradication towards social justice⁹. Further, the transition to clean sources of energy is key in fostering social justice and sustainability by addressing major global challenges including climate change, energy access disparities, poverty, inequality, and health impacts of the energy sector thus laying the foundation for a just, sustainable, inclusive and more resilient future¹⁰.

However, poor designed energy systems can also undermine social justice and sustainability. For instance, the energy sector is linked to the climate crisis. It has been argued that the burning of fossil fuels like coal, oil and gas is the primary cause of climate change¹¹. According to the United Nations, fossil fuels are by far the largest contributor to global climate change, accounting for

⁶ United Nations., 'Universal access to sustainable energy will remain elusive without addressing inequalities' Available at <https://www.un.org/en/desa/universal-access-sustainable-energy-will-remain-elusive-without-addressing-inequalities> (Accessed on 09/11/2025)

⁷ World Resources Institute., 'Energy Access and Equitable Development' Available at <https://www.wri.org/energy/energy-access> (Accessed on 09/11/2025)

⁸ United Nations., 'Goal 7: Affordable and Clean Energy' Op Cit

⁹ United Nations Development Programme., 'Energy Access.' Available at <https://www.undp.org/energy/our-work-areas/energy-access> (Accessed on 10/11/2025)

¹⁰ United Nations Development Programme., 'What is the sustainable energy transition and why is it key to tackling climate change?' Available at <https://climatepromise.undp.org/news-and-stories/what-sustainable-energy-transition-and-why-it-key-tackling-climate-change> (Accessed on 10/11/2025)

¹¹ United Nations., 'What is Climate Change?' Available at <https://www.un.org/en/climatechange/what-is-climate-change> (Accessed on 10/11/2025)

over 75 percent of global greenhouse gas emissions and nearly 90 percent of all carbon dioxide emissions¹². Fossil fuels still dominate the global energy supply since they provide nearly 80 percent of the energy used all over the world¹³. When fossil fuels are burned, they release immense amounts of planet-warming gases, such as carbon dioxide and methane which cause climate change¹⁴. The energy sector is therefore the largest emitter of greenhouse gases into the atmosphere, contributing to climate change. Decarbonizing energy is therefore key in tackling climate change. According to the United Nations Environment Programme (UNEP), reducing our reliance on fossil fuels and transitioning to clean, sustainable and affordable energy for all is key in combating climate change and protecting people and planet¹⁵.

In addition to climate change, the energy sector is also linked to other global environmental and health challenges including pollution and biodiversity loss. It has been argued that billions of people all over the world rely on unsafe and polluting fuels for cooking¹⁶. For example, it has been observed that most of the energy consumed in Sub-Saharan Africa is generated through inefficient combustion of solid biomass - mainly wood or charcoal - for cooking¹⁷. A majority of the population in Sub-Saharan Africa especially those in rural areas rely on bio-energy sources such as charcoal, wood fuel and dung for cooking¹⁸. Use of these sources of energy is linked to more than 500,000 annual deaths globally due to indoor pollution¹⁹.

It has been argued that energy production is one of the main causes of environmental pollution with severe consequences for people and planet²⁰. The production and use of fossil fuels generates atmospheric pollutants and toxic wastes which harm both people and the environment²¹. For

¹² United Nations., 'Renewable Energy - Powering a Safer Future' Available at <https://www.un.org/en/climatechange/raising-ambition/renewable-energy> (Accessed on 10/11/2025)

¹³ United Nations Development Programme., 'What is the sustainable energy transition and why is it key to tackling climate change?' Op Cit

¹⁴ Ibid

¹⁵ United Nations Environment Programme., 'Energy' Available at <https://www.unep.org/topics/energy> (Accessed on 10/11/2025)

¹⁶ United Nations., 'Goal 7: Affordable and Clean Energy' Op Cit

¹⁷ Energy Access in Africa., Available at https://wwf.panda.org/discover/our_focus/climate_and_energy_practice/what_we_do/changing_energy_use/energy_access_africa/ (Accessed on 10/11/2025)

¹⁸ Muchiri. L., 'Gender and Equity in Bioenergy Access and Delivery in Kenya' Practical Action East Africa, 2008, available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwiy2P29z6PnAhUEiFwKHQlyCLOQFjAAegQIBRAB&url=http%3A%2F%2Fwww.cas.ed.ac.uk%2F_data%2Fassets%2Fword_doc%2F0007%2F24793%2FGender_and_Equity_in_Bio_energy_Access_and_Delivery_in_Kenya_final.doc&usg=AOvVaw2AKp1mvTSC9tafkIKJ-36 (Accessed on 10/11/2025)

¹⁹ United Nations., 'Advancing SDG 7 in Africa.' Available at <https://sdgs.un.org/sites/default/files/2023-06/2023%20Advancing%20SDG7%20in%20the%20Africa-062923.pdf> (Accessed on 10/11/2025)

²⁰ Energy Production Pollution: Environmental and Health Impacts., Available at <https://kunakair.com/energy-production-pollution/> (Accessed on 10/11/2025)

²¹ Ibid

example, air pollution due to the combustion of fossil fuels among other causes is directly linked to respiratory and cardiovascular diseases and premature deaths²². The energy sector is also linked to biodiversity loss. For example, intensive resource extraction leads to deforestation, habitat loss and ecosystem degradation²³.

From the foregoing, it is evident that the energy sector can undermine sustainability and social justice. For instance, reliance on fossil fuels contributes to climate change, biodiversity loss and air pollution with severe consequences on human and environmental health thus hindering progress towards sustainability²⁴. Further, it has been argued that inequalities in access to energy contributes to poverty, undermining a wide range of human rights including the right to health, education, food, housing, water and sanitation, and the right to a clean, healthy and sustainable environment thus hindering progress towards social justice²⁵. Energy poverty perpetuates social injustices by undermining economic development and fuelling disparities in access to health and education among other fundamental human rights²⁶. Further, it has been argued that inequalities in access to clean and sustainable sources of energy affects the attainment of social justice since it adversely impacts vulnerable groups and populations including the poor, women and people in developing countries²⁷.

In light of the foregoing challenges, decarbonizing energy is fundamental towards social justice and sustainability.

3.0 Decarbonizing Energy for Social Justice and Sustainability

Decarbonizing energy is key in advancing social justice and sustainability. The concept of decarbonization involves reducing carbon emissions from human activities²⁸. It is a process that aims to lower the amount of carbon dioxide generated from human activities with the ultimate goal of eliminating human-induced carbon emissions in their entirety²⁹. Decarbonization is a crucial approach towards confronting climate change. It involves reducing or eliminating carbon

²² Ibid

²³ Ibid

²⁴ United Nations Development Programme., 'What is the sustainable energy transition and why is it key to tackling climate change?' Op Cit

²⁵ The Right to Sustainable Energy., Available at <https://naturaljustice.org/the-right-to-sustainable-energy/> (Accessed on 10/11/2025)

²⁶ Just Transition and Energy Access., Available at <https://pacja.org/just-transition-and-energy-access-2/#:~:text=This%20energy%20deficit%20hampers%20economic,environmental%20implications%20of%20the%20transition.> (Accessed on 10/11/2025)

²⁷ Energy Justice is Socially Just., Available at <https://www.seforall.org/news/energy-justice-is-socially-just> (Accessed on 10/11/2025)

²⁸ Decarbonisation., Available at <https://www.iberdrola.com/about-us/our-sector/electrification/decarbonisation#:~:text=Decarbonisation%20is%20the%20process%20of,what%20the%20planet%20can%20absorb.> (Accessed on 11/11/2025)

²⁹ What is Decarbonization?., Available at <https://www.carbonneutral.com/news/what-is-decarbonization> (Accessed on 11/11/2025)

dioxide among other greenhouse gases with the ultimate goal of tackling the climate crisis³⁰. Through decarbonization, it is possible to achieve a global economy with low greenhouse gas emissions that ensures climate neutrality³¹. This process is key in achieving the goals and targets of the *Paris Agreement*³² towards limiting global warming to 1.5 degrees celsius from pre-industrial levels.

Decarbonization is therefore a crucial process in the quest towards net-zero. The term net-zero refers to the target of reducing the greenhouse gas emissions that cause global warming to zero by balancing the amount released into the atmosphere with the amount removed and stored by carbon sinks³³. This state is achieved when anthropogenic carbon dioxide emissions are balanced globally by anthropogenic carbon dioxide removals over a specified period³⁴. It has been argued that achieving net-zero requires removing carbon emissions from the atmosphere equal to the amount produced by human activities through various measures which include carbon capture and storage, afforestation, and the use of renewable energy sources³⁵.

From the foregoing, it is evident that decarbonization is a key approach in strengthening climate action since it accelerates progress towards net-zero and carbon neutrality. In particular, decarbonizing energy is vital in bolstering climate action. For many decades, fossil fuels including coal, oil and gas have been major sources of global energy supply³⁶. However, burning fossil fuels produces large amounts of greenhouse gases which cause climate change and air pollution with harmful impacts on people and planet³⁷. It is estimated that energy accounts for more than two-thirds of total greenhouse gas emissions globally³⁸. Consequently, it has been argued that in order to tackle the climate crisis, it is imperative to decarbonize energy systems³⁹. At its core, decarbonization involves reducing the greenhouse gas emissions produced by the combustion of

³⁰ What is Decarbonization?., Available at <https://www.sap.com/resources/decarbonization> (Accessed on 11/11/2025)

³¹ Decarbonisation., Op Cit

³² United Nations Framework Convention on Climate Change., 'Paris Agreement.' Available at https://unfccc.int/sites/default/files/english_paris_agreement.pdf (Accessed on 11/11/2025)

³³ Kyriacou. G., & Burke. J., 'Why is Net Zero so Important in the Fight Against Climate Change?' Available at <https://www.lse.ac.uk/granthaminstitute/explainers/why-is-net-zero-so-important-in-the-fight-against-climate-change/> (Accessed on 11/11/2025)

³⁴ Intergovernmental Panel on Climate Change., 'Glossary' Available at https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_AnnexI.pdf (Accessed on 11/11/2025)

³⁵ DGB Group., 'Net Zero: Benefits, Challenges, Strategies, and the Power of Nature-Based Solutions' Available at <https://www.green.earth/blog/net-zero-benefits-challenges-strategies-and-the-power-of-nature-based-solutions> (Accessed on 11/11/2025)

³⁶ United Nations., 'Goal 7: Affordable and Clean Energy' Op Cit

³⁷ Ibid

³⁸ Energy Justice is Socially Just., Op Cit

³⁹ Ibid

fossil fuels⁴⁰. Decarbonizing energy is achieved by shifting from fossil fuel-based production to cleaner, more sustainable low-carbon or zero-carbon alternatives, such as renewable energy⁴¹.

It is therefore imperative to decarbonize energy by shifting from fossil fuels to clean sources including renewables such as wind, solar and geothermal energy⁴². It has been argued that the shift to clean and renewable sources of energy is critical to tackling the climate crisis, pollution and other environmental challenges since fossil fuels still account for more than 80 percent of global energy supply, releasing immense amounts of planet-warming gases, including carbon dioxide and methane, which have devastating impacts on people and planet⁴³. On the other hand, renewable sources of energy are a health and sustainable option for both people and planet. For example, generating renewable energy creates far lower emissions than burning fossil fuels⁴⁴. It has been argued that most renewable energy sources produce zero carbon emissions and minimal air pollutants⁴⁵. Further, renewable sources of energy including solar, wind, hydropower and geothermal energy are available in abundance, cheaper and are a healthier option for people and the planet⁴⁶.

Shifting to renewable sources of energy such as wind, solar and geothermal energy is therefore vital in decarbonizing energy for social justice and sustainability. By transitioning to renewable energy, it is possible to confront climate change towards ensuring sustainability⁴⁷. It is therefore imperative to transition towards renewable energy in order to foster social justice and sustainability. Further, there is need to enhance energy efficiency in building, industries, transport and homes in order to reduce consumption and greenhouse gas emissions⁴⁸. It is also imperative to ensure a just and equitable energy transition by involving vulnerable groups and populations including indigenous peoples and local communities in renewable energy developments⁴⁹.

⁴⁰ What Is Decarbonization, and How Do We Make It Happen?., Available at <https://news.climate.columbia.edu/2022/04/22/what-is-decarbonization-and-how-do-we-make-it-happen/> (Accessed on 11/11/2025)

⁴¹ What is Decarbonization?., Op Cit

⁴² Energy Justice is Socially Just., Op Cit

⁴³ United Nations Development Programme., 'What is the sustainable energy transition and why is it key to tackling climate change?' Op Cit

⁴⁴ United Nations., 'What is Renewable Energy?.' Available at <https://www.un.org/en/climatechange/what-is-renewable-energy> (Accessed on 11/11/2025)

⁴⁵ What is Renewable Energy?., Available at <https://www.ibm.com/think/topics/renewable-energy> (Accessed on 11/11/2025)

⁴⁶ United Nations., 'Climate Action.' Available at <https://www.un.org/en/climatechange/howcommunities-are-embracing-renewable-energy> (Accessed 11/11/2025)

⁴⁷ United Nations Climate Change., 'Decarbonization cannot wait' Available at <https://unfccc.int/news/decarbonization-cannot-wait> (Accessed on 11/11/2025)

⁴⁸ Decarbonisation., Op Cit

⁴⁹ Energy Justice is Socially Just., Op Cit

Through the foregoing, it is possible to decarbonize energy for social justice and sustainability.

4.0 Conclusion

Decarbonizing energy is crucial in the quest towards social justice and sustainability. It is vital to pursue this agenda by adopting renewable sources of energy, improving energy efficiency across all sectors and involving vulnerable groups and populations in energy transition. Decarbonizing energy is therefore a crucial agenda whose attainment is necessary for sound climate action for both people and planet.

PART III – INDIGENOUS KNOWLEDGE AND CULTURAL RESILIENCE

Highlights the value of African Indigenous Knowledge systems in promoting sustainability, from traditional medicine and agriculture to community-based resource management. These chapters underscore the need to respect and integrate local wisdom in contemporary policy.

African Traditional Medicine: Conserving, Mainstreaming and Honouring Indigenous Medical Knowledge for Sustainability

Abstract

This paper critically examines ways through which indigenous medical knowledge in Africa can be protected for sustainability. The paper argues that Africa is rich in indigenous medical knowledge which has played a key role in fostering the health of individuals and communities for many centuries. Despite its appropriateness, the paper posits that indigenous medical knowledge in Africa is facing mounting threats undermining the right to health and sustainability. It examines some of the major challenges facing indigenous medical knowledge in Africa. In light of these challenges, the paper proposes reforms towards conserving, mainstreaming and honouring indigenous medical knowledge in Africa for sustainability.

1.0 Introduction

Indigenous medical knowledge also known as traditional medical knowledge refers to indigenous healing practices and beliefs that encompass a holistic understanding of health by taking into account physical, emotional, intellectual, and spiritual well-being, and are closely tied to the cultural and environmental contexts of indigenous peoples and communities¹. According to the World Health Organization (WHO), indigenous/traditional medical knowledge comprises of codified or non-codified systems for healthcare and well-being, including practices, skills, knowledge and philosophies originating in different historical and cultural contexts, which are distinct from and pre-date biomedicine². Indigenous medical knowledge has also been defined as the collection of knowledge, skills and practices based on the theories, beliefs and experiences indigenous peoples and communities that is applied in the maintenance of health and the prevention, diagnosis, improvement or treatment of physical and mental illnesses³.

Indigenous medical knowledge plays a crucial role in the quest towards sustainability. It has been argued that traditional medical knowledge has social, cultural and scientific value and is important for many indigenous peoples and local communities all over the world⁴. For many centuries, indigenous medical knowledge has been an integral resource for health in households and communities even before the advent of modern medical knowledge⁵. According to WHO,

¹ Indigenous Medicine., Available at <https://www.sciencedirect.com/topics/psychology/indigenous-medicine#:~:text=Indigenous%20medicines%20refer%20to%20traditional,environmental%20contexts%20of%20Indigenous%20communities>. (Accessed on 24/09/2025)

² World Health Organization., 'Traditional, Complementary and Integrative Medicine' Available at https://www.who.int/health-topics/traditional-complementary-and-integrative-medicine#tab=tab_1 (Accessed on 24/09/2025)

³ World Health Organization., 'Traditional Medicine' Available at <https://www.who.int/news-room/questions-and-answers/item/traditional-medicine> (Accessed on 24/09/2025)

⁴ World Intellectual Property Organization., 'Intellectual Property and Traditional Medical Knowledge' Available at <https://www.wipo.int/edocs/pubdocs/en/wipo-pub-rn2023-5-6-en-intellectual-property-and-traditional-medical-knowledge.pdf> (Accessed on 24/09/2025)

⁵ World Health Organization., 'Traditional Medicine' Op Cit

indigenous medical knowledge emphasizes nature-based remedies and holistic, personalized approaches to restore balance of mind, body and environment⁶. Indigenous medical knowledge has significantly contributed to breakthroughs in modern medicine. For example, there is a long history of herbal medicine being translated into pharmaceutical products for effective treatments of health conditions⁷.

However, despite its effectiveness, it has been pointed out that indigenous medical knowledge has largely been ignored due to advances in modern medicine and as a result, this knowledge is disappearing in most parts of the world⁸. In addition, there have been cases involving misappropriation of indigenous medical knowledge by unauthorized third parties, who have patented compounds derived from traditional medicines without the consent of and fair compensation to traditional medical knowledge holders⁹. In light of these challenges, protecting indigenous medical knowledge is vital for sustainability.

This paper critically examines ways through which indigenous medical knowledge in Africa can be protected for sustainability. The paper argues that Africa is rich in indigenous medical knowledge which has played a key role in fostering the health of individuals and communities for many centuries. Despite its appropriateness, the paper posits that indigenous medical knowledge in Africa is facing mounting threats undermining the right to health and sustainability. It examines some of the major challenges facing indigenous medical knowledge in Africa. In light of these challenges, the paper proposes reforms towards conserving, mainstreaming and honouring indigenous medical knowledge in Africa for sustainability.

2.0 Indigenous Medical Knowledge in Africa: Benefits and Challenges

Africa has a rich history in indigenous medical knowledge. For example, it has been observed that traditional medicine has been utilised by communities in Africa for many centuries¹⁰. Before the introduction of modern medical knowledge, individuals, families and communities in Africa used plants, herbs, roots, leaves, tree barks and specific types of soil to cure pain and illnesses¹¹. Further, nearly all African societies had traditional healers, medicine-men and herbalists who

⁶ World Health Organization., 'Traditional, Complementary and Integrative Medicine' Op Cit

⁷ Ibid

⁸ Panghal. M., 'Indigenous knowledge of medicinal plants used by Saperas community of Khetawas, Jhajjar District, Haryana, India' Available at <https://ethnobiomed.biomedcentral.com/articles/10.1186/1746-4269-6-4> (Accessed on 24/09/2025)

⁹ World Intellectual Property Organization., 'Intellectual Property and Traditional Medical Knowledge' Op Cit

¹⁰ Kilimwiko. L., 'Why Indigenous knowledge must be preserved' Available at <https://www.dandc.eu/en/article/maasai-know-how-treat-malaria-bark-many-other-indigenous-groups-they-have-immense-medical#:~:text=For%20the%20Maasai%2C%20the%20Earth,aid%20recovery%20from%20blood%20loss.> (Accessed on 25/09/2025)

¹¹ Ibid

dispensed healing through the use of herbs among other products¹². These specialists had relevant expertise and experience in their craft and could identify the root-cause of diseases and illnesses similar to diagnosis in modern medicine¹³. Physical conditions were treated using plants, herbs, roots, animal products and leaves while psychological conditions were treated through words and cleansing rituals¹⁴. Further, nearly all African societies had mid-wives who took note of relevant signs and stages of pregnancy therefore ensuring adequate medical care and safe delivery for pregnant women¹⁵.

Indigenous medical knowledge therefore has a long history in Africa. It has been argued that the practice of traditional medicine and healing in Africa predates most of the other traditional medical sciences and is much more prevalent among indigenous and local communities in the continent when compared to modern medicine¹⁶. Indigenous medical knowledge in Africa is a holistic approach that takes into account various types of specialty including divination, spiritualism and herbalism¹⁷. It has been argued that illnesses and diseases in Africa societies were regarded as having both natural and supernatural causes and as a result, they were treated by both physical and spiritual means including divination, incantations, animal sacrifice, exorcism, and herbs¹⁸. Indigenous medical knowledge in Africa is based on the culture, religious background, knowledge attitudes, and beliefs of a particular society¹⁹. It focuses on holistic healing towards achieving equilibrium between the body, mind and soul and the external environment²⁰. Indigenous medical knowledge is a treasured resource among African communities and was passed down from generation to generation thus enabling individuals, families and communities to maintain good health by preventing, diagnosing and treating diseases and illnesses²¹.

Traditional medical knowledge in Africa is still relevant in the modern era. For example, it has been pointed out that in developing countries, traditional medicine is usually more accessible to larger segments of the population especially in rural areas due to fewer cultural barriers, and the

¹² Mumo. P., 'Holistic Healing: An Analytical Review of Medicine-men in African Societies' Available at <https://erepository.uonbi.ac.ke/bitstream/handle/11295/42003/Holistic%20Healing.pdf;jsessionid=245B1D7001DD0CC4420238DC6FBD5C04?sequence=1> (Accessed on 25/09/2025)

¹³ Ibid

¹⁴ Ibid

¹⁵ Ibid

¹⁶ Ozioma. E., & Chinwe. O., 'Herbal Medicines in African Traditional Medicine' Available at <https://www.intechopen.com/chapters/64851> (Accessed on 25/09/2025)

¹⁷ Ibid

¹⁸ Ibid

¹⁹ Chaitanya. M et al., 'Traditional African Medicine' Available at <https://www.intechopen.com/chapters/75561> (Accessed on 25/09/2025)

²⁰ Ibid

²¹ Ibid

availability of more traditional healers when compared to physicians²². Further, it has been argued that the high cost of modern medical treatment has led to more citizens in Africa embracing traditional medical practices²³. In addition, cases of counterfeit biomedicines have led to broad mistrust of modern medicine therefore leading to more people favouring indigenous healing, depending on the illness or severity of symptoms²⁴. It has also been argued that indigenous medical knowledge including the use of herbal medicine is more trusted in Africa due to the greater transparency in their creation, and the more equitable relationship between traditional healers and patients²⁵. Indigenous medical knowledge and healing therefore remains important for many people in Africa due to its accessibility, affordability and transparency coupled with the mistrust and suspicion of biomedicine and big pharma²⁶.

Despite its appropriateness, indigenous medical knowledge in Africa faces several challenges. For instance, the use of indigenous medical knowledge and healing practices raises several concerns including incorrect diagnosis, improper dosage, low hygiene standards, the secrecy of some healing methods and the absence of written records about patients²⁷. Further, most indigenous medical knowledge systems are disregarded by conventional medicine²⁸. In addition, absence of governing laws and policies has undermined the official recognition of Africa's traditional medicine and its integration into modern healthcare²⁹. WHO further asserts that traditional medicine products are not always safe and can have negative health consequences, particularly when used in combination with other medicines or when taken in high doses³⁰. Improper use of traditional medicines can put patients at risk for potentially serious side effects as a result of allergies, drug interactions, contamination of the products with pesticides and trauma inflicted by inexperienced or poorly trained practitioners³¹. Further, there have been cases when indigenous medical knowledge has been misappropriated by unauthorized third parties, who have patented compounds derived from traditional medicines without consent or adequate compensation to indigenous peoples and local communities who are custodians of such

²² Mayer. J.D., 'Medical Geography' *International Encyclopedia of the Social & Behavioral Sciences.*, 2001, pp 9518-9523

²³ Fokunang. C.N., 'Traditional Medicine: Past, Present and Future Research and Development Prospects and Integration in the National Health System of Cameroon' Available at <https://pmc.ncbi.nlm.nih.gov/articles/PMC3252219/> (Accessed on 25/09/2025)

²⁴ Howland. O., 'Fakes and chemicals: indigenous medicine in contemporary Kenya and implications for health equity' *International Journal for Equity in Health.*, Volume 19, No. 199 (2020)

²⁵ Ibid

²⁶ Ibid

²⁷ Fokunang. C.N., 'Traditional Medicine: Past, Present and Future Research and Development Prospects and Integration in the National Health System of Cameroon' Op Cit

²⁸ Ibid

²⁹ Ibid

³⁰ World Health Organization., 'Traditional Medicine' Op Cit

³¹ Ibid

knowledge³². In addition, it has been argued that displacement of indigenous peoples from their lands and territories threatens to extinguish centuries of accumulated traditional medical practices which are closely tied to their specific environment³³.

In light of the foregoing challenges, it is imperative to protect indigenous medical knowledge in Africa for sustainability.

3.0 Conserving, Mainstreaming and Honouring Indigenous Medical Knowledge in Africa for Sustainability

Indigenous medical knowledge plays a key role in ensuring good health and well-being for many Africans. Traditional healing practices in Africa are more accessible, transparent, culturally-sensitive and affordable and can thus bridge the gap many people experience when they are unable to access biomedical treatments while ensuring equitable coverage for healthcare³⁴. Indigenous medical knowledge has been practiced by communities in Africa for many centuries and still relevant in the modern era.

It is therefore imperative to recognise and mainstream indigenous medical knowledge in Africa. In order to achieve this goal, there is need to harmonize the practice of indigenous medical knowledge and create synergies between traditional medicine and modern medical knowledge³⁵. Honouring and mainstreaming indigenous medical knowledge into national health policies and systems can improve health outcomes by increasing the availability, accessibility and affordability of health services, especially at the level of primary health care³⁶. According to WHO, mainstreaming of indigenous medical knowledge into national health systems must be done appropriately, effectively and safely, based on the latest scientific evidence³⁷. This requires quality control systems including the standardization of traditional medicine including herbal medicine in order to ensure the safety and well-being of citizens³⁸.

In addition, it is imperative to conserve indigenous medical knowledge in Africa. This knowledge is often misappropriated by third parties to the detriment of indigenous peoples and local communities³⁹. Further, lack of documentation and threats to indigenous lands and territories

³² World Intellectual Property Organization., 'Intellectual Property and Traditional Medical Knowledge' Op Cit

³³ Kilimwiko. L., 'Why Indigenous knowledge must be preserved' Op Cit

³⁴ Howland. O., 'Fakes and chemicals: indigenous medicine in contemporary Kenya and implications for health equity' Op Cit

³⁵ Fokunang. C.N., 'Traditional Medicine: Past, Present and Future Research and Development Prospects and Integration in the National Health System of Cameroon' Op Cit

³⁶ World Health Organization., 'Traditional Medicine' Op Cit

³⁷ Ibid

³⁸ Chaitanya. M et al., 'Traditional African Medicine' Op Cit

³⁹ World Intellectual Property Organization., 'Intellectual Property and Traditional Medical Knowledge' Op Cit

undermine the conservation of indigenous medical knowledge⁴⁰. It is therefore imperative to strengthen the protection of indigenous medical knowledge in Africa including through Intellectual Property Rights (IPR)⁴¹. This is key towards preventing unauthorised exploitation of indigenous medical knowledge by third parties⁴². Further, there is need to establish equitable benefit-sharing frameworks in order to ensure that indigenous peoples and local communities receive adequate benefits and compensation when their indigenous medical knowledge is commercialized⁴³. There is also need to invest in documentation of indigenous medical knowledge including through the use of traditional digital knowledge libraries for posterity⁴⁴. Protecting the land rights of indigenous peoples and local communities is also key in conserving indigenous medical knowledge since it is intrinsically tied to the environment with specific trees, plants and herbs being utilised for healing purposes⁴⁵.

4.0 Conclusion

Indigenous medical knowledge in Africa is a valuable resource that can strengthen health systems towards sustainability. It has proved useful in ensuring good health and well-being for many centuries and it is still relevant in current times. Conserving, mainstreaming and honouring indigenous medical knowledge in Africa is therefore vital towards effectively harnessing Africa's traditional medicine for sustainability.

⁴⁰ Fokunang. C.N., 'Traditional Medicine: Past, Present and Future Research and Development Prospects and Integration in the National Health System of Cameroon' Op Cit

⁴¹ Veronica. L.A et al., 'Intellectual Property Protection for Traditional Herbal Medicine in the Cultural Science Centre of Excellence in Africa, Gulu University, Gulu District, Uganda: Challenges and Opportunities' Available at https://www.scirp.org/pdf/aasoci20241412_42292083.pdf (Accessed on 25/09/2025)

⁴² Ibid

⁴³ Ibid

⁴⁴ Ibid

⁴⁵ Kilimwiko. L., 'Why Indigenous knowledge must be preserved' Op Cit

Education as a Human Right: Incorporating Culture and Indigenous Knowledge into School Systems in Africa

Abstract

This paper critically examines how the right to education can be realised in Africa. The paper argues that education is a key human right in Africa whose attainment is vital in the quest towards Sustainable Development. The paper discusses how education can accelerate progress towards Sustainable Development in Africa. Despite its role in ensuring development, the paper notes that the right to education is yet to be attained in Africa. It argues that the continent faces several barriers that hinder the achievement of the right to education. In particular, the paper notes that culture and indigenous knowledge have been sidelined from education systems in Africa thus undermining the quality and appropriateness of education in the continent. In light of these concerns, the paper examines how culture and indigenous knowledge can be incorporated into school systems in Africa towards fostering the right to education for Sustainable Development.

1.0 Introduction

It has been argued that education is a basic human right that is key in lifting people out of poverty, ensuring equality within and among nations and promoting Sustainable Development¹. Further, it has been pointed out that education is a fundamental human right and not a privilege². Consequently, states have an obligation to protect, respect, and fulfil the right to education for all without any form of discrimination³. It has been argued that every child has the right to quality education and every individual is entitled to be able to satisfy his or her learning needs through lifelong learning⁴. By fostering the right to education, it is possible to unlock other human rights and freedoms. For instance, the right to health, right to employment, freedom of expression and freedom of association among others are all inextricably linked to the attainment of the right to education⁵.

The right to education has been recognised both globally and in Africa. For instance, the human right to education is set out under key international human rights instruments including the *Universal Declaration of Human Rights (UDHR)*⁶; the *International Covenant on Economic, Social and*

¹ United Nations Educational, Scientific and Cultural Organization., 'The Right to Education' Available at <https://www.unesco.org/en/right-education> (Accessed on 08/11/2025)

² Understanding Education as a Right., Available at <https://www.right-to-education.org/page/understanding-education-right> (Accessed on 08/11/2025)

³ Ibid

⁴ Education- A Human Right., Available at <https://www.bmz.de/en/issues/education-a-human-right> (Accessed on 08/11/2025)

⁵ Education Is a Fundamental Human Right and the Priority of the 21st Century., Available at <https://www.educationcannotwait.org/news-stories/directors-corner/education-fundamental-human-right-and-the-priority-the-21st-century-0> (Accessed on 08/11/2025)

⁶ United Nations General Assembly. The Universal Declaration of Human Rights (UDHR). New York: United Nations General Assembly, 1948

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*Cultural Rights (ICESCR)*⁷; the *Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)*⁸; and the *Convention on the Rights of the Child*⁹. These instruments require all states to ensure free, compulsory primary education for all children; develop secondary education, supported by measures to render it accessible to all children; ensure equitable access to higher education; eliminate discrimination against women and girls in access to education; and provide basic education for individuals who have not completed primary education¹⁰.

In addition, the *African Charter on Human and Peoples' Rights*¹¹ seeks to foster the right to education in Africa. The Charter stipulates that every individual in Africa has the right to quality education¹². The *Constitution of Kenya*¹³ also recognises the human right to education¹⁴. It requires the state to foster the right to education for specific groups including children who have the right to free and compulsory basic education¹⁵; persons with disabilities who are entitled to access educational institutions and facilities that are integrated into society to the extent compatible with their interests¹⁶; the youth who the right to access relevant education and training for their development¹⁷; and minorities and marginalised groups who are entitled to special opportunities in educational and economic fields¹⁸.

Education has therefore been recognised as a core human right both globally and at continental and national levels. Attaining this right is key in achieving Sustainable Development. It has been argued that education empowers people with the knowledge, skills, values, attitudes and behaviors that are vital for economic development, social cohesion and environmental conservation towards Sustainable Development¹⁹. Education is beneficial for both individuals,

⁷ United Nations General Assembly, *International Covenant on Economic, Social and Cultural Rights*, United Nations, Treaty Series, vol. 993, p. 3, 16 December 1966

⁸ United Nations General Assembly, *Convention on the Elimination of All Forms of Discrimination Against Women*, United Nations, Treaty Series, vol. 1249, p. 13, 18 December 1979

⁹ United Nations General Assembly, *Convention on the Rights of the Child*, United Nations, Treaty Series, vol. 1577, p. 3, 20 November 1989

¹⁰ United Nations Children's Fund., 'A Human Rights-Based Approach to Education for All' Available at https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/A%20Human%20Rights-based%20Approach%20to%20Education%20for%20All_0.pdf (Accessed on 08/11/2025)

¹¹ Organization of African Unity (OAU), *African Charter on Human and Peoples' Rights ("Banjul Charter")*, CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), 27 June 1981

¹² Ibid, article 17 (1)

¹³ Constitution of Kenya., 2010., Government Printer, Nairobi

¹⁴ Ibid, article 43 (1) (f)

¹⁵ Ibid, article 53 (1) (b)

¹⁶ Ibid, article 54 (1) (b)

¹⁷ Ibid, article 55 (a)

¹⁸ Ibid, article 56 (b)

¹⁹ United Nations Educational, Scientific and Cultural Organization., 'Education for Sustainable Development' Available at <https://www.unesco.org/en/sustainable-development/education> (Accessed on 08/11/2025)

societies and nations. For individuals, education enhances access to employment, decent livelihoods, health, and poverty reduction²⁰. In addition, for nations and societies, education drives long-term economic growth, spurs innovation, strengthens institutions, and fosters social cohesion towards peace and prosperity²¹. Education is therefore vital in the quest towards Sustainable Development since it empowers people with the knowledge, skills, values, attitudes and behaviors to live in a sustainable manner for the benefit of the environment, economy, and society²². The United Nation's *2030 Agenda for Sustainable Development*²³ recognises the fundamental role of education in fostering development. Sustainable Development Goal (SDG) 4 seeks to ensure inclusive and equitable education and promote lifelong learning opportunities for all towards sustainability²⁴.

Despite its fundamental role in the quest towards Sustainable Development, attaining the human right to education remains a major global challenge. It has been argued that there are prevailing gaps in education all over the world with many children and the youth lacking access to quality education²⁵. Further, there are several financial, gender, capacity, and technical among other barriers that prevent many people including vulnerable and marginalized populations from accessing quality education²⁶. For example, it has been pointed out that global education systems are not fully inclusive with marginalized groups and minorities including the poor, girls, indigenous communities, persons with disabilities, and people of colour facing discrimination in access to quality education²⁷. In addition, millions of learners all over the world are being taught in languages they do not fully understand undermining their ability to learn effectively, express themselves and reach their full potential²⁸. Addressing these challenges is crucial towards attaining the human right to education for Sustainable Development.

²⁰ World Bank Group., 'Education' Available at <https://www.worldbank.org/en/topic/education/overview> (Accessed on 08/11/2025)

²¹ Ibid

²² United Nations Educational, Scientific and Cultural Organization., 'Education for Sustainable Development' Op Cit

²³ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 08/11/2025)

²⁴ Ibid

²⁵ Kuppens. L., 'Quality Education Means Empowerment' Available at <https://www.globalpartnership.org/blog/quality-education-means-empowerment> (Accessed on 08/11/2025)

²⁶ Ibid

²⁷ United Nations., 'Goal 4: Quality Education' Available at <https://www.un.org/sustainabledevelopment/education/#:~:text=Education%20is%20the%20key%20that,and%20to%20reach%20gender%20equality> (Accessed on 08/11/2025)

²⁸ United Nations., 'International Mother Language Day: 21 February' Available at <https://www.un.org/en/observances/mother-language-day#:~:text=Ensuring%20that%20education%20systems%20support,engagement%2C%20and%20critical%20thinking%20skills> (Accessed on 08/11/2025)

This paper critically examines how the right to education can be realised in Africa. The paper argues that education is a key human right in Africa whose attainment is vital in the quest towards Sustainable Development. The paper discusses how education can accelerate progress towards Sustainable Development in Africa. Despite its role in ensuring development, the paper notes that the right to education is yet to be attained in Africa. It argues that the continent faces several barriers that hinder the achievement of the right to education. In particular, the paper notes that culture and indigenous knowledge have been sidelined from education systems in Africa thus undermining the quality and appropriateness of education in the continent. In light of these concerns, the paper examines how culture and indigenous knowledge can be incorporated into school systems in Africa towards fostering the right to education for Sustainable Development.

2.0 The Human Right to Education in Africa: Progress and Challenges

Attaining the human right to education is vital in unlocking Sustainable Development in Africa. According to African Union's *Agenda 2063*²⁹, education is a powerful tool and driver in the quest towards development in Africa. Agenda 2063 notes that a key driver of Africa's prosperity will be its world class human capital developed through *quality education* focused on achieving 100 per cent literacy and numeracy, and clear emphasis on science, technology and engineering³⁰. It requires African countries to invest in education across all levels including early childhood education to primary, secondary, technical, vocational and higher education for Sustainable Development³¹.

Strengthening the right to education is therefore key in achieving the vision of a prosperous Africa as set out under Agenda 2063. Education has been described as a beacon of hope and an engine of progress towards catalysing Africa's development³². According to the African Union, achieving the dream of a prosperous Africa based on inclusive growth and Sustainable Development as envisaged under Agenda 2063 requires that Africa makes significant investments in education with the aim of developing human and social capital through an education and skills revolution emphasizing innovation, science and technology³³. In the quest towards sustainability in Africa, education provides opportunities for inclusive development and

²⁹ African Union., 'Agenda 2063: The Africa we Want' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 08/11/2025)

³⁰ Ibid

³¹ Ibid

³² African Union., 'Investing in Tomorrow: The African Union Year of Education Catalyzing Progress for Africa and the World: Commemorating the African Union's Year of Education' Available at <https://au.int/en/pressreleases/20240925/investing-tomorrow-african-union-year-education-catalyzing-progress-africa> (Accessed on 08/11/2025)

³³ Ibid

transformative change³⁴. If harnessed effectively, education can catalyse socio-economic development, empowering individuals, societies and nations to realize their full potential thus unlocking Sustainable Development in Africa³⁵. It has been argued that education empowers individuals, strengthens communities, builds nations, breaks the chains of poverty and lays the foundation for prosperous and equitable societies³⁶.

From the foregoing, it is evident that fostering the human right to education is crucial in ensuring Sustainable Development in Africa. There has been progress towards promoting the right to education in Africa. For example, it has been observed that Africa has made significant strides the past decades in expanding access to education, with primary school completion rates increasing³⁷. Further, there has been progress towards empowering girls through education demonstrating the continent's commitment to gender equality³⁸. The number of students being enrolled in tertiary institutions is also increasing all over Africa indicating progress towards fostering higher learning opportunities in the continent³⁹.

However, despite the foregoing efforts, access to quality education remains a challenge in Africa. For example, it is estimated that Sub-Saharan Africa has the highest rates of education exclusion among the six developing regions of the world with over one-fifth of primary-age children and almost 60 percent of youth between the ages of 15 and 17 being out of school⁴⁰. It has been pointed out that poverty is preventing millions of children in Africa from accessing quality education⁴¹. Further, gender disparities and inequalities are also preventing girls and marginalised groups including indigenous peoples and persons with disabilities from accessing quality education in the continent⁴². In addition, it has been argued that the quality of education in most African

³⁴ Zhang. X., 'Sustainable Development in African countries: evidence from the impacts of education and poverty ratio' *Humanities and Social Sciences Communications.*, Volume 11, No. 1386 (2024)

³⁵ Ibid

³⁶ African Union., 'Investing in Tomorrow: The African Union Year of Education Catalyzing Progress for Africa and the World: Commemorating the African Union's Year of Education' Op Cit

³⁷ Zhang. X., 'Sustainable Development in African countries: evidence from the impacts of education and poverty ratio' Op Cit

³⁸ Ibid

³⁹ Ibid

⁴⁰ Klapper. L., & Panchamia. MV., 'The high price of education in Sub-Saharan Africa' Available at <https://blogs.worldbank.org/en/developmenttalk/high-price-education-sub-saharan-africa> (Accessed on 08/11/2025)

⁴¹ Ibid

⁴² United Nations Educational, Scientific and Cultural Organization., 'Quality education and lifelong learning opportunities for all' Available at <https://www.unesco.org/en/fieldoffice/daressalaam/expertise/educationandlifelonglearning#:~:text=Embracing%20lifelong%20learning%2C%20empowers%20individuals,%2C%20innovative%2C%20and%20sustainable%20society> (Accessed on 08/11/2025)

countries is still poor when measured in terms of basic infrastructure and learning outcomes⁴³. Prevalent and ongoing armed conflicts in Africa are also hindering access to education by forcing children to drop out of school⁴⁴.

From the foregoing, it emerges that many educational systems in Africa are struggling with several challenges including inadequate infrastructure, shortage of qualified teachers, and disparities in access, particularly for girls and rural and marginalized communities⁴⁵. In addition to these challenges, African cultures and indigenous knowledge systems are usually excluded from education policies undermining quality education in the continent. It has been argued that the introduction of western education in Africa has undermined traditional African education systems and philosophies which have been practiced in the continent for many centuries⁴⁶. Further, the introduction of western education in Africa has also fueled the idea that western cultures are superior contributing to the deterioration of African cultures and knowledge systems⁴⁷. Most school systems in Africa reflect Euro-centric curricula which alienates African cultures and knowledge systems⁴⁸. Further, millions of students in Africa are taught in European languages including English, French, Spanish and Portuguese⁴⁹. The United Nations notes that due to westernization of education, many learners are taught in languages they do not fully understand undermining their ability to learn effectively, express themselves and reach their full potential⁵⁰. It is estimated that approximately 37 per cent of learners in low- and middle-income countries are not taught in the language that they best speak and understand with this figure rising up to 90 cent of learners in some countries⁵¹.

Addressing the foregoing challenges is crucial in fostering the right to education in Africa. In particular, it is imperative to incorporate culture and indigenous knowledge into school systems in Africa towards attaining quality education for Sustainable Development.

⁴³ United Nations Educational, Scientific and Cultural Organization., 'Q&A: What you need to know about the state of education in Africa' Available at <https://www.unesco.org/en/articles/qa-what-you-need-know-about-state-education-africa> (Accessed on 08/11/2025)

⁴⁴ United Nations Development Programme., 'Goal 4: Quality Education' Available at <https://www.undp.org/sustainable-development-goals/quality-education> (Accessed on 08/11/2025)

⁴⁵ Zhang. X., 'Sustainable Development in African countries: evidence from the impacts of education and poverty ratio' Op Cit

⁴⁶ Mart. C.T., 'British colonial Education Policy in Africa' *Internal journal of English and literature* Vol. 2(9), pp. 190-194, December 2011

⁴⁷ Ibid

⁴⁸ The History and Development of Education in Afrika., Available at <https://www.msingiafrikamagazine.com/2022/01/the-history-and-development-of-education-in-afrika/> (Accessed on 08/11/2025)

⁴⁹ Ibid

⁵⁰ United Nations., 'International Mother Language Day: 21 February' Op Cit

⁵¹ United Nations Educational, Scientific and Cultural Organization., 'Make languages count for Sustainable Development' Available at https://articles.unesco.org/sites/default/files/medias/fichiers/2024/12/imld-2025-cn-en_0.pdf (Accessed on 08/11/2025)

3.0 Incorporating Culture and Indigenous Knowledge into School Systems in Africa

Education is a powerful tool that can drive Sustainable Development in Africa. Despite progress being made towards fostering the right to education in Africa, the continent still faces several challenges that undermine the quest towards quality education. Challenges such as poverty, poor infrastructure, shortage of qualified teachers, and marginalization and exclusion of vulnerable populations perpetuate inequalities and hinder the full realization of the right to education as a driver of Sustainable Development in Africa⁵². In addition, westernization of education in Africa has led to the exclusion of African culture and indigenous knowledge systems undermining the quest towards quality, inclusive and appropriate education in Africa⁵³.

In light of the foregoing, it is imperative to strengthen the right to education in Africa. Governments have been urged to enhance investments in education with emphasis on innovation, science and technology in order to spur Sustainable Development in Africa⁵⁴. Further, there is need to address inequalities and marginalisation which prevent the poor, girls, persons with disabilities, indigenous peoples and other minorities from accessing quality education in Africa and the rest of the world⁵⁵. Strengthening human, technical, and institutional capacities is also key in promoting the right to education in Africa⁵⁶.

In addition to the foregoing efforts, it is imperative to incorporate culture and indigenous knowledge into school systems in Africa. It has been argued that culture enriches education systems by making their content and context relevant⁵⁷. By incorporating culture into school systems, it is possible to connect learners to their history and heritage, thus giving them a sense of meaning and self-confidence, and nurturing qualities of empathy and critical thinking⁵⁸. Culture is therefore important in fostering the right to education since it instils a sense of

⁵² Zhang. X., 'Sustainable Development in African countries: evidence from the impacts of education and poverty ratio' Op Cit

⁵³ Mart. C.T., 'British colonial Education Policy in Africa' Op Cit

⁵⁴ African Union., 'Education, Science & Technology' Available at <https://au.int/en/education-science-technology> (Accessed on 08/11/2025)

⁵⁵ United Nations Educational, Scientific and Cultural Organization., 'Quality education and lifelong learning opportunities for all' Op Cit

⁵⁶ Ibid

⁵⁷ United Nations Educational, Scientific and Cultural Organization., 'Cutting Edge | Culture & Education: A Strategic Investment for Inclusive and Sustainable Development' Available at <https://www.unesco.org/en/articles/cutting-edge-culture-education-strategic-investment-inclusive-and-sustainable-development#:~:text=Culture%20enriches%20the%20education%20system,notably%20with%20regard%20to%20sustainability>. (Accessed on 08/11/2025)

⁵⁸ Ibid

belonging, values, ideologies and customs in learners⁵⁹. Incorporating African cultures into school systems is therefore key in strengthening learning outcomes in the continent.

Further, it is imperative to harness indigenous knowledge into school systems in Africa. Before the introduction of western education in the continent, Africa societies had their own indigenous knowledge systems and practices. It has been argued that traditional African education systems and philosophies emphasize core values including cooperation, critical thinking, a sense of community, tolerance and coexistence⁶⁰. It is therefore necessary to reform education systems in Africa and teach Africa's philosophies and promote indigenous knowledge systems towards true and quality education in the continent⁶¹. There is also need to utilise African languages on school systems. Due to the use of foreign languages, many learners in Africa and all over the world are taught in languages they do not fully understand undermining their ability to learn effectively, express themselves and reach their full potential⁶². Teaching in indigenous and local languages can therefore enhance the quality of education while also ensuring that it fits to local needs and circumstances⁶³. Utilising African languages in school systems can therefore strengthen the quality of education in the continent towards realising the human right to education.

4.0 Conclusion

Education is fundamental human right. Fostering the right to education in Africa can spur the continent towards Sustainable Development. It is therefore necessary to address financial, technical, gender, capacity and other barriers which hinder the right to education in Africa⁶⁴. In addition, it is imperative to incorporate culture and indigenous knowledge into school systems in Africa towards quality education⁶⁵. Attaining the human right to education in Africa is therefore a practical dream that must be pursued in the quest towards Sustainable Development.

⁵⁹ The Impact of Culture on Education., Available at <https://lcps.org.uk/impact-of-culture-on-education/> (Accessed on 08/11/2025)

⁶⁰ The History and Development of Education in Afrika., Available at <https://www.msingiafrikamagazine.com/2022/01/the-history-and-development-of-education-in-afrika/> (Accessed on 08/11/2025)

⁶¹ Ibid

⁶² United Nations., 'International Mother Language Day: 21 February' Op Cit

⁶³ United Nations University's Institute for Environment and Human Security., '5 Ways Languages Contribute to a Safer and More Inclusive World' Available at <https://unu.edu/ehs/series/5-ways-languages-contribute-safer-and-more-inclusive-world#:~:text=Languages%20are%20libraries%20of%20information,adaptive%20capacity%20as%20a%20species> (Accessed on 08/11/2025)

⁶⁴ Zhang. X., 'Sustainable Development in African countries: evidence from the impacts of education and poverty ratio' Op Cit

⁶⁵ The History and Development of Education in Afrika., Op Cit

Nature-Based Solutions in Action: Harnessing Indigenous Knowledge to Tackle the Climate Crisis

Abstract

This paper critically examines how nature-based solutions can be utilised to tackle the climate crisis. The paper defines nature-based solutions. It argues that nature-based solutions are an effective strategy towards confronting climate change through indigenous knowledge. The paper examines some of the key nature-based solutions and their role in combating climate change through indigenous knowledge. However, the paper also notes that nature-based solutions are underutilized thus affecting effective climate action through indigenous knowledge. Consequently, the paper offers proposals towards harnessing indigenous knowledge in order to effectively tackle the climate crisis through nature-based solutions.

1.0 Introduction

Climate change is an undesirable phenomenon that is adversely impacting both people and planet. Due to the adverse impacts of climate change, the sustainability of the planet's ecosystems is under threat, as well as the future of humankind and the stability of the global economy¹. The consequences of climate change including intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity are being witnessed all over the world severely affecting humanity and nature². These consequences undermine global efforts to tackle hunger, poverty, ill-health, improve access to clean water and energy and many other aspects of Sustainable Development³. Further, the impacts of climate change are felt disproportionately with the poor, women, the youth and developing countries being adversely affected⁴. It has been argued that while climate change is global, some individuals and communities including indigenous peoples, the poor and people in developing countries are disproportionately vulnerable to its effects since they lack adequate resources to mitigate and adapt to the impacts of climate change⁵.

Climate change is therefore a major threat to Sustainable Development. According to the United Nations, climate change is the defining issue of our time⁶. Climate change has been identified as

¹ Climate Change: Meaning, Definition, Causes, Examples And Consequences., Available at <https://youmatter.world/en/definitions/climate-change-meaning-definition-causes-and-consequences/> (Accessed on 05/10/2025)

² United Nations., 'What is Climate Change?' Available at <https://www.un.org/en/climatechange/what-is-climate-change> (Accessed on 05/10/2025)

³ United Nations Environment Programme., 'Climate Change Undermines nearly all Sustainable Development Goals' Available at <https://www.unep.org/news-and-stories/press-release/climate-change-undermines-nearly-all-sustainable-development-goals> (Accessed on 05/10/2025)

⁴ United Nations Environment Programme., 'Responding to climate change' Available at <https://www.unep.org/regions/africa/regional-initiatives/responding-climate-change> (Accessed on 05/10/2025)

⁵ Ibid

⁶ United Nations., 'Climate Change' Available at <https://www.un.org/en/global-issues/climate-change> (Accessed on 05/10/2025)

a major global challenge that is affecting both developed and developing countries in their efforts towards achieving Sustainable Development⁷. Tackling the climate crisis is therefore vital towards fostering Sustainable Development. It has been argued that without drastic climate action today, adapting to the impacts of climate change in the future will be more difficult and costly⁸.

At the global level, the United Nations 2030 *Agenda for Sustainable Development*⁹ acknowledges the impacts of climate change on Sustainable Development. The Agenda notes that climate change is one of the greatest challenges of our time and its adverse impacts undermine the ability of all countries to achieve Sustainable Development¹⁰. Sustainable Development Goal (SDG) 13 under the Agenda urges all states to take urgent action to combat climate change and its impacts towards Sustainable Development¹¹. Further, at a continental level, African Union's *Agenda 2063*¹² recognizes that while Africa has played a relatively minor role and contributed little to the accumulation of greenhouse gases and the attendant climate change, it is the most vulnerable region to climate change risks. Agenda 2063 seeks to foster environmentally sustainable and climate resilient economies and communities in Africa for Sustainable Development¹³. Tackling climate change is therefore a key agenda both globally and in Africa whose attainment is necessary towards Sustainable Development.

This paper critically examines how nature-based solutions can be utilised to tackle the climate crisis. The paper defines nature-based solutions. It argues that nature-based solutions are an effective strategy towards confronting climate change through indigenous knowledge. The paper examines some of the key nature-based solutions and their role in combating climate change through indigenous knowledge. However, the paper also notes that nature-based solutions are underutilized thus affecting effective climate action through indigenous knowledge. Consequently, the paper offers proposals towards harnessing indigenous knowledge in order to effectively tackle the climate crisis through nature-based solutions.

⁷ Muigua. K., 'Achieving Sustainable Development, Peace and Environmental Security.' Glenwood Publishers Limited, 2021

⁸ United Nations., 'Climate Change' Op Cit

⁹ United Nations General Assembly., '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 05/10/2025)

¹⁰ Ibid

¹¹ Ibid

¹² African Union., 'Agenda 2063: The Africa we Want.' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 05/10/2025)

¹³ Ibid

2.0 Role of Nature-Based Solutions and Indigenous Knowledge in Climate Action

Nature-based solutions is a term that describes actions aimed at protecting, conserving, restoring, and sustainably managing natural or modified terrestrial, freshwater, coastal, and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience and biodiversity benefits¹⁴. It has been argued that nature-based solutions leverage on the benefits of nature and the power of healthy ecosystems to protect people and planet, optimise infrastructure and safeguard a stable and biodiverse future¹⁵. The concept of nature-based solutions is grounded in the knowledge that healthy, stable and well-managed ecosystems offer a diverse range of services on which human wellbeing depends, from storing carbon, controlling floods and stabilizing shorelines and slopes to providing clean air and water, food, fuel, medicines and genetic resources among other services¹⁶.

The idea of nature-based solutions therefore involves working with nature to address societal challenges, support human well-being and enhance biodiversity¹⁷. These solutions encompass a wide range of actions, such as the protection and management of natural and semi-natural ecosystems, the incorporation of green and blue infrastructure in urban areas, and the application of ecosystem-based principles to agricultural systems¹⁸. According to the United Nations Environment Programme (UNEP), nature-based solutions play an important role in fostering Sustainable Development by enhancing biodiversity, improving water quality, reducing pollution, combating desertification, and restoring degraded land and soil¹⁹. It has been argued that if humanity protects, sustainably manages and restores nature, it can address societal challenges, ensure human health and well-being and support biodiversity²⁰.

¹⁴ United Nations Environment Programme., 'Overview of Nature-based solutions' Available at <https://www.unep.org/topics/nature-action/nature-based-solutions/overview-nature-based-solutions#:~:text=As%20defined%20at%20the%205,social%2C%20economic%20and%20environmental%20challenges> (Accessed on 05/10/2025)

¹⁵ International Union for Conservation of Nature., 'Nature-Based Solutions' Available at <https://iucn.org/our-work/nature-based-solutions#:~:text=About%20Nature%2Dbased%20Solutions&text=They%20target%20major%20challenges%20like,are%20critical%20to%20sustainable%20development> (Accessed on 05/10/2025)

¹⁶ Seddon. N et al., 'Understanding the Value and Limits of Nature-Based Solutions to Climate Change and other Global Challenges' Available at <https://doi.org/10.1098/rstb.2019.0120> (Accessed on 05/10/2025)

¹⁷ What is the Nature-based Solutions Initiative and what are nature-based solutions?., Available at <https://www.naturebasedsolutionsinitiative.org/what-are-nature-based-solutions#:~:text=Examples%20of%20Nature%2Dbased%20Solutions&text=Protecting%20or%20restoring%20forests%20and,floods%2C%20soil%20erosion%20and%20landslides> (Accessed on 05/10/2025)

¹⁸ Seddon. N et al., 'Understanding the Value and Limits of Nature-Based Solutions to Climate Change and other Global Challenges' Op Cit

¹⁹ United Nations Environment Programme., 'Overview of Nature-based solutions' Op Cit

²⁰ United Nations Environment Programme., 'UNEP and nature-based solutions' Available at <https://www.unep.org/unep-and-nature-based-solutions> (Accessed on 05/10/2025)

Nature-based solutions play a vital role in addressing societal and environmental challenges including climate change. It has been argued that leveraging the power of nature and healthy ecosystems including forests, grasslands, croplands, peatlands, and coastal/marine ecosystems is key in confronting climate change through emission reductions and removals²¹. Ecosystems such as forests, peatlands and coastal/marine ecosystems including mangroves, salt marshes and seagrass meadows are vital carbon sinks absorbing and storing huge quantities of carbon from the atmosphere²². Restoring and sustainably managing these ecosystems is therefore necessary in tackling the climate crisis²³.

It has been argued that nature-based solutions can address climate change through decreasing greenhouse gas emissions related to deforestation and land use²⁴; capturing and storing carbon from the atmosphere²⁵; and supporting communities to adapt to climate hazards including flooding, sea-level rise, and more frequent and intense droughts, floods, heatwaves, and wildfires²⁶. For example, it has been argued that reducing emissions by preventing the loss or degradation of natural ecosystems including forests, peatlands and mangroves is more cost-effective and immediate than restoring carbon to damaged ecosystems²⁷. Further, when these ecosystems are sustainably managed including through restoration, they act as powerful carbon sinks absorbing and storing huge quantities of carbon from the atmosphere²⁸. In addition, it has been argued that well-designed and implemented nature-based solutions can also improve human resilience, helping people to face and cope with the impacts of climate change²⁹.

Nature-based solutions are therefore a viable approach towards confronting the climate crisis. Actions such as reforestation, soil conservation, wetland management, green roofs, preventing the loss of ecosystems that serve as climate sinks, and restoring coastal ecosystems to protect from extreme weather events are important in combating climate change and protecting people and

²¹ United Nations Environment Programme., 'Nature-based Solutions for climate change mitigation' Available at <https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/37318/NBSCCM.pdf> (Accessed on 05/10/2025)

²² Ibid

²³ Ibid

²⁴ International Union for Conservation of Nature., 'Nature-based Solutions for climate' Available at <https://iucn.org/our-work/topic/nature-based-solutions-climate> (Accessed on 05/10/2025)

²⁵ Ibid

²⁶ Ibid

²⁷ United Nations Environment Programme., 'Nature-based Solutions for climate change mitigation' Op Cit

²⁸ Ibid

²⁹ Ibid

planet³⁰. It has been argued that nature-based solutions are easy to use, and effective in improving community livelihoods and resilience to climate change³¹.

It has been argued that nature-based solutions are an effective strategy in harnessing indigenous knowledge to confront climate change. For example, it has been pointed out that indigenous peoples and local communities have practiced environmental stewardship for millennia, guided by knowledge that is deeply rooted in the local context and has been passed down through generations often emphasizing harmony with nature³². Indigenous peoples and local communities have worked with nature to conserve biodiversity, protect ecosystems and tackle environmental threats including resource scarcity and climate change³³. For example, indigenous peoples and local communities in Africa and other parts of the world have worked with nature to confront climate change through traditional integrated soil and water management practices to combat land degradation and improve soil productivity, farmer-managed natural tree regeneration practices, tailored shrub-based conservation agriculture system, effective mobility-based adaptation strategies by pastoralists, and modification of the variety of crops and crop varieties to respond to climate change³⁴.

Local knowledge of plants, animals, ecosystem, landscapes, and resource management systems has enabled indigenous peoples to work with nature towards tackling environmental threats including climate change and biodiversity loss³⁵. Traditional farming, agriculture and resource management systems including agroforestry, inter cropping, cover cropping, use of drought resistant and climate-resilient crops, biological management of pests and diseases, water management and conservation of vital ecosystems including forests have ensured that indigenous peoples and local communities harness the power of nature towards achieving food security, conserving water, mitigating climate change and fostering biodiversity conservation³⁶.

³⁰ Osaka, S., Bellamy, R., & Castree, N. 'Framing "Nature-Based" Solutions to Climate Change.' *Wiley Interdisciplinary Reviews: Climate Change*, 12(5), 2021, Article e729. Available at <https://doi.org/10.1002/wcc.729> (Accessed on 05/10/2025)

³¹ African Development Bank Group., 'Are Nature Based Solutions the Key to Africa's Climate Response?' Available at <https://www.afdb.org/en/news-and-events/are-nature-based-solutions-key-africas-climate-response-33090> (Accessed on 05/10/2025)

³² International Institute for Sustainable Development., 'For Nature-Based Solutions to Be Effective, We Need to Work with Indigenous Peoples and Local Communities' Available at <https://www.iisd.org/articles/insight/nature-based-solutions-indigenous-peoples> (Accessed on 06/10/2025)

³³ Ibid

³⁴ Zougmore. R., Segnon. A., & Thornton. P., 'Harnessing Indigenous Knowledge and Practices for Effective Adaptation in the Sahel' Available at <https://doi.org/10.1016/j.cosust.2023.101389> (Accessed on 06/10/2025)

³⁵ Sinthumule. N., 'Traditional Ecological Knowledge and its Role in Biodiversity Conservation: A Systematic Review' *Frontiers in Environmental Science.*, Volume 11 (2023)

³⁶ Latief. A., 'Harnessing Indigenous Knowledge for Climate Change Resilience in Africa' Available at <https://www.linkedin.com/pulse/harnessing-indigenous-knowledge-climate-change-africa-aatifah->

In light of the foregoing, it has been argued that indigenous and local knowledge can provide substantial benefits to the development, implementation, and evaluation of nature-based solutions towards tackling the climate crisis³⁷.

Indigenous knowledge is therefore vital in harnessing the power of nature to combat climate change while also providing other benefits including sound biodiversity conservation and ecosystem management. However, it has been argued that indigenous knowledge is often marginalized and dismissed by mainstream scientific and governmental institutions undermining its potential in climate action³⁸. In addition, it has been observed that indigenous peoples and local communities are often excluded from nature-based solutions projects undermining their role in climate action³⁹. It is imperative to address these challenges in order to effectively tackle the climate crisis.

3.0 Harnessing Indigenous Knowledge to Tackle the Climate Crisis

Indigenous knowledge is a valuable resource that can significantly strengthen efforts towards confronting climate change. It has been utilised by indigenous peoples and local communities for many centuries to ensure sound ecosystem management and biodiversity conservation, while also tackling environmental threats including resource scarcity and climate change⁴⁰. It has been argued that many indigenous and traditional practices offer effective climate solutions, including sustainable agriculture systems and climate-resilient water management⁴¹. As the climate crisis intensifies, the knowledge, innovations and practices of indigenous peoples offer valuable climate solutions that can advance mitigation efforts, enhance adaptation strategies and build community resilience against adverse climatic events⁴².

Indigenous peoples all over the world have worked with nature for many centuries to address climate change among other environmental threats through practices such as agroforestry, crop rotation, natural forest regeneration, crop diversification, traditional fire management and water

[latief/?utm_source=share&utm_medium=member_android&utm_campaign=share_via](#) (Accessed on 06/10/2025)

³⁷ Cottrell. C., 'Avoiding a new era in biopiracy: Including indigenous and local knowledge in nature-based solutions to climate change' *Environmental Science & Policy*., Volume 135, 2022 (pp 162-168)

³⁸ The Role of Indigenous Knowledge in Environmental Conservation' Available at https://www.linkedin.com/pulse/role-indigenous-knowledge-environmental-conservation-eurasia-carbon/?utm_source=share&utm_medium=member_android&utm_campaign=share_via (Accessed on 06/10/2025)

³⁹ International Institute for Sustainable Development., 'For Nature-Based Solutions to Be Effective, We Need to Work with Indigenous Peoples and Local Communities' Op Cit

⁴⁰ Ibid

⁴¹ United Nations Development Programme., 'Indigenous knowledge is crucial in the fight against climate change - here's why' Available at <https://climatepromise.undp.org/news-and-stories/indigenous-knowledge-crucial-fight-against-climate-change-heres-why> (Accessed on 06/10/2025)

⁴² Ibid

management⁴³. Consequently, it has been argued that nature-based solutions have been a way of life for indigenous peoples and local communities globally⁴⁴. Embracing indigenous knowledge is therefore key towards working with nature to address the climate crisis.

It is therefore imperative to involve indigenous peoples in nature-based solutions projects for effective climate action. It has been argued that due their valuable insights and deep understanding of local climatic conditions and threats, involving indigenous peoples is key in designing and implementing effective nature-based solutions projects towards confronting climate change⁴⁵. Integrating nature-based solutions with indigenous knowledge can therefore greatly enhance the effectiveness of local climate and conservation actions⁴⁶. Indigenous knowledge can provide a better understanding of local ecosystems and traditional practices therefore enhancing the effectiveness of nature-based solutions in tackling the climate crisis⁴⁷.

Prioritising indigenous knowledge is therefore crucial in harnessing the full potential of nature-based solutions in tackling the climate crisis. By embracing indigenous knowledge, nature-based solutions can be implemented holistically and sustainably while enhancing their societal acceptability⁴⁸. It has been argued that indigenous knowledge can ensure that nature-based solutions initiatives are more effective, culturally appropriate, and sustainable, ensuring the long-term resilience⁴⁹. It is therefore necessary to ensure meaningful engagement and involvement of indigenous peoples and local communities in decision-making processes when designing and implementing nature-based solutions projects⁵⁰. Further, it has been argued that capacity-building initiatives and knowledge-sharing platforms can facilitate the exchange of best practices and empower indigenous peoples and local communities to lead nature-based solutions efforts in their territories⁵¹. In addition, it is vital to ensure that benefits accruing from nature-based solutions projects are shared fairly and equitably with local communities and indigenous peoples in order to fully appreciate the role of indigenous knowledge in climate action⁵².

⁴³ Ibid

⁴⁴ Ibid

⁴⁵ International Institute for Sustainable Development., 'For Nature-Based Solutions to Be Effective, We Need to Work with Indigenous Peoples and Local Communities' Op Cit

⁴⁶ Weichenrieder. S., 'Leveraging Indigenous Knowledge for Effective Nature-Based Solutions in the Arctic' Available at <https://www.thearcticinstitute.org/leveraging-indigenous-knowledge-effective-nature-based-solutions-arctic/> (Accessed on 06/10/2025)

⁴⁷ Ibid

⁴⁸ Nature-based solutions: how to unlock the power of traditional knowledge in the face of the climate emergency., Available at <https://www.spc.int/updates/blog/blog/2023/06/nature-based-solutions-how-to-unlock-the-power-of-traditional-knowledge> (Accessed on 06/10/2025)

⁴⁹ Ibid

⁵⁰ Weichenrieder. S., 'Leveraging Indigenous Knowledge for Effective Nature-Based Solutions in the Arctic' Op Cit

⁵¹ Ibid

⁵² International Institute for Sustainable Development., 'For Nature-Based Solutions to Be Effective, We Need to Work with Indigenous Peoples and Local Communities' Op Cit

4.0 Conclusion

Indigenous knowledge is crucial in bolstering climate action. It can ensure that nature-based solutions are implemented in an effective, sustainable and culturally-appropriate manner for long-term resilience against climate change⁵³. Therefore, when designing and implementing nature-based solutions, it is necessary to adopt approaches that respect and incorporate the priorities, cultures, values, and knowledge of indigenous peoples and local communities⁵⁴. Harnessing indigenous knowledge is therefore key leveraging the power of nature-based solutions to tackle the climate crisis for sustainability.

⁵³ Nature-based solutions: how to unlock the power of traditional knowledge in the face of the climate emergency., Op Cit

⁵⁴ International Institute for Sustainable Development., 'For Nature-Based Solutions to Be Effective, We Need to Work with Indigenous Peoples and Local Communities' Op Cit

Securing a Social Licence to Operate from Local Communities for Renewable Energy Developments through Negotiation

Abstract

This paper critically examines the need to secure a SLO from local communities in renewable energy developments. The paper posits that renewable energy developments have become increasingly necessary all over the world especially in developing countries towards fast-tracking energy transition for Sustainable Development. Despite their environmental, social and economic benefits, the paper argues that in some cases, renewable energy developments are usually implemented without the participation of local communities leading to disputes, delays, project closure and violence. In light of these concerns, the paper argues that securing a SLO from local communities is vital for the successful completion of renewable energy developments towards achieving energy transition for Sustainable Development. In order to achieve this goal, the paper discusses how negotiation can be utilised to secure a SLO from local communities for renewable energy development.

1.0 Introduction

A Social Licence to Operate (SLO), describes the relationship between investors and the communities and societies in which they operate¹. SLO relates to the ongoing approval and acceptance of projects by the public and local communities among other stakeholders where such projects are undertaken². Unlike a legal licence which is normally granted under the law, a SLO is an informal contract under which the right to conduct operations and investment activities are not granted by the state but rather are approved by local communities³. It has been argued that a SLO is obtained and maintained slowly over time as a company builds trust with the community it operates in and other stakeholders⁴. SLO is usually secured and maintained when investors and companies operate ethically and responsibly with due considerations to the economic, social and environmental needs of the local communities where they operate⁵.

Securing a SLO is vital towards building and maintaining good relationships between investors and local communities for the successful completion of projects. It has been argued that implementing a project without a SLO can lead to operational delays, financial costs and litigation, or even project closure, violence and loss of life⁶. Obtaining and maintaining a SLO has become a necessary part of business and investment especially in the extractive industry

¹ Heffron. R.J et al., 'The emergence of the 'social licence to operate' in the extractive industries?' *Resources Policy*, Volume 74, 2021

² Ibid

³ Ibid

⁴ Social License to Operate (SLO): Definition and Standards., Available at <https://www.investopedia.com/terms/s/social-license-slo.asp> (Accessed on 02/10/2025)

⁵ Ibid

⁶ Buxton. A., & Wilson. E., 'FPIC and the Extractive Industries: A Guide to Applying the Spirit of Free, Prior and Informed Consent in Industrial Projects' Available at <https://www.iied.org/16530iied> (Accessed on 02/10/2025)

involving oil, gas and mining companies⁷. A SLO enables investors to build trust with local communities, maximize economic benefits from projects and contribute to the well-being of local communities including through job creation, development of amenities and sound environmental conservation⁸. Securing and maintaining a SLO is therefore a prerequisite for ethical, sustainable and profitable investments.

This paper critically examines the need to secure a SLO from local communities in renewable energy developments. The paper posits that renewable energy developments have become increasingly necessary all over the world especially in developing countries towards fast-tracking energy transition for Sustainable Development. Despite their environmental, social and economic benefits, the paper argues that in some cases, renewable energy developments are usually implemented without the participation of local communities leading to disputes, delays, project closure and violence. In light of these concerns, the paper argues that securing a SLO from local communities is vital for the successful completion of renewable energy developments towards achieving energy transition for Sustainable Development. In order to achieve this goal, the paper discusses how negotiation can be utilised to secure a SLO from local communities for renewable energy developments.

2.0 Renewable Energy Developments: Prospects and Challenges for Local Communities

Renewable energy developments have become increasingly vital and are being implemented all over the world towards achieving energy transition. The concept of energy transition involves shifting the global energy sector from fossil fuel- based systems of energy production and consumption including oil, natural gas and coal to renewable energy sources including wind, solar and geothermal energy⁹. Energy transition entails long-term structural change to energy systems from fossil-fuel based systems to cleaner and sustainable systems such as renewable sources of energy¹⁰. This concept focuses on shifting from an energy mix based on fossil fuels to one that produces very limited, if not zero, carbon emissions, based on green and clean sources of energy such as renewable energy sources¹¹.

Energy transition is vital for people and planet. Fossil fuels including oil, gas and coal still dominate the global energy sector and account for more than 80 per cent of global energy

⁷ Ibid

⁸ Ibid

⁹ S & P Global., 'What is Energy Transition?' Available at <https://www.spglobal.com/en/researchinsights/articles/what-is-energy-transition> (Accessed on 03/10/2025)

¹⁰ Nalule. V., & Leal-Arcas. R., 'Energy Decentralization and Energy Transition in Poland.' *Electricity Decentralization in the European Union* 2nd Edition., 2023 pp 209-240

¹¹ The energy transition., Available at <https://www.enelgreenpower.com/learning-hub/energy-transition> (Accessed on 03/10/2025)

supply¹². However, the extraction and use of fossil fuels poses several threats to both people and planet. For example, fossil fuels are by far the largest contributor to global climate change, accounting for over 75 percent of global greenhouse gas emissions and nearly 90 percent of all carbon dioxide emissions¹³. In addition, fossil fuels contribute to air pollution with severe impacts on human and ecosystem health¹⁴. In addition, it has been argued that since fossil fuels are non-renewable, they can be depleted and therefore, placing too much reliance on them can affect global energy security and supply¹⁵. Achieving energy transition is therefore important towards addressing global energy, environmental, economic and health challenges including climate change, energy access disparities, poverty, inequality, and health impacts of the energy sector therefore laying the foundation for a sustainable, inclusive and more resilient future¹⁶.

Renewable sources of energy including wind, solar and geothermal are key in realising energy transition. It has been argued that renewables, including solar, wind, hydropower, biofuels and others, are at the centre of the transition to less carbon-intensive and more sustainable energy systems¹⁷. These sources of energy are available in abundance all over the planet, are cheaper than fossil fuels and are a healthier option for people and planet¹⁸. Further, generating renewable energy creates far lower emissions than burning fossil fuels such as oil, gas and coal¹⁹. Shifting from fossil fuels to renewable sources of energy is therefore necessary towards tackling the climate crisis, pollution and other environmental challenges since fossil fuels still account for more than 80 percent of global energy supply, releasing immense amounts of planet-warming gases, including carbon dioxide and methane, which have devastating impacts on people and planet²⁰.

Renewable energy developments are therefore vital towards achieving energy transition. There has been an increase in these developments all over the world. According to the International

¹² United Nations Development Programme., 'What is the sustainable energy transition and why is it key to tackling climate change?' Available at <https://climatepromise.undp.org/news-and-stories/what-sustainable-energy-transition-and-why-it-key-tackling-climate-change> (Accessed on 03/10/2025)

¹³ United Nations., 'Renewable Energy - Powering a Safer Future' Available at <https://www.un.org/en/climatechange/raising-ambition/renewable-energy> (Accessed on 03/10/2025)

¹⁴ Solomon. B., & Krishna. K., 'The Coming Sustainable Energy Transition: History, Strategies, and Outlook.' *Energy Policy* 39 (2011) 7422-7431

¹⁵ Ibid

¹⁶ United Nations Development Programme., 'What is the sustainable energy transition and why is it key to tackling climate change?' Op Cit

¹⁷ International Energy Agency., 'Renewables' Available at <https://www.iea.org/energy-system/renewables> (Accessed on 03/10/2025)

¹⁸ United Nations., 'Climate Action.' Available at <https://www.un.org/en/climatechange/howcommunities-are-embracing-renewable-energy> (Accessed on 03/10/2025)

¹⁹ United Nations., 'What is Renewable Energy?.' Available at <https://www.un.org/en/climatechange/what-is-renewable-energy> (Accessed on 03/10/2025)

²⁰ United Nations Development Programme., 'What is the sustainable energy transition and why is it key to tackling climate change?' Op Cit

Energy Agency (IEA), renewable energy generation capacity has grown rapidly all over the world in recent years, driven by policy support and sharp cost reductions for solar photovoltaics and wind power²¹. In Africa, the abundance of renewable sources of energy has also led to a rise in renewable energy developments. The continent is rich in renewable energy sources with wind, solar, hydro, bioenergy, ocean tidal waves, geothermal among other renewables being abundant throughout the continent²². Further, Africa experiences abundant sunlight and strong winds for most parts of the year creating suitable conditions for harnessing clean sources of energy including solar and wind energy²³. It has been observed that the production of renewable energy in Africa is growing with hydro, solar, wind, geothermal, biofuels and biomass accounting for a significant percentage of the total primary energy produced in the continent²⁴. According to the United Nations, renewable energy investments are beginning to bear fruit in several African countries with wind and solar power dominating non-hydro renewable energy generation and installed capacity²⁵. Renewable energy developments are becoming more popular in Africa due to the continent's enormous clean energy potential and the need to address energy-related issues, electrify remote areas, confront climate change and pollution, and improve energy security²⁶.

The growth of renewable energy developments both globally and in Africa can thus bring immense benefits for the planet and the global population including local communities. In addition, to improving energy access and security, renewable energy developments can also create jobs, and stimulate socio-economic development across education, healthcare, transport and infrastructure, water and sanitation among other vital areas therefore immensely benefiting local communities²⁷. Therefore, in addition to fast-tracking energy transition, it has been argued that renewable energy developments provide added benefits of stimulating employment and

²¹ International Energy Agency., 'Renewables' Op Cit

²² African Union., 'Agenda 2063: The Africa we Want.' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 03/10/2025)

²³ AUDA-NEPAD., 'Empowering Africa: Enhancing Access To Electricity Through Renewable Energy' Available at <https://www.nepad.org/blog/empowering-africa-enhancing-access-electricity-through-renewable-energy> (Accessed on 03/10/2025)

²⁴ United Nations Conference on Trade and Development., 'Commodities at a Glance: Special Issue on Access to Energy in Sub-Saharan Africa.' Available at <https://unctad.org/publication/commodities-glance-special-issue-access-energy-sub-saharan-africa#:~:text=Access%20to%20energy%20is%20defined,be%20scaled%20up%20over%20time> (Accessed on 03/10/2025)

²⁵ United Nations., 'Advancing SDG 7 in Africa.' Available at <https://sdgs.un.org/sites/default/files/2023-06/2023%20Advancing%20SDG7%20in%20the%20Africa-062923.pdf> (Accessed on 03/10/2025)

²⁶ Alex-Oke. T et al., 'Renewable energy market in Africa: Opportunities, progress, challenges, and future prospects' *Energy Strategy Reviews.*, Volume 59, 2025

²⁷ The role of renewable energy technologies in sustainable development., Available at <https://timesofindia.indiatimes.com/blogs/voices/the-role-of-renewable-energy-technologies-in-sustainable-development/> (Accessed on 03/10/2025)

economic growth with benefits for both local and global populations²⁸. The shift towards renewable energy is creating new opportunities for investment, innovation, and job creation, driving economic growth across sectors and empowering local communities²⁹.

However, despite providing environmental, social and economic benefits for local communities, energy developments fuel several challenges for local communities. For example, it has been argued that the acquisition and use of land for renewable energy production, especially in Africa, without addressing historical land-based community grievances contributes to the vulnerability of local communities leading to conflicts and disputes³⁰. Renewable energy developments have often resulted in environmental damage exposing local communities to health hazards, and destroying local ecosystems and livelihoods including farming, fishing and pastoralism³¹. Clearing land to support renewable energy developments such as wind and geothermal projects can impact wildlife, biodiversity and ecosystems thus affecting local communities who rely on biodiversity and ecosystems for their livelihoods³². Further, wind and solar farms, hydroelectric dams, and geothermal plants needed to adopt renewable energy all require significant land and water resources, often leading to disagreements and disputes with local communities over land rights and environmental impact³³. These challenges have resulted in renewable energy developments facing opposition from local communities leading to operational delays, disputes and costs related to litigation³⁴. In light of these challenges, it is imperative to secure and maintain a SLO from local communities in order to ensure the successful completion and operation of renewable energy developments towards achieving energy transition.

3.0 Utilising Negotiation to Secure a Social Licence to Operate from Local Communities for Renewable Energy Developments

Obtaining and maintaining a SLO from local communities is key in business and investment communities including renewable energy developments. It has been argued that in renewable

²⁸ The Global Environment Facility., 'Renewable Energy and Energy Access' Available at <https://www.thegef.org/what-we-do/topics/renewable-energy-and-energy-access> (Accessed on 03/10/2025)

²⁹ Africa's Steady Race Towards Renewable Energy Sources., Available at <https://energyalliance.org/africas-steady-race-towards-renewable-energy-sources/> (Accessed on 03/10/2025)

³⁰ The Danish Institute For Human Rights., 'Scoping Paper: Human Rights and The Energy Transition in Kenya' Available at https://www.humanrights.dk/files/media/document/Kenya%20Energy%20Transition%20and%20Human%20Rights%20Scoping_accessible.pdf (Accessed on 03/10/2025)

³¹ Ibid

³² Ibid

³³ The Role of Fossil Fuel and Renewable Energy Projects in Conflict Across Africa., Available at <https://www.accord.org.za/analysis/the-role-of-fossil-fuel-and-renewable-energy-projects-in-conflict-across-africa/> (Accessed on 03/10/2025)

³⁴ Ibid

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energy developments, a SLO is no longer optional but an effective business and investment strategy that can enable investors to proactively manage relationships with local communities and address human rights, land and environmental conservation concerns³⁵. Securing a SLO is key in fulfilling the Free, Prior and Informed Consent (FPIC) for indigenous peoples and local communities in renewable energy developments³⁶.

FPIC has been described as a fundamental right of self-determination that ensures participation by all people with a particular focus on indigenous peoples and local communities in development projects in order to ensure that such projects are conducted in a sustainable manner taking into account their economic, social and cultural impact³⁷. It enables vulnerable groups including indigenous peoples and local communities to negotiate the conditions under which a project will be designed, implemented, monitored and evaluated³⁸. It has been argued that FPIC is a key approach towards protecting the rights (human, environmental, land and customary) of all affected communities, especially the most vulnerable ones³⁹. Securing and maintaining a SLO from local communities for renewable energy developments is therefore key towards achieving the right to FPIC since it enables them to give or withhold consent to a project that may affect them or their territories⁴⁰.

Negotiation is an effective approach towards obtaining and maintaining a SLO from local communities for renewable energy developments. Negotiation is an informal process that involves parties to a conflict meeting to identify and discuss the issues at hand so as to arrive at a mutually acceptable solution without the help of a third party⁴¹. It has been argued that negotiation is a dynamic process aimed at resolving disputes, differences, or disagreements between parties by finding common ground and reaching mutually acceptable solutions⁴². It is a strategic form of communication where conflicting parties engage in discussions to address their

³⁵ Building a resilient social license to operate in Africa's renewable energy transition., <https://www.sustainability.com/insights/building-a-resilient-social-license-to-operate-in-africas-renewable-energy-transition/> (Accessed on 03/10/2025)

³⁶ Ibid

³⁷ Owen, J.R. and Kemp, D., "Free Prior and Informed Consent', Social Complexity and the Mining Industry: Establishing A Knowledge Base," *Resources Policy*, Vol.41 (2014): 91-100

³⁸ United Nations., 'Free Prior and Informed Consent – An Indigenous Peoples' right and a good practice for local communities – FAO' Available at <https://www.un.org/development/desa/indigenouspeoples/publications/2016/10/free-prior-and-informed-consent-an-indigenous-peoples-right-and-a-good-practice-for-local-communities-fao/> (Accessed on 03/10/2025)

³⁹ Ibid

⁴⁰ Building a resilient social license to operate in Africa's renewable energy transition., Op Cit

⁴¹ Muigua. K., 'Alternative Dispute Resolution and Access to Justice in Kenya.' Glenwood Publishers Limited, 2015

⁴² The Role of Negotiation in Conflict Resolution Strategies., Available at <https://www.karrass.com/blog/conflict-resolution-strategies> (Accessed on 03/10/2025)

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respective needs, interests, and concerns⁴³. Negotiation is a powerful approach towards managing disagreements and disputes since it focuses on cooperation, open communication, and finding win-win outcomes⁴⁴. It enables parties to collaborate towards achieving sustainable, mutually satisfactory and long-lasting outcomes⁴⁵.

Negotiation is therefore a suitable process towards securing a SLO from local communities for renewable energy developments. In order to achieve equitable energy transition, it has been argued that there is need to ensure inclusivity and participation of indigenous and vulnerable communities in renewable energy developments including through upholding their right to FPIC⁴⁶. Utilising negotiation alongside other collaborative processes such as mediation is vital in engaging with local communities to reach shared agreement and allowing people to have a meaningful voice in deliberative decision-making processes related to their own development⁴⁷. By embracing negotiation, it is possible to enhance cooperation between renewable energy developers and communities that host renewable energy developments⁴⁸. Negotiation can foster stakeholder engagements with local communities and agreements such as the distribution of monetary or other community benefits to mitigate or eliminate opposition to renewable energy development thus granting investors a SLO⁴⁹. Utilising negotiation is therefore an effective approach towards securing a SLO to operate from local communities for renewable energy developments.

4.0 Conclusion

Renewable energy developments are key in fostering energy transition. However, inadequate involvement and participation by local communities in renewable energy projects leads to operational delays, disputes and costs related to litigation⁵⁰. Securing a SLO from local communities is therefore vital for the successful completion and operation of renewable energy developments in the quest towards energy transition and sustainability. Negotiation is an effective process in securing and maintaining a SLO from local communities in renewable energy

⁴³ Ibid

⁴⁴ Miroslavov. M., 'Mastering the Collaborating Conflict Style In 2024' Available at <https://www.officernd.com/blog/collaborating-conflictstyle/#:~:text=It's%20one%20of%20the%20strategies,their%20underlying%20needs%20and%20interests> (Accessed on 03/10/2025)

⁴⁵ Ibid

⁴⁶ Impact of renewable energy projects on Indigenous communities in Kenya., Available at <https://iwgia.org/en/kenya/3534-impact-of-renewable-energy-projects-on-indigenous-communities-in-kenya.html#:~:text=Kenya's%20ambitious%20plan%20to%20transition,energy%20by%20this%20year%20C%202020> (Accessed on 03/10/2025)

⁴⁷ Buxton. A., & Wilson. E., 'FPIC and the Extractive Industries: A Guide to Applying the Spirit of Free, Prior and Informed Consent in Industrial Projects' Op Cit

⁴⁸ Maonaigh. C et al., 'Revisiting the social licence to operate in the energy transition: An intersectional agenda for research and practice' *Energy Research & Social Science.*, Volume 126, 2025

⁴⁹ Ibid

⁵⁰ Ibid

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developments by fostering dialogue, cooperation and collaboration between investors and communities⁵¹. Utilising negotiation is therefore an appropriate strategy towards securing and maintaining a SLO from local communities for renewable energy developments.

⁵¹ Building a resilient social license to operate in Africa's renewable energy transition., Op Cit

PART IV – ENVIRONMENTAL GOVERNANCE, ADR AND INCLUSIVE JUSTICE

Examines the role of arbitration, mediation, and negotiation in resolving environmental and resource based conflicts. It advances the argument that Alternative Dispute Resolution (ADR) offers culturally sensitive and efficient mechanisms for achieving environmental justice.

Access to Justice in Commercial Disputes: Empowering MSMEs through Expedited Arbitration

Abstract

This paper critically examines how Micro, Small and Medium Enterprises (MSMEs) can access justice in commercial disputes through expedited arbitration. The paper argues that commercial disputes have adverse impacts on MSMEs undermining their business activities and profitability. As a result, the paper posits that access to justice for MSMEs involved in commercial disputes is key in ensuring their long-term stability and viability for inclusive growth and Sustainable Development. The paper argues that expedited arbitration can empower MSMEs to access justice in commercial disputes. It defines expedited arbitration and its role in fostering access to justice in commercial disputes. Further, the paper discusses how MSMEs can be empowered to access justice in commercial disputes through expedited arbitration.

1.0 Introduction

Commercial disputes are inevitable. These disputes involve disagreements arising between parties in the process of entering into, performing, or terminating commercial activities and transaction¹. Commercial disputes usually arise when disagreements occur between parties involved in business transactions, often leading to complex legal issues². It has been argued that commercial disputes can vary in nature and scope but usually revolve around conflicts and disagreements pertaining business interactions and commerce³. Commercial disputes are a common phenomenon and can involve different types of business entities including multinational corporations, partnerships and small businesses⁴.

Commercial disputes can affect business relationships. If not well resolved, commercial disputes can have severe consequences for all parties involved including termination of contracts, loss of revenue, loss of business opportunities, reputational damage and prolonged legal battles⁵. Consequently, it is imperative for businesses to reduce the risk of commercial disputes while also employing effective dispute resolution processes in order to preserve business relationships⁶. It

¹ What is a commercial dispute? What are the common methods for resolving commercial disputes today?., Available at <https://www.dedica-law.com/eng-faqs/what-is-a-commercial-dispute-what-are-the-common-methods-for-resolving-commercial-disputes-today#:~:text=A%20commercial%20dispute%20refers%20to,%2C%20insurance%20activities%2C%20among%20others.> (Accessed on 16/09/2025)

² Resolving Disputes: Commercial Litigation., Available at <https://law.pepperdine.edu/blog/posts/resolving-disputes-commercial-litigation.htm> (Accessed on 16/09/2025)

³ Ibid

⁴ Ibid

⁵ What Is A Commercial Dispute And How Can It Be Resolved?., Available at <https://www.astlepaterson.co.uk/how-a-commercial-dispute-can-be-resolved/> (Accessed on 16/09/2025)

⁶ Ibid

has been argued that understanding the nature of commercial disputes and applying appropriate dispute resolution methods are key factors in preserving and strengthening business relationships⁷.

This paper critically examines how Micro, Small and Medium Enterprises (MSMEs) can access justice in commercial disputes through expedited arbitration. The paper argues that commercial disputes have adverse impacts on MSMEs undermining their business activities and profitability. As a result, the paper posits that access to justice for MSMEs involved in commercial disputes is key in ensuring their long-term stability and viability for inclusive growth and Sustainable Development. The paper argues that expedited arbitration can empower MSMEs to access justice in commercial disputes. It defines expedited arbitration and its role in fostering access to justice in commercial disputes. Further, the paper discusses how MSMEs can be empowered to access justice in commercial disputes through expedited arbitration.

2.0 Impact of Commercial Disputes on MSMEs

It has been argued that MSMEs play a pivotal role in most economies especially in developing countries⁸. They account for the largest proportion of businesses worldwide and are important contributors to job creation and global economic development⁹. According to the United Nations, MSMEs are key sources of jobs, income, and local growth—especially for vulnerable groups including women and the youth¹⁰. It has been argued that the size and flexibility of MSMEs help build strong, fair, and sustainable economies and communities¹¹.

MSMEs are therefore key drivers of economic growth, job creation and poverty reduction globally. It has been argued that these enterprises generate employment, promote entrepreneurship and innovation, and boost investments¹². Further, MSMEs can accelerate the development of indigenous skills and technology while also enhancing local production and exports¹³. MSMEs are therefore important drivers of global, regional and national economic

⁷ What is a commercial dispute? What are the common methods for resolving commercial disputes today?., Op Cit

⁸ World Bank Group., 'Small and Medium Enterprises (SMEs) Finance' Available at <https://www.worldbank.org/en/topic/sme/finance> (Accessed on 17/09/2025)

⁹ Ibid

¹⁰ United Nations., '2025 Theme: Enhancing the role of Micro-, Small and Medium-sized Enterprises (MSMEs) as drivers of Sustainable Growth and Innovation' Available at <https://www.un.org/en/observances/micro-small-medium-businesses-day#:~:text=Supply%20chain%20issues%2C%20higher%20costs,and%2050%25%20of%20GDP%20worldwide.> (Accessed on 17/09/2025)

¹¹ Ibid

¹² Mokwaro. B.E., & Nyamu. N.S., 'Micro, Small and Medium Enterprises (MSMEs) Sector in Kenya' Available at [https://repository.kippira.or.ke/server/api/core/bitstreams/36cc8daf-5a13-459f-b4d1-538d08f2ddab/content#:~:text=MSMEs\)%20Sector%20In-Kenya,MSMEs%20are%20informal%20in%20nature.](https://repository.kippira.or.ke/server/api/core/bitstreams/36cc8daf-5a13-459f-b4d1-538d08f2ddab/content#:~:text=MSMEs)%20Sector%20In-Kenya,MSMEs%20are%20informal%20in%20nature.) (Accessed on 17/09/2025)

¹³ Ibid

growth. For instance, it is estimated that in Kenya, MSMEs account for over 80 per cent of total employment while contributing to over 30 per cent of the Gross Domestic Product (GDP)¹⁴. It has been argued that MSMEs play a key role in the economic development of Kenya by increasing competition, fostering innovation, generating employment and providing goods and services¹⁵.

Despite their vital role in global economic development, MSMEs are susceptible to several challenges. For instance, access to finance is a key obstacle to the growth of MSMEs since they are less likely to be able to obtain bank loans when compared to large firms¹⁶. It has been pointed out that many MSMEs struggle to get loans, deal with poor infrastructure, and work under tough conditions¹⁷. In addition, many MSMEs operate informally, which limits their access to funding, legal rights, and government support¹⁸. Further, supply chain challenges and uncertain markets also threaten the survival of many MSMEs¹⁹.

In addition to the foregoing challenges, MSMEs are also vulnerable to commercial disputes. It has been argued that MSMEs are highly susceptible to commercial disputes due to several factors including inadequate access to legal resources and advice, difficulties in negotiating effective contracts, business regulatory constraints²⁰. For example, due to limited financial resources, MSMEs find it difficult to access legal advice exposing them to the risk of disputes especially when navigating complex regulatory and legal issues²¹. Further, MSMEs often find themselves in weaker positions when negotiating contracts creating the risk of contractual disputes arising in future²².

The foregoing challenges are exposing MSMEs to commercial disputes involving suppliers, clients, business premises, regulatory bodies and large corporations²³. For example, limited finances often lead to disputes between MSMEs and suppliers over payment delays or disputes

¹⁴ Ibid

¹⁵ Micro Small and Medium Enterprises Basic Report 2016., Available at <https://www.knbs.or.ke/reports/kenya-micro-small-and-medium-enterprises-basic-report-2016/#:~:text=Overview,Medium%20Enterprises%20Basic%20Report%202016> (Accessed on 17/09/2025)

¹⁶ World Bank Group., 'Small and Medium Enterprises (SMEs) Finance' Op Cit

¹⁷ United Nations., '2025 Theme: Enhancing the role of Micro-, Small and Medium-sized Enterprises (MSMEs) as drivers of Sustainable Growth and Innovation' Op Cit

¹⁸ Ibid

¹⁹ Ibid

²⁰ Business Contracts and Disputes., Available at <https://trade4msmes.org/guides/contracts-and-dispute-settlement/> (Accessed on 17/09/2025)

²¹ Ibid

²² Ibid

²³ Justice Needs and Satisfaction Survey mSMEs Ukraine., Available at [https://www.hiil.org/research/justice-needs-and-satisfaction-survey-msmes-ukraine/#:~:text=mSMEs%20most%20pressing%20legal%20problems,or%20corporate%20fraud%20\(15%25\).](https://www.hiil.org/research/justice-needs-and-satisfaction-survey-msmes-ukraine/#:~:text=mSMEs%20most%20pressing%20legal%20problems,or%20corporate%20fraud%20(15%25).) (Accessed on 17/09/2025)

with business premises over late rental payments²⁴. Further, due to inadequate access to legal advice and services, MSMEs are usually entangled in disputes with regulatory authorities concerning registration, legal status and ownership²⁵. Further, given their relatively weak position, MSMEs are usually involved in commercial disputes with larger corporations on issues such as violation of intellectual property rights²⁶.

From the foregoing, it is evident that MSMEs are highly vulnerable to commercial disputes. Such disputes have adverse impacts on MSMEs. For example, it has been argued that the structural and financial position of most MSMEs does not allow them to withstand protracted disputes including lengthy and expensive lawsuits²⁷. The length and costs of lawsuits can impact vital financial resources and time required by MSMEs to grow²⁸. Further, if unresolved, commercial disputes can affect vital business relationships that are necessary for the sustainability and growth of MSMEs including relationships with clients, suppliers and business premises²⁹. As a result, it has been argued that commercial disputes are severely impactful and costly on MSMEs since they can lead to loss of clients, loss of market share, and some cases, bankruptcy³⁰.

Commercial disputes can therefore significantly and adversely impact MSMEs. It is thus vital to enhance access to justice in commercial disputes for MSMEs in order to ensure their growth, stability and profitability.

3.0 Utilising Expedited Arbitration to Enhance Access to Justice in Commercial Disputes for MSMEs

Due to their vulnerability to commercial disputes and relatively weak financial position, MSMEs have been encouraged to utilise appropriate modes of dispute resolution to access justice in order to address the length and costs associated with litigation³¹. In particular, MSMEs have been urged to embrace Alternative Dispute Resolution (ADR) processes in order to access justice in commercial disputes³². ADR processes including negotiation, mediation and arbitration are

²⁴ Ibid

²⁵ Before, during and after Covid-19: legal problems of mSMEs in Ukraine., Available at <https://dashboard.hiil.org/publications/legal-problems-of-msmes-in-ukraine/#:~:text=mSMEs%20negotiate%20first%2C%20involve%20lawyers,about%20the%20instances%20of%20corruption>. (Accessed on 17/09/2025)

²⁶ Franceschelli. V., 'Dispute Settlement and Enforcement of IP Rights By MSMEs' Available at https://www.wipo.int/edocs/mdocs/sme/en/wipo_smes_rom_09/wipo_smes_rom_09_1_theme06_3-main1.pdf (Accessed on 17/09/2025)

²⁷ Ibid

²⁸ Ibid

²⁹ Justice Needs and Satisfaction Survey mSMEs Ukraine., Op Cit

³⁰ Before, during and after Covid-19: legal problems of mSMEs in Ukraine., Op Cit

³¹ Franceschelli. V., 'Dispute Settlement and Enforcement of IP Rights By MSMEs' Op Cit

³² United Nations Department of Economic and Social Affairs., 'Policy Guidelines for the Formalization of Micro-, Small and Medium-sized Enterprises in Kenya' Available at <https://sdgs.un.org/sites/default/files/2022->

appropriate in enhancing access to justice in commercial disputes. For example, negotiation is an effective tool in managing commercial disputes expeditiously and cost-effectively while maintaining business relationships³³. Since it focuses on collaboration, negotiation enables parties to business disputes to work together, identify challenges and come up with mutually satisfactory and long-term solutions therefore preserving relationships while enabling parties to continue doing business together³⁴. In addition, mediation can not only save time and costs but can also preserve critical business relationships making it appropriate in managing commercial disputes³⁵. Mediation provides parties an opportunity to repair and even strengthen business relationships for continuity³⁶. Further, arbitration guarantees expertise, flexibility, privacy, confidentiality, expeditiousness and finality and is therefore an appropriate process in ensuring access to justice in commercial disputes³⁷.

ADR processes are therefore suitable in enhancing access to justice in commercial disputes for MSMEs. By applying ADR processes such as negotiation, mediation and arbitration, MSMEs can save costs, manage disputes expeditiously, navigate legal and regulatory challenges and preserve commercial relationships thus enhancing their role in job creation and economic development³⁸. ADR promises faster resolution of commercial disputes, reduced costs, and greater control over the outcome and is therefore an effective and appropriate tool in strengthening access to justice in commercial disputes for MSMEs³⁹.

One particular ADR process that can enhance access to justice in commercial disputes for MSMEs is expedited arbitration. According to the United Nations Commission on International Trade Law (UNCITRAL), expedited arbitration is a streamlined and simplified procedure with a shortened time frame, which enables parties to reach a final resolution of the dispute in an

[03/Policy%20guidelines%20for%20the%20formalization%20of%20MSMEs%20in%20Kenya.pdf](#) (Accessed on 17/09/2025)

³³ Negotiation as a Tool in Business Disputes., Available at <https://achkarlitigation.com/insights/negotiation-as-a-tool-in-business-disputes/> (Accessed on 17/09/2025)

³⁴ Ibid

³⁵ Managing and Resolving cross-border Disputes in the Energy Sector., Available at <https://www.ashurst.com/en/insights/managing-and-resolving-cross-border-disputes-in-the-energy-sector/> (Accessed on 17/09/2025)

³⁶ Forget Litigation & Arbitration: Why Mediation is the Best Option for Resolving Business Disputes., Available at <https://cenkuslaw.com/forget-litigation-arbitration-mediation-best-option-resolving-business-disputes/> (Accessed on 17/09/2025)

³⁷ Benefits of Arbitration for Commercial Disputes., Available at <https://jusmundi.com/en/document/publication/en-benefits-of-arbitration-for-commercial-disputes> (Accessed on 17/09/2025)

³⁸ Improving Access to Justice for MSMEs in Commercial Disputes., Available at <https://www.linkedin.com/pulse/improving-access-justice-msmes-commercial-disputes-thadeshwar-rwsof/> (Accessed on 17/09/2025)

³⁹ Ibid

expeditious and cost-effective manner⁴⁰. It has been argued that expedited arbitration is perfectly suited for disputes of reduced size or complexity, where the normal arbitration proceedings may not be justified⁴¹. The process is usually streamlined and is conducted within short time frames in most cases by one arbitrator who may decide the dispute at hand on the basis of written submissions⁴².

Expedited arbitration is therefore a form of arbitration that is conducted within short time frames at a reduced cost⁴³. Embracing this form of arbitration can bolster access to justice for MSMEs by reducing the time and costs involved in commercial disputes. It has been argued that expedited arbitration is particularly important for MSMEs since it enables them to save precious time and costs that can be incurred in normal arbitration proceedings and litigation while also providing parties with other benefits associated with arbitration including expertise, party autonomy and confidentiality⁴⁴. The traditional modes of arbitration are usually expensive and lengthy and may therefore not be optimal for MSMEs giving their relatively small nature and weak financial position⁴⁵. For example, the cost of arbitration is likely to be disproportionate to or may even exceed the amount in dispute while the length of traditional arbitration proceedings is unattractive given the fast-paced associated with the landscape of MSMEs where they need to remain competitive in order to grow⁴⁶.

Expedited arbitration is therefore an appropriate and viable mode of ensuring access to justice in commercial disputes for MSMEs. It has been argued that this process takes arbitration closer to its historical roots of a timely, flexible, cost-effective and commercially orientated dispute resolution process⁴⁷. Expedited arbitration therefore serves the needs of MSMEs where it is imperative to manage commercial disputes quickly and cost-effectively in order to preserve business relationships and save limited financial resources and time that is needed for the growth

⁴⁰ United Nations Commission on International Trade Law., 'Expedited Arbitration Rules (2021)' Available at <https://uncitral.un.org/en/content/expedited-arbitration-rules> (Accessed on 17/09/2025)

⁴¹ Accelerated Proceedings for Small to Midsize Claims., Available at <https://sadr.org/index.php/en/services/arbitration-services/expedited-arbitration> (Accessed on 17/09/2025)

⁴² Ibid

⁴³ World Intellectual Property Organization., 'What is WIPO Expedited Arbitration?' Available at <https://www.wipo.int/amc/en/arbitration/what-is-exp-arb.html> (Accessed on 17/09/2025)

⁴⁴ World Intellectual Property Organization Arbitration and Mediation Centre., 'WIPO Mediation and Arbitration for SMEs' Available at <https://www.european-entrepreneurs.org/wipo-mediation-and-arbitration-for-smes/#:~:text=Confidentiality:%20mediation%20and%20expedited%20arbitration%20allow%20parties,keep%20the%20proceedings%20and%20the%20outcome%20confidential>. (Accessed on 17/09/2025)

⁴⁵ Larusson, H.K., 'Expedited Arbitration - Meeting the Needs of SMEs' Available at <https://scandinavianlaw.se/pdf/63-8.pdf> (Accessed on 17/09/2025)

⁴⁶ Ibid

⁴⁷ Ibid

of these enterprises⁴⁸. It is therefore vital to embrace expedited arbitration in order to strengthen access to justice for MSMEs involved in commercial disputes.

4.0 Conclusion

MSMEs are important contributors to job creation and global economic development⁴⁹. However, given their nature, size and financial position, MSMEs are highly vulnerable to commercial disputes involving suppliers, clients, business premises, regulatory bodies and large corporations⁵⁰. These disputes can affect the growth of MSMEs by impacting their financial stability and market share⁵¹. Effective management of commercial disputes is therefore necessary for the growth of MSMEs. ADR processes such as negotiation, mediation and arbitration provide a suitable platform that can enhance access to justice in commercial disputes for MSMEs by saving costs, time and preserving valuable commercial relationships⁵². In particular, expedited arbitration can enable MSMEs to save time and costs involved in commercial disputes.

It is therefore imperative to encourage and strengthen the use of expedited arbitration towards fostering access to justice for MSMEs involved in commercial disputes. This requires national, regional and global arbitral institutions to develop expedited arbitration rules that can meet the needs of MSMEs among other vulnerable entities⁵³. Further, there is need for counsel to advise MSMEs against the use of traditional, full-scale, institutional arbitration due to its time and cost implications and encourage them to use expedited arbitration including through negotiating and drafting arbitration clauses that allow its use⁵⁴. In addition, given their important role in national economic development, states have a key role to play in building the capacity of MSMEs in commercial dispute resolution including through training and putting in place appropriate legal and policy frameworks⁵⁵. Empowering MSMEs through expedited arbitration is therefore important and necessary towards enhancing access to justice in commercial disputes for job creation, poverty reduction and economic growth.

⁴⁸ Ibid

⁴⁹ World Bank Group., 'Small and Medium Enterprises (SMEs) Finance' Op Cit

⁵⁰ Justice Needs and Satisfaction Survey mSMEs Ukraine., Op Cit

⁵¹ Ibid

⁵² Improving Access to Justice for MSMEs in Commercial Disputes., Op Cit

⁵³ World Intellectual Property Organization Arbitration and Mediation Centre., 'WIPO Mediation and Arbitration for SMEs' Op Cit

⁵⁴ Larusson, H.K., 'Expedited Arbitration – Meeting the Needs of SMEs' Op Cit

⁵⁵ United Nations Department of Economic and Social Affairs., 'Policy Guidelines for the Formalization of Micro-, Small and Medium-sized Enterprises in Kenya' Op Cit

ESG and Arbitration: Settling Disputes for Green and Ethical Climate Governance

Abstract

This paper critically examines the role of arbitration in fostering ESG tenets. The paper argues that arbitration is an appropriate mechanism in realising ESG factors for sustainability. It critically examines the relationship between arbitration and ESG. In addition, the paper explores ways through which arbitration can be effectively harnessed to realise ESG tenets including through settling disputes for green and ethical climate governance.

1.0 Introduction

ESG is an acronym for Environmental, Social and Governance, a holistic framework that measures the sustainable and ethical impact of businesses¹. It has been argued that ESG is a model of sustainable business development that is based on responsible attitude towards the environment, high social responsibility, and good governance². This concept seeks to achieve sustainable, responsible and ethical investment by incorporating environmental, social and governance factors in corporate decision making³. It has been argued that while the term ESG is often used in the context of business and investing, stakeholders include not just the business and investment community but also customers, suppliers, employees and governments all of whom are increasingly interested in how sustainable organizations are⁴.

ESG tenets are key in fostering sustainability. It has been argued that embracing ESG tenets can help companies rethink their values and align business strategies with the Sustainable Development Goals (SDGs)⁵. ESG focuses on *environmental factors* such as climate change, energy efficiency, waste management, and pollution⁶; *social factors* including sound labour practices, human rights, customer satisfaction, and community engagement⁷; and *governance factors*

¹ Environmental, Social, and Governance (ESG)., Available at <https://www.climatepartner.com/en/knowledge/glossary/environmental-social-governance-esg> (Accessed on 06/10/2025)

² United Nations Development Programme., 'ESG: From Challenges to Opportunities' Available at <https://www.undp.org/belarus/stories/esg-challenges-opportunities#:~:text=January%2016%2C%202024,social%20responsibility%2C%20and%20good%20governance> (Accessed on 06/10/2025)

³ 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

⁴ Peterdy. K., & Miller. N., 'ESG (Environmental, Social, & Governance)' Available at <https://corporatefinanceinstitute.com/resources/esg/esg-environmental-social-governance/> (Accessed on 06/10/2025)

⁵ United Nations Development Programme., 'ESG: From Challenges to Opportunities' Op Cit

⁶ Corporate Governance Institute., 'A Simple guide to ESG' Available at https://www.thecorporategovernanceinstitute.com/insights/guides/simple-guide-esg/?srsltid=AfmBOOpUGrbqCk3DYg-pDmv95eh87EN2vx-oD8_Xmsmxud2nsb61m6 (Accessed on 06/10/2025)

⁷ Ibid

including board composition, shareholder rights, and transparency (Emphasis added)⁸. It has been argued that the goal of ESG is to integrate Environmental, Social and Governance factors in corporate affairs in order to enhance the sustainability and social impact of business activities⁹.

Adopting and actualising ESG tenets is therefore vital in fostering sustainability. It has been argued that in the face of mounting global environmental, social and economic challenges, society increasingly demands that businesses should have a governance framework in place to enable them to be good stewards not only of financial capital, but also of natural and social capital as well¹⁰. Consequently, it has become imperative for corporations to ensure that their operations remain sustainable, socially responsible, and governed ethically in the quest towards sustainability¹¹. The goal of ESG is to promote sustainable investments that generate long-term financial returns, taking into account the social and environmental impacts of economic activities and promoting transparency and corporate responsibility¹². Realising ESG factors can therefore contribute to the environmental, social and economic performance of organizations in terms of investment and sustainability¹³.

This paper critically examines the role of arbitration in fostering ESG tenets. The paper argues that arbitration is an appropriate mechanism in realising ESG factors for sustainability. It critically examines the relationship between arbitration and ESG. In addition, the paper explores ways through which arbitration can be effectively harnessed to realise ESG tenets including through settling disputes for green and ethical climate governance.

2.0 ESG and Arbitration: Promises and Pitfalls

Arbitration is a private and consensual process where parties in dispute agree to present their grievances to a third party for settlement¹⁴. In addition, arbitration has also been defined as a dispute management mechanism where parties through an agreement submit their dispute to

⁸ Ibid

⁹ Li, T.T et al., 'ESG: Research Progress and Future Prospects.' *Sustainability*, No. 13 of 2021.

¹⁰ Sustainability and ESG: What's the Difference., Available at <https://www.iod.com/resources/sustainable-business/sustainability-and-esg-whats-the-difference/> (Accessed on 06/10/2025)

¹¹ Rathi, S., 'Cracking The ESG Conundrum: Is Arbitration The Key To Resolution Of ESG Disputes?' Available at <https://www.mondaq.com/india/arbitration--dispute-resolution/1375770/cracking-the-esg-conundrum-is-arbitration-the-key-to-resolution-of-esg-disputes#:~:text=ESG%20issues%20usually%20involve%20multiple,arbitral%20awards%20across%20multiple%20jurisdictions> (Accessed on 06/10/2025)

¹² The 3 pillars of Sustainability: Environmental, Social and Economic., Available at <https://www.enel.com/company/stories/articles/2023/06/three-pillars-sustainability> (Accessed on 06/10/2025)

¹³ Ahmad, H., Yaqub, M., & Lee, S. H., 'Environmental-, Social-, and Governance-Related Factors for Business Investment and Sustainability: A Scientometric Review of Global Trends.' Available at <https://link.springer.com/article/10.1007/s10668-023-02921> (Accessed on 06/10/2025)

¹⁴ Muigua, K., 'Settling Disputes through Arbitration in Kenya.' Glenwood Publishers, 4th Edition, 2022

one or more neutral third parties who makes a binding decision on the dispute¹⁵. Arbitration has been identified as a private and consensual dispute settlement process based on the parties' agreement to submit their disputes for resolution to an arbitral tribunal which is usually composed, of one or three independent arbitrators appointed by or on behalf of the parties¹⁶. Arbitration is renowned for its key features including privacy, flexibility and party autonomy which allows parties to engage in an efficient, confidential and fair process leading to a final, binding and enforceable award¹⁷.

Arbitration alongside other Alternative Dispute Resolution (ADR) processes has been embraced in the management of disputes at both the global and national levels. At the global level, ADR mechanisms including arbitration are recognized under the *Charter of the United Nations*¹⁸. The Charter provides that parties to a dispute shall first of all seek a solution by negotiation, enquiry, mediation, conciliation, *arbitration*, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice¹⁹ (Emphasis added). At a national level, the *Constitution of Kenya*²⁰ mandates courts and tribunals to promote ADR mechanisms including reconciliation, mediation, *arbitration* and Traditional Dispute Resolution Mechanisms (TDRMs)²¹ (Emphasis added).

It has been argued that arbitration is relevant in the ESG discourse²². For instance it has been pointed out that ESG tenets have evolved from idealistic frameworks into binding legal, financial and reputational imperatives and responsibilities for organizations²³. This has led to the growth of ESG disputes. The increasing adoption of ESG related practices into pre-existing environmental, social and governance models adopted by corporations has been described as a disruptive phenomenon²⁴. The inclusion of ESG clauses in commercial contracts not only points to the importance of ESG concerns to companies but it also serves as potential source of disputes

¹⁵ World Intellectual Property Organization., 'What is Arbitration' Available at <https://www.wipo.int/amc/en/arbitration/what-is-arb.html> (Accessed on 06/10/2025)

¹⁶ What is Arbitration?., Available at <https://www.hkiac.org/arbitration/what-is-arbitration> (Accessed on 06/10/2025)

¹⁷ Ibid

¹⁸ United Nations, Charter of the United Nations, 24 October 1945, 1 UNTS XVI

¹⁹ Ibid, article 33 (1)

²⁰ Constitution of Kenya., 2010., Government Printer, Nairobi

²¹ Ibid., article 159 (2) (c)

²² It's Not Easy Being Green: ESG, Arbitration and the Future of Dispute Resolution., Available at <https://legalblogs.wolterskluwer.com/arbitration-blog/its-not-easy-being-green-esg-arbitration-and-the-future-of-dispute-resolution/#:~:text=Traditional%20arbitration%20is%20designed%20around,rights%20violations%2C%20and%20intergenerational%20injustice>. (Accessed on 07/10/2025)

²³ Ibid

²⁴ The ALP Review., 'The Importance of ESG and its effect on International Arbitration' available at <https://www.alp.company/sites/default/files/ALP%20Review%20-%20The%20Importance%20of%20ESG%20and%20its%20effect%20on%20International%20Arbitration.pdf> (Accessed on 07/10/2025)

where such considerations are not complied with²⁵. The growing demand for sustainability has seen ESG clauses being increasingly adopted in commercial and investment contracts²⁶. In case of violation of such clauses, ESG related disputes are bound to occur²⁷.

ESG disputes usually arise when organizations face challenges or legal actions flowing from their environmental, social, and governance-related commitments²⁸. As customers, regulatory bodies, investors, and the public demand more from businesses in terms of sustainable practices, ethical behaviour, and corporate transparency, companies are held to increasingly higher standards²⁹. Consequently, when companies fail to meet these standards or breach their ESG commitments and obligations, ESG disputes can occur³⁰. It has been argued that ESG disputes encompass private law claims where claimants seek to recover damages against companies for breach or misrepresentation of their ESG standards and obligations³¹. In ESG disputes, the damages sought may be for environmental damage, violation of human rights, personal injury or damage to property, or secondary claims arising from a company misrepresenting its sustainability credentials to customers or investors³². In addition, it has been argued that ESG tenets can also cause contractual disputes³³. As ESG becomes ever more important, ESG standards are being incorporated into supply contracts, manufacturing contracts and joint venture agreements, resulting in increased inter-company disputes in relation to the application of such standards³⁴.

ESG disputes can undermine the reputation and profitability of businesses³⁵. Consequently, effective management of ESG disputes is key in ensuring the profitability, sustainability and reputation of businesses. Arbitration is a viable process towards effective management of ESG disputes. For example, arbitration allows parties to appoint specialised arbitrators with the requisite skills, knowledge and capacity to manage technical ESG disputes including energy,

²⁵ Ibid

²⁶ International Arbitration in 2022., 'The Rising Significance of ESG and the Role of International Arbitration' available at <https://www.freshfields.com/en-gb/our-thinking/campaigns/internationalarbitration-in-2022/the-rising-significance-of-esg-and-the-role-of-international-arbitration/> (Accessed on 07/10/2025)

²⁷ Muigua. K., 'The Place of Environmental, Social and Governance (ESG) in Arbitration' Available at <https://kmco.co.ke/wp-content/uploads/2022/09/The-Place-of-Environmental-Social-and-Governance-ESG-in-Arbitration-2.pdf> (Accessed on 07/10/2025)

²⁸ The rise of ESG disputes: A growing concern for businesses., Available at <https://hamlins.com/insight/the-rise-of-esg-disputes-a-growing-concern-for-businesses/> (Accessed on 07/10/2025)

²⁹ Ibid

³⁰ Ibid

³¹ Ashurst., 'Global Trends in ESG Disputes' Available at <https://www.ashurst.com/en/insights/global-trends-in-esg-disputes/> (Accessed on 07/10/2025)

³² Ibid

³³ Ibid

³⁴ Ibid

³⁵ Rathi. S., 'Cracking The ESG Conundrum: Is Arbitration The Key To Resolution Of ESG Disputes?' Op Cit

climate change and investment disputes³⁶. It has been argued that the ability to appoint a tribunal with the requisite skills to deal efficiently and effectively with the peculiar needs and requirements of ESG disputes remains a key advantage and consideration, particularly in technical ESG disputes³⁷. ESG disputes may involve complex scientific and technical issues³⁸. For example, in climate change disputes, there may be need to determine whether the carbon emission of a company is in adequate compliance with the international climate targets³⁹. Consequently, the principle of party autonomy allows parties to select arbitrators with capacity and knowledge in such matters therefore ensuring effective and efficient management of ESG disputes⁴⁰.

Another key advantage in utilising arbitration to manage ESG disputes is that it ensures neutrality of forum and flexibility as to where proceedings are held in addition to flexibility of procedure and availability of specialized procedural rules on ESG disputes⁴¹. The transnational applicability of arbitration is also well-suited for ESG disputes. This makes arbitration effective in managing cross border ESG disputes including both commercial and investment disputes⁴². It also ensures that awards in ESG disputes are able to be recognized and enforced (almost) globally pursuant to the New York Convention⁴³. Further, it has been argued that through arbitration, injunctions can (in principle) be obtained quickly in cases of irreversible environmental damage or gross human rights violations thus upholding ESG tenets⁴⁴.

Arbitration is therefore relevant in the ESG discourse. As ESG tenets continue to be widely embraced by organizations all over the world, disputes are becoming more prevalent and dynamic challenging traditional modes of resolution including litigation⁴⁵. It has been argued

³⁶ Arbitration is fast becoming the frontrunner for ESG-related disputes in Africa., Available at <https://www.herbertsmithfreehills.com/notes/africa/2024-posts/arbitration-is-fast-becoming-the-frontrunner-for-esg-related-disputes-in-africa> (Accessed on 07/10/2025)

³⁷ Ibid

³⁸ Rath. S., 'Cracking The ESG Conundrum: Is Arbitration The Key To Resolution Of ESG Disputes?' Op Cit

³⁹ Ibid

⁴⁰ Ibid

⁴¹ Gaffney. J., 'In Praise and Criticism of Arbitration as a Means of Resolving ESG Disputes' Available at <https://arbitrationblog.kluwerarbitration.com/2023/04/18/in-praise-and-criticism-of-arbitration-as-a-means-of-resolving-esg-disputes/> (Accessed on 07/10/2025)

⁴² ESG-Related Arbitrations: A New Kid on the Block., Available at <https://www.schoenherr.eu/content/esg-related-arbitrations-a-new-kid-on-the-block> (Accessed on 07/10/2025)

⁴³ Akeb. S., 'Here We Go: ESG-Disputes in International Arbitration' Available at <https://www.taylorwessing.com/en/insights-and-events/insights/2023/07/here-we-go-esg-disputes-in-international-arbitration> (Accessed on 07/10/2025)

⁴⁴ Ibid

⁴⁵ The rise of ESG considerations in international arbitration., Available at <https://www.uria.com/en/publicaciones/8982-the-rise-of-esg-considerations-in-international-arbitration> (Accessed on 07/10/2025)

that litigation many not an appropriate forum in addressing the unique issues that may arise in ESG disputes since they often involve multiple legal, social, environmental and ethical issues⁴⁶. Further, since ESG disputes often involve multiple parties and stakeholders with different perspectives, it may be difficult to arrive at a satisfactory resolution through litigation⁴⁷. Arbitration is therefore more appropriate in managing ESG disputes for sustainability.

Despite its viability, it has been argued that the use of arbitration in ESG disputes raises several concerns. For example, most arbitral awards involve monetary compensation as a remedy⁴⁸. However, it has been argued that ESG disputes usually relate to harms that transcend financial remedies such as disputes concerning human rights violations, environmental degradation, climate change and cultural loss⁴⁹. As a result, it may be necessary for arbitration to evolve in light of the dynamic nature of ESG disputes in order to ensure appropriate remedies that can uphold ESG tenets⁵⁰. Further, it has been argued that the current institutional framework is inadequate with most arbitral institutions yet to provide adequate protection for parties involved in ESG disputes⁵¹. Arbitration may also be unsuitable for disputes between corporations and individuals because of the likely disproportionate difference in financial and legal resources between the parties undermining its role in key ESG disputes including those involving human rights violations by corporations⁵². Further, the need for the consent of the parties to an arbitration agreement undermines the use of arbitration by third parties and other stakeholders in ESG claims who may not be parties to arbitration agreements⁵³. It is imperative to address these concerns in order to enhance the use of arbitration in managing ESG disputes for sustainability.

3.0 Strengthening the Role of Arbitration in ESG Disputes for Green and Ethical Climate Governance

ESG disputes are on the rise globally undermining green growth and sustainability. It has been argued that ESG tenets are key in fostering sustainable and ethical investments for green growth⁵⁴. ESG provides a suitable investment and business approach that enables organizations to integrate sustainability factors into corporate decision-making processes towards green growth⁵⁵. By adopting ESG tenets companies can prioritise environmental stewardship, social responsibility, and ethical governance therefore fostering green growth⁵⁶. For example, ESG

⁴⁶ Rathi. S., 'Cracking The ESG Conundrum: Is Arbitration The Key To Resolution Of ESG Disputes?' Op Cit

⁴⁷ Ibid

⁴⁸ It's Not Easy Being Green: ESG, Arbitration and the Future of Dispute Resolution., Op Cit

⁴⁹ Ibid

⁵⁰ Ibid

⁵¹ Arbitration is fast becoming the frontrunner for ESG-related disputes in Africa., Op Cit

⁵² Akeb. S., 'Here We Go: ESG-Disputes in International Arbitration' Op Cit

⁵³ Ibid

⁵⁴ Dai. T., 'Delving into the green growth dilemma and ESG investing in Southeast Asia' Available at <https://www.nature.com/articles/s41599-024-04184-x> (Accessed on 07/10/2025)

⁵⁵ Ibid

⁵⁶ Ibid

investing provides opportunities for businesses to foster green and ethical climate governance through solutions such as renewable energy, energy efficiency, and sustainable infrastructure which can enable companies to unlock new revenue streams, achieve cost savings, and enhance their brand reputation and sustainability⁵⁷. ESG disputes are therefore undesirable since they can undermine both the reputation and profitability of businesses and the quest towards green growth.

Arbitration is an effective process towards effective management of ESG disputes. Arbitration provides many advantages including expertise, neutrality of forum, flexibility, party autonomy and transnational applicability making suitable in managing ESG disputes including those concerning climate change, energy and human rights⁵⁸. Strengthening the role of arbitration is therefore key towards settling ESG disputes for green and ethical climate governance.

In light of the growing importance of ESG tenets and the risk of disputes, it has been argued that dispute resolution frameworks must evolve to reflect the complexity of ESG, while maintaining fairness, legitimacy, and enforceability of decisions⁵⁹. As a result, there is need to strengthen arbitration in order to enhance its suitability in ESG disputes. This requires institutional frameworks on arbitration to be strengthened including through specialized procedural rules for ESG disputes and the development of training and certification programmes in ESG dispute management⁶⁰. Further, it is imperative for arbitrators to build their capacity on ESG-related trends, regulations and standards, and ensure that they are proactive in complying with ESG best practices so as to promote the appropriate use of arbitration in ESG-related disputes⁶¹. In addition, when managing ESG disputes, there is need for ADR practitioners to uphold ESG tenets including human rights, climate action and sound environmental governance for green and ethical climate governance⁶².

4.0 Conclusion

The growth of ESG provides both opportunities to foster sustainability through ethical and responsible investments while also creating the risk of disputes. Effective management of ESG disputes is vital for green and ethical climate governance. By embracing arbitration, it is possible to ensure that ESG disputes including those concerning climate change, renewable energy, human rights and environmental governance are appropriately managed for green growth⁶³.

⁵⁷ What is ESG and How Does it Affect Climate Change?., Available at <https://esgthereport.com/what-is-esg-and-how-does-it-affect-climate-change-1/> (Accessed on 07/10/2025)

⁵⁸ Akeb. S., 'Here We Go: ESG-Disputes in International Arbitration' Op Cit

⁵⁹ It's Not Easy Being Green: ESG, Arbitration and the Future of Dispute Resolution., Op Cit

⁶⁰ International Arbitration and ESG: A New Trend in Dispute Resolution.' Available at <https://www.mondaq.com/pdf/1273354.pdf> (Accessed on 07/10/2025)

⁶¹ Ibid

⁶² Muigua. K., 'The Place of Environmental, Social and Governance (ESG) in Arbitration' Op Cit

⁶³ Dai. T., 'Delving into the green growth dilemma and ESG investing in Southeast Asia' Op Cit

Utilising arbitration is therefore necessary and possible towards settling ESG disputes for green and ethical climate governance.

Mediating Natural Resource-Based Conflicts in Africa: Examining the Place of Culture in the Process

Abstract

This paper critically examines how mediation can be utilised for effective management of natural-resource based conflicts in Africa. The paper argues that mediation is an appropriate process towards sound management of natural-resource based conflicts in Africa for peace, security and Sustainable Development. It discusses the key features of mediation that make this process ideal in managing natural-resource based conflicts both globally and in Africa. Due to its advantages, the paper argues that it is necessary to embrace mediation in order to effectively manage natural-resource based conflicts in Africa. In addition, the paper explores how culture can be integrated in the process towards appropriately mediating natural resource-based conflicts in Africa for Sustainable Development.

1.0 Introduction

Natural resource- based conflicts are being witnessed all over the world due to various competing interests over access to and use of natural resources such as land, water, minerals and forests⁶⁴. While natural resources provide economic, social and environmental benefits towards Sustainable Development, they are also increasingly acting as drivers of fragility, conflict, instability and violence⁶⁵. With the global population continuing to rise, the global demand for natural resources is expected to increase, a situation that could trigger more natural resource-based conflicts⁶⁶. Further, climate change is fueling the scarcity of vital natural resources including water and arable land, triggering competition and conflicts over these resources⁶⁷.

Africa is highly susceptible to natural resource-based conflicts. Despite being endowed with natural resources including water, arable land, fisheries, oil, gas, forests, minerals and wildlife, Africa has over the years suffered from resource-based conflicts which undermine Sustainable Development by affecting economic development and sustainability⁶⁸. The ‘resource curse

⁶⁴ Muigua. K., ‘Environmental Conflict Management Institutions and Approaches.’ Available at <https://kmco.co.ke/wp-content/uploads/2022/09/EnvironmentalConflict-Management-Institutions-and-Approaches.pdf> (Accessed on 29/09/2025)

⁶⁵ United Nations Environment Programme., ‘Environmental Cooperation and Peacebuilding.’ Available at <https://www.unep.org/topics/fresh-water/disasters-and-climatechange/environmentsecurity/environmentalcooperationand#:~:text=International%20law%2C%20environment%20and%20conflict,and%20reliance%20on%20conflict%20resources> (Accessed on 29/09/2025)

⁶⁶ Ibid

⁶⁷ Ibid

⁶⁸ Muigua. K., Wamukoya. D., & Kariuki. F., ‘Natural Resources and Environmental Justice in Kenya.’ Glenwood Publishers Limited, 2015

phenomenon is widespread in Africa. This refers to the paradox that countries endowed with natural resources tend to be embroiled in conflicts and have high incidences of poverty⁶⁹. It has been argued that natural resources in Africa have played a significant role in many violent conflicts by being used to finance armed wars and conflicts⁷⁰. Due to these challenges, it has been pointed out that in most cases, natural resources have hurt the prospects of several African national and regional economies by fostering political corruption and feeding conflicts, violence and rebellion⁷¹.

Natural resource-based conflicts in Africa are undesirable. In some cases, natural resource-based conflicts can be useful in helping communities to clarify interests and needs and in reducing possible injustices or inequities in resource distribution⁷². However, most natural resource-based conflicts have to be addressed effectively and in good time since they can upset local livelihoods by undermining trust among stakeholders and increasing insecurity, violence and resource degradation⁷³. When resolved peacefully, natural-resource based conflicts can be an essential part of progress and development⁷⁴. However, natural resource-based conflicts can also trigger violence, insecurity and destruction, particularly in states with weak governance, high levels of corruption, and existing ethnic and political divisions⁷⁵. In Africa, natural-resource based conflicts have often resulted in violence, civil wars, human security challenges and underdevelopment thus undermining the quest towards Sustainable Development in the continent⁷⁶. Effective management of natural-resource based conflicts in Africa is therefore vital for Sustainable Development.

This paper critically examines how mediation can be utilised for effective management of natural-resource based conflicts in Africa. The paper argues that mediation is an appropriate process towards sound management of natural-resource based conflicts in Africa for peace, security and Sustainable Development. It discusses the key features of mediation that make this process ideal

⁶⁹ Henri. A., 'Natural Resources Curse: A Reality in Africa.' *Resources Policy*, Volume 63, 2019

⁷⁰ Maphosa. S.B., 'Natural Resources and Conflict: Unlocking the economic dimension of peace-building in Africa' Available at <https://africaportal.org/wp-content/uploads/2023/06/No.-74.-Natural-Resources-and-Conflict..pdf> (Accessed on 29/09/2025)

⁷¹ Ibid

⁷² Food and Agriculture Organization., 'An Introduction to Natural Resource Conflicts, Collaborative Management and Sustainable Livelihoods' Available at <https://www.fao.org/4/a0032e/a0032e04.htm#:~:text=Natural%20resource%20conflicts%20are%20disagreements,or%20inequities%20in%20resource%20distribution> (Accessed on 29/09/2025)

⁷³ Ibid

⁷⁴ Brown. O., & Keating. M., 'Addressing Natural Resource Conflicts: Working towards more Effective Resolution of National and Sub-National Resource Disputes' Available at <https://www.chathamhouse.org/2015/06/addressing-natural-resource-conflicts-working-towards-more-effective-resolution-national> (Accessed on 29/09/2025)

⁷⁵ Ibid

⁷⁶ Maphosa. S.B., 'Natural Resources and Conflict: Unlocking the economic dimension of peace-building in Africa' Op Cit

in managing natural-resource based conflicts both globally and in Africa. Due to its advantages, the paper argues that it is necessary to embrace mediation in order to effectively manage natural-resource based conflicts in Africa. In addition, the paper explores how culture can be integrated in the process towards appropriately mediating natural resource-based conflicts in Africa for Sustainable Development.

2.0 The Suitability of Mediation in Managing Natural-Resource Based Conflicts

Mediation is a process of conflict management where conflicting parties gather to seek solutions to the conflict, with the assistance of a third party who facilitates discussions and the flow of information, thus aiding in the process of reaching an agreement⁷⁷. Mediation is usually a continuation of the negotiation process since it arises where parties to a conflict have attempted negotiations, but have reached a deadlock⁷⁸. As a result, parties involve a third party known as a mediator to assist them continue with the negotiations and ultimately break the deadlock⁷⁹. It has been pointed out that a mediator does not have the power to impose a solution upon the parties but rather facilitates communication, promotes understanding, focuses the parties on their interests, and uses creative problem solving to enable the parties to reach their own agreement⁸⁰.

Mediation is an appropriate and viable process in managing natural-resource based conflicts. According to the United Nations Environment Programme (UNEP), mediation is a voluntary and consensus-based process and it therefore leads to resolutions and outcomes that are longer lasting and more sustainable than adversarial processes or otherwise imposed outcomes such as litigation and arbitration⁸¹. It has been argued that in conflicts involving natural resources, sustainable outcomes are more desirable because the shared benefits of these resources often cross tribal, societal, communal, and national boundaries⁸². Mediation is therefore suitable in managing natural resource-based conflicts due to its potential to build and maintain long-term sustainable relationships between parties through collaboration which often involves joint management of resources⁸³.

⁷⁷ Muigua. K., 'Resolving Conflicts through Mediation in Kenya.' Glenwood Publishers Limited, 2nd Edition., 2017

⁷⁸ Bercovitch. J., 'Mediation Success or Failure: A Search for the Elusive Criteria.' *Cardozo Journal of Conflict Resolution*, Vol. 7, p 289

⁷⁹ Ibid

⁸⁰ Ibid

⁸¹ United Nations Environment Programme., 'Natural Resources and Conflict: A Guide for Mediation Practitioners' Available at https://wedocs.unep.org/bitstream/handle/20.500.11822/9294/-Natural_resources_and_conflic.pdf?sequence=2&%3BisAllowed= (Accessed on 29/09/2025)

⁸² Ibid

⁸³ From curse to opportunity: Mediation of natural resource conflicts., Available at <https://voelkerrechtsblog.org/from-curse-to-opportunity-mediation-of-natural-resource-conflicts/#:~:text=Each%20natural%20resource%20sector%20%E2%80%93%20be,the%20needs%20of%20the%20parties>. (Accessed on 29/09/2025)

It has been argued that natural resource-based conflicts often vary from other types of conflicts due to several reasons including their political sensitivity and technical nature⁸⁴. Due to its key attributes including flexibility, party autonomy and a focus on collaboration, mediation is well-suited to the peculiar needs of natural-resource based conflicts by taking into account the respective needs of the parties, multiple forms of evidence and the social, economic and political interests at stake in natural-resource based conflicts⁸⁵. It has been argued that mediation can foster effective management of natural resource- based conflicts by building consensus and collaboration⁸⁶. This process can help stakeholders of natural resources to identify ways to maximize shared benefits and address common problems and challenges together⁸⁷. Through collaboration, natural resources can be treated as a platform for cooperation that transcends religious, ideological, political, or tribal differences, which can be leveraged to tackle more challenging problems down the line⁸⁸.

Mediation is also appropriate in managing natural-resource based conflicts since it enables parties to address the root causes of such conflicts. It has been argued that mediation addresses deep-seated and underlying issues in environmental and natural-resource based conflicts therefore encouraging trust, reconciliation, harmony and peace among various stakeholders including indigenous communities, governments and investors⁸⁹. Mediation is vital in understanding root causes of natural-resource based conflicts and the interaction of natural resources with other conflict drivers therefore leading to more sustainable and long-lasting outcomes⁹⁰.

Mediation is therefore an effective process in managing natural-resource based conflicts. It has been identified as a valuable conflict resolution strategy capable of addressing both technical and political complexities in natural-resource based conflicts⁹¹. For instance, since it is a voluntary technique that requires mutual consent, mediation is well-suited to politically-sensitive natural resource conflicts⁹². Instead of imposing a solution or outcome on one or all sides, mediation enables all participants in the conflict to collaborate towards mutually satisfactory and long-

⁸⁴ Ibid

⁸⁵ Ibid

⁸⁶ Antonia. E., & Benedikt. K., 'Negotiation and Mediation Techniques for Natural Resource Management.' Available at <https://iwrmaactionhub.org/node/1988/printable/pdf> (Accessed on 29/09/2025)

⁸⁷ United Nations Environment Programme., 'Natural Resources and Conflict: A Guide for Mediation Practitioners' Op Cit

⁸⁸ Ibid

⁸⁹ Muigua. K., 'Attaining Environmental Justice through Alternative Dispute Resolution.' Available at <https://kmco.co.ke/wp-content/uploads/2023/07/Attaining-Environmental-Justice-through-Alternative-Dispute-Resolution.pdf> (Accessed on 29/09/2025)

⁹⁰ From curse to opportunity: Mediation of natural resource conflicts., Op Cit

⁹¹ Mazzei. C., 'Mediation as a tool in addressing natural resources threats' Available at https://unicri.org/sites/default/files/2025-05/012_mediationasatool.pdf (Accessed on 29/09/2025)

⁹² Ibid

lasting outcomes⁹³. Further, by building and maintaining trust among parties, mediation fosters long-term cooperation that is vital for sustainable management of natural resources⁹⁴.

Despite its appropriateness in managing natural-resource based conflicts, it has been pointed out that mediation is usually underutilized undermining effective management of natural-resource based conflicts⁹⁵. It is therefore imperative to enhance the use of mediation for sound management of natural resource-based conflicts both globally and in Africa.

3.0 Embracing Culture for Effective Mediation of Natural Resource-Based Conflicts

Mediation is a viable and appropriate process in managing natural-resource based conflicts in Africa. This process can enhance collaboration over the ownership, management, and use of natural resources thus minimising the likelihood of conflicts while also fostering peace, harmony and stability⁹⁶. Further, mediation is ideal in addressing the root causes of conflicts thus ensuring long-lasting and sustainable outcomes⁹⁷. According to the United Nations, the premise of mediation is that in the right environment, parties in conflict can improve their relationships and move towards cooperation⁹⁸. Mediation therefore has the capacity to strengthen relationships and build trust within and among groups, increase the capacity of communities, organizations and institutions to solve problems, contribute to strengthening the institutional arrangements that regulate access to and use of natural resources, and foster increased flows of income and benefits through improved access to and management of natural resources⁹⁹.

It is therefore imperative to embrace mediation for effective management of natural resource-based conflicts in Africa. This process is particularly important in helping parties identify ways to maximise and share resource benefits therefore preventing and fostering effective management of natural resource- based conflicts¹⁰⁰. It is therefore necessary for African countries to strengthen their legal, policy, institutional and human capacities in order to enhance the use of mediation in

⁹³ Ibid

⁹⁴ Ibid

⁹⁵ United Nations Environment Programme., 'Natural Resources and Conflict: A Guide for Mediation Practitioners' Op Cit

⁹⁶ United Nations Environment Programme., 'Natural Resources and Conflict: A Guide for Mediation Practitioners' Op Cit

⁹⁷ Ibid

⁹⁸ United Nations., 'Guidance for Effective Mediation' Available at https://unrcca.unmissions.org/sites/default/files/dpa_msu_guidance_english_web.pdf (Accessed on 29/09/2025)

⁹⁹ Food and Agriculture Organization., 'Negotiation and Mediation Techniques for Natural Resource Management' Available at http://www.antoniocasella.eu/restorative/Castro_Engel_2007.pdf (Accessed on 29/09/2025)

¹⁰⁰ United Nations Environment Programme., 'Mediation Can Prevent, Resolve Natural Resources Disputes New UN Guide Launched.' Available at <https://www.unep.org/news-and-stories/pressrelease/mediation-can-prevent-resolve-natural-resources-disputes-new-un> (Accessed on 29/09/2025)

natural resource-based conflicts¹⁰¹. Further, effective mediation of natural resource-based conflicts requires the participation of all stakeholders in mediation processes including local communities, Non-Governmental Organizations (NGOs), governments at all levels and investors¹⁰². This provides an opportunity to address the root causes of conflicts and afford parties an opportunity to sustain and improve their relationships¹⁰³. In addition, for mediation to be effective in managing natural resource-based conflicts, there is need to understand the root cause of the conflict, the interaction of natural resources with other conflict drivers, the broader political economy, and the entry-points for a mediated solution¹⁰⁴.

Further, in order to effectively mediate natural resource-based conflicts in Africa, it is vital to appreciate and embrace the role of culture. It has been argued that culture is an essential part of conflict and conflict resolution¹⁰⁵. For instance, culture affects the ways we name, frame, and attempt to tame conflicts¹⁰⁶. Further, culture can define boundaries to a conflict, thus determining the participants and course of conflicts¹⁰⁷. Culture therefore plays a significant role in shaping how individuals approach conflicts and the strategies they use to resolve them¹⁰⁸.

Most African cultures are anchored by values aimed at promoting social cohesion¹⁰⁹. The culture, customs and traditions of African communities emphasise harmony/togetherness over individual interest and humanness as expressed in the African philosophy of *Ubuntu/Utu*¹¹⁰. Conflicts of all kinds including natural resource-based conflicts are therefore seen as a threat to the social fabric that holds communities together. Communities therefore developed appropriate conflict management strategies towards effectively managing conflicts and maintain peace and

¹⁰¹ Muigua. K., 'Managing Natural Resource Conflicts in Kenya through Negotiation and Mediation.' Available at <https://kmco.co.ke/wp-content/uploads/2018/08/Managing-Natural-Resource-Conflicts-in-Kenya-through-Negotiation-and-Mediation.pdf> (Accessed on 29/09/2025)

¹⁰² Muigua. K., 'Managing Environmental Conflicts through Alternative Dispute Resolution.' Available at <https://kmco.co.ke/wp-content/uploads/2024/01/Managing-Environmental-Conflicts-through-Alternative-Dispute-Resolution-1.pdf> (Accessed on 29/09/2025)

¹⁰³ Ibid

¹⁰⁴ United Nations Environment Programme., 'Natural Resources and Conflict: A Guide for Mediation Practitioners.' Op Cit

¹⁰⁵ LeBaron. M., 'Culture and Conflict' Available at https://www.beyondintractability.org/essay/culture_conflict (Accessed on 29/09/2025)

¹⁰⁶ Ibid

¹⁰⁷ Worchel. S., 'Culture's role in conflict and conflict management: Some suggestions, many questions' *International Journal of Intercultural Relations.*, Volume 29, Issue 6 (2005)

¹⁰⁸ Yamini. S et al., 'Culture and Conflict Management Strategy: The Mediating Role of Instrumental Concerns' Available at <https://journals.sagepub.com/doi/10.1177/00220221241312414> (Accessed on 29/09/2025)

¹⁰⁹ Awoniyi. S., 'African Cultural Values: The Past, Present and Future' *Journal of Sustainable Development in Africa*, Volume 17, No.1, 2015

¹¹⁰ Muigua. K., 'Alternative Dispute Resolution and Access to Justice in Kenya.' Glenwood Publishers Limited, 2015

harmony¹¹¹. Conflict management in Africa has since time immemorial taken the form of informal negotiation, *mediation*, conciliation and arbitration among other techniques which are administered by institutions such as the council of elders¹¹². These techniques are anchored in the culture and customs of the people of Africa and are considered appropriate in managing disputes by creating consensus, facilitating reconciliation, fostering peace, harmony and cohesion and giving prominence to communal needs over individual needs in line with the African philosophy of *Ubuntu/Utu*¹¹³.

Due to the role of culture in conflict management, effective mediation of natural resource-based conflicts in Africa involves fostering peace, dialogue, harmony, reconciliation and *Ubuntu*¹¹⁴. It has been argued that all cultures and societies have mechanisms for enabling dialogue between groups and for mediating disputes towards ensuring peace¹¹⁵. Existing local and traditional processes and institutions for building consensus and resolving resource disputes can therefore offer opportunities for integrating environmental and natural resource aspects towards effectively mediating natural resource-based conflicts¹¹⁶. It is therefore imperative to embrace the role of informal and customary dispute resolution processes and bodies in order to effectively mediate natural resource-based conflicts in Africa for peace and prosperity.

4.0 Conclusion

Mediation is an effective and valuable approach towards managing natural resource -based conflicts in Africa. It is therefore necessary to strengthen the use of mediation towards sound management of natural resource -based conflicts in Africa¹¹⁷. Further, it is imperative to integrate culture in mediation processes in Africa by fostering peace, harmony, reconciliation and *Ubuntu* and utilising customary and indigenous systems of conflict management¹¹⁸. Mediating natural resource-based conflicts in Africa is therefore a practical and appropriate approach for peace and prosperity.

¹¹¹ Ibid

¹¹² Kariuki. F., 'Conflict Resolution by Elders in Africa: Successes, Challenges and Opportunities.' Available at <http://kmco.co.ke/wp-content/uploads/2018/08/Conflict-Resolution-by-Elders-successes-challenges-and-opportunities-1.pdf> (Accessed on 06/08/2025)

¹¹³ Muigua. K., 'Alternative Dispute Resolution and Access to Justice in Kenya.' Op Cit

¹¹⁴ Awoniyi. S., 'African Cultural Values: The Past, Present and Future' Op Cit

¹¹⁵ From curse to opportunity: Mediation of natural resource conflicts., Op Cit

¹¹⁶ Ibid

¹¹⁷ Muigua. K., 'Managing Natural Resource Conflicts in Kenya through Negotiation and Mediation.' Op Cit

¹¹⁸ Awoniyi. S., 'African Cultural Values: The Past, Present and Future' Op Cit

Towards an Effective Negotiation and Mediation Framework in Kenya: Embracing Lessons from Africa and Globally

Abstract

This paper critically examines how negotiation and mediation alongside other ADR techniques can be appropriately harnessed in Kenya. The paper argues that negotiation and mediation play an important role in conflict management in Kenya. It discusses the key features and advantages of negotiation and mediation which make these processes ideal in enhancing access to justice in Kenya. Despite their appropriateness in strengthening access to justice, the paper argues that negotiation and mediation are yet to be fully harnessed in Kenya. It examines some of the key challenges undermining the use of negotiation and mediation in access to justice in Kenya. In light of these challenges, the paper discusses how Kenya can build an effective negotiation and mediation framework in order to enhance access to justice for development.

1.0 Introduction

Negotiation and mediation are classified among Alternative Dispute Resolution (ADR) processes. The term ADR covers all dispute resolution processes other than litigation¹. ADR is an umbrella term that covers a wide range of tools and skills that are utilised to manage conflicts and disputes without resort to courts². These processes include negotiation, mediation, arbitration, conciliation, adjudication, expert determination, early neutral evaluation, and Traditional Dispute Resolution Mechanisms (TDRMs)³. It has been argued that ADR denotes a wide range of techniques and approaches ranging from party-to-party engagement through *negotiation* as the most direct way to reach a mutually accepted resolution, to *arbitration* and *adjudication* where an external party imposes a solution upon the parties⁴. Further, it has been noted that somewhere along the axis of ADR approaches between these two extremes lies *mediation* which is a process by which a third party aids the disputants to reach a mutually agreed solution (Emphasis added)⁵. These processes may be linked to but function outside formal court litigation processes⁶.

ADR processes including negotiation and mediation provide several benefits in dispute resolution. For instance, ADR processes guarantee procedural flexibility, a broad range of

¹ Alternative Dispute Resolution (ADR)., Available at [https://uk.practicallaw.thomsonreuters.com/0-107-6391?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/0-107-6391?transitionType=Default&contextData=(sc.Default)&firstPage=true) (Accessed on 17/09/2025)

² Environmental Law Institute., 'A Community Guide to Using Alternative Dispute Resolution to Secure Environmental Justice' Available at <https://www.eli.org/environmental-governance/community-guideusing-alternative-dispute-resolution-secure-1> (Accessed on 17/09/2025)

³ Muigua. K., 'Alternative Dispute Resolution and Access to Justice in Kenya.' Glenwood Publishers Limited, 2015

⁴ United Nations., 'Alternative Dispute Resolution Approaches and their Application in Water Management: A Focus on Negotiation, Mediation and Consensus Building' Available at https://www.un.org/waterforlifedecade/water_cooperation_2013/pdf/adr_background_paper.pdf (Accessed on 17/09/2025)

⁵ Ibid

⁶ Uwazie. E., 'Alternative Dispute Resolution in Africa: Preventing Conflict and Enhancing Stability.' *Africa Security Brief*, No. 16 of 2011

remedial options, and a focus on individualized justice⁷. It has been argued that with the exception of binding arbitration, the goal of ADR is to provide a forum for disputing parties to work toward a voluntary, consensual agreement, as opposed to having a judge or other authority impose a determination upon them⁸. If effectively harnessed, ADR can provide more creative, particularized, flexible and collaborative outcomes to disputes than the adversarial litigation processes⁹. ADR mechanisms are associated with several features and benefits including informality, flexibility, privacy, confidentiality, party autonomy and the ability to foster expeditious and cost effective management of disputes making them a suitable avenue in enhancing access to justice¹⁰. Due to their attributes and advantages, it has been argued that ADR is an appropriate and not an alternative tool in accessing justice¹¹.

ADR is therefore an appropriate tool in accessing justice. Consequently, ADR mechanisms including negotiation and mediation are being widely embraced in the administration of justice at all levels. At the global level, the *Charter of the United Nations*¹² urges parties to a dispute to first of all seek a solution by *negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means* of their own choice¹³ (Emphasis added). At a national level, the *Constitution of Kenya*¹⁴ mandates courts and tribunals to promote ADR mechanisms including reconciliation, mediation, arbitration and Traditional Dispute Resolution Mechanisms (TDRMs)¹⁵. Utilising ADR is therefore key towards strengthening access to justice.

This paper critically examines how negotiation and mediation alongside other ADR techniques can be appropriately harnessed in Kenya. The paper argues that negotiation and mediation play an important role in conflict management in Kenya. It discusses the key features and advantages of negotiation and mediation which make these processes ideal in enhancing access to justice in

⁷ Main. T., 'ADR: The New Equity.' Available at https://www.researchgate.net/profile/ThomasMain/publication/228182886_ADR_The_new_equity/links/53d00e470cf2fd75bc5c57a5/ADR-The-newequity.pdf (Accessed on 17/09/2025)

⁸ Alternative Dispute Resolution., Available at <https://www.dol.gov/general/topic/labor-relations/adr#:~:text=Types%20of%20ADR%20include%20arbitration,%2C%20neutral%20factfinding%2C%20and%20minitrals>. (Accessed on 17/09/2025)

⁹ Menkel-Meadow. C., 'Ethics in Alternative Dispute Resolution: New Issues, No Answers from the Adversary Conception of Lawyers' Responsibilities' Available at <https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=2758&context=facpub> (Accessed on 17/09/2025)

¹⁰ Muigua. K., 'Alternative Dispute Resolution and Access to Justice in Kenya.' Op Cit

¹¹ Muigua. K., 'Reframing Conflict Management in the East African Community: Moving from Alternative to 'Appropriate' Dispute Resolution' Available at <https://kmco.co.ke/wp-content/uploads/2023/06/Reframing-Conflict-Management-in-the-East-African-Community-Moving-from-Alternative-to-Appropriate-Dispute-Resolution-1.pdf> (Accessed on 17/09/2025)

¹² United Nations, Charter of the United Nations, 24 October 1945, 1 UNTS XVI

¹³ Ibid, article 33 (1)

¹⁴ Constitution of Kenya., 2010., Government Printer, Nairobi

¹⁵ Ibid, article 159 (2) (c)

Kenya. Despite their appropriateness in strengthening access to justice, the paper argues that negotiation and mediation are yet to be fully harnessed in Kenya. It examines some of the key challenges undermining the use of negotiation and mediation in access to justice in Kenya. In light of these challenges, the paper discusses how Kenya can build an effective negotiation and mediation framework in order to enhance access to justice for development.

2.0 Negotiation and Mediation in Kenya: Prospects and Challenges

Negotiation is an informal process that involves parties to a conflict meeting to identify and discuss the issues at hand so as to arrive at a mutually acceptable solution without the help of a third party¹⁶. It has been described as one of the most fundamental methods of conflict management which offers parties maximum control over the process and outcome¹⁷. Negotiation usually involves direct discussions between parties to find a mutually acceptable solution to their conflict¹⁸. It is a strategic form of communication where conflicting parties engage in discussions to address their respective needs, interests, and concerns¹⁹. The basis of negotiation is that parties find it preferable to search for an agreement through discussions rather than fight openly, give in, or break off contact²⁰. According to the United Nations, negotiation is a way of coping with disagreement, with varying views and with different objectives through agreement²¹.

Mediation refers to negotiation between two or more parties facilitated by an agreed-upon third party²². Mediation has also been defined as a process wherein parties to disputes or conflicts meet with a mutually selected impartial and neutral person who assists them in the negotiation of their differences²³. Further, mediation has also been described as a method of conflict management where conflicting parties gather to seek solutions to the conflict, with the assistance of a third party who facilitates discussions and the flow of information, and thus aiding in the process of reaching an agreement²⁴. It has been argued that mediation is a non-adversarial and collaborative process through which an impartial third party helps parties in a dispute reach a resolution

¹⁶ Muigua. K., 'Alternative Dispute Resolution and Access to Justice in Kenya.' Op Cit

¹⁷ Ibid

¹⁸ Oba. A., 'Comprehensive Guide to Conflict Resolution: Traditional and Modern Methods in East Africa' Available at <https://remedialcorner.com/blog/comprehensive-guide-to-conflict-resolution-traditional-and-modern-methods-in-east-africa/> (Accessed on 18/09/2025)

¹⁹ The Role of Negotiation in Conflict Resolution Strategies., Available at <https://www.karrass.com/blog/conflict-resolution-strategies> (Accessed on 18/09/2025)

²⁰ Maiese. M., 'Negotiation' Available at <https://www.beyondintractability.org/essay/negotiation> (Accessed on 18/09/2025)

²¹ United Nations., 'Fundamental of Negotiation' Available at <https://www.un.org/en/model-united-nations/fundamentals-negotiation> (Accessed on 18/09/2025)

²² What is Mediation?., Available at <https://www.pon.harvard.edu/tag/mediation/> (Accessed on 18/09/2025)

²³ Mediation Defined: What is Mediation?., Available at <https://www.jamsadr.com/mediation-defined/> (Accessed on 18/09/2025)

²⁴ Muigua. K., 'Resolving Conflicts through Mediation in Kenya.' Glenwood Publishers Limited, 2nd Edition., 2017

through interest-based negotiations²⁵. Mediation is usually a continuation of the negotiation process since it arises where parties to a conflict have attempted negotiations, but have reached a deadlock²⁶. As a result, parties involve a neutral third party known as a mediator who facilitates communication, promotes understanding, focuses the parties on their interests, and uses creative problem-solving to enable the parties to reach their own agreement²⁷.

Negotiation and mediation are appropriate processes in resolving disputes and conflicts. For example, it has been argued that utilising negotiation in conflict management enables parties to achieve mutually satisfactory solutions that respects each other's perspectives while minimizing the negative impact of the disagreement²⁸. Negotiation often involves open dialogue, active listening, compromise, and sometimes concessions thus enabling parties to effectively resolve their differences²⁹. In addition, negotiation has the potential to preserve and in some cases even enhance the relationship between the parties once an agreement has been reached between them³⁰. By opting for negotiation, parties may also reduce costs and delays associated with other dispute resolution processes such as litigation³¹.

In addition, mediation is a suitable process for managing conflicts and disputes since it provides participants an opportunity to collaboratively design creative solutions to conflict and repair or even strengthen their relationships³². It has been argued that the premise of mediation is that in the right environment, parties to a conflict can improve their relationships and move towards cooperation³³. Mediation encourages active listening while also promoting open and respectful

²⁵ United Nations Environment Programme., 'Natural Resources and Conflict: A Guide for Mediation Practitioners' Available at https://peacemaker.un.org/sites/peacemaker.un.org/files/NRCMediation_UNDPAUNEP2015_0.pdf (Accessed on 18/09/2025)

²⁶ Bercovitch. J., 'Mediation Success or Failure: A Search for the Elusive Criteria.' *Cardozo Journal of Conflict Resolution*, Vol. 7, p 289

²⁷ Ibid

²⁸ The Role of Negotiation in Conflict Resolution Strategies., Available at <https://www.karrass.com/blog/conflict-resolution-strategies> (Accessed on 18/09/2025)

²⁹ Ibid

³⁰ Negotiation., Available at <https://www.justice.gc.ca/eng/rp-pr/csj-sjc/dprs-sprd/res/drrg-mrrc/03.html#:~:text=Negotiations%20allow%20the%20parties%20to,the%20form%20of%20an%20agreement> (Accessed on 18/09/2025)

³¹ Ibid

³² What is Mediation?., Available at <https://www.nyc.gov/site/oath/conflict-resolution/what-is-mediation.page#:~:text=Mediation%20is%20a%20constructive%20conversation,conflict%20and%20repair%20professional%20relationships> (Accessed on 18/09/2025)

³³ United Nations., 'Guidance for Effective Mediation' Available at https://unrcca.unmissions.org/sites/default/files/dpa_msu_guidance_english_web.pdf (Accessed on 18/09/2025)

communication therefore helping break down barriers including cultural barriers and building trust among parties³⁴.

Negotiation and mediation are therefore ideal processes in managing conflicts and disputes since they enhance collaboration and cooperation thus enabling parties to design mutually satisfactory outcomes that can repair and strengthen relationships. Consequently, negotiation and mediation are being embraced in conflict management both globally and in Africa. In Kenya, negotiation and mediation have been part and parcel of conflict management for many centuries and continue playing a key role in enhancing access to justice³⁵. For example, negotiation is part and parcel of human life and is practiced in virtually all fields of human activity on a daily basis with people often discussing to meet their respective needs, concerns and interests and solve conflicts³⁶. It has been argued that conflict management among communities in Kenya and all over Africa is anchored on the ability of people to negotiate³⁷. Negotiation has been used since time immemorial among African communities and is still applied widely in Kenya today at interpersonal and inter-group levels with people meeting informally to discuss and resolve their differences before they can escalate³⁸. It has been argued that negotiation is a powerful tool in empowering Kenyans to access justice in a timely and cost-effective manner while preserving and even strengthening relationships³⁹.

In addition, mediation has been widely embraced in conflict management in Kenya. It has been argued that mediation has existed in Kenya and Africa since antiquity⁴⁰. Mediation as practiced by communities in Kenya is an informal, voluntary, flexible and expeditious process aimed at preserving relationships and ensuring peaceful co-existence among the people of Kenya and Africa⁴¹. For many centuries, inter and intra communal conflicts in Kenya were mediated in informal settings where they were presided over by the Council of Elders who acted as mediators⁴². It has been observed that mediation in Kenya is a customary and every day affair with people sitting down to collaborate and agree on issues at hand⁴³. Mediation is widely

³⁴ Saaida. M., 'Peace Studies: Conflict Resolution and Mediation Strategies' Available at https://www.researchgate.net/publication/372289839_Peace_Studies_Conflict_Resolution_and_Mediation_Strategies (Accessed on 18/09/2025)

³⁵ Muigua. K., 'Resolving Conflicts through Mediation in Kenya.' Op Cit

³⁶ United Nations., 'Fundamental of Negotiation' Op Cit

³⁷ Muigua. K., 'Alternative Dispute Resolution and Access to Justice in Kenya.' Op Cit

³⁸ Ibid

³⁹ Ibid

⁴⁰ Muigua. K., 'Resolving Conflicts through Mediation in Kenya.' Op Cit

⁴¹ Muigua. K., 'Alternative Dispute Resolution and Access to Justice in Kenya.' Op Cit

⁴² Ibid

⁴³ Ibid

practiced in Kenya and is playing a crucial role in reducing backlog of cases in the Judiciary, promoting access to justice and encouraging amicable resolution of disputes⁴⁴.

Negotiation and mediation are therefore key processes in fostering access to justice in Kenya. However, despite their appropriateness, the practice of negotiation and mediation in Kenya still faces several challenges. For instance, it has been argued that court involvement in mediation in Kenya such as in the case of the Court Annexed Mediation (CAM) programme undermines voluntariness and party autonomy which are key features of mediation⁴⁵. In addition, due to their non-binding nature, enforcement of negotiated and mediated agreements in Kenya is largely left to the good will of the parties which can undermine finality of dispute resolution when parties violate such agreements⁴⁶. Further, a fragmented institutional framework, concerns over standardization and accreditation of personnel and insufficient trained personnel have resulted in a disjointed mediation practice in Kenya and concerns over the quality of mediation environment in the country⁴⁷. In addition, the traditional and customary systems of dispute resolution which have enabled Kenyan communities to manage disputes effectively for many centuries through negotiation and mediation have largely been ignored⁴⁸. It is imperative to address these challenges in order to effectively harness negotiation and mediation in Kenya.

3.0 Towards an Effective Negotiation and Mediation Framework in Kenya

Negotiation and mediation are appropriate mechanisms in enhancing access to justice in Kenya. They have been part and parcel of conflict management among Kenyan communities since time immemorial⁴⁹. Despite their widespread use, the practice of negotiation and mediation in Kenya still faces several challenges. It is therefore important to build an effective negotiation and mediation framework in Kenya in order to strengthen access to justice for development.

There has been progress towards strengthening the negotiation and mediation framework in Kenya. For example, the Constitution of Kenya envisages the use of ADR processes including mediation, negotiation and TDRMs in accessing justice⁵⁰. Constitutional recognition is key in legitimising negotiation and mediation among other ADR processes and enhancing their uptake towards achieving the right of access to justice for Kenyans. In addition, mediation in

⁴⁴ Nairobi Centre for International Arbitration., 'Mediation Ecosystem in Kenya: Current Trends and Future Prospects' Available at <https://ncia.or.ke/wp-content/uploads/2025/01/Mediation-Ecosystem-in-Kenya.pdf> (Accessed on 18/09/2025)

⁴⁵ Muigua. K., 'Resolving Conflicts through Mediation in Kenya.' Op Cit

⁴⁶ Ibid

⁴⁷ Nairobi Centre for International Arbitration., 'Mediation Ecosystem in Kenya: Current Trends and Future Prospects' Op Cit

⁴⁸ Judiciary of Kenya., 'Promoting Alternative Justice Systems (AJS)' Available at <https://judiciary.go.ke/promoting-alternative-justice-systems-ajs/> (Accessed on 19/09/2025)

⁴⁹ Muigua. K., 'Resolving Conflicts through Mediation in Kenya.' Op Cit

⁵⁰ Constitution of Kenya., 2010., article 159 (2) (c)

Kenya has been fused with the formal justice system through the CAM programme⁵¹. This initiative has been hailed in strengthening mediation practice in Kenya and promoting management of disputes in a reconciliatory and cost-effective manner and helping to restore broken relationships⁵². According to the Judiciary of Kenya, CAM has bolstered the use of mediation as an appropriate tool for accessing justice with families being reunited, contractual relations being restored and cases that had been in court for years being resolved in an expeditious and cost-effective way⁵³.

In addition, the *Dispute Resolution Bill, 2025*⁵⁴ seeks to formalize, modernize, and regulate ADR processes including mediation and conciliation towards enhancing access to justice, reducing backlog of cases in courts, and entrenching amicable and community-responsive approaches in dispute resolution. The Bill acknowledges that ADR processes are key in ensuring voluntary participation in dispute resolution, confidentiality of dispute resolution processes and expeditious resolution of disputes⁵⁵. Enacting the Dispute Resolution Bill into law can therefore enhance access to justice through ADR processes including mediation. Further, the *Alternative Justice Systems Framework Policy* seeks to enhance the use of Alternative Justice Systems (AJS) in accessing justice in Kenya⁵⁶. It has been argued that AJS covers various techniques including Customary and Informal Justice Systems (CIJ) and Traditional Dispute Resolution Mechanisms (TDRMs)⁵⁷. These phrases cover dispute resolution practices that are often embraced by indigenous communities in managing conflicts through institutions such as community paralegals, local authorities, and elders⁵⁸. At the core of AJS is the use of customary and informal justice systems including indigenous forms of mediation, conciliation and arbitration⁵⁹. Implementing the AJS Framework Policy can therefore strengthen traditional forms of mediation and ADR in Kenya.

⁵¹ Judiciary of Kenya., 'Court Annexed Mediation' Available at [https://judiciary.go.ke/court-annexed-mediation/#:~:text=Court%20Annexed%20Mediation%20\(CAM\)%20was,to%20in%20the%20adversarial%20process](https://judiciary.go.ke/court-annexed-mediation/#:~:text=Court%20Annexed%20Mediation%20(CAM)%20was,to%20in%20the%20adversarial%20process). (Accessed on 19/09/2025)

⁵² Judiciary Counts gains of Court Annexed Mediation' available at <https://www.businessdailyafrica.com/bd/opinion-analysis/columnists/judiciary-counts-gains-of-court-annexed-mediation-3420850> (Accessed on 19/09/2025)

⁵³ Judiciary of Kenya., 'Court Annexed Mediation' Op Cit

⁵⁴ The Dispute Resolution Bill, 2025., Government Printer, Nairobi

⁵⁵ Ibid

⁵⁶ Judiciary of Kenya., 'Alternative Justice Systems Baseline Policy and Policy Framework.' Available at <https://judiciary.go.ke/download/alternative-justice-systems-baseline-policy-and-policy-framework/> (Accessed on 19/09/2025)

⁵⁷ Lee. S., 'Multiple Doors to Justice in Kenya: Engaging Alternative Justice Systems' Available at <https://cic.nyu.edu/wp-content/uploads/2023/11/Multiple-Doors-to-Justice-in-Kenya-2023.pdf> (Accessed on 19/09/2025)

⁵⁸ Ibid

⁵⁹ Ibid

The foregoing initiatives are key towards enhancing access to justice in Kenya through negotiation, mediation and ADR. In addition, it is imperative to embrace lessons from Africa and globally in order to build an effective negotiation and mediation framework in Kenya. For example, conflict management in African societies is well-entrenched in the traditions, customs, norms and taboos of the people⁶⁰. Conflicts in African communities are seen as threat to the social fabric that holds the community together⁶¹. African communities have therefore developed and embraced conflict management strategies that are geared towards effectively dealing with conflicts in order to ensure peaceful co-existence within the community⁶². Conflict management among African communities is aimed at creating consensus, facilitating reconciliation, fostering peace, harmony and cohesion and gives prominence to communal needs over individual needs⁶³. For many centuries, conflict management in African societies has taken the form of informal negotiation, mediation, reconciliation and arbitration among other techniques which are administered by institutions such as the council of elders⁶⁴. These techniques fit comfortably within traditional concepts of African justice, particularly its core value of reconciliation⁶⁵. Therefore, in order to build an effective negotiation and mediation framework in Kenya, it is imperative to reframe conflict management and embrace these processes from an African perspective since they fit well within the concept of justice in the continent⁶⁶.

There is also need to embrace global best practices in negotiation and mediation. This involves designing and implementing appropriate legal, policy, and institutional frameworks to support the uptake of negotiation and mediation in addition to other ADR techniques⁶⁷. It is also necessary for key stakeholders including the Judiciary to spread awareness on the importance of negotiation and mediation while also linking ADR techniques to formal justice systems in order to enhance

⁶⁰ Ademowo. A., 'Conflict Management in Traditional African Society.' Available at https://www.researchgate.net/publication/281749510_Conflict_management_in_Traditional_African_Society (Accessed on 19/09/2025)

⁶¹ Kariuki. F., 'Conflict Resolution by Elders in Africa: Successes, Challenges and Opportunities.' Available at <http://kmco.co.ke/wp-content/uploads/2018/08/Conflict-Resolution-by-Elderssuccesseschallenges-and-opportunities-1.pdf> (Accessed on 19/09/2025)

⁶² Adeyinka. A., & Lateef. B., 'Methods of Conflict Resolution in African Traditional Society' *An International Multidisciplinary Journal*, Ethiopia Vol. 8 (2).

⁶³ Muigua. K., 'Alternative Dispute Resolution and Access to Justice in Kenya.' Op Cit

⁶⁴ Kariuki. F., 'Conflict Resolution by Elders in Africa: Successes, Challenges and Opportunities.' Op Cit

⁶⁵ Uwazie. E., 'Alternative Dispute Resolution in Africa: Preventing Conflict and Enhancing Stability.' Op Cit

⁶⁶ Muigua. K., 'Reframing Conflict Management in the East African Community: Moving from Alternative to 'Appropriate' Dispute Resolution.' Available at <http://kmco.co.ke/wpcontent/uploads/2023/06/Reframing-Conflict-Management-in-the-East-African-Community-Movingfrom-Alternative-to-Appropriate-Dispute-Resolution-1.pdf> (Accessed on 19/09/2025)

⁶⁷ Ibid

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their uptake, legitimacy and effectiveness⁶⁸. Further, there is need to ensure quality and competence in negotiation, mediation and ADR through capacity building, training, standardization and accreditation of ADR practitioners⁶⁹.

Through the foregoing, it is possible to build an effective negotiation and mediation framework in Kenya.

4.0 Conclusion

Negotiation and mediation are suitable processes in strengthening access to justice in Kenya. However, the practice of negotiation and mediation in Kenya faces several challenges undermining their use in conflict management. It is therefore necessary to build an effective negotiation and mediation framework in Kenya by embracing lessons from Africa and globally in order to strengthen access to justice for development.

⁶⁸ The Judiciary of Kenya., 'Judiciary Supporting Alternative Dispute Resolution Mechanisms' Available at <https://judiciary.go.ke/judiciary-supporting-alternative-dispute-resolution-mechanism/> (Accessed on 19/09/2025)

⁶⁹ Nairobi Centre for International Arbitration., 'Mediation Ecosystem in Kenya: Current Trends and Future Prospects' Op Cit

Environmental Conflicts, Mediation and Peacekeeping in Africa: Centralizing Women's Involvement for Sustainability

Abstract

This paper examines how environmental conflicts can be effectively managed in Africa for sustainability. The paper argues that Africa is highly susceptible to environmental conflicts. It discusses the causes and effects of environmental conflicts in Africa. Due to their negative impacts, the paper posits that effective environmental conflict management in Africa is necessary towards fostering sustainability. In addition, the paper argues that women are crucial agents towards sound management of environmental conflicts in Africa for sustainability. As a result, the paper explores how women can be effectively involved in environmental mediation and peacekeeping towards sound management of environmental conflicts in Africa for sustainability.

1.0 Introduction

Environmental conflicts are a major threat to sustainability. Environmental conflicts occur as a result of the various competing interests over access to and use of natural resources including land, water, minerals and forests¹. It has been argued that causes of environmental conflicts vary across the globe and their manifestations differ considerably². For example, causes of environmental conflicts range from control over vital environmental resources such as fossil fuels, water and minerals to contestations over natural resources at the global, regional, national, local, community and household level³. Further, environmental conflicts can manifest in various ways – including armed wars, genocide and peaceful disagreements at the local, national, regional or global levels⁴.

Environmental conflicts are prevalent all over the world. It has been observed that nearly every community, locality, region and even nations find themselves embroiled in occasional disputes over public land use, private land development, water quality or quantity, air quality, protection of habitats and species, waste disposal, use and management of natural resources, environmental hazards and climate change among other issues⁵. If not well managed, environmental conflicts can fuel or worsen environmental problems including pollution, resource scarcity, biodiversity

¹ Muigua. K., 'Environmental Conflict Management in the Kenyan Context-Enhancing the Use of Alternative Dispute Resolution Mechanisms' Available at <https://land.igad.int/index.php/documents-1/countries/kenya/conflict-3/554-environmental-conflict-management-in-the-kenyan-context-enhancing-the-use-of-alternative-dispute-resolution-mechanisms/file> (Accessed on 29/10/2025)

² Environmental Conflicts: Key Issues and Management Implications., Available at <https://www.accord.org.za/ajcr-issues/environmental-conflicts/> (Accessed on 29/10/2025)

³ Ibid

⁴ Ibid

⁵ Dukes. F., 'What we Know About Environmental Conflict Resolution: An Analysis Based on Research.' *Conflict Resolution Quarterly.*, Volume 22, Issue 1-2

loss, climate change and environmental degradation⁶. According to the United Nations, conflicts can disrupt ecosystems, deplete natural resources, pollute the environment, and jeopardize the health of our planet now and in the future⁷. Environmental conflicts can also trigger violence, insecurity and destruction, particularly in states with weak governance, high levels of corruption, and existing ethnic and political divisions⁸.

In light of the foregoing, it has been argued that environmental conflicts are a major challenge affecting local, regional, national and global security and sustainability⁹. Environmental conflicts are expected to continue rising all over the world. For instance, it has been argued that as the global population continues to rise, the global demand for natural resources continues to grow, and the impacts of climate change continue to intensify, the competition over natural resources is set to increase, a situation that could spiral into more environmental conflicts¹⁰. Sound environmental conflict management including through cooperation, diplomacy, mediation and peacebuilding is therefore key in fostering sustainability¹¹.

This paper examines how environmental conflicts can be effectively managed in Africa for sustainability. The paper argues that Africa is highly susceptible to environmental conflicts. It discusses the causes and effects of environmental conflicts in Africa. Due to their negative impacts, the paper posits that effective environmental conflict management in Africa is necessary towards fostering sustainability. In addition, the paper argues that women are crucial agents towards sound management of environmental conflicts in Africa for sustainability. As a result, the paper explores how women can be effectively involved in environmental mediation and peacekeeping towards sound management of environmental conflicts in Africa for sustainability.

2.0 Environmental Conflicts in Africa: Causes and Consequences

Environmental conflicts are widespread all over Africa. For instance, the abundance of natural resources in Africa has been a major factor in fuelling environmental conflicts in the continent. It

⁶ Eskjaer. M.F., & Horsbol. A., 'New Environmental Controversies: Towards a Typology of Green Conflicts' Available at <https://www.mdpi.com/2071-1050/15/3/1914#:~:text=In%20a%20modern%20context%2C%20environmental,resources%20%5B10%2C11%5D> (Accessed on 29/10/2025)

⁷ United Nations., 'How Conflict Impacts Our Environment' Available at <https://www.un.org/en/peace-and-security/how-conflict-impacts-our-environment> (Accessed on 29/10/2025)

⁸ Mwanika. P.A.N., 'Natural Resource Conflict: Management Processes and Strategies in Africa' Available at <https://www.files.ethz.ch/isn/136685/PAPER216.pdf> (Accessed on 29/10/2025)

⁹ Environmental Conflicts: Key Issues and Management Implications., Op Cit

¹⁰ United Nations Environment Programme., 'Environmental Cooperation and Peacebuilding.' Available at <https://www.unep.org/topics/fresh-water/disasters-and-climate-change/environment-security/environmental-cooperation-and#:~:text=International%20law%2C%20environment%20and%20conflict,and%20reliance%20on%20conflict%20resources> (Accessed on 29/10/2025)

¹¹ Ibid

has been argued that while natural resources are key in fostering Sustainable Development, they are also increasingly acting as drivers of fragility, conflict and violence globally¹². Africa's abundant natural resources including arable land, water, forests, minerals, oil and gas have for many decades motivated and fueled armed conflicts in the continent threatening peace, security, and stability¹³. As a result, Africa has been often associated with the 'resource curse' a situation whereby natural resources have hurt the prospects of several African national and regional economies by causing political corruption and feeding violence, wars and rebellion¹⁴. The resource curse phenomenon in Africa is characterised by poverty and slow economic growth in many resource rich countries, resource wars and conflicts including violent civil conflicts, and undemocratic regimes and political instability in a number of African countries¹⁵. It has been pointed out that Africa's abundant natural resources including arable land, water, fisheries, minerals, timber, oil and gas have been a major source of conflicts due to corruption, weak governance regimes, inequitable benefit-sharing frameworks and unsustainable extraction of resources¹⁶.

In addition to the continent's non-renewable resources, Africa's renewable resources are also generating environmental conflicts¹⁷. In the quest towards energy transition, there have been increased investments in Africa's abundant renewable energy sources including wind, solar and geothermal energy¹⁸. Further, Africa's abundant green minerals including cobalt, lithium, nickel, manganese, copper and rare earth elements are being increasingly harnessed in the quest towards energy transition¹⁹. While these efforts are commendable and necessary in transitioning to clean energy, they are also triggering conflicts over access and control and land conflicts due to displacement of populations²⁰.

Climate change is also a major cause of environmental conflicts in Africa. It has been argued that climate change can trigger or worsen conflicts due to its impacts including displacement of

¹² United Nations Environment Programme., 'Environmental Cooperation and Peacebuilding.' Op Cit

¹³ International Institute for Sustainable Development., 'Climate change and conflict: Lessons from Community Conservancies in Northern Kenya' Available at https://www.iisd.org/system/files/publications/climate_change_conflict_kenya.pdf (Accessed on 29/10/2025)

¹⁴ Maphosa. S.B., 'Natural Resources and Conflict: Unlocking the Economic Dimension of Peace-Building in Africa' Available at <https://africaportal.org/wp-content/uploads/2023/06/No.-74.-Natural-Resources-and-Conflict..pdf> (Accessed on 29/10/2025)

¹⁵ Ibid

¹⁶ Mwanika. P.A.N., 'Natural Resource Conflict: Management Processes and Strategies in Africa' Op Cit

¹⁷ Albrecht. P., &, Gravesen. M.L., 'Three frontlines in Africa's resource conflicts' Available at <https://www.diis.dk/en/research/three-frontlines-in-africas-resource-conflicts> (Accessed on 29/10/2025)

¹⁸ Ibid

¹⁹ Africa's Green Minerals Strategy., Available at https://au.int/sites/default/files/documents/44539-doc-AGMS_Final_doc.pdf (Accessed on 29/10/2025)

²⁰ Albrecht. P., &, Gravesen. M.L., 'Three frontlines in Africa's resource conflicts' Op Cit

people, increased food insecurity and depletion and degradation of vital resources including water and arable land²¹. Climate change has been identified as threat multiplier that is already causing food insecurity, water scarcity and resource competition, while disrupting livelihoods and spurring migration therefore contributing to conflicts²². Africa is highly vulnerable to climate change. It has been argued that climate change is threatening food security, ecosystems and economies, fueling displacement and migration and worsening the threat of conflict over dwindling resources in Africa²³. The adverse impacts of climate change including drought have resulted in competition over dwindling resources including water and grazing land therefore fuelling conflicts and violence²⁴. Further, the consequences of climate change such as land degradation, droughts, water scarcity, floods, storms and famines have led to an increase in environmental migration in Africa, a situation which exposed vulnerable populations to violence and conflicts with their hosts²⁵. Climate change therefore causes environmental conflicts in Africa. It has been argued that the consequences of climate change in Africa including recurrent droughts, irregular rainfall, severe floods, water scarcity and intensified desertification are disrupting livelihoods, fuelling migration, causing food and water shortages and internal displacement therefore leading to inter-communal violence and conflict²⁶.

From the foregoing, it is evident that Africa is highly susceptible to environmental conflicts. It has been argued that when such conflicts are managed peacefully, they can be an essential part of progress and development by helping communities and nations define key issues such as access, control and use of natural resources²⁷. However, if not well managed, environmental conflicts can trigger violence, insecurity and destruction, particularly in states with weak governance, high levels of corruption, and existing ethnic and political divisions²⁸. With environmental conflicts being prevalent all over Africa, effective management of these conflicts is necessary for peace,

²¹ United Nations Climate Change., 'Conflict and Climate' Available at <https://unfccc.int/news/conflict-and-climate> (Accessed on 29/10/2025)

²² International Crisis Group., 'Climate, Environment and Conflict' Available at <https://www.crisisgroup.org/future-conflict/climate-environment-and-conflict> (Accessed on 29/10/2025)

²³ World Meteorological Organization., 'Africa suffers disproportionately from climate change' Available at <https://wmo.int/media/news/africa-suffers-disproportionately-from-climate-change> (Accessed on 29/10/2025)

²⁴ Environmental Conflicts: Key Issues and Management Implications., Op Cit

²⁵ Ibid

²⁶ Climate induced conflicts: Sources of insecurity in Africa., Available at <https://amaniafrica-et.org/insights-on-the-psc-session-on-climate-induced-conflicts-sources-of-insecurity-in-africa/#:~:text=The%20changing%20rainfall%20patterns%20and,with%20better%20availability%20of%20resources> (Accessed on 29/10/2025)

²⁷ Brown. O., & Keating. M., 'Addressing Natural Resource Conflicts: Working towards more Effective Resolution of National and Sub-National Resource Disputes' Available at <https://www.chathamhouse.org/2015/06/addressing-natural-resource-conflicts-working-towards-more-effective-resolution-national> (Accessed on 30/10/2025)

²⁸ Ibid

stability and development. It has been argued that if left unchecked, environmental conflicts in Africa can worsen food insecurity, water shortages, migration, displacement of vulnerable populations and poverty undermining the continent's development efforts²⁹. Effective management of environmental conflicts in Africa is therefore necessary for sustainability.

3.0 Centralizing Women's Involvement for Effective Management of Environmental Conflicts in Africa

Environmental conflicts in Africa can threaten peace, security, stability and development. Environmental peacekeeping and peacebuilding is therefore necessary in fostering development³⁰. According to the United Nations Environment Programme (UNEP), environmental peacekeeping and peacebuilding is crucial in transforming local, national and transboundary conflicts over the environment and natural resources into opportunities for cooperation and joint benefits towards development³¹. Environmental peacekeeping and peacebuilding recognises that environmental threats can worsen existing conflicts and act as potential triggers for new conflicts concerning the environment and natural resources³². Therefore, peacekeeping and peacebuilding is vital in addressing environmental challenges for durable and sustainable peace by fostering environmental cooperation, addressing root causes of conflict, and promoting inclusive and equitable development³³. Environmental peacekeeping and peacebuilding therefore provides an effective pathway towards addressing the relationship between environment and conflict³⁴. It focuses on cooperation, equitable access and use of natural resources, sustainable natural resource management and community resilience towards achieving lasting peace while fostering harmony between humanity and nature for Sustainable Development³⁵. Strengthening environmental peacekeeping and peacebuilding in Africa is therefore vital towards effectively managing environmental conflicts for sustainability.

Mediation is an appropriate tool for environmental peacekeeping and peacebuilding in Africa. Mediation is a voluntary, collaborative and consensus-based process and it therefore leads to resolutions and outcomes that are effective, longer lasting and more sustainable than adversarial

²⁹ United Nations Environment Programme., 'Our Work in Africa' Available at <https://www.unep.org/regions/africa/our-work-africa> (Accessed on 30/10/2025)

³⁰ United Nations Environment Programme., 'Environmental Cooperation and Peacebuilding.' Op Cit

³¹ Ibid

³² International Organization for Migration., 'Environmental Peacebuilding' Available at <https://environmentalmigration.iom.int/sites/g/files/tmzbd1411/files/documents/2023-12/iom-somalia-environmental-peacebuilding-infosheet.pdf> (Accessed on 30/10/2025)

³³ Ibid

³⁴ Environmental peacebuilding as a pathway to peace with nature., Available at <https://www.cgiar.org/research/publication/environmental-peacebuilding-as-a-pathway-to-peace-with-nature/> (Accessed on 30/10/2025)

³⁵ Ibid

processes or otherwise imposed outcomes such as litigation and arbitration³⁶. It has been argued that in environmental conflicts especially conflicts involving natural resources, sustainable outcomes are more desirable because the shared benefits of these resources often cross tribal, societal, communal, and national boundaries³⁷. Mediation is suitable in managing environmental conflicts since it encourages consensus building and the participation of all stakeholders towards sustainable and durable outcomes³⁸. It has been argued that mediation is effective in addressing deep-seated and underlying issues in environmental conflicts therefore encouraging trust, reconciliation, harmony and peace among various stakeholders including indigenous and local communities, governments and investors³⁹.

Embracing mediation is therefore key for effective management of environmental conflicts in Africa. Mediation provides several advantages including neutrality, flexibility, confidentiality and collaboration thus ensuring an effective approach towards managing environmental conflicts, which are increasingly driven by resource scarcity and climate change⁴⁰. Mediation can also enhance environmental peacekeeping and peacebuilding. It has been argued that by fostering collaboration, mediation preserves and strengthens relationships towards maintaining peace and stability at all levels⁴¹. Embracing mediation including community-based mediation processes can ensure lasting peace especially where tensions over natural resources persist⁴².

Utilising mediation is therefore key towards effective environmental peacekeeping and peacebuilding in Africa. Consequently, it is imperative for African countries to strengthen their legal, policy, institutional and human capacities in order to enhance the use of mediation in environmental conflicts⁴³. Further, the participation of all stakeholders in mediation processes including women is key in addressing the root causes of conflicts and affording parties an opportunity to sustain and improve their relationships⁴⁴. According to UNEP, the contribution of

³⁶ United Nations Environment Programme., 'Natural Resources and Conflict: A Guide for Mediation Practitioners' Available at https://wedocs.unep.org/bitstream/handle/20.500.11822/9294/-Natural_resources_and_conflic.pdf?sequence=2&isAllowed=1 (Accessed on 30/10/2025)

³⁷ Ibid

³⁸ Muigua. K., 'Attaining Environmental Justice through Alternative Dispute Resolution.' Available at <https://kmco.co.ke/wp-content/uploads/2023/07/Attaining-Environmental-Justice-through-Alternative-Dispute-Resolution.pdf> (Accessed on 30/10/2025)

³⁹ Ibid

⁴⁰ Mediation as a Tool for Resolving Environmental Disputes: An Evaluation., Available at <https://i-adrnigeria.org/mediation-as-a-tool-for-resolving-environmental-disputes-an-evaluation/#:~:text=This%20article%20explores%20the%20concept,negotiations%20can%20sometimes%20hinder%20progress.> (Accessed on 30/10/2025)

⁴¹ Ibid

⁴² International Organization for Migration., 'Environmental Peacebuilding' Op Cit

⁴³ Muigua. K., 'Managing Natural Resource Conflicts in Kenya through Negotiation and Mediation.' Available at <https://kmco.co.ke/wp-content/uploads/2018/08/Managing-Natural-Resource-Conflicts-in-Kenya-through-Negotiation-and-Mediation.pdf> (Accessed on 30/10/2025)

⁴⁴ Ibid

women is vital for effective conflict prevention and peacebuilding in areas affected by environmental conflicts⁴⁵. The participation of women enhances the success of peace talks, the implementation of peace agreements and the sustainability of peacebuilding processes⁴⁶. It has been argued that through enhanced participation of women in environmental conflict management, it is possible to leverage on their differentiated knowledge and diverse perspectives, including existing coping capacities and sources of resilience for durable peace⁴⁷.

Strengthening the involvement of women in mediation processes is therefore key towards effective management of environmental conflicts for sustainable and long-lasting peace.

4.0 Conclusion

Environmental conflicts are prevalent in Africa undermining peace, security and sustainability. Environmental peacekeeping and peacebuilding is therefore key towards managing environmental conflicts for peace and sustainability in Africa. Mediation provides an appropriate forum for sound management of environmental conflicts in Africa for durable and lasting peace⁴⁸. It is therefore necessary to embrace and strengthen mediation in order to effectively manage environmental conflicts in Africa. Further, strengthening women's involvement in mediation processes is key towards effective environmental conflict management, peacekeeping and peacebuilding initiatives⁴⁹. Centralizing women's involvement is therefore crucial towards bolstering the role of mediation in environmental conflict management and peacekeeping in Africa for sustainability.

⁴⁵ United Nations Environment Programme., 'Women, Natural Resources and Peace' Available at <https://www.unep.org/topics/disasters-and-conflicts/environment-security/women-natural-resources-and-peace> (Accessed on 30/10/2025)

⁴⁶ Ibid

⁴⁷ Bridging the Gap: Gender-inclusive multi-track diplomacy as environmental peacebuilding., Available at <https://www.ecosystemforpeace.org/compendium/inclusion-3> (Accessed on 30/10/2025)

⁴⁸ Muigua. K., 'Managing Natural Resource Conflicts in Kenya through Negotiation and Mediation.' Op Cit

⁴⁹ United Nations Environment Programme., 'Women, Natural Resources and Peace' Op Cit

PART V — BIODIVERSITY, NATURAL CAPITAL AND ECOSYSTEM PROTECTION

Focuses on conservation as both a human right and an ecological duty. It calls for protecting biodiversity through participatory governance, equitable benefit-sharing, and the recognition of indigenous custodianship.

Conservation of Biological Diversity: Respecting the Human Rights of Indigenous Peoples as an Imperative

Abstract

This paper examines the need to respect the human rights of indigenous peoples in the conservation of biological diversity. The paper argues that indigenous peoples are key custodians of biological diversity and have played an important role in biodiversity conservation for many centuries. Despite their significant contribution to the conservation of biological diversity, the paper argues that indigenous peoples are usually neglected in conservation efforts. Further, the paper posits that biodiversity loss disproportionately impacts indigenous peoples due to their close dependence on nature for the livelihoods, health and spiritual and cultural well-being. In light of these concerns, the paper argues that upholding the human rights of indigenous peoples is necessary for sound biodiversity conservation. It discusses ways through which the human rights of indigenous peoples can be respected towards bolstering the conservation of biological diversity for Sustainable Development.

1.0 Introduction

Conservation of biological diversity (biodiversity) is an urgent and pertinent ideal in the quest towards Sustainable Development. It has been argued that biodiversity provides natural resources vital for human well-being and progress including food, fuel and medicinal plants¹. In addition, biodiversity underpins ecosystem services including clean water, pollination, regulation of pests and diseases and climate regulation². Further, it has been argued that biodiversity fosters Sustainable Development by providing essential ecosystem services including clean air, water and food, supporting the livelihoods of millions of people all over the world and fostering resilience to environmental threats such as climate change³. Biodiversity therefore supports Sustainable Development by providing essential ecosystem goods and services. It provides goods such as food, fibre and medicine, and services including air and water purification, climate regulation, erosion control and nutrient cycling⁴. Biodiversity also supports livelihoods and economic development in key sectors including fisheries, forestry, agriculture and tourism⁵.

¹ Secretariat of the Convention on Biological Diversity., 'Biodiversity and Sustainable Development – the relevance of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets for the post-2015 development agenda and the Sustainable Development Goals' Available at <https://www.cbd.int/sbstta/doc/sdg-paper-rev-11-june-en.pdf> (Accessed on 04/10/2025)

² Ibid

³ Sekhar. P.R et al., 'Role of Biodiversity and its Importance in Sustainable Development: A Comprehensive Review' *Uttar Pradesh Journal of Zoology.*, Volume 45, Issue 8 (2024)

⁴ Food and Agriculture Organization of the United Nations., 'Biodiversity Conservation & Sustainable Development' Available at <https://www.fao.org/4/i3157e/i3157e10.pdf> (Accessed on 04/10/2025)

⁵ Ibid

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Despite playing an integral role in the Sustainable Development agenda, the planet's biological diversity is facing mounting threats. For instance, it has been argued that biodiversity loss is occurring at an alarming rate, with species extinctions being estimated to be 10 to 100 times higher than the natural baseline⁶. Nature is declining globally at rates unprecedented in human history and the rate of species extinctions is accelerating, with grave impacts on people and planet⁷. It is estimated that nearly 1 million species face the risk of extinction⁸.

Global biodiversity loss is largely driven by human activities including unsustainable urban development, agricultural expansion into habitats and ecosystems, pollution, deforestation, land degradation, over extraction of resources, and human-induced climate change⁹. Biodiversity loss has negative impacts for both people and planet. It impacts vital ecosystem services goods and services including food, clean water, clean air, medicines, pollination, nutrient cycling, erosion control and climate regulation thus impacting livelihoods and human and ecosystem health¹⁰.

In light of the foregoing challenges, conservation of biological diversity is vital towards achieving Sustainable Development. Sustainable Development Goal (SDG) 15 under the United Nations 2030 *Agenda for Sustainable Development*¹¹ seeks to inter alia halt and reverse the loss of biodiversity for Sustainable Development¹². It urges countries to take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity, and protect and prevent the extinction of threatened species¹³. In addition, the *Convention on Biological Diversity*¹⁴ was adopted towards strengthening the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources¹⁵. The Convention recognises that the conservation and sustainable use of biological diversity is of critical importance for meeting the food, health, and other needs of

⁶ World Health Organization., 'Biodiversity' Available at <https://www.who.int/news-room/fact-sheets/detail/biodiversity#:~:text=Biodiversity%20loss%20is%20occurring%20at,healthier%2C%20more%20resilient%20food%20production>. (Accessed on 04/10/2025)

⁷ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services., 'Media Release: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating' Available at <https://www.ipbes.net/news/Media-Release-Global-Assessment> (Accessed on 04/10/2025)

⁸ Ibid

⁹ United Nations Environment Programme., 'Tackling Ecosystem Degradation & Pollution' Available at <https://www.unep.org/topics/ocean-seas-and-coasts/ecosystem-degradation-pollution> (Accessed on 04/10/2025)

¹⁰ World Health Organization., 'Biodiversity' Op Cit

¹¹ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 04/10/2025)

¹² Ibid

¹³ Ibid

¹⁴ The Convention on Biological Diversity, 5 June 1992 (1760 U.N.T.S. 69)

¹⁵ Ibid, article 1

humanity¹⁶. Conservation of biological diversity is therefore a key global agenda whose attainment is necessary for Sustainable Development.

This paper examines the need to respect the human rights of indigenous peoples in the conservation of biological diversity. The paper argues that indigenous peoples are key custodians of biological diversity and have played an important role in biodiversity conservation for many centuries. Despite their significant contribution to the conservation of biological diversity, the paper argues that indigenous peoples are usually neglected in conservation efforts. Further, the paper posits that biodiversity loss disproportionately impacts indigenous peoples due to their close dependence on nature for the livelihoods, health and spiritual and cultural well-being. In light of these concerns, the paper argues that upholding the human rights of indigenous peoples is necessary for sound biodiversity conservation. It discusses ways through which the human rights of indigenous peoples can be respected towards bolstering the conservation of biological diversity for Sustainable Development.

2.0 Indigenous Peoples and Biodiversity: Opportunities and Challenges

Indigenous peoples are important custodians of the planet's biological diversity. It has been argued that for many centuries, indigenous peoples have been successful stewards of the world's biodiversity by utilising their indigenous knowledge, innovations and practices¹⁷. According to the United Nations Environment Programme (UNEP), indigenous peoples are the unsung heroes of biodiversity conservation¹⁸. UNEP points out that areas occupied, owned and managed by indigenous peoples comprise some of the richest biodiversity hotspots on the planet¹⁹. It has been argued that while indigenous peoples account for just over six per cent of the global population, they are custodians of more than a third of the world's most important biodiversity areas²⁰. Further, it has been observed that most of the land occupied by indigenous peoples is in ecologically sound condition when compared to the land occupied by non-indigenous populations²¹. The lands and territories of indigenous peoples host more species and see lower

¹⁶ Ibid, Preamble

¹⁷ UN Environment Programme World Conservation Monitoring Centre., 'Championing Indigenous Peoples' Stewardship of Biodiversity' Available at <https://www.unep-wcmc.org/en/news/championing-indigenous-peoples-stewardship-of-biodiversity> (Accessed on 04/10/2025)

¹⁸ United Nations Environment Programme., 'Indigenous Peoples: The unsung heroes of conservation' Available at <https://www.unep.org/news-and-stories/story/indigenous-peoples-unsung-heroes-conservation> (Accessed on 04/10/2025)

¹⁹ Ibid

²⁰ UN Environment Programme World Conservation Monitoring Centre., 'Championing Indigenous Peoples' Stewardship of Biodiversity' Op Cit

²¹ Ibid

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rates of deforestation and degradation than lands managed by public or private entities²². In addition, indigenous peoples hold most of the world's remaining intact forests²³.

Indigenous peoples are therefore at the heart of conservation of biological diversity. Indigenous peoples and local communities all over the world have been engaging in ecosystem management and biodiversity conservation since time immemorial²⁴. It has been argued that indigenous peoples have developed Traditional Ecological Knowledge (TEK) which has enabled them to ensure sound biodiversity conservation and ecosystem management²⁵. TEK has been identified as experiential knowledge developed by indigenous peoples and local communities over millennia based on their close and intimate relationship with nature²⁶. It has been argued that TEK alongside other forms of indigenous knowledge - gained through trans-generational experiences, observations, and transmission - can contribute to sound biodiversity conservation and sustainable ecosystem management and development²⁷.

The knowledge, practices and innovations of indigenous peoples are highly valuable in ensuring sound conservation of biological diversity. For example, indigenous knowledge and practices ensure sound biodiversity conservation including through sustainable agriculture and land management through agroforestry, crop rotation and climate-resilient crops, sustainable water management, medicinal use of native plants, management of invasive species and sound conservation of ecosystems including forests and fresh water resources²⁸. It has been argued that indigenous peoples use farming techniques that nourish their lands and conserve biodiversity²⁹. Indigenous peoples' centuries-old food production systems are anchored in sustainable practices, which are unique to their native ecosystems and ensure the conservation of biological diversity³⁰.

²² Reytar. K., 'Protecting Biodiversity Hinges on Securing Indigenous and Community Land Rights' Available at <https://www.wri.org/insights/indigenous-and-local-community-land-rights-protect-biodiversity> (Accessed on 04/10/2025)

²³ Ibid

²⁴ Bixcul. B., 'Indigenous Peoples, Biodiversity, and the Responsibilities of Financial Institutions' Available at <https://www.culturalsurvival.org/news/indigenous-peoples-biodiversity-and-responsibilities-financial-institutions> (Accessed on 04/10/2025)

²⁵ Ibid

²⁶ Ibid

²⁷ United Nations Environment Programme., 'Indigenous peoples and their communities' Available at <https://www.unep.org/civil-society-engagement/major-groups-modalities/major-group-categories/indigenous-peoples-and> (Accessed on 04/10/2025)

²⁸ Bixcul. B., 'Indigenous Peoples, Biodiversity, and the Responsibilities of Financial Institutions' Op Cit

²⁹ Indigenous Peoples are protecting biodiversity, one harvest at a time., Available at <https://www.ifad.org/en/w/rural-voices/indigenous-peoples-are-protecting-biodiversity-one-harvest-at-a-time> (Accessed on 04/10/2025)

³⁰ Ibid

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Despite being key custodians of biodiversity for many centuries, the role of indigenous peoples in the conservation of biological diversity has been largely ignored and undermined. For example, it has been argued that due to historical marginalization and political, social and economic power imbalances, indigenous peoples have often been overlooked as key agents of change³¹. Consequently, they are often excluded from environmental decision-making processes undermining their role in the conservation of biological diversity³². Indigenous peoples all over the world are also facing threats to their ancestral lands and territories. It has been argued that for many centuries, challenges such as colonialism, forced resettlement, strong external development pressures and exclusion from natural resource decisions have undermined the ability of indigenous peoples to manage their lands and waters among other natural resources³³. Many indigenous communities all over the world are yet to see their land rights recognized or protected by law, with indigenous lands facing growing threats from industry and agriculture³⁴.

Biodiversity loss also disproportionately affects indigenous peoples globally. It has been argued that due to their close relationship and dependency on biodiversity and healthy ecosystems for their survival, indigenous peoples are highly vulnerable to changes and damages in the environment³⁵. Therefore, activities such as logging, unsustainable mining practices, pollution and climate change all pose increasing threats to indigenous peoples, their livelihood and survival by fuelling biodiversity loss and environmental degradation³⁶. According to UNEP, the subsistence economies and spiritual connection of indigenous peoples to their lands and territories has seen them suffer adversely from the loss of biological diversity and environmental degradation³⁷. The livelihoods, cultural and spiritual well-being, health and indigenous knowledge systems of indigenous peoples are therefore threatened by global biodiversity loss³⁸.

In light of the foregoing challenges, it is imperative to uphold the rights of indigenous peoples towards ensuring sound conservation of biological diversity for Sustainable Development.

³¹ United Nations Development Programme., 'Indigenous knowledge is crucial in the fight against climate change - here's why' Available at <https://climatepromise.undp.org/news-and-stories/indigenous-knowledge-crucial-fight-against-climate-change-heres-why> (Accessed on 04/10/2025)

³² Ibid

³³ The Nature Conservancy., 'Indigenous Peoples and Local Communities' Available at <https://www.nature.org/en-us/about-us/who-we-are/how-we-work/community-led-conservation/> (Accessed on 04/10/2025)

³⁴ Reytaar. K., 'Protecting Biodiversity Hinges on Securing Indigenous and Community Land Rights' Op Cit

³⁵ United Nations Environment Programme., 'Indigenous peoples and their communities' Op Cit

³⁶ Ibid

³⁷ United Nations Environment Programme., 'Indigenous Peoples and the nature they protect' Available at <https://www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect#:~:text=Indigenous%20Peoples'%20contributions%20are%20essential,assessments%20and%20sustainable%20ecosystem%20management> (Accessed on 04/10/2025)

³⁸ Ibid

3.0 Respecting the Human Rights of Indigenous Peoples for Sound Conservation of Biological Diversity

Indigenous peoples are at the heart of biodiversity conservation. They are custodians of unique knowledge systems, innovations and practices that have been passed down through generations and have allowed them to live sustainably on the planet, emphasizing harmony with nature³⁹. Indigenous practices and ways of life have minimal impact on the environment and are highly adaptive to ecological changes, fostering healthy and resilient ecosystems and conserving biodiversity⁴⁰. It has been argued that indigenous peoples are vital in strengthening environmental governance since conserving biodiversity relies on the knowledge, innovations and practices of those who live in direct contact with nature⁴¹.

Embracing the role of indigenous peoples is therefore key in strengthening biodiversity conservation efforts. This ideal is recognised under the *Convention on Biological Diversity*⁴² which acknowledges the close and traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components⁴³. The Convention urges all contracting states to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity⁴⁴.

In addition, the *Kunming-Montreal Global Biodiversity Framework (GBF)* recognises the role of indigenous peoples in biodiversity conservation⁴⁵. The GBF aims to foster sound biodiversity conservation by halting and reversing nature loss⁴⁶. It sets out global targets to be achieved by 2030 and beyond to safeguard and sustainably use biodiversity⁴⁷. The GBF further acknowledges the important roles and contributions of indigenous peoples and local communities as custodians of biodiversity and as partners in its conservation, restoration and sustainable use⁴⁸. It seeks to

³⁹ United Nations Development Programme., 'Indigenous knowledge is crucial in the fight against climate change - here's why' Op Cit

⁴⁰ Ibid

⁴¹ United Nations Environment Programme., 'Environmental Rule of Law: Tracking Progress and Charting Future Directions.' Available at https://wedocs.unep.org/bitstream/handle/20.500.11822/43943/Environmental_rule_of_law_progress.pdf?sequence=3 (Accessed on 04/10/2025)

⁴² The Convention on Biological Diversity, Op Cit

⁴³ Ibid, Preamble

⁴⁴ Ibid, article 8 (j)

⁴⁵ Kunming-Montreal Global Biodiversity Framework., CBD/COP/DEC/15/4 19., December 2022

⁴⁶ Ibid

⁴⁷ Ibid

⁴⁸ Ibid

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ensure that the rights of indigenous peoples and local communities are respected and given effect to in biodiversity conservation efforts⁴⁹.

At a regional level, *African Union Biodiversity Strategy and Action Plan (ABSAP)*⁵⁰ recognizes the essential role of indigenous peoples and local communities in sound biodiversity conservation in Africa. It seeks to empower and uphold the rights of indigenous peoples for sound biodiversity conservation in Africa.

The role of indigenous peoples in biodiversity conservation is therefore well-recognised both globally and in Africa. It is therefore imperative to uphold the rights of indigenous peoples in order to ensure sound conservation of biological diversity. This requires all countries to ensure the meaningful involvement of indigenous peoples in national biodiversity conservation plans and programmes⁵¹. It has been argued that the contribution of indigenous peoples is essential in designing and implementing solutions for biodiversity ecosystems⁵². For example, traditional knowledge and heritage can contribute to effective environmental assessments and sustainable ecosystem management⁵³. Strengthening the representation, participation and engagement of indigenous peoples and local communities at all levels is therefore key towards upholding their rights and ensuring sound biodiversity conservation⁵⁴.

In addition, there is need to respect the land rights of indigenous peoples all over the world. It has been observed that indigenous peoples worldwide usually face eviction from the ancestral lands they have inhabited for generations in order to support the extraction of natural resources, agricultural activities and infrastructure projects⁵⁵. Further, indigenous peoples continue to suffer from high levels of land insecurity, social dislocation and violence while defending their ancestral lands⁵⁶. Failure to uphold the land rights of indigenous peoples undermines sound biodiversity conservation since it threatens valuable indigenous knowledge that is practiced in their lands and territories⁵⁷. It has been argued that when the rights of indigenous peoples are protected and

⁴⁹ Ibid

⁵⁰ African Union Biodiversity Strategy and Action Plan (ABSAP) (2023-2030)., Available at [https://au.int/sites/default/files/documents/44029-doc-AU Biodiversity Strategy 12 08 2024.pdf](https://au.int/sites/default/files/documents/44029-doc-AU_Biodiversity_Strategy_12_08_2024.pdf) (Accessed on 31/10/2024)

⁵¹ United Nations Environment Programme., 'Indigenous Peoples and the nature they protect' Op Cit

⁵² Ibid

⁵³ Ibid

⁵⁴ UN Environment Programme World Conservation Monitoring Centre., 'Championing Indigenous Peoples' Stewardship of Biodiversity'

⁵⁵ Amnesty International., 'Indigenous Peoples' Available at <https://www.amnesty.org/en/what-we-do/indigenous-peoples/> (Accessed on 04/10/2025)

⁵⁶ International Institute for Sustainable Development., 'No Sustainable Development without Indigenous Peoples' Available at Available at <https://sdg.iisd.org/commentary/guest-articles/no-sustainable-development-without-indigenous-peoples/> (Accessed on 04/10/2025)

⁵⁷ Ibid

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especially their rights to land, territories and resources, their culture and nature thrive⁵⁸. It is therefore vital to recognise and uphold indigenous land rights for sound biodiversity conservation.

Further, there is need to ensure that benefits accruing from the knowledge, practices and innovations of indigenous peoples are shared equitably with them. It has been pointed out that indigenous knowledge has often been commercialized for medical advancements and food production without equitable benefit-sharing with indigenous and local communities who are custodians of these vital knowledge systems⁵⁹. As a result, there is need to ensure that indigenous peoples benefit directly and equitably from the conservation and ecologically sustainable use of natural resources through equitable benefit sharing arrangements⁶⁰. It has been argued that access to and fair-benefit sharing of monetary and non-monetary benefits from genetic resources is a critical element of sound conservation of biodiversity for Sustainable Development⁶¹. Ensuring equitable access to and fair benefit-sharing in respect of biodiversity can provide incentives for indigenous peoples and local communities to enhance biodiversity conservation⁶².

Preserving indigenous knowledge is also crucial upholding the rights of indigenous peoples and ensuring sound biodiversity conservation⁶³. Preserving indigenous culture and knowledge systems is key in upholding the rights of indigenous peoples now and in the future for Sustainable Development⁶⁴. It is therefore necessary to ensure that traditional knowledge associated with biodiversity, innovations, worldviews, values and practices of indigenous peoples are respected, and documented and preserved with their free, prior and informed consent for the benefit of future generations towards sound biodiversity conservation⁶⁵.

⁵⁸ United Nations Environment Programme., 'Indigenous Peoples and the nature they protect' Op Cit

⁵⁹ Nakitare. J., Otiike. F., & Mureithi. L., 'Harnessing the economic value of indigenous knowledge in Kenya: a qualitative review of the legal framework' Available at <https://www.emerald.com/gkmc/article-abstract/doi/10.1108/GKMC-09-2023-0324/1258934/Harnessing-the-economic-value-of-indigenous?redirectedFrom=fulltext> (Accessed on 04/10/2025)

⁶⁰ Muigua. K., 'Fostering a Human Rights Approach to Biodiversity Conservation in Kenya' Available at <https://kmco.co.ke/wp-content/uploads/2021/11/Fostering-a-Human-Rights-Approach-to-Biodiversity-Conservation-in-Kenya-Kariuki-Muigua-November-2021.pdf> (Accessed on 04/10/2025)

⁶¹ Global Environment Facility., 'Access and Benefit-Sharing' Available at <https://www.thegef.org/what-we-do/topics/biodiversity/access-and-benefit-sharing> (Accessed on 04/10/2025)

⁶² Ibid

⁶³ Latief. A., 'Harnessing Indigenous Knowledge for Climate Change Resilience in Africa' Available at https://www.linkedin.com/pulse/harnessing-indigenous-knowledge-climate-change-africa-aatifahlatief/?utm_source=share&utm_medium=member_android&utm_campaign=share_via (Accessed on 04/10/2025)

⁶⁴ Ibid

⁶⁵ Kunming-Montreal Global Biodiversity Framework., Op Cit

4.0 Conclusion

Indigenous peoples are vital custodians of biodiversity whose knowledge, practices and innovations can strengthen biodiversity conservation efforts globally. Respecting the human rights of indigenous peoples is therefore necessary towards bolstering biodiversity conservation. In order to achieve this ideal, there is need to ensure the meaningful participation of indigenous peoples in biodiversity conservation plans, uphold the land rights of indigenous peoples, foster equitable benefit-sharing of genetic resources with indigenous peoples and preserve indigenous knowledge, practices and innovations⁶⁶. Respecting the human rights of indigenous peoples is therefore an imperative that should be actualised for sound conservation of biological diversity towards Sustainable Development.

⁶⁶ Ibid

Halting Ecosystem Degradation for Environmental Justice and a Sustainable Future

Abstract

This paper critically examines the need to halt ecosystem degradation. The paper discusses the causes and effects of ecosystem degradation. It argues that ecosystem degradation is an undesirable phenomenon which hinders progress towards Sustainable Development since it results in the loss of critical life-supporting ecosystem services. Further, the paper posits that ecosystem degradation is a matter of environmental justice due to the fact that it disproportionately affects vulnerable groups including the poor, indigenous peoples, local communities and women who rely on healthy and well-functioning ecosystems for the livelihoods. In light of these concerns, the paper argues that tackling ecosystem degradation is crucial in promoting environmental justice and Sustainable Development. The paper suggests approaches towards halting ecosystem degradation for environmental justice and a sustainable future.

1.0 Introduction

An ecosystem refers to a community of organisms and their physical environment interacting as an ecological unit¹. Further, the *Convention on Biological Diversity*² defines an ecosystem as a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit³. An ecosystem may be natural or artificial, land-based or water-based⁴. Ecosystems are usually comprised of a biotic community including plants, animals and other living organisms⁵. Some of the major ecosystems include *freshwater ecosystems* such as rivers and lakes⁶; *terrestrial ecosystems* including forests, grasslands, deserts, and mountain ecosystems⁷; and *marine ecosystems* including coral reefs, estuaries and mangroves⁸.

Ecosystems have been described as the crucial life-support systems on Earth connecting every species and resource in a complex balance⁹. It has been argued that healthy communities are

¹ United Nations Environment Programme., 'Ecosystem.' Available at <https://leap.unep.org/en/knowledge/glossary/ecosystem> (Accessed on 24/10/2025)

² Convention on Biological Diversity, 5 June 1992 (1760 U.N.T.S. 69)

³ Ibid, article 2

⁴ Balasubramanian. A., 'Ecosystem and its Components' Available at https://www.researchgate.net/publication/314213426_ECOSYSTEM_AND_ITS_COMPONENTS (Accessed on 24/10/2025)

⁵ Ibid

⁶ Hitt. N et al., 'Freshwater Ecosystems and Biodiversity' Available at <https://www.amnh.org/content/download/141379/2285479/file/freshwater-ecosystems-and-biodiversity.pdf> (Accessed on 24/10/2025)

⁷ East African Community., 'Terrestrial Ecosystems' Available at <https://www.eac.int/environment/terrestrial-ecosystems> (Accessed on 24/10/2025)

⁸ United Nations Environment Programme., 'Supporting sound ecosystem management' Available at <https://www.unep.org/regions/africa/regional-initiatives/supporting-sound-ecosystem-management> (Accessed on 24/10/2025)

⁹ Ecosystem: Definition, Components, and Structure., Available at <https://greenly.earth/en-us/blog/ecology-news/ecosystem-definition-components-and-structure> (Accessed on 24/10/2025)

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sustained by well-functioning ecosystems, which provide critical services including clean air, fresh water, food, energy and natural medicines¹⁰. Further, healthy ecosystems also regulate diseases and stabilize the climate¹¹. Ecosystems play a key role in fostering Sustainable Development since they support biodiversity¹²; provide humanity with clean air, fresh water, and food¹³; regulate the climate; and enhance human health and well-being¹⁴. Healthy ecosystems and their rich biodiversity support life on Earth by fostering access to essential *provisioning services*, such as medicines, food and clean drinking water—as well as reducing harm caused by environmental stressors through *regulating services* such as regulation of air and noise pollution and extreme heat¹⁵. Ecosystems also provide cultural services such as spiritual and recreational benefits; and supporting services including nutrient cycling¹⁶.

Despite their important role in supporting life on the planet, ecosystems are being degraded globally due to human activities including destruction of habitats, pollution, deforestation, over extraction of resources, and human-induced climate change¹⁷. Ecosystem degradation threatens the survival of life on the planet due to loss of vital ecosystem services including food, clean water, clean air, medicines and energy¹⁸. Tackling ecosystem degradation is therefore key in ensuring a healthy and liveable planet, now and in the future.

This paper critically examines the need to halt ecosystem degradation. The paper discusses the causes and effects of ecosystem degradation. It argues that ecosystem degradation is an undesirable phenomenon which hinders progress towards Sustainable Development since it results in the loss of critical life-supporting ecosystem services. Further, the paper posits that ecosystem degradation is a matter of environmental justice due to the fact that it disproportionately affects vulnerable groups including the poor, indigenous peoples, local communities and women who rely on healthy and well-functioning ecosystems for the livelihoods. In light of these concerns, the paper argues that tackling ecosystem degradation is crucial in promoting environmental justice and Sustainable Development. The paper suggests

¹⁰ World Health Organization., 'Biodiversity' Available at <https://www.who.int/news-room/fact-sheets/detail/biodiversity> (Accessed on 24/10/2025)

¹¹ Ibid

¹² United Nations Environment Programme., 'Ecosystem Service' Available at <https://leap.unep.org/en/knowledge/glossary/ecosystem-service> (Accessed on 24/10/2025)

¹³ Ibid

¹⁴ Ibid

¹⁵ Marselle. M et al., 'Pathways linking biodiversity to human health: A conceptual framework' *Environment International.*, Volume 150, May 2021

¹⁶ Ecosystem Services., Available at <https://sdgresources.relx.com/ecosystem-services-ess> (Accessed on 24/10/2025)

¹⁷ United Nations Environment Programme., 'Tackling Ecosystem Degradation & Pollution' Available at <https://www.unep.org/topics/ocean-seas-and-coasts/ecosystem-degradation-pollution> (Accessed on 24/10/2025)

¹⁸ Ibid

approaches towards halting ecosystem degradation for environmental justice and a sustainable future.

2.0 Ecosystem Degradation: Causes and Effects

Ecosystem degradation is a state where the health, vitality and functioning of ecosystems is drastically reduced¹⁹. Ecosystem degradation undermines the viability of ecosystem processes and their biodiversity²⁰. It has been argued that ecosystem degradation results in the deterioration of an ecosystem's structure and function, a situation which significantly alters habitats and affects essential ecosystem services and processes²¹.

Freshwater, terrestrial and marine ecosystems all over the world are being degraded at an alarming rate which is largely due to human activities. For example, freshwater bodies such as rivers and lakes are being degraded by human activities including destructive fishing practices, overfishing, unsustainable mining activities, agricultural expansion and pollution including sediments, excess nutrient flows from agriculture, plastic waste and untreated wastewater²². Terrestrial ecosystems such as forests and mountains are also among the most degraded ecosystems globally. For example, it has been observed that forests are being subjected to increasing threats including deforestation, land degradation, population growth, agricultural expansion, climate change and unsustainable extraction of resources²³. Forests are being cleared all over the world to pave way for agricultural activities, human settlement, and infrastructure development²⁴. Further, unsustainable extraction of resources through logging and cutting of firewood is fueling the degradation of forests globally²⁵. In addition, due to climate change, forests have become increasingly susceptible to drought, wildfires, pests, and disease²⁶. It is estimated that nearly 30 per cent of global forest cover has been cleared and a further 20 per cent

¹⁹ European Environment Agency., 'A concept of a degraded ecosystem in theory and practice – a review' Available at https://www.eionet.europa.eu/etcs/etc-bd/products/etc-bd-reports/concept_degraded_ecosystem_in_theory_and_practice/@@download/file/Concept_degraded_ecosystem_in_theory_and_practice.pdf (Accessed on 24/10/2025)

²⁰ Ibid

²¹ Ecosystem Degradation., Available at <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/ecosystem-degradation> (Accessed on 24/10/2025)

²² United Nations Environment Programme., 'Tackling Ecosystem Degradation & Pollution' Op Cit

²³ United Nations Environment Programme., 'Goal 15: Life on Land' Available at <https://www.unep.org/topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-15#:~:text=UNEP's%20work%20on%20Goal%2015,livelihoods%20of%201.6%20billion%20people.>

(Accessed on 24/10/2025)

²⁴ United Nations Environment Programme., 'Forests' Available at <https://www.decadeonrestoration.org/types-ecosystem-restoration/forests> (Accessed on 24/10/2025)

²⁵ Ibid

²⁶ United Nations Development Programme., 'Forests can help us limit climate change – here is how' Available at <https://climatepromise.undp.org/news-and-stories/forests-can-help-us-limit-climate-change-here-how> (Accessed on 24/10/2025)

degraded²⁷. According to the United Nations Environment Programme (UNEP), the world is losing about 4.7 million hectares of tropical forest every year²⁸.

In addition, it has been pointed out that unsustainable land use practices such as overgrazing and non-conservation agriculture, unsustainable and illegal extraction of natural resources, deforestation, and development of large-scale infrastructure including dams, roads are degrading mountain ecosystems²⁹. Climate change has also been identified as a major threat to mountain ecosystems fueling various environmental and health hazards including landslides, melting glaciers, vector-borne diseases and drought³⁰. Marine ecosystems including coral reefs, estuaries, mangroves, seagrass meadows and saltmarshes are also being degraded at an alarming rate. For example, it is estimated that mangroves are being lost at a rate of almost three per cent per year due to deforestation³¹. Human activities including aquaculture, farming and conversion of wetlands for agricultural use, unsustainable coastal development, deep sea mining, deforestation of mangrove forests, marine pollution, and unsustainable use of resources are driving the degradation of marine ecosystems³².

From the foregoing, it is evident that freshwater, terrestrial and marine ecosystems are being degraded all over the world. Ecosystem degradation fuels biodiversity loss and impacts the availability of critical ecosystem services and functions such as clean air, water, food, energy, medicines and climate regulation with serious consequences for human health and well-being³³.

²⁷ International Union for Conservation of Nature., 'Forest Landscape Restoration Pathways to Achieving the SDGs' Available at https://unece.org/fileadmin/DAM/timber/meetings/2019/20191216/Forest_landscape_restoration_pathways_to_achieving_the_SDGs.pdf (Accessed on 24/10/2025)

²⁸ United Nations Environment Programme., 'Forests' Op Cit

²⁹ United Nations Development Programme., 'Global Ecosystems Based Adaptation in Mountains Programme' Available at <https://www.adaptation-undp.org/projects/global-ecosystems-based-adaptation-mountains-programme#:~:text=Mountain%20ecosystems%20are%20particularly%20important,agriculture%20and%20industry%20is%20high.> (Accessed on 24/10/2025)

³⁰ United Nations., 'Climate change action in developing countries with fragile mountainous ecosystems' Available at <https://www.unep.org/regions/europe/our-projects/climate-change-action-developing-countries-fragile-mountainous#:~:text=Mountain%20regions%20occupy%20about%20one,climate%20adaptation%20for%20mountain%20regions.> (Accessed on 24/10/2025)

³¹ The Blue Carbon Initiative., 'Mitigating Climate Change through Coastal Conservation' Available at <https://www.thebluecarboninitiative.org/> (Accessed on 24/10/2025)

³² What is Blue Carbon? Available at <https://www.plymouth.ac.uk/discover/what-is-blue-carbon> (Accessed on 24/10/2025)

³³ United Nations Environment Programme., 'Tackling Ecosystem Degradation & Pollution' Op Cit

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Further, the degradation of terrestrial ecosystems such as forests and blue carbon ecosystems including mangroves triggers the release of stored carbon thus worsening the climate crisis³⁴.

Ecosystem degradation also fuels environmental injustices. For example, it has been argued that due to their subsistence economies and spiritual connection to lands and territories, indigenous peoples and local communities suffer disproportionately from loss of biological diversity and environmental degradation³⁵. Large scale industrial activities, pollution and waste, land use changes, conflicts, deforestation and unsustainable mining activities fuel the degradation of vital ecosystems including forests, mountains and freshwater resources threatening the lives, livelihoods, cultural and spiritual practices and the Traditional Ecological Knowledge (TEK) of indigenous peoples and local communities³⁶. In addition, women are adversely impacted by ecosystem degradation and biodiversity loss³⁷. For example, due to gender roles in most rural communities, women and girls are disproportionately impacted by ecosystem degradation since this increases the time required to obtain necessary resources such as water, fuel wood, and medicinal plants, thus reducing the time they can spend on income generating activities and education³⁸. Ecosystem degradation thus fuels environmental injustices since it adversely impacts vulnerable groups including indigenous peoples, local communities, the poor rural, women and girls. Halting ecosystem degradation is therefore important towards environmental justice.

3.0 Halting Ecosystem Degradation for Environmental Justice and a Sustainable Future

Ecosystem degradation affects Sustainable Development. This undesirable phenomenon affects the availability and quality of vital ecosystem services and processes including food, clean water, clean air, medicines, energy and climate regulation³⁹. Ecosystem degradation can also worsen the climate crisis due to the release of carbon stored in critical ecosystems including forests and blue carbon sinks such as mangroves⁴⁰. Ecosystem degradation threatens sustainability since it affects the health and well-being of both people and planet. It also contributes to environmental injustices since it disproportionately impacts vulnerable groups and populations including

³⁴ Wood. K., & Ashford. O., 'How Blue Carbon Can Tackle the Climate, Biodiversity and Development Crises' Available at <https://www.wri.org/insights/what-is-blue-carbon-benefits-for-people-planet> (Accessed on 24/10/2025)

³⁵ United Nations Environment Programme., 'Indigenous Peoples and the nature they protect' Available at <https://www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect> (Accessed on 25/10/2025)

³⁶ Ibid

³⁷ International Institute for Environment and Development., 'The role, influence and impact of women in biodiversity conservation' Available at <https://www.iied.org/role-influence-impact-women-biodiversity-conservation> (Accessed on 25/10/2025)

³⁸ Ibid

³⁹ United Nations Environment Programme., 'Tackling Ecosystem Degradation & Pollution' Op Cit

⁴⁰ Wood. K., & Ashford. O., 'How Blue Carbon Can Tackle the Climate, Biodiversity and Development Crises' Op Cit

women and girls, the poor, indigenous peoples and local communities⁴¹. Halting ecosystem degradation is therefore necessary for environmental justice and a sustainable future.

In order to halt ecosystem degradation, there is need to combat harmful practices. Human-induced threats including pollution, deforestation, unsustainable mining, land use changes and overfishing among others are destroying and degrading ecosystems leading to biodiversity loss with severe consequences for people and planet⁴². It is therefore vital for all countries to put in place effective and responsive environmental governance regimes that can tackle these threats in order to prevent ecosystem degradation⁴³. In addition, climate change is another major challenge affecting ecosystems resulting in loss of forest ecosystems due to desertification⁴⁴; destroying mountain ecosystems due to landslides, melting glaciers, vector-borne diseases and drought⁴⁵; threatening marine and coastal ecosystems due to rising sea levels, ocean acidification, and the loss of critical habitats such as coral reefs⁴⁶; and affecting water quality and quantity in freshwater ecosystems⁴⁷. Confronting climate change is therefore key towards halting ecosystem degradation.

Further, it is imperative to restore damaged and degraded ecosystems. This approach involves assisting in the recovery of ecosystems that have been degraded or destroyed, as well as conserving ecosystems that are still intact⁴⁸. Ecosystem restoration aims to recover the ecological functionality and enhance human well-being in deforested and degraded landscapes and ecosystems⁴⁹. It has been argued that ecosystem restoration is an important process that not only returns landscapes and ecosystems to a healthy state, but also increases the amount of carbon sequestered, improves biodiversity and the quality of soil and water in the ecosystem, and provides economic benefits for communities that depend on such landscapes and ecosystems⁵⁰.

⁴¹ International Institute for Environment and Development., 'The role, influence and impact of women in biodiversity conservation' Op Cit

⁴² United Nations Environment Programme., 'Tackling Ecosystem Degradation & Pollution' Op Cit

⁴³ Ibid

⁴⁴ Ibid

⁴⁵ United Nations., 'Climate change action in developing countries with fragile mountainous ecosystems' Op Cit

⁴⁶ United Nations Environment Programme., 'Tackling Ecosystem Degradation & Pollution' Op Cit

⁴⁷ Ibid

⁴⁸ United Nations Decade on Restoration., 'What is Ecosystem Restoration?' Available at <https://www.decadeonrestoration.org/what-ecosystem-restoration#:~:text=Ecosystem%20restoration%20means%20assisting%20in,ecosystems%20that%20are%20still%20intact> (Accessed on 25/10/2025)

⁴⁹ Food and Agriculture Organization., 'The Key Role of Forest and Landscape Restoration in Climate Action' Available at <https://www.fao.org/documents/card/en/c/cc2510en> (Accessed on 25/10/2025)

⁵⁰ World Economic Forum., 'What are Natural Climate Solutions?' Available at <https://www.weforum.org/agenda/2021/09/what-are-natural-climate-solutions-ncsalliance/#:~:text=NCS%20are%20actions%20that%20avoid,forest%20conservation%2C%20restoration%20and%20management> (Accessed on 25/10/2025)

Ecosystems can be restored through various ways including reforestation, assisted natural regeneration agroforestry, and afforestation in forest ecosystems⁵¹; curbing pollution, controlling fishing and mining activities, designing dams in appropriate manners to restore river connectivity, and returning water flows in peatlands and other wetlands to nature levels for freshwater ecosystems⁵²; and reducing pressures such as pollution, habitat destruction, deep sea mining and unsustainable coastal development on marine ecosystems so they can recover, both naturally and by re-seeding or transplanting key species⁵³. Ecosystem restoration is therefore an effective approach towards halting the degradation of ecosystems.

There is also need to harness the contribution of vulnerable groups including indigenous peoples, local communities and women whose contribution is key in nurturing healthy ecosystems. For example, the knowledge and practices of indigenous peoples and local communities including TEK is key in designing and implementing solutions for sound ecosystem management⁵⁴. Indigenous peoples and local communities have lived in harmony with nature for many centuries and their contribution is key in preserving ecosystems and conserving biodiversity⁵⁵. Further, due to gender roles and responsibilities within the household, community, and society, women have developed unique knowledge related to biodiversity and ecosystems, shaped by their specific needs and priorities⁵⁶. As a result, women are in a unique position to bring different perspectives and new solutions to addressing biodiversity and ecosystem concerns⁵⁷. Consequently, involving indigenous peoples, local communities and women is key towards sound conservation of ecosystems and biodiversity.

4.0 Conclusion

Ecosystem degradation affects both people and planet fuelling environmental injustices and undermining progress towards Sustainable Development. Halting ecosystem degradation is therefore necessary for environmental justice and a sustainable future. Achieving this goal involves combating threats such as pollution, deforestation, overfishing, unsustainable mining

⁵¹ Muigua. K., 'Restoring Landscapes and Ecosystems for Climate Mitigation' Available at <https://kmco.co.ke/wp-content/uploads/2024/02/Restoring-Landscapes-and-Ecosystems-for-Climate-Mitigation.pdf> (Accessed on 25/10/2025)

⁵² United Nations Decade on Restoration., 'Freshwaters' Available at <https://www.decadeonrestoration.org/types-ecosystem-restoration/freshwaters#:~:text=Protecting%20and%20restoring%20freshwater%20ecosystems,and%20mining%20must%20be%20controlled>. (Accessed on 25/10/2025)

⁵³ United Nations Decade on Restoration., 'Oceans and Coasts' Available at <https://www.decadeonrestoration.org/types-ecosystem-restoration/oceans-and-coasts#:~:text=Restoring%20oceans%20and%20coasts%20means,seeding%20or%20transplanting%20key%20species>. (Accessed on 25/10/2025)

⁵⁴ United Nations Environment Programme., 'Indigenous Peoples and the nature they protect' Op Cit

⁵⁵ Ibid

⁵⁶ International Institute for Environment and Development., 'The role, influence and impact of women in biodiversity conservation' Op Cit

⁵⁷ Ibid

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and climate change⁵⁸; restoring degraded ecosystem⁵⁹; and involving vulnerable populations including indigenous peoples, local communities and women for sound ecosystem management⁶⁰. Halting ecosystem degradation is an imperative that should be fast-tracked globally for environmental justice and a sustainable future.

⁵⁸ United Nations Environment Programme., 'Tackling Ecosystem Degradation & Pollution' Op Cit

⁵⁹ United Nations Decade on Restoration., 'What is Ecosystem Restoration?'

⁶⁰ International Institute for Environment and Development., 'The role, influence and impact of women in biodiversity conservation' Op Cit

Integrating Biodiversity Conservation Across Food, Energy and Financial Systems for Sustainability

Abstract

Threats like overdevelopment and deforestation endanger biodiversity, which leads to socioeconomic problems despite its vital role in delivering essential services. The significance of sustainable strategies that strike a balance between resource consumption and conservation is highlighted by the relationship between ecosystem services and economic stability. Mismanagement of renewable projects presents risks as nations seek to increase renewable energy while reducing biodiversity loss. It is critical to change energy use and assess energy sources impartially. Additionally, because of transition risks, businesses need to adjust to biodiversity-friendly practices. Investing in natural capital and increasing resource efficiency are two ways to support green economies, particularly in industries that rely on biological resources. This paper examines how sustainability can be improved by integrating biodiversity conservation into the food, energy, and financial systems.

1.0 Introduction

Since biodiversity was taken into consideration separately by the IUCN, the environmental aspect of sustainability has mostly concentrated on managing renewable resources rather than biodiversity.¹ At the Millennium Summit in 2000, the UN launched the Millennium Development Project, which marked the beginning of its focus on sustainable development. The conservation of biodiversity was not explicitly addressed by the Millennium Development Goals (MDGs), which placed an emphasis on the sustainable management of ecosystems and natural resources.² 157 nations signed the Convention on Biological Diversity (CBD) in 1992, acknowledging the value of biodiversity for ecosystem services and sustainable agricultural systems.³ In particular, Goals 14 and 15 of the 2015 Sustainable Development Goals (SDGs) address the preservation and value of biodiversity, further integrating biodiversity and sustainability.⁴

Essential socio-cultural and economic services like food, water, shelter, medicine, energy, and aesthetic value depend on biodiversity.⁵ Yet, problems like overdevelopment, deforestation, and ignorance are having a negative impact on biodiversity, leading to the extinction of species, the

¹ Niesenbaum RA, 'The Integration of Conservation, Biodiversity, and Sustainability' (2019) 11 Sustainability 1.

² Ibid.

³ Ibid.; see also Reyers B and others, 'Finding Common Ground for Biodiversity and Ecosystem Services' (2012) 62 BioScience 503.

⁴ Ibid.; see also Stafford-Smith M and others, 'Integration: The Key to Implementing the Sustainable Development Goals' (2017) 12 Sustainability Science 911.

⁵ Gul E and Chaudhry IS, 'Socio-Economic Context of Saving Biodiversity' (2016) 4 Journal of Environmental Management and Tourism 37.

destruction of habitats, and the degradation of ecosystems.⁶ At the moment, socioeconomic downturns result from the natural resources' regeneration rate being much slower than its consumption rate.⁷ A sustainable strategy for biodiversity conservation is required to address this, with the goal of striking a balance between the benefits and drawbacks of resources. People's quality of life could be lowered, poverty could worsen, and economic conditions could degrade further if biodiversity is not sustainably preserved.⁸

Economic reliance on nature is explained by ecosystem services, which have their roots in economics and the natural sciences.⁹ Provisioning, regulating, and supporting services are provided by a healthy ecosystem. The supply of these services is determined by the ecological production function, and calculating their monetary value aids in identifying trade-offs and effects on the state of the economy.¹⁰ Businesses that depend on ecosystem services face serious risks as biodiversity loss diminishes their availability.¹¹

Two of the biggest issues facing humanity in the twenty-first century are ensuring universal food security and protecting biodiversity. Generally speaking, these difficulties are thought to entail a trade-off, particularly in the Global South's farming environments.¹² As countries step up their efforts to tackle climate change, they face the twin challenges of increasing the production of renewable energy and tackling the loss of biodiversity.¹³ Although the move away from fossil fuels has the potential to reduce the stress that climate change is placing on biodiversity, there are risks associated with this change. The expansion of renewable energy sources could jeopardise biodiversity if not carefully controlled.¹⁴

Dependency on fossil fuels leads to climate change, which poses a serious threat to ecosystems, and poorly designed renewable energy projects can also cause habitat fragmentation. We are

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

⁹ Steindl T, Küster S and Hartlieb S, 'Pricing Firms' Biodiversity Risk Exposure: Empirical Evidence from Audit Fees' (2025) 29 *Journal of Industrial Ecology* 828.

¹⁰ Ibid.; see also Niesenbaum RA, 'The Integration of Conservation, Biodiversity, and Sustainability' (2019)

11 *Sustainability* 1.

¹¹ Ibid.; see also Dong H and others, 'Does Natural Resource Dependence Restrict Green Development? An Investigation from the "Belt and Road" Countries' (2024) 255 *Environmental Research* 119108.

¹² Hanspach J and others, 'From Trade-Offs to Synergies in Food Security and Biodiversity Conservation' (2017) 15 *Frontiers in Ecology and the Environment* 489.

¹³ 'Mainstreaming Biodiversity into Renewable Power Infrastructure' (OECD, 29 January 2024) <https://www.oecd.org/en/publications/mainstreaming-biodiversity-into-renewable-power-infrastructure_357ac474-en.html> accessed 29 October 2025; see also WCMC, UNEP. "Mainstreaming of Biodiversity into the Energy and Mining Sectors: An Information Document for the 21st Meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-21)." (2017).

¹⁴ Ibid.

encouraged by the nexus approach to recognise these links and look for integrated solutions.¹⁵ The "Nexus" represents the connections and interdependencies between other industries, such as energy, and biodiversity conservation.¹⁶

Energy consumption in modern society is very high and keeps rising as the population and level of wealth increase. Natural areas and biodiversity are frequently negatively impacted by the production and consumption of energy.¹⁷ It is essential that society create a future energy mix that incorporates alternative sources in order to lessen its dependency on coal, oil, and gas.¹⁸ Different viewpoints on what makes up a sustainable energy portfolio are probably going to be generated through this process, which emphasises the necessity of an unbiased assessment of the advantages and disadvantages of different energy sources.¹⁹

Companies face transition risks in addition to the physical risks associated with biodiversity loss, as stakeholders like regulators and customers put pressure on them to slow biodiversity loss and switch to more biodiversity-friendly business practices.²⁰ The two main tactics for creating "green" economic sectors and moving towards a green economy are investing in natural capital and improving energy and resource efficiency.²¹ For industries like agriculture, forestry, and fisheries that rely on biological resources, the former is a key tactic. For industries like manufacturing, transportation, and construction that rely on the transformation of natural capital, the latter is essential to lowering resource intensity and environmental impact.²²

This paper critically discusses the prospects and challenges in integrating and entrenching biodiversity conservation across food, energy and financial systems as a way of promoting sustainability.

¹⁵ Directory S, 'Biodiversity Conservation Nexus → Term' (*Energy → Sustainability Directory*) <<https://energy.sustainability-directory.com/term/biodiversity-conservation-nexus/>> accessed 29 October 2025.

¹⁶ Ibid.; see also Fleurke F and Paiement P, 'Are Renewable Energy Technologies Compatible with Biodiversity Conservation? The Energy–Conservation Legal Nexus', *Climate Technology and Law in the Anthropocene* (Bristol University Press 2025) <<https://bristoluniversitypressdigital.com/edcollchap-0a/book/9781529232912/ch002.xml>> accessed 29 October 2025.

¹⁷ Brook BW and Bradshaw CJA, 'Key role for nuclear energy in global biodiversity conservation' (2015) 29 *Conservation Biology* 702.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Steindl T, Küster S and Hartlieb S, 'Pricing Firms' Biodiversity Risk Exposure: Empirical Evidence from Audit Fees' (2025) 29 *Journal of Industrial Ecology* 828.

²¹ Gasparatos A and others, 'Renewable Energy and Biodiversity: Implications for Transitioning to a Green Economy' (2017) 70 *Renewable and Sustainable Energy Reviews* 161.

²² Ibid.

2.0 Impact of Biodiversity Loss on Food, Energy and Financial Systems: Challenges and Prospects

Different incentives, information frictions, and equity concerns make policy design for biodiversity conservation and ecosystem services both complex and full of opportunities.²³ These complexities are highlighted by Payments for Ecosystem Services (PES), where effective targeting of areas, enforcing conditions through dependable monitoring, setting payment levels appropriately, and managing participant and benefit tracking are all necessary for successful outcomes.²⁴ The consideration of counterfactuals and spillovers is necessary due to issues like leakage and dynamic responses. It is possible to overcome the drawbacks of individual strategies and promote adaptive management by combining different policy tools, such as price-based instruments and regulatory measures.²⁵ Advocating for transparent, accountable decision-making frameworks requires clear objectives, instrument interactions, and periodic review mechanisms – especially in the face of ecological uncertainty.²⁶

Together with the integration of water, energy, and food nexus thinking, the intersection of ecosystems, livelihoods, and the economy is becoming a prominent area of scholarly inquiry.²⁷ The goal of this system-thinking approach is to highlight the relationships between policy and decision-making in order to minimise unintended consequences and negative externalities when addressing common issues on a local and global scale.²⁸

As the demand for food, energy, and water rises due to urbanisation, climate change, population growth, and environmental degradation, the world faces a major resource management challenge.²⁹ As a remedy, the water-energy-food (WEF) nexus has surfaced, emphasizing the interdependencies and connections between these systems and the ecosystems that sustain them.³⁰ The WEF nexus seeks to improve resource efficiency and support sustainable development by encouraging integrated resource management and cooperation between

²³ Ma L, Hong L and Liang X, 'Integrating Ecological and Economic Approaches for Ecosystem Services and Biodiversity Conservation: Challenges and Opportunities' (2025) 6 *Ecologies* 70.

²⁴ Ibid.; see also Wang P and Wolf SA, 'A Targeted Approach to Payments for Ecosystem Services' (2019) 17 *Global Ecology and Conservation* e00577.

²⁵ Ibid.

²⁶ Ibid.; see also Handoyo S, 'Public Governance and National Environmental Performance Nexus: Evidence from Cross-Country Studies' (2024) 10 *Heliyon* e40637; Gardner TA and others, 'Transparency and Sustainability in Global Commodity Supply Chains' (2019) 121 *World Development* 163; Shi T, 'Ecological Economics as a Policy Science: Rhetoric or Commitment towards an Improved Decision-Making Process on Sustainability' (2004) 48 *Ecological Economics* 23; Cairney P, Timonina I and Stephan H, 'How Can Policy and Policymaking Foster Climate Justice? A Qualitative Systematic Review' (2023) 3 *Open Research Europe* 51.

²⁷ Reyers B and others, 'Finding Common Ground for Biodiversity and Ecosystem Services' (2012) 62 *BioScience* 503.

²⁸ Ibid.

²⁹ Rhouma A and others, 'Trends in the Water-Energy-Food Nexus Research' (2024) 16 *Sustainability* 1162.

³⁰ Ibid.

stakeholders, scientists, and policymakers.³¹ This strategy reduces environmental effects, increases resilience to upcoming difficulties, and guarantees the long-term availability of vital resources.³² The successful application of the WEF nexus approach requires active cooperation between government organisations, the commercial sector, academia, and civil society.³³

Global biodiversity loss and ecosystem degradation have been greatly exacerbated by the growth of agriculture, and this trend is likely to continue in the absence of efficient management techniques.³⁴ It is important to understand which elements endure during agricultural conversion and to acknowledge that biodiversity can be preserved in agricultural landscapes. The dynamics influencing the preservation of biodiversity and methods for efficient management are important questions.³⁵ In order to align with human well-being, progress in these areas will be controversial and require cooperation across research, ecosystem policy, and conservation science disciplines.³⁶ Even though integration may seem like a difficult goal, funding and research efforts are making progress in addressing these problems.³⁷

Financing decisions continue to worsen the loss of biodiversity worldwide, despite growing awareness of the financial and economic risks associated with it.³⁸ Regulation imposing restrictions on the exploitation of nature, concentrating on local risks resulting from biodiversity impacts, scaling biodiversity finance using its secondary benefits, and co-leading the development of biodiversity finance by financial decision-makers are the four guiding principles for incorporating biodiversity into financial decision-making. This strategy will assist in lessening the adverse effects of biodiversity loss.³⁹

³¹ Ibid.; see also 'A Review of Water-Energy-Food Nexus Frameworks, Models, Challenges and Future Opportunities to Create an Integrated, National Security-Based Development Index - ScienceDirect' <<https://www.sciencedirect.com/science/article/pii/S2772427125000506>> accessed 29 October 2025; 'Driving Climate Resilience through the Water-Energy-Food Nexus in Kenya' (SEI) <<https://www.sei.org/features/driving-climate-resilience-through-the-water-energy-food-nexus-in-kenya/>> accessed 29 October 2025; Richelle B, Mao F and Liebe U, 'Towards Equitable, Integrated, and Adaptive Water-Energy-Food Nexus Research in Africa: A Systematic Literature Review' (2025) 115 Environmental Impact Assessment Review 108043;

³² Ibid.

³³ Ibid.; see also Olarewaju OO and others, 'Integrating Sustainable Agricultural Practices to Enhance Climate Resilience and Food Security in Sub-Saharan Africa: A Multidisciplinary Perspective' (2025) 17 Sustainability 6259.

³⁴ Norris K, 'Agriculture and Biodiversity Conservation: Opportunity Knocks' (2008) 1 Conservation Letters 2.

³⁵ Ibid.

³⁶ Ibid.; see also Gavin MC and others, 'Effective Biodiversity Conservation Requires Dynamic, Pluralistic, Partnership-Based Approaches' (2018) 10 Sustainability 1846.

³⁷ Ibid.

³⁸ Nedopil C, 'Integrating Biodiversity into Financial Decision-making: Challenges and Four Principles' (2023) 32 Business Strategy and the Environment 1619.

³⁹ Ibid.

Financial markets are also subject to (physical and transitional) biodiversity risks. In reality, risks to biodiversity account for over half of the market value of the major stock exchanges.⁴⁰ Thus, there could be severe financial repercussions if biodiversity risks are underestimated or ignored. Therefore, it is essential to comprehend whether and how financial markets price biodiversity risks.⁴¹

Gaining a better understanding of the role that biodiversity plays in a Green Economy and the potential financial costs and benefits of its conservation requires identifying the hidden "green-economic" trade-offs associated with the expansion of renewable energy.⁴² There is some understanding of the nature of these trade-offs, but in order to steer the shift to a green economy without having detrimental effects on biodiversity, a stronger body of evidence and suitable assessment/planning tools will be needed.⁴³

3.0 Integrating Biodiversity Conservation Across Food, Energy and Financial Systems for Sustainability: Way Forward

The relationship between environmental sustainability and human well-being is highlighted by the 17 interconnected Sustainable Development Goals (SDGs) in the 2030 Agenda.⁴⁴ It asserts that environmental sustainability is crucial for social and economic advancement and emphasises that the health and management of natural capital are necessary for the accomplishment of these goals.⁴⁵

The establishment of quantifiable success indicators is essential for the successful integration of biodiversity conservation and sustainability goals. The creation and use of quantitative metrics to evaluate the results of these coordinated efforts is a top research priority.⁴⁶ Despite the existence of numerous criteria and indicators for biodiversity conservation in forest management, many of them require thorough species inventories, which can be difficult to carry out. There may be more practical ways to estimate biodiversity, such as by evaluating indicator species or structural indicators like stand complexity.⁴⁷ Quantifying biodiversity across different ecosystems and implementing adaptive management strategies that integrate continuous monitoring and research should be the main areas of future study.⁴⁸ Evaluation of conservation

⁴⁰ Steindl T, Küster S and Hartlieb S, 'Pricing Firms' Biodiversity Risk Exposure: Empirical Evidence from Audit Fees' (2025) 29 Journal of Industrial Ecology 828.

⁴¹ Ibid.

⁴² Gasparatos A and others, 'Renewable Energy and Biodiversity: Implications for Transitioning to a Green Economy' (2017) 70 Renewable and Sustainable Energy Reviews 161.

⁴³ Ibid.

⁴⁴ Ma L, Hong L and Liang X, 'Integrating Ecological and Economic Approaches for Ecosystem Services and Biodiversity Conservation: Challenges and Opportunities' (2025) 6 Ecologies 70.

⁴⁵ Ibid.

⁴⁶ Niesenbaum RA, 'The Integration of Conservation, Biodiversity, and Sustainability' (2019) 11 Sustainability 1.

⁴⁷ Ibid.

⁴⁸ Ibid.

efforts and socioeconomic factors, such as poverty alleviation and sustainable resource use, must be done concurrently for integration to be effective.⁴⁹

Connecting biophysical changes to human well-being through ideas like the ecosystem-services framework, which divides nature's contributions into provisioning, regulating, supporting, and cultural services, is necessary for a decision-oriented integration of ecology and economics.⁵⁰ This framework helps decision-makers understand how ecosystem changes affect social and economic outcomes. Because species diversity helps people become more resilient to shocks, especially those brought on by climate change, biodiversity is essential.⁵¹ When ecosystems and biodiversity are framed as natural capital, upkeep and restoration are seen as long-term investments that will ensure social equity, economic stability, and ecological integrity across generations. This aligns environmental stewardship with sustainable development.⁵²

One of the main causes of the decline in biodiversity worldwide is agriculture. A comprehensive grasp of how land use affects ecosystem services is necessary to address this in a sustainable future vision.⁵³ Understanding patterns in biodiversity, creating management plans, and investigating how biodiversity affects ecosystem function all depend on conservation science.⁵⁴ For agricultural landscapes to be managed effectively and to guarantee food security, poverty reduction, and environmental preservation, research from the social and agricultural sciences must be integrated.⁵⁵

Production of food and fibre uses about 40% of the Earth's surface, and this percentage is predicted to increase, posing serious threats to biodiversity and the environment.⁵⁶ Maintaining traditional agroecosystems and advancing regenerative sustainable agriculture practices are

⁴⁹ Ibid.; see also Ma L, Hong L and Liang X, 'Integrating Ecological and Economic Approaches for Ecosystem Services and Biodiversity Conservation: Challenges and Opportunities' (2025) 6 *Ecologies* 70; see also Wu, Tong. "Integrating biodiversity conservation with poverty reduction: A socioeconomic perspective." *Bulletin of the Ecological Society of America* 90, no. 1 (2009): 80-86.

⁵⁰ Ma L, Hong L and Liang X, 'Integrating Ecological and Economic Approaches for Ecosystem Services and Biodiversity Conservation: Challenges and Opportunities' (2025) 6 *Ecologies* 70.

⁵¹ Ibid.

⁵² Ibid.

⁵³ Norris K, 'Agriculture and Biodiversity Conservation: Opportunity Knocks' (2008) 1 *Conservation Letters* 2; see also Dem P and others, 'Integrating Biodiversity and Ecosystem Services in Land Use Change Assessment through Sustainability Indicator' (2025) 114 *Environmental Impact Assessment Review* 107971.

⁵⁴ Ibid.

⁵⁵ Ibid.; see also Agrawal A and Redford KH, *Poverty, Development, and Biodiversity Conservation: Shooting in the Dark?*, vol 26 (Wildlife Conservation Society New York 2006) <https://www.academia.edu/download/91260595/Agrawal_Redford_WP26.pdf> accessed 28 October 2025.

⁵⁶ Niesenbaum RA, 'The Integration of Conservation, Biodiversity, and Sustainability' (2019) 11 *Sustainability* 1.

essential to reducing these risks.⁵⁷ Community-based outreach and demonstration should be used to promote these, emphasizing that they can improve yields over the long run without the need for outside or governmental enforcement.⁵⁸ Furthermore, sustainable development depends on increasing awareness of biodiversity and how to manage it. Future agricultural practices require fostering a sense of community and individual appreciation for agricultural biodiversity and putting policies in place to measure agrobiodiversity and biodiversity.⁵⁹

Cooperation and research and innovation funding are necessary to address the difficulties in integrating biodiversity and agroecosystem practices to promote sustainable food security. Undoubtedly, highlighting the necessity of cooperation and funding for research and innovation is crucial to creating suitable technologies and policies.⁶⁰

To enable African researchers to tackle regional issues, policymakers should concentrate on providing infrastructure and funding for regional research institutions.⁶¹ In order to address food security and climate change, collaborative efforts are crucial. Policies should support the conservation of biodiversity and agroecological practices, providing farmers with incentives to use sustainable farming practices.⁶² Resilience will be increased by incorporating traditional methods and indigenous knowledge. Future studies should look into the socioeconomic factors that contribute to food insecurity and develop specialized adaptation plans.⁶³ Investing in cutting-edge technologies, such as smart agriculture, is essential for increasing output and minimising environmental damage. To assess the efficacy of policies and practices, monitoring frameworks should be established.⁶⁴

⁵⁷ Ibid.

⁵⁸ Ibid.

⁵⁹ Ibid.

⁶⁰ Rapiya M, Truter W and Ramoelo A, 'The Integration of Land Restoration and Biodiversity Conservation Practices in Sustainable Food Systems of Africa: A Systematic Review' (2024) 16 Sustainability 8951.

⁶¹ Ibid.

⁶² Ibid.; see also Vikas and Ranjan R, 'Agroecological Approaches to Sustainable Development' (2024) 8 Frontiers in Sustainable Food Systems <<https://www.frontiersin.org/journals/sustainable-food-systems/articles/10.3389/fsufs.2024.1405409/full>> accessed 28 October 2025; Olarewaju OO and others, 'Integrating Sustainable Agricultural Practices to Enhance Climate Resilience and Food Security in Sub-Saharan Africa: A Multidisciplinary Perspective' (2025) 17 Sustainability 6259; Sahoo S and others, 'Review of Climate-Resilient Agriculture for Ensuring Food Security: Sustainability Opportunities and Challenges of India' (2025) 25 Environmental and Sustainability Indicators 100544.

⁶³ Ibid.; see also Masango, C.A. and Mbarika, V.W., "Indigenous knowledge application in increasing food security: A measure to consider?" *Inkanyiso: Journal of Humanities and Social Sciences* 14, no. 1 (2022): 1-10; see also Ngongolo K and Kyando M, 'Biodiversity Conservation and Socio-Economic Development for Africa's Harmonious Future: A Scoping Review' (2025) 2 BMC Environmental Science 11.

⁶⁴ Ibid.

Large-scale integration of sustainable agricultural practices necessitates ambitious legislative measures, farmer-led innovation, equitable funding, and continuous oversight.⁶⁵ To break down systemic barriers and make investments in scalable and locally based solutions, stakeholders—including governments, researchers, practitioners, and donors—must work together.⁶⁶ Food security can be greatly increased by reframing traditional farming methods that prioritize soil conservation and nutrition.⁶⁷ It is also crucial to make sure local varieties have access to propagation materials. However, issues like a lack of funding and human resources may prevent communities from realising the full potential of biodiversity.⁶⁸ To fully benefit from biological diversity, stakeholders and agencies must work together to develop social capital in local governance and community institutions.⁶⁹

Environmental degradation is caused by nature's economic invisibility in traditional accounting, which needs to be addressed for sustainability policies to be effective.⁷⁰ The need to integrate ecological considerations into economic decision-making is underscored by initiatives such as the Economics of Ecosystems and Biodiversity (TEEB) and the 2019 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment, which highlight the dependence of human well-being on natural capital and ecosystem services.⁷¹ Poor policy decisions can result from misconceptions, so institutional channels are required to incorporate valuation into planning and budgeting procedures. Although they need the right context and design, market-based conservation strategies like Payments for Ecosystem Services have promise.⁷² Restructuring economies towards low-carbon, circular, and green models that take into account planetary boundaries is ultimately necessary for a successful sustainability transition. Institutional and cultural barriers that impede cooperative problem-solving must also be addressed.⁷³

In order to achieve the Sustainable Development Goals (SDGs), economic models that respect biophysical limits and prioritize inclusion and innovation must replace linear and resource-

⁶⁵ Olarewaju OO and others, 'Integrating Sustainable Agricultural Practices to Enhance Climate Resilience and Food Security in Sub-Saharan Africa: A Multidisciplinary Perspective' (2025) 17 Sustainability 6259.

⁶⁶ Ibid.

⁶⁷ 'Proceedings of the Workshop on Forests for Poverty Reduction: Opportunities with CDM, Environmental Services and Biodiversity' <<https://www.fao.org/4/ae537e/ae537e0e.htm>> accessed 29 October 2025.

⁶⁸ Ibid.

⁶⁹ Ibid.

⁷⁰ Ma L, Hong L and Liang X, 'Integrating Ecological and Economic Approaches for Ecosystem Services and Biodiversity Conservation: Challenges and Opportunities' (2025) 6 Ecologies 70.

⁷¹ Ibid.

⁷² Ibid.; see also Kieslich M and Salles J-M, 'Implementation Context and Science-Policy Interfaces: Implications for the Economic Valuation of Ecosystem Services' (2021) 179 Ecological Economics 106857; Newell, R., "The climate-biodiversity-health nexus: a framework for integrated community sustainability planning in the Anthropocene." *Frontiers in Climate* 5 (2023): 1177025.

⁷³ Ibid.

depleting consumption patterns.⁷⁴ This transition is guided by three interconnected paradigms: the Low-Carbon Economy, which primarily aims to mitigate greenhouse gas emissions but also requires sustainable management of ecosystems and social equity; the Circular Economy, which encourages durability and resource efficiency through sustainable design; and the Green Economy, which emphasises low carbon, resource efficiency, and social inclusion.⁷⁵ The low-carbon framework fits into the larger green and circular economies, and these strategies are interrelated. To achieve sustainability and reduce environmental impacts, effective policy must combine a variety of tools.⁷⁶

Although biodiversity conservation is essential to human survival, it frequently clashes with human development and activity.⁷⁷ By including biodiversity conservation into frameworks for sustainable development, this conflict can be lessened. Biodiversity science has a long history, but it has taken a while to develop into a discipline that can handle today's problems, in part because of a lack of interdisciplinary cooperation.⁷⁸ Reconciliation ecology seeks to find constructive ways for humans and other species to coexist in order to ease the conflict between conservation and development. Policies for conservation and development must be informed by ongoing research in this field.⁷⁹

Diversified technologies and resources, adaptive governance that includes monitoring and revision, and an acceptance of reliance on life-supporting systems are all characteristics of a sustainable economy.⁸⁰ In order to guarantee that progress towards the Sustainable Development Goals (SDGs) stays within the bounds of the Earth system and is adaptable to change, this strategy connects economic transformation to resilience and planetary boundaries.⁸¹

Ecosystem services from global biodiversity conservation can generate economic benefits, but it is essential to measure, value, and map these services in order to pinpoint areas where

⁷⁴ Ma L, Hong L and Liang X, 'Integrating Ecological and Economic Approaches for Ecosystem Services and Biodiversity Conservation: Challenges and Opportunities' (2025) 6 *Ecologies* 70.

⁷⁵ Ibid.

⁷⁶ Ibid.

⁷⁷ Niesenbaum RA, 'The Integration of Conservation, Biodiversity, and Sustainability' (2019) 11 *Sustainability* 1; see also Fisher J and Rucki K, 'Re-conceptualizing the Science of Sustainability: A Dynamical Systems Approach to Understanding the Nexus of Conflict, Development and the Environment' (2017) 25 *Sustainable Development* 267.

⁷⁸ Ibid.; see also Evans MC, 'Re-Conceptualizing the Role (s) of Science in Biodiversity Conservation' (2021) 48 *Environmental Conservation* 151.

⁷⁹ Ibid.; see also Naeem, S., Bunker, D.E., Hector, A., Loreau, M. and Perrings, C., "Introduction: the ecological and social implications of changing biodiversity. An overview of a decade of biodiversity and ecosystem functioning research." (2009): 3-13; see also Liu J and others, 'Systems Integration for Global Sustainability' (2015) 347 *Science* 1258832.

⁸⁰ Ma L, Hong L and Liang X, 'Integrating Ecological and Economic Approaches for Ecosystem Services and Biodiversity Conservation: Challenges and Opportunities' (2025) 6 *Ecologies* 70.

⁸¹ Ibid.

conservation benefits human economies and biodiversity at the same time.⁸² By using data, maps, classifications, and scenarios to enhance decision-making on environmental issues, the Ecosystem Services (ES) concept is essential for incorporating environmental considerations into public policy.⁸³

It is recommended that policymakers give priority to three areas: incorporating natural capital accounting into national fiscal analyses; enacting hybrid policy mixes for carbon pricing that incorporate green finance and targeted standards; and creating science-policy interfaces to improve planning and budgetary decision-making.⁸⁴ In the meantime, the research community should concentrate on improving integrated assessments of social-ecological systems, creating transparent Artificial Intelligence (AI) while keeping an eye on environmental effects, and closing the gap between theory and practice.⁸⁵ Long-term success for businesses depends on adopting circular economy models, making investments in nature-based solutions, and integrating nature into risk disclosures.⁸⁶ When used together, these tactics can support conservation and bring economic structures into line with ecological sustainability, which will be advantageous to both people and the environment.⁸⁷

4.0 Conclusion

An economic approach to biodiversity conservation and ecosystem service delivery can offer justification for incorporating conservation goals into policy.⁸⁸ Additionally, this strategy might make it easier to generate additional revenue using market-based instruments. However, it is important to recognise and convey the inherent difficulties and constraints related to the design and valuation of these policy tools.⁸⁹ Integrating biodiversity conservation across Food, Energy and Financial Systems for Sustainability is an imperative that should be achieved.

⁸² Naidoo R and others, 'Global Mapping of Ecosystem Services and Conservation Priorities' (2008) 105 Proceedings of the National Academy of Sciences 9495.

⁸³ Kieslich M and Salles J-M, 'Implementation Context and Science-Policy Interfaces: Implications for the Economic Valuation of Ecosystem Services' (2021) 179 Ecological Economics 106857.

⁸⁴ Ma L, Hong L and Liang X, 'Integrating Ecological and Economic Approaches for Ecosystem Services and Biodiversity Conservation: Challenges and Opportunities' (2025) 6 Ecologies 70; see also Anjanappa, J., Samant, S. and Thakur, B., "Mainstreaming Biodiversity into Power Sector Planning and Policy to Deliver Better Outcomes for Nature and the Climate." *Available at SSRN* 4965343 (2024).

⁸⁵ Ibid.

⁸⁶ Ibid.; see also Stefanakis, A.I., Calheiros, C.S. and Nikolaou, I., "Nature-based solutions as a tool in the new circular economic model for climate change adaptation." *Circular Economy and Sustainability* 1, no. 1 (2021): 303-318.

⁸⁷ Ibid.; see also Santangeli, A., Toivonen, T., Pouzols, F.M., Pogson, M., Hastings, A., Smith, P. and Moilanen, A., "Global change synergies and trade-offs between renewable energy and biodiversity." *Gcb Bioenergy* 8, no. 5 (2016): 941-951.

⁸⁸ Hansjürgens B, Kehl C and Loft L, 'The Economic Approach to Ecosystem Services and Biodiversity: Policy Design and Institutions Matter' (2016) 25 GAIA - Ecological Perspectives for Science and Society 174.

⁸⁹ Ibid.

Towards Green Growth and Sustainability: Safeguarding Africa's Natural Capital as an Imperative

Abstract

This paper critically examines how Africa can pursue green growth and sustainability by harnessing its natural capital. The paper notes that Africa is endowed with natural resources. It argues that harnessing the continent's rich natural capital can accelerate progress towards green growth and sustainability. Despite the potential of Africa's natural capital to drive green growth and sustainability, the paper notes that the continent's natural resources are facing mounting threats. It discusses the major threats facing Africa's natural capital and their impacts on green growth and sustainability. In light of these concerns, the paper argues that safeguarding Africa's natural capital is vital for green growth and sustainability. The paper explores approaches towards protecting Africa's natural capital in order to ensure green growth and sustainability.

1.0 Introduction

Fostering green growth is vital in the quest towards sustainability. The concept of green growth aims to harmonise economic growth with environmental sustainability¹. It involves fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies². In order to achieve this goal, green growth provides a pathway that seeks to achieve growth targets and development objectives in a more efficient, sustainable and resilient manner³. Green growth can therefore be described as economic growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters⁴.

Green growth provides an effective pathway towards sustainability. It fosters a low-carbon, resource-efficient and socially inclusive approach on development therefore strengthening efforts

¹ Green Growth., Available at <https://sustainabledevelopment.un.org/index.php?menu=1447> (Accessed on 17/10/2025)

² Organisation for Economic Co-operation and Development., 'What is Green Growth and How Can it Help Deliver Sustainable Development?' Available at <https://www.oecd.org/greengrowth/whatisgreengrowthandhowcanithelpdeliversustainabledevelopment.htm> (Accessed on 17/10/2025)

³ African Development Bank Group., 'Green Growth' Available at <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/green-growth-initiative/background> (Accessed on 17/10/2025)

⁴ The World Bank Group., 'Inclusive Green Growth: The Pathway to Sustainable Development' Available at <https://documents1.worldbank.org/curated/en/368361468313515918/pdf/691250PUB0Publ067902B09780821395516.pdf> (Accessed on 17/10/2025)

towards sustainability⁵. By embracing green growth, it is possible to sustain economic growth while at the same time ensuring environmental sustainability⁶. Through green growth, countries can ensure that economic growth can be compatible with environmental sustainability by adopting measures that decouple economic growth from environmental impacts⁷. These approaches include reducing carbon emissions, tackling pollution, enhancing energy and resource efficiency, and preventing the loss of biodiversity and ecosystem services⁸. Green growth has been described as a vital intervention for any Sustainable Development strategy since it delivers win-win outcomes for society in the sense that it protects the environment while also accelerating the pace of economic growth and social progress⁹. Fostering green growth is therefore necessary towards sustainability.

This paper critically examines how Africa can pursue green growth and sustainability by harnessing its natural capital. The paper notes that Africa is endowed with natural resources. It argues that harnessing the continent's rich natural capital can accelerate progress towards green growth and sustainability. Despite the potential of Africa's natural capital to drive green growth and sustainability, the paper notes that the continent's natural resources are facing mounting threats. It discusses the major threats facing Africa's natural capital and their impacts on green growth and sustainability. In light of these concerns, the paper argues that safeguarding Africa's natural capital is vital for green growth and sustainability. The paper explores approaches towards protecting Africa's natural capital in order to ensure green growth and sustainability.

2.0 Africa's Natural Capital and Green Growth: Opportunities and Challenges

Africa has a rich natural capital including minerals, water, oil and gas, forests, wildlife and arable land¹⁰. The continent holds a huge proportion of the world's natural resources, both renewables and non-renewables including the largest reserves of cobalt, diamonds, platinum and uranium in the world, nearly 30 per cent of the world's mineral reserves, viable deposit of oil and gas and nearly 65 per cent of the world's uncultivated arable land¹¹. Africa is also home to the world's second longest and second largest rivers (the Nile and the Congo), the second largest tropical

⁵ United Nations Environment Programme., 'Green Economy' Available at <https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy> (Accessed on 17/10/2025)

⁶ Green Growth., Op Cit

⁷ Green Growth: Sustainable Future or Myth? - Part One., Available at <https://populationmatters.org/news/2024/10/green-growth-sustainable-future-or-myth-part-one/> (Accessed on 17/10/2025)

⁸ United Nations Environment Programme., 'Green Economy' Op Cit

⁹ Chuku, C., Ajayi. V., 'Growing Green: Enablers and Barriers for Africa' Working Paper Series No. 363, (2022), African Development Bank, Abidjan, Côte d'Ivoire.

¹⁰ African Development Bank Group., 'Natural Capital for Climate Finance and Green Growth in Africa' Available at https://www.afdb.org/sites/default/files/aeo_2023-chap3-en.pdf (Accessed on 21/10/2025)

¹¹ United Nations Environment Programme., 'Our Work in Africa' Available at <https://www.unep.org/regions/africa/our-work-africa> (Accessed on 21/10/2025)

forest (the Congo basin forest), and an estimated 45 per cent of the global renewable energy potential¹².

Africa is therefore endowed with natural resources. It has been pointed out that natural resources comprise the continent's largest form of wealth¹³. Africa has immense potential to harness its vast natural capital to finance the continent's development agenda¹⁴. It has been argued that tapping into the continent's rich natural capital could be the key to unlocking Africa's development potential and for pulling millions out of the poverty trap¹⁵. The abundance and ongoing discoveries of natural resources in Africa provides a source of revenue for advancing human development and supporting African countries on the path to self-sufficiency¹⁶. For instance, revenues from such natural resources can be directed towards improving social outcomes as well as creating more and better jobs and business opportunities¹⁷.

Further, Africa's natural capital provides opportunities to foster green growth and sustainability. It has been argued that Africa has immense potential to leverage its vast natural capital in pursuit of green growth¹⁸. For example, the continent's abundant renewable energy sources including wind, solar, hydro, and geothermal energy among other renewables are vital in fostering a sustainable energy transition¹⁹. Renewable sources of energy not only foster sustainability by reducing greenhouse gas emissions but also bring economic growth and are therefore key in fostering green growth²⁰. Africa also possesses significant mineral resources that are key to the global transition to a net-zero carbon future²¹. Critical raw materials including copper, lithium, nickel, cobalt and rare earth elements are vital components of many of today's rapidly growing energy technologies including solar panels, wind turbines, electricity networks and electric

¹² African Development Bank Group., 'Natural Capital for Climate Finance and Green Growth in Africa' Op Cit

¹³ United Nations Environment Programme., 'Our work in Africa' Op Cit

¹⁴ Ibid

¹⁵ United Nations Environment Programme., 'Is Africa's Natural Capital the Gateway to Finance Its Development?' Available at <https://www.unep.org/news-and-stories/story/africas-natural-capital-gateway-finance-its-development> (Accessed on 21/10/2025)

¹⁶ African Development Bank Group., 'Delivering on the Promise: Leveraging Natural Resources to Accelerate Human Development in Africa' Available at <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/african-natural-resources-centre/delivering-on-the-promise-leveraging-natural-resources-to-accelerate-human-development-in-africa> (Accessed on 21/10/2025)

¹⁷ Ibid

¹⁸ African Development Bank Group., 'Natural Capital for Climate Finance and Green Growth in Africa' Op Cit

¹⁹ United Nations Development Programme., 'What is the sustainable energy transition and why is it key to tackling climate change?' Available at <https://climatepromise.undp.org/news-and-stories/what-sustainable-energy-transition-and-why-it-key-tackling-climate-change> (Accessed on 21/10/2025)

²⁰ Gorji. A., & Martek. I., 'The Role of Renewable Energy as a 'Green Growth' Strategy for the Built Environment' Available at <https://www.mdpi.com/2075-5309/13/5/1356> (Accessed on 21/10/2025)

²¹ African Development Bank Group., 'Natural Capital for Climate Finance and Green Growth in Africa' Op Cit

vehicles²². Africa has viable deposits of these mineral resources including cobalt, bauxite, nickel, manganese, graphite, chromium and copper²³. The abundance of critical raw materials in Africa places the continent in a strategic position to influence the global net-zero transition towards green growth and sustainability²⁴. It has been argued that due to the availability of critical raw materials in the continent, Africa is at the heart of a low-carbon and climate resilient future²⁵.

Africa's vast arable land also provides opportunities to unlock green growth and sustainability. For example, by embracing sustainable agricultural practices such as organic farming, precision agriculture, and agroforestry, Africa can achieve food security and minimize the environmental impacts of agriculture and food production including biodiversity loss and climate change²⁶. Africa's vast arable land can therefore unlock climate-smart agricultural practices for food security, green growth and sustainability. The rapid pace of urbanization in Africa is also key in ensuring green growth and sustainability through the development of green cities and low-carbon and climate resilient infrastructure²⁷. Further, due to its rich blue economy potential, Africa can also foster green growth and sustainability by strengthening sustainable marine and coastal tourism and fisheries²⁸.

The abundance of natural resources in Africa therefore provides opportunities to foster green growth and sustainability. However, challenges such as deforestation, illegal mining, unregulated fishing, illegal logging and illegal trade in wildlife undermine the potential of Africa's natural capital to unlock green growth and sustainability²⁹. Due to factors such as poor environmental governance, rapid population growth and climate change, Africa's natural resources are being depleted and degraded at an alarming rate³⁰. According to African Union's *Agenda 2063*, Africa's natural resources such as biodiversity, land, water, minerals and forests are

²² International Energy Agency., 'Critical Minerals' Available at <https://www.iea.org/topics/critical-minerals> (Accessed on 21/10/2025)

²³ Mo Ibrahim Foundation., 'Africa's Critical Minerals: Africa at the Heart of a Low-Carbon Future' Available at <https://mo.ibrahim.foundation/sites/default/files/2022-11/minerals-resource-governance.pdf> (Accessed on 21/10/2025)

²⁴ African Development Bank Group., 'Natural Capital for Climate Finance and Green Growth in Africa' Op Cit

²⁵ Mo Ibrahim Foundation., 'Africa's Critical Minerals: Africa at the Heart of a Low-Carbon Future' Op Cit

²⁶ Ibid

²⁷ African Development Bank Group., 'Africa's Green Growth Agenda: Unlocking Opportunities for a Climate-Resilient Future' Available at <https://www.afdb.org/en/news-and-events/press-releases/africas-green-growth-agenda-unlocking-opportunities-climate-resilient-future-81858#:~:text=%E2%80%9CFor%20the%20African%20Development%20Bank,its%20people%20and%20the%20planet.> (Accessed on 21/10/2025)

²⁸ United Nations Environment Programme., 'Africa's green business opportunities are abundant, UNEP study shows' Available at <https://www.unep.org/news-and-stories/press-release/africas-green-business-opportunities-are-abundant-unep-study-shows> (Accessed on 21/10/2025)

²⁹ United Nations Environment Programme., 'Our work in Africa' Op Cit

³⁰ Ibid

facing increasing challenges including biodiversity loss, land degradation, desertification, and deforestation³¹. The extraction of Africa's natural capital including minerals, oil and gas is also associated with resource-based conflicts, environmental degradation and human rights violations³². In light of the foregoing challenges, it is vital to safeguard Africa's natural capital for green growth and sustainability.

3.0 Safeguarding Africa's Natural Capital for Green Growth and Sustainability

Africa's natural capital including arable land, water, minerals, oil and gas, forests and renewable energy provides immense opportunities for green growth and sustainability. However, the continent's natural capital is witnessing mounting challenges including unsustainable resource extraction, deforestation, land degradation, illegal mining, overfishing and the adverse impacts of climate change³³. These challenges are fueling the depletion and degradation of Africa's natural capital undermining green growth and sustainability. Safeguarding Africa's natural capital is therefore a crucial goal in the quest towards sustainability.

In order to protect Africa's natural capital for green growth and sustainability, it is important to embrace sustainable resource extraction. It has been argued that unsustainable resource extraction fuels environmental and social problems including pollution, destruction of ecosystems, environmental degradation, health concerns, human rights violations, climate change, and displacement of indigenous peoples and local communities thus undermining green growth and sustainability³⁴. It is therefore imperative to pursue sustainable resource extraction practices which protect both people and planet. These practices including ensuring energy efficiency, reducing waste by embracing circularity in resource extraction, conserving water, protecting biodiversity and ecosystems during resource extraction and upholding human rights during resource extraction³⁵.

Curbing illegal practices is also key in safeguarding Africa's natural capital for green growth and sustainability. Practices such as deforestation, unregulated fishing, illegal mining, illegal logging, illegal trade in wildlife and corruption are causing Africa to lose a significant share

³¹ Africa Union., 'Agenda 2063' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 21/10/2025)

³² Muigua. K., 'Exploited, Poor and Dehumanised: Overcoming the Resource Curse in Africa.' Available at <https://kmco.co.ke/wp-content/uploads/2020/05/Exploited-Poor-and-Dehumanised.pdf> (Accessed on 21/10/2025)

³³ United Nations Environment Programme., 'Our work in Africa' Op Cit

³⁴ Minimize environmental and social harms in resource extraction., Available at <https://systemschanlab.org/circular-economy/minimize-environmental-and-social-harms-resource-extraction> (Accessed on 21/10/2025)

³⁵ Sammour. J., 'What Exactly is Ethical Mining?.' Available at Available at <https://www.daintylondon.com/blogs/news/what-is-ethical-mining#:~:text=Whether%20mining%20metals%2C%20diamonds%20or,its%20workers%20a%20fair%20wage> (Accessed on 21/10/2025)

of its natural capital undermining development³⁶. It is therefore necessary to combat these practices including through strengthening environmental governance regimes in order to fully harness Africa's natural capital for green growth and sustainability³⁷.

Ensuring equitable sharing of benefits accruing from Africa's natural capital can also accelerate progress towards green growth and sustainability³⁸. It has been argued that natural resources benefit-sharing in Africa has been inequitable where local communities that interface with the resources and who bear the highest costs of overexploitation and conservation being the least beneficiaries³⁹. This affects green growth and sustainability by denying vulnerable populations the much needed revenue that is necessary to advance their progress and development⁴⁰. Ensuring that Africa's natural capital is shared equitably is therefore necessary in fostering green growth and sustainability.

African governments have also been urged to utilise appropriate policy and fiscal instruments to safeguard the continent's natural capital for green growth and sustainability⁴¹. For example, it has been suggested that green fiscal policies such as environmental taxes, royalties and fees, can help reduce some of the negative environmental and social impacts associated with extraction of resources and create incentives for sustainable resource extraction⁴². Further, policies to increase local content and value addition to natural resources and utilization along value chains, and in-country value creation and retention can ensure that Africa effectively harnesses its natural capital for green growth and sustainability⁴³. Putting in place effective fiscal and policy instruments is therefore vital towards safeguarding Africa's natural capital for green growth and sustainability.

4.0 Conclusion

Africa's natural capital provides immense opportunities to unlock green growth and sustainability. However, in light of mounting threats, it is imperative to safeguard the continent's natural capital in order to achieve green growth and sustainability. This can be realised through sustainable resource extraction, curbing illegal and destructive practices that degrade and deplete

³⁶ United Nations Environment Programme., 'Our work in Africa' Op Cit

³⁷ Ibid

³⁸ Kenya Wildlife Conservancies Association., 'Factsheet: Natural Resources (Benefit Sharing) Bill 2022.' Available at <https://kwakenya.com/download/factsheet-natural-resources-benefit-sharing-bill-2022/> (Accessed on 21/10/2025)

³⁹ Ibid

⁴⁰ Ibid

⁴¹ African Development Bank Group., 'Natural Capital for Climate Finance and Green Growth in Africa' Op Cit

⁴² United Nations Environment Programme., 'Supporting sustainable resource extraction and green investment' Available at <https://www.unep.org/explore-topics/green-economy/what-we-do/economic-and-fiscal-policy/fiscal-policy/policy-analysis-5> (Accessed on 21/10/2025)

⁴³ African Development Bank Group., 'Natural Capital for Climate Finance and Green Growth in Africa' Op Cit

the continent's natural resources, strengthening environmental governance, ensuring equitable benefit-sharing of Africa's natural capital and utilising appropriate policy and fiscal instruments to safeguard and harness Africa's natural resources⁴⁴. Safeguarding Africa's natural capital is a necessary and achievable imperative that should be pursued towards green growth and sustainability.

⁴⁴ African Development Bank Group., 'Natural Capital for Climate Finance and Green Growth in Africa' Op Cit

PART VI – WATER, LAND, AND FOOD SECURITY

Addresses the governance of essential resources that sustain life and livelihoods. It proposes integrated legal and policy frameworks that uphold the right to clean water, healthy land, and sustainable food systems.

Effective Water Governance in Africa: Prioritizing the Right to a Clean and Healthy Environment

Abstract

This paper critically examines the need for effective water governance in Africa. The paper posits that Africa is endowed with water resources including freshwater ecosystems and marine water resources. Despite the huge availability of water in the continent, the paper posits that Africa is yet to fully harness its water resources to spur Sustainable Development. The paper argues that poor governance of water in Africa is fuelling water scarcity, water pollution, water disputes and degradation of water ecosystems with severe consequences for Sustainable Development. Consequently, the paper asserts that effective governance of water in Africa is key in realising the right to a clean and healthy environment for Sustainable Development. It proposes ways through which the ideal of effective water governance can be attained in Africa for posterity.

1.0 Introduction

Water is a vital natural resource which is at the heart of Sustainable Development. For example, water is crucial for socio-economic development, energy and food production, healthy ecosystems and for human health, well-being and survival¹. Further, it has been argued that safe and readily available water in adequate quantities is important for public health, whether it is used for drinking, domestic use, food production or recreational purposes². Water is necessary for Sustainable Development since it offers benefits for climate adaptation, biodiversity, ecosystem services, economic growth and human health³. According to the United Nations, water is essential not only to health, but also to poverty reduction, food security, peace and human rights, ecosystems and education⁴. Ensuring access to clean and safe water is therefore necessary in unlocking Sustainable Development.

Despite its important role in promoting Sustainable Development, the global community is facing growing challenges linked to water scarcity, water pollution, degradation of freshwater ecosystems and cooperation over transboundary water resources⁵. The demand for water is rising

¹ United Nations., 'Water' Available at <https://www.un.org/en/global-issues/water#:~:text=The%20UN%20and%20Water,human%2C%20commercial%20and%20agricultural%20needs> (Accessed on 21/10/2025)

² World Health Organization., 'Water' Available at <https://www.afro.who.int/health-topics/water#:~:text=Inadequate%20management%20of%20urban%2C%20industrial,dangerously%20contaminated%20or%20chemically%20polluted> (Accessed on 21/10/2025)

³ Stockholm International Water Institute., 'Why Water is Crucial to Climate Mitigation' Available at <https://siwi.org/latest/why-water-is-crucial-to-climate-mitigation/#:~:text=Protecting%20and%20restoring%20freshwater%20ecosystems,protecting%20us%20from%20disaster%20risks> (Accessed on 21/10/2025)

⁴ United Nations., 'Goal 6: Ensure access to water and sanitation for all' Available at <https://www.un.org/sustainabledevelopment/water-and-sanitation/> (Accessed on 21/10/2025)

⁵ Ibid

all over the world due to rapid population growth, urbanization and increasing water needs from agriculture, industry, and energy sectors putting a lot of pressure on available water resources⁶. In light of these challenges, effective governance of water has become crucial in ensuring the availability, accessibility and safety of water for Sustainable Development.

This paper critically examines the need for effective water governance in Africa. The paper posits that Africa is endowed with water resources including freshwater ecosystems and marine water resources. Despite the huge availability of water in the continent, the paper posits that Africa is yet to fully harness its water resources to spur Sustainable Development. The paper argues that poor governance of water in Africa is fueling water scarcity, water pollution, water disputes and degradation of water ecosystems with severe consequences for Sustainable Development. Consequently, the paper asserts that effective governance of water in Africa is key in realising the right to a clean and healthy environment for Sustainable Development. It proposes ways through which the ideal of effective water governance can be attained in Africa for posterity.

2.0 Water Governance in Africa: Promises and Pitfalls

Africa is endowed with water. For example, Africa is home to some of the largest and longest rivers in the world including the Nile and the Congo⁷. In addition, the African Great Lakes region is one of the most unique places and features of the world and holds nearly one-third of the world's fresh surface water covering over 850,000 square kilometers across 11 countries⁸. This region is home to major freshwater lakes including Lake Albert, Lake Edward, Lake Kivu, Lake Malawi/Nyasa, Lake Tanganyika, Lake Turkana, and Lake Victoria which support key economic activities including agriculture, tourism, fisheries and aquaculture⁹. African Union's *Agenda 2063*¹⁰ acknowledges that Africa has huge fresh water resources including large rivers and lakes such as Rivers Congo, Nile, Zambezi and Niger and Lakes Victoria, Tanganyika, Turkana and Malawi/Nyasa¹¹.

In addition to its freshwater resources, Africa is also surrounded by some of the world's most important oceans and seas including the Atlantic and Indian oceans and the Mediterranean and Red seas in addition to their marine biodiversity, strategic maritime trade routes, abundant aquatic resources and blue carbon assets providing immense opportunities to foster development

⁶ Ibid

⁷ African Development Bank Group., 'African Natural Resources Center' Available at https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/anrc/AfDB_ANRC_BROCHURE_en.pdf (Accessed on 22/10/2025)

⁸ Great Lakes of Africa., Available at <https://www.greatlakesofafrica.org/> (Accessed on 22/10/2025)

⁹ Ibid

¹⁰ African Union., 'Agenda 2063: The Africa we Want' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (22/10/2025)

¹¹ Ibid

in the continent¹². It has been pointed out that with the Mediterranean Sea and the Red Sea to the North, the Atlantic Ocean to the West, and the Indian Ocean to the East, Africa boasts a vast shoreline with myriad coastal and marine ecosystems and biodiversity¹³. It has been argued that Africa's oceans and seas and their ecosystems and biodiversity provide the continent's coastal countries and communities with immense opportunities including food, livelihoods, and economic opportunities in key sectors such as fisheries and tourism while protecting against adverse climatic events including storm surges, flooding, coastal erosion and sea-level rise¹⁴.

Africa is therefore endowed with water resources which can unlock socio-economic development in the continent. However, the continent faces several challenges in its water sector undermining development. For example, due to uneven distribution of water resources in the continent, millions of Africans lack access to adequate and safe drinking water¹⁵. Most of the continent's freshwater resources are held by a few countries with most countries in the continent facing severe levels of water poverty¹⁶. It has been pointed out that Africa is grappling with a severe water crisis, leaving millions without access to clean drinking water and basic sanitation¹⁷. It is estimated that 1 in 3 people in Africa lack access to safe, clean and adequate drinking water¹⁸.

The problem of water scarcity in Africa has been attributed to human-induced and environmental factors including poor governance of water in the continent¹⁹. For example, rapid population growth, urbanization and economic development has increased the demand for water in Africa leading to overexploitation of the continent's water resources²⁰. Rising population growth in Africa is triggering more demand for food, a faster rate of urbanisation and a rise in industrial activities all which require abundant supply of water²¹. Pollution is also a major threat to water resources in Africa with severe impacts on human and ecosystem health. Africa's water resources

¹² 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 22/10/2025)

¹³ World Bank Group., 'Blue Economy in Africa: a Synthesis' Available at <https://thedocs.worldbank.org/en/doc/213a25f8770328e39b2ef15e7104a136-0320012022/original/Overview.pdf> (Accessed on 22/10/2025)

¹⁴ Ibid

¹⁵ Nkatha. K., 'Water woes: 13 undeniable facts about Africa's water scarcity' Available at <https://www.greenpeace.org/africa/en/blog/55086/water-woes-13-undeniable-facts-about-africas-water-scarcity/> (Accessed on 22/10/2025)

¹⁶ Ibid

¹⁷ Lai. C., 'Water Scarcity in Africa: Causes, Effects, and Solutions' Available at <https://earth.org/water-scarcity-in-africa/> (Accessed on 22/10/2025)

¹⁸ Ibid

¹⁹ Nkatha. K., 'Water woes: 13 undeniable facts about Africa's water scarcity' Op Cit

²⁰ World Bank Group., 'African water resources : challenges and opportunities for sustainable development' Available at <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/8671614687675673> (Accessed on 22/10/2025)

²¹ Lai. C., 'Water Scarcity in Africa: Causes, Effects, and Solutions' Op Cit

including rivers, lakes and oceans are being polluted through plastic waste, industrial waste including untreated sewage, and fertilisers and pesticides used in agricultural activities²². Pollution of water resources threatens ecosystem health while also exposing human beings to water-borne diseases including diarrhoea, typhoid, cholera, and dysentery²³.

Climate change is also fueling water scarcity in Africa with severe consequences for people and planet. Despite its low contribution to greenhouse gas emissions, Africa remains the most vulnerable continent in the world to the impacts of climate change²⁴. It has been argued that climate change is altering temperature and precipitation patterns across Africa leading to unpredictable rainfall patterns and more frequent and severe droughts affecting water security in the continent²⁵. Further, adverse climatic events including extreme floods also pose a threat to water supply in Africa by causing infrastructural damage, increasing pollution of water sources, and damaging drainage systems²⁶.

Further, Africa is also witnessing an alarming rate of deforestation which impacts water availability and security in the continent. Africa has the highest global net loss of forests²⁷. It is estimated that nearly 4 million hectares of African forests are being cut down each year, which is almost double the speed of the world's deforestation rate²⁸. It has been argued that deforestation disrupts the role of forests as natural water regulators, leading to water scarcity²⁹. In addition, deforestation causes erratic rainfall patterns and increased floods and droughts affecting water security³⁰.

From the foregoing, it is evident that Africa faces several challenges in its water sector. These challenges affect the continent's development agenda with severe consequences for vulnerable populations. For instance, in rural areas where agriculture sustains many livelihoods, water scarcity can impact food production fueling food insecurity and poverty³¹. In addition, human

²² Nkatha. K., 'Water woes: 13 undeniable facts about Africa's water scarcity' Op Cit

²³ Ibid

²⁴ African Development Bank Group., 'Climate Change in Africa' Available at <https://www.afdb.org/en/cop25/climate-change-africa#:~:text=Africa%2C%20despite%20its%20low%20contribution,losses%20and%20increased%20food%20insecurity>. (Accessed on 22/10/2025)

²⁵ Ibid

²⁶ Nkatha. K., 'Water woes: 13 undeniable facts about Africa's water scarcity' Op Cit

²⁷ Igin. M., 'Deforestation in Africa: Causes, Effects, and Solutions' Available at <https://earth.org/deforestation-in-africa/> (Accessed on 22/10/2025)

²⁸ Ibid

²⁹ Nkatha. K., 'Water woes: 13 undeniable facts about Africa's water scarcity' Op Cit

³⁰ Ibid

³¹ African Development Bank Group., 'World Water Day 2023: Accelerating Change in solving Africa's Water and Sanitation Crises' Available at <https://www.afdb.org/en/news-and-events/world-water-day-2023-accelerating-change-solving-africas-water-and-sanitation-crises-59935#:~:text=22%2DMar%2D2023,associations%2C%20and%20global%20development%20partners>. (Accessed on 22/10/2025)

health is severely impacted, with waterborne diseases causing millions of deaths each year³². Poor governance of water in Africa also worsens gender inequality. For example, the responsibility to collect water in many rural households in Africa falls on women and girls³³. Therefore, when water becomes scarce or unavailable, they are forced to spend more time and energy in search of water reducing educational opportunities for girls, and the chance for women to pursue other income generating activities³⁴. Water scarcity and poor governance of water in Africa also causes water conflicts which threaten human life and livelihoods³⁵. In light of these concerns, it is necessary to ensure effective governance of water in Africa for Sustainable Development.

3.0 Towards Effective Water Governance in Africa

There is need to strengthen water governance in Africa. Human-induced and environmental factors including rapid population growth, urbanization, pollution, industrialization, deforestation, conflicts and climate change are fuelling water scarcity and insecurity with severe consequences for vulnerable populations in the continent³⁶. Consequently, effective water governance in Africa is crucial in realising the human right to clean water and sanitation for Sustainable Development.

In order to ensure effective water governance in Africa, it is imperative to utilise collaborative efforts that involve all stakeholders including local communities, governments and the private sector³⁷. For example, local communities can play a key role in effective water governance including through adopting drought-resistant crops which utilise little water, embracing conservation and regeneration agriculture to aid in infiltration and soil moisture retention, and embracing sustainable land and water management³⁸. Governments can also play a key role towards effective water governance through putting in place sound legal, policy and institutional frameworks³⁹. Further, the private sector can ensure effective water governance by unlocking financing required for water supply, conservation and restoration initiatives⁴⁰. Fostering collaborative approaches involving local communities, governments and the private sector is therefore key in ensuring effective water governance in Africa.

³² Ibid

³³ Nkatha. K., 'Water woes: 13 undeniable facts about Africa's water scarcity' Op Cit

³⁴ Ibid

³⁵ Unraveling the spatial patterns of water conflicts in Africa through a multi-scale lens., Available at <https://www.cgiar.org/research/publication/unraveling-spatial-patterns-water-conflicts-africa-multi-scale-lens/> (Accessed on 22/10/2025)

³⁶ Nkatha. K., 'Water woes: 13 undeniable facts about Africa's water scarcity' Op Cit

³⁷ Lai. C., 'Water Scarcity in Africa: Causes, Effects, and Solutions' Op Cit

³⁸ Ibid

³⁹ Ibid

⁴⁰ Ibid

Effective water governance in Africa can also be realised through Integrated Water Resources Management (IWRM) approach⁴¹. The concept of IWRM promotes the coordinated development and management of water, land and related resources to maximize economic and social welfare in an equitable manner, without compromising the sustainability of vital ecosystems⁴². IWRM has been hailed as an effective approach that can strengthen efforts towards conserving water resources, while also ensuring democratic participation in water governance for a clean and healthy environment, human health and well-being and economic growth⁴³. Through this approach, it is possible to achieve efficiency in governance of water resources, equity in the allocation of water, and environmental sustainability by protecting water resources and ecosystems from degradation, pollution and climate change⁴⁴. Adopting the IWRM approach is therefore necessary for effective water governance in Africa.

There is also need to ensure collaboration and cooperation in management of transboundary water resources in Africa. It has been observed that nearly 90 per cent of Africa's surface water resources cross at least one national boundary, underlining the urgent need for collaborative water management⁴⁵. Lack of cooperation in the management cross-border water resources in Africa often leads to transboundary pollution, degradation of water resources, overexploitation by upstream states leading to water scarcity in downstream states, and water conflicts involving states and communities across states⁴⁶. Consequently, cooperative arrangements between and among states are important in addressing threats to transboundary water resources in Africa while also mitigating the risk of conflicts⁴⁷.

4.0 Conclusion

Water is a precious resource that can unlock Sustainable Development in Africa. However, due to poor governance, Africa is facing many challenges including pollution, overexploitation, deforestation and climate change which lead to water scarcity and degradation of water resources with severe impacts on human and ecosystem health⁴⁸. It is therefore necessary to prioritise the right to a clean and healthy environment by strengthening water governance in Africa. Through collaborative approaches that involve all stakeholders, embracing IWRM and fostering

⁴¹ Africa Water Vision for 2025., Available at <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/african%20water%20vision%202025%20to%20be%20sent%20to%20wwf5.pdf> (Accessed on 22/10/2025)

⁴² United Nation's Environment Programme., 'Integrated Water Resources Management' Available at <https://www.unep.org/topics/fresh-water/water-resources-management/integrated-water-resources-management> (Accessed on 22/10/2025)

⁴³ Ibid

⁴⁴ Ibid

⁴⁵ Africa's Transboundary Water Resources., Available at <https://www.au-pida.org/water-sector-2/> (Accessed on 22/10/2025)

⁴⁶ Ibid

⁴⁷ Ibid

⁴⁸ Lai. C., 'Water Scarcity in Africa: Causes, Effects, and Solutions' Op Cit

cooperation in managing transboundary water resources, it is possible to tackle threats such as pollution, deforestation, degradation of water resources and ecosystems, climate change and conflicts thus fostering the right to a clean and healthy environment while also ensuring water security⁴⁹. Pursuing effective water governance in Africa is therefore a practical endeavour that should be encouraged towards attaining water security and the right to a clean, healthy and sustainable environment.

⁴⁹ Ibid

Smart Farming for Food Security: Enhancing Agri-Technology in Africa for Efficiency and Sustainability

Abstract

This paper discusses how Africa can achieve food security by enhancing agri-technology. The paper argues that the ideal of food security is yet to be realized in Africa undermining the continent's development efforts. Consequently, the paper posits that agri-technology is an efficient, smart, sustainable and resilient approach that can enhance food security in Africa for Sustainable Development. The paper defines agri-technology and examines how this idea can strengthen food security in Africa. It also discusses the progress made towards embracing agri-technology in Africa and challenges thereof. In addition, the paper suggests interventions towards enhancing agri-technology in Africa for efficiency and sustainability.

1.0 Introduction

The ideal of food security exists when every person has access to enough safe and nutritious food for normal growth and development, and an active and healthy life¹. Further, it has been pointed out that food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life². The state of food security involves several dimensions including availability of sufficient quantities of food of appropriate quality³; access by individuals to adequate resources for acquiring appropriate foods for a nutritious diet⁴; utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met⁵; and stability of food supply at all times⁶.

It has been argued that food security is a key determinant for the realization of the human right to food towards Sustainable Development⁷. Achieving the human right to food is a critical part

¹ World Food Programme., 'Food security - what it means and why it matters' Available at <https://www.wfp.org/stories/food-security-what-it-means-and-why-it-matters#:~:text=Jean%20Baptiste%20Joire-What%20is%20food%20security?,threatens%20people's%20lives%20or%20livelihoods>. (Accessed on 21/09/2025)

² World Bank Group., 'What is Food Security?' <https://www.worldbank.org/en/topic/agriculture/brief/food-security-update/what-is-food-security> (Accessed on 21/09/2025)

³ Food and Agriculture Organization of the United Nations., 'Food Security' Available at https://www.fao.org/fileadmin/templates/faitaly/documents/pdf/pdf_Food_Security_Cocept_Note.pdf (Accessed on 21/09/2025)

⁴ Ibid

⁵ Ibid

⁶ Ibid

⁷ Muigua. K., 'Achieving the Right to Food for Sustainable Development in Kenya.' Available at <https://kmco.co.ke/wp-content/uploads/2018/08/Achieving-the-Right-to-Food-for-Sustainable-Development-in-Kenya-Presentation-African-Population-and-Health-Research-Center-APHRC-Campus-24th-July-2018.pdf> (Accessed on 21/09/2025)

of health, development and the well-being of all individuals⁸. For example, better nutrition is related to improved infant, child and maternal health, stronger immune systems, safer pregnancy and childbirth, lower risk of non-communicable diseases including diabetes and cardiovascular disease and longevity⁹. It has been correctly noted that the food we take provides nutrients that are essential for the growth, development and maintenance of body functions¹⁰. Achieving food security is therefore key for human health, well-being and progress towards Sustainable Development. The United Nation's *2030 Agenda for Sustainable Development* envisions a world where food is sufficient, safe, affordable and nutritious¹¹. Sustainable Development Goal (SDG) 2 seeks to end hunger, achieve food security, and improved nutrition and promote sustainable agriculture¹².

Despite being a key ideal globally, realising food security remains a challenge in most countries. Millions of people globally are experiencing acute levels of food insecurity¹³. According to the Food and Agriculture Organization of the United Nations (FAO), achieving food security remains a challenge globally with millions of people facing food insecurity, hunger and malnutrition especially in developing countries¹⁴. This challenge is affecting millions of people especially in rural areas, where extreme poverty and food insecurity remain deeply entrenched¹⁵. It has been pointed out that vulnerable populations, particularly women, youth and indigenous peoples, are disproportionately affected by food insecurity¹⁶. In light of the foregoing, it has become necessary to promote smart, sustainable, efficient and resilient production of food to meet the nutritional requirements of local and global populations¹⁷.

This paper discusses how Africa can achieve food security by enhancing agri-technology. The paper argues that the ideal of food security is yet to be realized in Africa undermining the continent's development efforts. Consequently, the paper posits that agri-technology is an

⁸ World Health Organization., 'Nutrition' Available at https://www.who.int/health-topics/nutrition#tab=tab_1 (Accessed on 21/09/2025)

⁹ Ibid

¹⁰ How Does Food Impact Health?., Available at <https://www.takingcharge.csh.umn.edu/how-does-food-impact-health> (Accessed on 21/09/2025)

¹¹ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 21/09/2025)

¹² Ibid, Sustainable Development Goal 2

¹³ World Food Programme., 'Food security – what it means and why it matters' Op Cit

¹⁴ Food and Agriculture Organization of the United Nations., 'The State of Food Security and Nutrition in the World 2024- 2024 – Financing to end hunger, food insecurity and malnutrition in all its forms' Available at <https://openknowledge.fao.org/server/api/core/bitstreams/d5be2ffc-f191-411c-9fee-bb737411576d/content> (Accessed on 21/09/2025)

¹⁵ Ibid

¹⁶ Ibid

¹⁷ Benton. T. G., 'Food Security.' *Encyclopedia of Applied Sciences.*, Volume 2, 2nd Edition., (2017), pp 19-22

efficient, smart, sustainable and resilient approach that can enhance food security in Africa for Sustainable Development. The paper defines agri-technology and examines how this idea can strengthen food security in Africa. It also discusses the progress made towards embracing agri-technology in Africa and challenges thereof. In addition, the paper suggests interventions towards enhancing agri-technology in Africa for efficiency and sustainability.

2.0 Food Security in Africa: Opportunities and Challenges

Achieving food security is a crucial agenda for Africa. According to the African Union, food security and human development are inextricably linked in Africa¹⁸. For example, food security ensures productivity, nutrition, resilience and empowerment for the people of Africa towards human progress and development¹⁹. It has been argued that realising food security is a core component of human development and progress in Africa since food access and entitlements are critical for reinforcing essential human capabilities²⁰. By achieving food security, it is possible to ensure that the people of Africa are well-nourished and are able to exercise their freedoms and capabilities in different domains, which is at the core of human development²¹. The demand for food in Africa is increasing, driven by a range of population and demographic changes including population growth, changes in population structure, consumption growth, and urbanization²². As a result, it has been argued that achieving food security in Africa and globally requires more than simply increasing yields, but also demands changes in farming systems to promote the sustainable, and resilient production of food to meet the nutritional requirements of local and global populations²³.

Africa has numerous opportunities to achieve food security. For example, the continent holds approximately 60 per cent of the world's potential land for agricultural expansion²⁴. Africa's vast arable and uncultivated land provides immense opportunities for agricultural expansion and food production²⁵. In addition, the abundance of freshwater sources in Africa including major rivers and lakes can support agriculture and food production including through irrigation

¹⁸ African Union., 'Food Security' Available at <https://au.int/en/auc/priorities/food-security> (Accessed on 22/07/2025)

¹⁹ Ibid

²⁰ Conceicao. P et al., 'Toward a food secure future: Ensuring food security for sustainable human development in Sub-Saharan Africa' Available at <https://www.sciencedirect.com/science/article/pii/S030691921600021X> (Accessed on 22/09/2025)

²¹ Ibid

²² Benton. T. G., 'Food Security.' Op Cit

²³ Ibid

²⁴ Food security in Africa: Current efforts and challenges., Available at <https://www.brookings.edu/articles/food-security-strengthening-africas-food-systems/> (Accessed on 22/09/2025)

²⁵ African Development Bank Group., 'Feed Africa' Available at https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Brochure_Feed_Africa_-En.pdf (Accessed on 22/09/2025)

towards achieving food security in the continent²⁶. Further, it has been argued that improvements in democracy and political stability in most African countries have enhanced the prospects for renewed food production, distribution and purchase²⁷. This has enabled free and open markets and private investments in food production²⁸. Further, the abundance of renewable sources of energy in Africa including solar and wind energy provides opportunities to foster food security through clean energy for cooking, powering food production systems, reducing post-harvest losses, and enhancing market access for smallholder farmers²⁹.

Despite having immense potential to achieve food security, attaining this ideal remains a challenge in Africa. It has been pointed out that Africa is not on track to meet the food security and nutrition targets stipulated under SDG 2 with millions of people in the continent suffering from moderate to severe levels of food insecurity, hunger and undernourishment³⁰. It is estimated that nearly one in five people living in Africa is hungry³¹. Africa has therefore been classified as the most food-insecure region in the world³². Food insecurity in Africa is driven by several challenges including extreme weather events and climate change, recurrent outbreaks of pests and diseases, limited availability and adoption of yield-increasing technologies and conflicts³³. Further, it has been argued that food insecurity in Africa is caused by a variety of interlinked challenges including instability and related population displacements, the impact of weather extremes including climate change, disrupted food systems, limited food production, barriers to regional trade and poor policy choices³⁴. Food insecurity undermines the productivity, resilience and health of the people of Africa³⁵. Consequently, it is imperative for Africa to build resilient, efficient, smart and sustainable food systems in order to achieve food security.

²⁶ Ibid

²⁷ Food and Agriculture Organization of the United Nations., 'Knowledge and Information for Food Security in Africa' Available at <https://www.fao.org/4/w9290e/w9290e01.htm> (Accessed on 22/09/2025)

²⁸ Ibid

²⁹ He. J et al., 'Green economic growth, renewable energy and food security in Sub-Saharan Africa' *Energy Strategy Reviews.*, Volume 55, September 2024

³⁰ Food and Agriculture Organization of the United Nations., 'Africa Regional Overview of Food Security and Nutrition' Available at <https://openknowledge.fao.org/server/api/core/bitstreams/c6c81d5f-e337-4b3e-8330-555c9ed0e741/content> (Accessed on 22/09/2025)

³¹ AUDA-NEPAD., 'Ending hunger in Africa: The elimination of hunger and food insecurity on the African by 2025: Conditions for success' Available at <https://www.nepad.org/caadp/publication/ending-hunger-africa-elimination-of-hunger-and-food-insecurity-african-2025> (Accessed on 22/09/2025)

³² World Vision., 'Africa hunger crisis: Facts, FAQs, and how to help' Available at <https://www.worldvision.org/hunger-news-stories/africa-hunger-famine-facts> (Accessed on 22/09/2025)

³³ Food security in Africa: Current efforts and challenges., Op Cit

³⁴ World Bank Group., 'Enhancing Food and Nutrition Security in the Sahel and Horn of Africa' Available at <https://www.worldbank.org/en/results/2024/01/04/enhancing-food-and-nutrition-security-in-the-sahel-and-horn-of-afe-africa> (Accessed on 22/09/2025)

³⁵ African Union., 'Food Security' Op Cit

3.0 Enhancing Agri-Technology in Africa for Efficiency and Sustainability

With Africa facing food security challenges, agriculture provides a viable pathway towards reversing this trend. Agriculture is one of the most important economic activities in Africa³⁶. It is a vital sector that promotes food security, provides jobs for millions of people in Africa and contributes significantly to the continent's economic growth³⁷. It is estimated that agriculture accounts for nearly 17 percent of Africa's economic output while generating livelihoods for over 70 percent of households all over Africa³⁸. Therefore, leveraging Africa's vast expanses of fertile, uncultivated land can strengthen food systems towards enhancing food security, reducing hunger and improving human well-being and economic growth all over the continent³⁹. It has been argued that Africa has numerous favourable factors that strengthen agriculture including vast arable and uncultivated land, abundance of freshwater, plenty of sunshine throughout the year, fertile soils and a huge working population engaged in the agricultural sector⁴⁰.

Despite its huge agricultural potential, Africa has yet to fully harness the agricultural sector to ensure food security. The continent's agricultural sector faces mounting challenges and vulnerabilities that hinder attainment of food security. For example, Africa is heavily reliant on rain-fed agriculture and as a result, extreme weather events including droughts undermine its capacity to produce food fuelling food insecurities and exposing millions of people to hunger⁴¹. In addition, climate change impacts agricultural productivity and food security in Africa by turning areas once perfectly suitable for agriculture production into deserts and modifying rain patterns, increasing uncertainty and reducing yields⁴². Further, it has been argued that high prices for imported foods and essential inputs, such as fertilisers, affect agricultural productivity in Africa⁴³. It has also been pointed out that poor agricultural practices such as overgrazing, mono-cropping, continuous cropping, frequent rangeland burning, and over-use or clearance of woodlands and forests are prevalent in Africa⁴⁴. These practices have adverse environmental

³⁶ African Development Bank Group., 'Agriculture and agro-industries' Available at <https://www.afdb.org/en/topics-and-sectors/sectors/agriculture-agro-industries#:~:text=Agriculture%20is%20a%20major%20source,Read%20more> (Accessed on 22/09/2025)

³⁷ African Development Bank Group., 'Feed Africa' Available at https://www.afdb.org/sites/default/files/news_documents/ader_2024_-_chapter_2_en.pdf (Accessed on 22/09/2025)

³⁸ Ibid

³⁹ Ibid

⁴⁰ Ibid

⁴¹ Kemoe. L et al., 'How Africa Can Escape Chronic Food Insecurity Amid Climate Change' Available at <https://www.imf.org/en/Blogs/Articles/2022/09/14/how-africa-can-escape-chronic-food-insecurity-amid-climate-change> (Accessed on 22/09/2025)

⁴² Mendez-Parra. M., & Ayele. Y., 'How African Integration Can Help Achieve Food Security.' Available at <https://odi.org/en/insights/how-african-integration-can-help-to-achieve-food-security/> (Accessed on 22/09/2025)

⁴³ African Development Bank Group., 'Feed Africa' Op Cit

⁴⁴ Woodfine. A., 'Using Sustainable Land Management Practices to Adapt to and Mitigate Climate Change in Sub-Saharan Africa' Available at

impacts including loss of soil and other natural resources, land degradation, changes in natural habitats and ecosystems, reduced ecosystem services such as water infiltration, loss of agro-biodiversity and wild biodiversity as well as decrease in land productivity leading to poor harvests, food shortages and food insecurity⁴⁵. Further, limited availability and adoption of yield-increasing technologies—have exposed fragilities of Africa's agricultural systems, undermining the ability to meet the food demand of its rising population⁴⁶.

In light of the foregoing challenges, it has become increasingly vital to strengthen the agricultural sector in Africa by making it more smart, resilient, efficient and sustainable towards achieving food security. In order to achieve this goal, there is need for a large-scale dissemination of productivity-increasing technology in the agricultural sector in Africa⁴⁷. It has been argued that farmers need support for the adoption of modern technologies in order to ensure resilient and sustainable agriculture and food systems⁴⁸. Technology is therefore key in enhancing agricultural productivity and food security in Africa.

The adoption and use of technology to boost productivity, efficiency and sustainability in agriculture has been termed as agri-technology⁴⁹. It has been argued that the application of technology has the capacity to transform agriculture and address some of the key obstacles facing food security in Africa⁵⁰. Agri-technology provides effective approaches towards increasing farm productivity, ensuring food security and tackling poverty⁵¹. By embracing technology, it is possible to boost food security by increasing yields, reducing agricultural exposure to environmental shocks including droughts and floods, producing more nutritious crops, reducing human labour requirements, and promoting long-term sustainability and stability of agriculture and food production⁵². Advances in technology have led to the emergence of agri-technologies including robots, temperature and moisture sensors and aerial imaging among others⁵³. These

https://www.ipcinfo.org/fileadmin/user_upload/terrafrica/docs/SLM_SUB-SAHARAN_AFRICA.pdf
(Accessed on 22/09/2025)

⁴⁵ Ibid

⁴⁶ Food security in Africa: Current efforts and challenges., Op Cit

⁴⁷ African Development Bank Group., 'Bank Group vision in agriculture' Available at <https://www.afdb.org/en/topics-and-sectors/sectors/agriculture-agro-industries/bank-group-vision>
(Accessed on 22/09/2025)

⁴⁸ African Development Bank Group., 'Feed Africa' Op Cit

⁴⁹ Food and Agriculture Organization of the United Nations., 'Agricultural technology ecosystems in East Africa: Taking stock in Kenya, Rwanda and Uganda' Available at <https://openknowledge.fao.org/server/api/core/bitstreams/96eab0b4-bb4a-44ac-a067-1c6b2b5e5498/content> (Accessed on 22/09/2025)

⁵⁰ Ibid

⁵¹ Ruzzante. S., 'Adoption of Agricultural Technology in the Developing World: A Meta-Analysis of the Empirical Literature' *World Development.*, Volume 146, October 2021

⁵² Ibid

⁵³ Agriculture Technology., Available at <https://www.nifa.usda.gov/topics/agriculture-technology>
(Accessed on 22/09/2025)

technologies are enhancing efficiency and sustainability in agricultural production enabling farmers and businesses to be more profitable, safer, resilient and environmental-friendly⁵⁴.

Agri-technology can therefore transform the agricultural sector in Africa by ensuring smart farming systems for efficiency and sustainability. For example, robotic technologies enable more reliable monitoring and management of natural resources including air, water and soil thus improving yields and reducing the environmental impacts of agriculture⁵⁵. Further, by applying agri-technology, it is possible to reduce the use of water, fertilizer, and pesticides, thus reducing the prices of food⁵⁶. In addition, embracing indigenous agri-technologies including crop rotation, agroforestry, use of drought- and heat-resistant crops, integrated pest control systems, water harvesting and irrigation can foster high-yielding, climate resilient, and adaptive agricultural practices in Africa⁵⁷. Further, agri-technologies can mechanize food production thus ensuring safety while also boosting food production⁵⁸.

Adopting agri-technology is therefore a viable option towards boosting agricultural productivity and food security in Africa. However, inadequate investments undermine the ability of Africa to utilise agri-technology for food security⁵⁹. Further, since most agricultural production in Africa occurs at small-scale levels, most farmers lack adequate resources and capacity to adopt agri-technology⁶⁰. Insufficient policy and regulatory environments also hinder the adoption of agri-technology through measures such as technology development and transfer⁶¹. In light of these challenges, it is imperative to enhance agri-technology in Africa for efficiency and sustainability.

4.0 Conclusion

The agricultural sector in Africa provides immense opportunities to achieve food security in Africa. However, several challenges including heavy reliance on rain-fed agriculture, adverse climatic events, poor storage and transportation of food, poor agricultural practices and inadequate adoption of technology undermine the potential of the agricultural sector in Africa⁶². Technology therefore provides an opportunity to make the agricultural sector more smart, efficient and sustainable. Agri-technology has the capacity to increase agricultural yields, reduce agricultural exposure to environmental shocks including droughts and floods, produce more

⁵⁴ Ibid

⁵⁵ Ibid

⁵⁶ Ibid

⁵⁷ 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-systemsinafrica/> (Accessed on 22/09/2025)

⁵⁸ Ruzzante, S., 'Adoption of Agricultural Technology in the Developing World: A Meta-Analysis of the Empirical Literature' Op Cit

⁵⁹ African Development Bank Group., 'Feed Africa' Op Cit

⁶⁰ Ibid

⁶¹ Agricultural Technology in Africa., Available at https://voxdev.org/sites/default/files/2024-04/Agricultural_Technology_Africa_Issue_1.pdf (Accessed on 22/09/2025)

⁶² African Development Bank Group., 'Feed Africa' Op Cit

nutritious crops, reduce human labour requirements, and promote long-term sustainability and stability of agriculture and food production⁶³. It is therefore important to strengthen public and private investments in agri-technology including research and development for agricultural technologies in order to fully harness agri-technology in Africa⁶⁴. Further, it is imperative to support farmers including small-scale farmers through access to technology and training and capacity building on agri-technology in order to enable them embrace technology for enhanced agricultural production⁶⁵. In addition, there is need for African countries to put in place appropriate legal, policy and institutional frameworks that can enhance the adoption of agri-technology⁶⁶. Africa should also harness global and continental opportunities in agri-technology including through boosting intra-African trade in food under the African Continental Free Trade Area (AfCFTA) towards achieving regional food security⁶⁷.

Enhancing agri-technology in Africa for efficiency and sustainability is thus a viable and practical solution that can strengthen smart farming for food security.

⁶³ Ruzzante. S., 'Adoption of Agricultural Technology in the Developing World: A Meta-Analysis of the Empirical Literature' Op Cit

⁶⁴ Agricultural Technology in Africa., Op Cit

⁶⁵ African Development Bank Group., 'Feed Africa' Op Cit

⁶⁶ Ibid

⁶⁷ Badiane. O., '2022, A Year of Crisis: What Does it Mean for African Trade and Food Security?' Available at <https://www.foodfortransformation.org/full-article/2022-a-year-of-crisis-what-does-it-mean-for-african-trade-and-food-security.html> (Accessed on 22/09/2025)

Natural Resource Depletion: Taking Action to Ensure Sustainable Development for the Present and Future Generations

Abstract

This paper explores approaches through which natural resources can be sustainably used and equitably managed in order to foster Sustainable Development for present and future generations. The paper argues that natural resources are key in unlocking Sustainable Development across all its dimensions. However, despite their important role in promoting Sustainable Development, the paper notes that natural resources are being depleted at an alarming rate with severe consequences for people and planet. The paper discusses the causes and effects of natural resource depletion. In light of its impacts on people and planet, the paper argues that tackling natural resource depletion is vital in the quest towards sustainability. The paper suggests ways through which natural resources can be sustainably harnessed in order to prevent natural resource depletion and ensure Sustainable Development for the present and future generations.

1.0 Introduction

Natural resources play a key role in fostering Sustainable Development. Natural resources are key assets with the potential to drive development and wealth creation¹. It has been argued that if well managed, natural resources including oil, gas, and minerals can propel economic and social transformation at all levels². According to the United Nations Environment Programme (UNEP), natural resources are the foundation of social and economic development³. As a result, the abundance of natural resources is regarded as a great advantage for a country's economic and social development, while resource shortage is associated with underdevelopment⁴. Natural resources are drivers of economic growth and poverty reduction, offering significant opportunities for human progress and prosperity towards Sustainable Development⁵.

It has been argued that natural resources provide economic, social and cultural benefits towards Sustainable Development⁶. Economically, natural resources are not only a source of food and raw

¹ International Institute for Sustainable Development., 'The Sustainable Use of Natural Resources: The Governance Challenge' Available at <https://www.iisd.org/articles/deep-dive/sustainable-use-natural-resources-governance-challenge> (02/10/2025)

² Organisation for Economic Co-operation and Development., 'Natural Resources and Development' Available at <https://www.oecd.org/en/topics/sub-issues/natural-resources-and-development.html#:~:text=If%20well%20managed%2C%20oil%2C%20gas,economic%2C%20social%20and%20environmental%20hazards>. (Accessed on 02/10/2025)

³ United Nations Environment Programme., 'Sustainable Natural Capital' Available at <https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resourceefficiency/sustainable-natural> (Accessed on 02/10/2025)

⁴ Bridge. G., 'Natural Resources' *International Encyclopedia of Human Geography*, 2009., pp 261-268

⁵ Omri. A., & Omri. H., 'Natural resources for achieving Sustainable Development: effects and mechanisms' Available at <https://link.springer.com/article/10.1007/s10668-025-06145-z> (Accessed on 02/10/2025)

⁶ Muigua. K., 'Natural Resources and Environmental Justice in Kenya' Glenwood Publishers Limited, 2015

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materials but are also a source of income for individuals and the state⁷. Natural resources such as land, water, forests, minerals, metals and oil have significant economic benefits and are important sources of livelihoods, income and influence for countries and communities around the globe⁸. Socially, natural resources like water bodies, forests and mountains have physical, recreational and therapeutic benefits thus contributing to the improvement of the quality of life of individuals and communities⁹. Culturally, it has been argued that communities especially in Africa attach importance to some natural resources that may be revered as shrines, dwelling places for ancestors and sacred sites where rites of passage and other cultural celebrations take place¹⁰.

Natural resources are therefore integral in the quest towards Sustainable Development. As a result, it has been argued that equitable use and management of natural resources is key in unlocking all dimensions of sustainability: social justice, environmental conservation, and economic development¹¹. According to the United Nations *2030 Agenda for Sustainable Development*¹², social and economic development depends on sustainable use and management of our planet's natural resources¹³. However, despite their key role in ensuring Sustainable Development, natural resources all over the world are being depleted at an alarming rate, due to human and environmental factors, threatening the livelihoods, health and well-being of individuals who depend on these resources while also undermining environmental sustainability¹⁴. In light of the threat of natural resource depletion, sustainable use and management of natural resources is key in ensuring Sustainable Development for present and future generations.

This paper explores approaches through which natural resources can be sustainably used and equitably managed in order to foster Sustainable Development for present and future generations. The paper argues that natural resources are key in unlocking Sustainable

⁷ Costanza. R., 'The Ecological, Economic, and Social Importance of the Oceans.' *Ecological Economics*, Volume 31, No. 2 (1999)

⁸ United Nations Environment Programme., 'Natural Resources and Conflict: A Guide for Mediation Practitioners' Available at https://peacemaker.un.org/sites/peacemaker.un.org/files/NRCMediation_UNDPAUNEP2015_0.pdf (Accessed on 02/10/2025)

⁹ Costanza. R., 'The Ecological, Economic, and Social Importance of the Oceans.' Op Cit

¹⁰ Muigua. K., 'Natural Resources and Environmental Justice in Kenya' Op Cit

¹¹ International Institute for Sustainable Development., 'The Sustainable Use of Natural Resources: The Governance Challenge' Op Cit

¹² United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 02/10/2025)

¹³ Ibid

¹⁴ International Institute for Sustainable Development., 'The Sustainable Use of Natural Resources: The Governance Challenge' Op Cit

Development across all its dimensions. However, despite their important role in promoting Sustainable Development, the paper notes that natural resources are being depleted at an alarming rate with severe consequences for people and planet. The paper discusses the causes and effects of natural resource depletion. In light of its impacts on people and planet, the paper argues that tackling natural resource depletion is vital in the quest towards sustainability. The paper suggests ways through which natural resources can be sustainably harnessed in order to prevent natural resource depletion and ensure Sustainable Development for the present and future generations.

2.0 Natural Resource Depletion: Causes and Effects

Natural resource depletion refers to the reduction of the planet's natural resources including both renewable and non-renewable resources¹⁵. Natural resource depletion has also been defined as the reduction of both the quality and quantity of natural resources due to overconsumption, excessive extraction, unsustainable use and natural and environmental factors¹⁶. This phenomenon occurs when the rate at which natural resources are consumed exceeds the rate at which they can naturally regenerate or be replaced¹⁷.

The depletion of natural resources is a major global environmental concern that requires urgent action in order to foster Sustainable Development¹⁸. Natural resources are essential for human survival and well-being providing vital ecosystem services including clean air, water, food, energy and climate regulation¹⁹. However, these resources are being depleted at an alarming rate posing serious threats to both human and ecosystem health²⁰. For example, land degradation has led to the loss of nearly 40 per cent of the planet's arable land putting the health, livelihoods, and security of billions of people at risk²¹. In addition, it is estimated that the world is losing about 4.7 million hectares of tropical forest every year with severe consequences for people and planet due

¹⁵ United Nations Environment Programme., 'We're gobbling up the Earth's resources at an unsustainable rate' Available at <https://www.unep.org/news-and-stories/story/were-gobbling-earths-resources-unsustainable-rate#:~:text=The%20extraction%20and%20processing%20of,increase%20by%2043%20per%20cent> (Accessed on 02/10/2025)

¹⁶ What is resource depletion?., Available at https://www.tutor2u.net/economics/reference/what-is-resource-depletion?srltid=AfmBOopiSIR8oxkOcJJkHT4QWw5HAFfoky8nCKvmu_OsEmaiYMBsQtRq (Accessed on 02/10/2025)

¹⁷ Ibid

¹⁸ Huo, J., & Peng, C., 'Depletion of natural resources and environmental quality: Prospects of energy use, energy imports, and economic growth hindrances' *Resources Policy*., Volume 86, October 2023

¹⁹ Ibid

²⁰ Ibid

²¹ United Nations Environment Programme., 'UN summit puts global spotlight on land degradation' Available at <https://www.unep.org/news-and-stories/story/un-summit-puts-global-spotlight-land-degradation> (Accessed on 02/10/2025)

to loss of critical ecosystem services provided by forests such as clean air, water, food, climate regulation and biodiversity conservation²².

In addition, human and environmental factors including pollution, agricultural expansion, overfishing and drought are depleting and degrading the planet's water resources affecting both the quality and quantity of water on Earth²³. It has been argued that climate change is posing a serious threat to freshwater ecosystems all over the world changing rainfall patterns and water quality thus affecting millions of people who depend on waterways for their livelihoods²⁴. In addition, due to extraction exceeding natural replenishment rates, the planet's mineral resources including both metallic minerals such as iron, copper, aluminum, gold, and silver and non-metallic minerals such as sand, gravel, limestone, phosphate, are being depleted²⁵. Further, excessive demand and consumption of energy resources is fuelling the depletion of fossil fuels including oil, natural gas and coal²⁶. It has been argued that due to overconsumption, fossil fuels are facing the threat of complete depletion in the coming decades²⁷.

Natural resource depletion is therefore a major global challenge. This problem is driven by both human and environmental factors. For example, global population growth has driven an increased demand for natural resources including arable land and water often leading to the depletion of such resources²⁸. In addition, the economic benefits of natural resources has led to over- extraction and overexploitation of natural resources including forests, minerals, and fossil fuels such as oil and gas, leading to their depletion²⁹. Environmental factors are also a major cause of natural resource depletion. For instance, the impacts of climate change including rising temperatures, changes in precipitation patterns, droughts and sea-level rise have adverse impacts on natural resources including arable land, water, forests and wetlands often leading to their depletion and degradation³⁰. In the African context, challenges such as rapid population growth, agricultural expansion, poor environmental governance, unsustainable extraction of resources

²² United Nations Environment Programme., 'Forests' Available at <https://www.decadeonrestoration.org/types-ecosystem-restoration/forests> (Accessed on 02/10/2025)

²³ United Nations Environment Programme., 'Supporting Sound Ecosystem Management' Available at <https://www.unep.org/regions/africa/regional-initiatives/supporting-sound-ecosystem-management#:~:text=The%20UNEP%20Africa%20Office%20supports,on%20by%20floods%20and%20droughts> (Accessed on 02/10/2025)

²⁴ Ibid

²⁵ Mineral Resource Depletion., Available at <https://energy.sustainability-directory.com/term/mineral-resource-depletion/> (Accessed on 02/10/2025)

²⁶ Kirsch. S., 'Running out? Rethinking resource depletion' *The Extractive Industries and Society.*, Volume 7, Issue 3, 2020

²⁷ Ibid

²⁸ International Institute for Sustainable Development., 'The Sustainable Use of Natural Resources: The Governance Challenge' Op Cit

²⁹ Ibid

³⁰ Huo. J., & Peng. C., 'Depletion of natural resources and environmental quality: Prospects of energy use, energy imports, and economic growth hindrances' Op Cit

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and climate change have led to deforestation, land degradation, illegal mining, illegal logging, the illegal trade in wildlife, unregulated fishing and environmental degradation leading to the depletion of the continent's precious natural resources³¹.

Natural resource depletion severely impacts progress towards Sustainable Development. For instance, depletion of natural resources affects the availability of clean air, water, food and energy therefore threatening human health, well-being and progress³². The depletion of natural resources also undermines the livelihoods of billions of people all over the world who depend on resources such as land, forests, fisheries and waterways for their sustenance³³. The overconsumption and depletion of resources also threatens economic development in the long run³⁴. Natural resource depletion also threatens environmental sustainability. Depletion of natural resources through deforestation, land degradation, unsustainable mining and agricultural expansion leads to biodiversity loss, soil erosion, degradation of ecosystems and air, water and soil pollution affecting both human and ecosystem health³⁵.

Natural resource depletion is therefore a negative phenomenon that affects both humanity and nature. It is therefore imperative to take action and ensure sustainable use and management of natural resources in order to ensure Sustainable Development for both present and future generations.

3.0 Combating Natural Resource Depletion for Sustainable Development

Natural resource depletion is a major threat to Sustainable Development with severe consequences for people and planet. This undesirable phenomenon affects the availability of vital ecosystem services including clean air, food, water and energy thus threatening human health and well-being³⁶. Natural resource depletion also affects livelihoods and economic development³⁷. Further, natural resource depletion also harms environmental and ecosystem

³¹ United Nations Environment Programme., 'Our work in Africa' Available at <https://www.unep.org/regions/africa/our-work-africa#:~:text=Collectively%2C%20the%20continent%20has%20a,oriented%2C%20climate%20resilient%20and%20sustainable> (Accessed on 02/10/2025)

³² Huo, J., & Peng, C., 'Depletion of natural resources and environmental quality: Prospects of energy use, energy imports, and economic growth hindrances' Op Cit

³³ International Institute for Sustainable Development., 'The Sustainable Use of Natural Resources: The Governance Challenge' Op Cit

³⁴ Ibid

³⁵ Huo, J., & Peng, C., 'Depletion of natural resources and environmental quality: Prospects of energy use, energy imports, and economic growth hindrances' Op Cit

³⁶ Huo, J., & Peng, C., 'Depletion of natural resources and environmental quality: Prospects of energy use, energy imports, and economic growth hindrances' Op Cit

³⁷ International Institute for Sustainable Development., 'The Sustainable Use of Natural Resources: The Governance Challenge' Op Cit

health through pollution, environmental degradation and biodiversity loss³⁸. It is therefore necessary to take urgent and transformative action in order to combat natural resource depletion towards Sustainable Development for the present and future generations.

In order to tackle natural resource depletion, it is imperative to foster sustainable resource extraction. Resource extraction involves a wide range of activities aimed at harnessing natural resources including mining, drilling, quarrying, harvesting, fishing and logging³⁹. Unsustainable resource extraction fuels environmental and social problems including natural resource depletion, pollution, destruction of ecosystems, environmental degradation, health concerns, human rights violations, climate change, and displacement of indigenous peoples and local communities⁴⁰. It is therefore vital to embrace sustainable resource extraction including through responsible consumption patterns that conserve natural resources, embracing principles of circular economy including through recycling and reusing resources in order to conserve resources, optimizing environmental conservation during resource extraction including through sustainable and ethical mining practices and reducing waste, pollution and environmental degradation⁴¹.

In addition, there is need to strengthen environmental governance frameworks all over the world. It has been argued that shortcomings in global, regional, national and local environmental governance frameworks are fuelling environmental threats including resource depletion, environmental degradation, climate change and biodiversity loss⁴². It is therefore necessary to bolster environmental governance frameworks all over the world including through putting in place appropriate legal, policy and institutional frameworks at the global, regional, national and local level and utilising science and technology in environmental conservation⁴³. Sound environmental governance frameworks are key in tackling natural resource depletion by preventing human-induced threats such as deforestation, illegal mining, illegal logging, pollution, the illegal trade in wildlife, unregulated fishing and environmental degradation which affect both the quality and quantity of natural resources⁴⁴.

³⁸ Huo. J., & Peng. C., 'Depletion of natural resources and environmental quality: Prospects of energy use, energy imports, and economic growth hindrances' Op Cit

³⁹ Minimize environmental and social harms in resource extraction., Available at <https://systemschangetlab.org/circular-economy/minimize-environmental-and-social-harms-resource-extraction> (Accessed on 02/10/2025)

⁴⁰ Ibid

⁴¹ Wang. S., & Yang. L., 'Mineral resource extraction and resource sustainability: Policy initiatives for agriculture, economy, energy, and the environment' *Resources Policy*., Volume 89, February 2024

⁴² United Nations Development Programme., 'Strengthening environmental governance' Available at <https://www.undp.org/nature/our-work-areas/environmental-governance> (Accessed on 02/10/2025)

⁴³ United Nations Environment Programme., 'Environmental Governance' Available at <https://www.unep.org/regions/west-asia/regional-initiatives/environmental-governance> (Accessed on 02/10/2025)

⁴⁴ United Nations Environment Programme., 'Our work in Africa' Op Cit

Further, it has been argued that strengthening public participation including through embracing the role of local communities and indigenous peoples is key towards preventing natural resource depletion and bolstering environmental governance⁴⁵. Indigenous peoples and local communities all over the world have for many centuries utilised traditional ecological knowledge to manage environmental challenges including water scarcity, pollution, soil erosion and resource depletion⁴⁶. Their knowledge and practices are therefore key in conserving natural resources including water, land and forests and curbing destructive practices including climate change, biodiversity loss, land degradation, overfishing and deforestation⁴⁷. Harnessing the participation of indigenous peoples and local communities is therefore important towards preventing natural resource depletion and fostering Sustainable Development.

There is also need to confront climate change in order to prevent natural resource depletion. Climate change and natural resource depletion are intertwined challenges. For example, climate change fuels the degradation and depletion of natural resources including water, land and forests due to its adverse impacts such as rising temperatures, droughts and changes in precipitation patterns⁴⁸. Further degradation, depletion and unsustainable extraction of resources fuels climate change due to the release of greenhouse gas emissions including carbon which is stored in natural resources including forests, oceans and land⁴⁹. Tackling climate change is therefore a key intervention towards preventing natural resource depletion and safeguarding the planet for present and future generations.

4.0 Conclusion

Natural resource depletion is a major threat to Sustainable Development affecting both people and planet. It is therefore necessary to take action towards halting natural resource depletion in order to foster Sustainable Development. This can be realised through embracing sustainable resource extraction, strengthening environmental governance at all levels, including indigenous peoples and local communities in natural resource governance and tackling climate change⁵⁰. Taking action to combat natural resource depletion is a key agenda that should be pursued globally in order to ensure Sustainable Development for present and future generations.

⁴⁵ Muigua. K., 'Reflections on Managing Natural Resources and Equitable Benefit Sharing in Kenya.' *Law Society of Kenya Journal*, Vol. 15, No. 1 (2019)

⁴⁶ Egeruoh-Adindu. I., 'Leveraging Indigenous Knowledge for Effective Environmental Governance in West Africa.' Available at <https://www.scirp.org/journal/paperinformation?paperid=121949#:~:text=Indigenous%20knowledge%20systems%20such%20as,effective%20in%20promoting%20environmental%20sustainability> (Accessed on 02/10/2025)

⁴⁷ Ibid

⁴⁸ United Nations Environment Programme., 'We're gobbling up the Earth's resources at an unsustainable rate' Op Cit

⁴⁹ Ibid

⁵⁰ United Nations Environment Programme., 'We're gobbling up the Earth's resources at an unsustainable rate' Op Cit

PART VII – TRADE, TECHNOLOGY AND INNOVATION FOR SUSTAINABLE DEVELOPMENT

Examines how trade, transport, and innovation can serve as catalysts for inclusive growth – provided they align with ethical, environmental, and justice principles. It also reflects on the implications of artificial intelligence and digitalization for legal scholarship

Africa's Blue Economy: Harnessing Opportunities in the Technology Era and Addressing Challenges for Sustainable Development

Abstract

This paper critically examines how Africa's Blue Economy can be effectively nurtured for Sustainable Development. The paper examines the concept of Blue Economy in Africa. It argues that Africa has immense opportunities to harness the Blue Economy towards Sustainable Development. It explores some of the benefits of the Blue Economy in Africa. Despite its immense Blue Economy potential, the paper also notes that the health of oceans and marine resources in Africa is facing significant threats. The paper examines some of the challenges facing the Blue Economy in Africa. In light of these challenges, the paper examines how Africa can harness opportunities in the technology era and address challenges towards nurturing the Blue Economy for Sustainable Development.

1.0 Introduction

Blue Economy refers to the sustainable use of ocean resources for economic growth, improved livelihoods and jobs while maintaining the health and vitality of oceans and marine resources¹. In addition, it has been argued that the concept of Blue Economy is broad and generally relates to a sustainable ocean economy – the economic activities associated with the ocean, seas and coastal regions². These activities allow resource use while preserving the health of the ocean and its ecosystems³. The Blue Economy therefore has three related but distinct meanings: the overall contribution of the oceans to economies; the need to foster the environmental and ecological sustainability of the oceans; and the ocean economy as a growth opportunity for both developed and developing countries⁴.

The Blue Economy has emerged as an increasingly influential global concept which seeks to ensure the development of oceans and seas and related ecosystems in a manner which also addresses concerns about ocean health in the face of increasing demands on ocean resources, marine pollution, and climate change⁵. It has been argued that a sustainable Blue Economy unlocks multiple environmental, social and economic benefits and drives Sustainable

¹ World Bank Group., 'What is the Blue Economy?' <https://www.worldbank.org/en/news/infographic/2017/06/06/blue-economy> (Accessed on 27/09/2025)

² What is the blue economy?., Available at <https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-blue-economy/> (Accessed on 27/09/2025)

³ Ibid

⁴ United Nations., 'Blue Economy Definitions' Available at https://www.un.org/regularprocess/sites/www.un.org.regularprocess/files/rok_part_2.pdf (Accessed on 27/09/2025)

⁵ Benzaken. D et al., 'Good governance for sustainable blue economy in small islands: Lessons learned from the Seychelles experience' Available at <https://www.frontiersin.org/journals/political-science/articles/10.3389/fpos.2022.1040318/full> (Accessed on 27/09/2025)

Development⁶. The Blue Economy is a major driver of local, regional and global development, creating millions of jobs in sectors such as fisheries, tourism, and shipping⁷. The Blue Economy is therefore integral in the quest towards Sustainable Development. The importance of Blue Economy in the Sustainable Development discourse is recognized under the United Nations 2030 Agenda for Sustainable Development⁸ which seeks to conserve and sustainably use the oceans, seas and marine resources for Sustainable Development⁹.

Despite its role in the Sustainable Development agenda, the Blue Economy is facing mounting threat from human and environmental factors. For example, vital resources in the Blue Economy are being degraded and depleted through unsustainable practices such as marine pollution, unsustainable coastal development, deforestation and overfishing¹⁰. It has been argued that with a growing global population and increasing demand for ocean and marine resources, our connected ocean, coasts and inland waters are facing a triple-planetary crisis of climate change, pollution and biodiversity loss¹¹. In light of these challenges, nurturing the Blue Economy is vital for Sustainable Development.

This paper critically examines how Africa's Blue Economy can be effectively nurtured for Sustainable Development. The paper examines the concept of Blue Economy in Africa. It argues that Africa has immense opportunities to harness the Blue Economy towards Sustainable Development. It explores some of the benefits of the Blue Economy in Africa. Despite its immense Blue Economy potential, the paper also notes that the health of oceans and marine resources in Africa is facing significant threats. The paper examines some of the challenges facing the Blue Economy in Africa. In light of these challenges, the paper examines how Africa can harness opportunities in the technology era and address challenges towards nurturing the Blue Economy for Sustainable Development.

⁶ United Nations Environment Programme., 'Sustainable Blue Economy' Available at <https://www.unep.org/topics/ocean-seas-and-coasts/ecosystem-based-approaches/sustainable-blue-economy> (Accessed on 27/09/2025)

⁷ Organisation for Economic Co-operation and Development., 'Blue Economy' Available at <https://www.oecd.org/en/topics/sub-issues/water-governance/blue-economy.html> (Accessed on 27/09/2025)

⁸ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 27/09/2025)

⁹ Ibid

¹⁰ Muigua. K., 'Fostering Africa's Blue Economy: Problems and Promises' Available at <https://kmco.co.ke/wp-content/uploads/2023/07/Fostering-Africas-Blue-Economy-Problems-and-Promises-.pdf> (Accessed on 27/09/2025)

¹¹ United Nations Environment Programme., 'Sustainable Blue Economy' Op Cit

2.0 The Blue Economy in Africa: Opportunities and Challenges

Africa has an immense Blue Economy potential. It has been argued that Africa has an opportunity to unleash the potential to develop a resilient Blue Economy to fast-track the continent's development agenda¹². Africa is surrounded by some of the world's most important oceans and seas including the Atlantic and Indian oceans and the Mediterranean and Red seas in addition to marine biodiversity, strategic maritime trade routes, abundant aquatic resources and blue carbon assets providing immense opportunities to foster development in the continent¹³. With the Mediterranean Sea and the Red Sea to the North, the Atlantic Ocean to the West, and the Indian Ocean to the East, Africa boasts a vast shoreline with myriad coastal and marine ecosystems and biodiversity¹⁴. These resources and ecosystems provide the continent's coastal countries and communities with immense opportunities including food, livelihoods, and economic opportunities in key sectors such as fisheries and tourism while protecting against adverse climatic events including storm surges, flooding, coastal erosion and sea-level rise¹⁵.

The Blue Economy is therefore at the heart of Africa's development agenda. The continent's vast ocean and inland water resources hold immense promise for Sustainable Development¹⁶. Africa's blue economy is valued at approximately \$450 billion annually, presenting numerous opportunities for growth and development in several sectors¹⁷. For instance, it has been pointed out that the Blue Economy creates nearly 49 million jobs in Africa making it an indispensable resource in the continent's development agenda¹⁸. It is also crucial for food security, livelihoods, and biodiversity which are all dependent on the ocean's health¹⁹. 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 sea²⁰. Africa's 38 coastal and island states, with their

¹² 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 28/09/2025)

¹³ 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 28/09/2025)

¹⁴ World Bank Group., 'Blue Economy in Africa: a Synthesis' Available at <https://thedocs.worldbank.org/en/doc/213a25f8770328e39b2ef15e7104a136-0320012022/original/Overview.pdf> (Accessed on 28/09/2025)

¹⁵ Ibid

¹⁶ Africa's Blue Economy - it's time for Action, not Words., Available at <https://african.business/2025/06/economy/africas-blue-economy-pivotal-to-the-continents-sustainable-economic-growth-and-development> (Accessed on 28/09/2025)

¹⁷ Ibid

¹⁸ The World Bank., 'Blue Economy for Resilient Africa Program.' Op Cit

¹⁹ Ibid

²⁰ 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 28/09/2025)

47,000 kilometers of coastline house 85 commercial ports that serve as gateways to global markets making the Blue Economy a vital resource in international trade²¹.

A sustainable Blue Economy can therefore unleash opportunities in a number of highly productive activities which can make a powerful contribution to Africa's development agenda. These activities include trade and transport by sea, inland water ways and lakes, fisheries and aquaculture, mining and oil and gas resources, exploitation of renewable marine energy, and coastal and marine tourism²². The Blue Economy in Africa also provides environmental benefits by supporting marine biodiversity²³. Coastal/marine ecosystems including coral reefs, mangrove forests, seagrass beds, estuaries, hydrothermal vents, seamounts and soft sediments on the ocean floor are biodiversity hotspots providing habitats for thousands of species²⁴. Marine biodiversity both globally and in Africa provides a wide range of ecosystem services necessary for sustaining life on the planet including food, oxygen and climate regulation²⁵. For instance, it has been observed that deep-sea life is essential to life on Earth because of its crucial role in global carbon and biogeochemical cycles, including nutrient regeneration²⁶. Marine biodiversity provides numerous benefits and opportunities to coastal communities in Africa including poverty eradication, sustained economic growth, food security sustainable livelihoods and inclusive work²⁷.

The Blue Economy in Africa also provides opportunities towards combating climate change²⁸. For example, coastal and marine ecosystems including mangroves, saltmarshes and seagrasses are vital blue carbon sinks which can enhance the continent's response to climate change²⁹. It has been argued that blue carbon ecosystems provide a natural solution to remove carbon from the atmosphere, build resilience against the mounting impacts of climate change and preserve vital

²¹ Africa's Blue Economy – it's time for Action, not Words., Op Cit

²² United Nations Economic Commission for Africa., 'Africa's Blue Economy: Opportunities and challenges to bolster sustainable development and socioeconomic transformation' Available at <https://nairobi-convention.org/clearinghouse/sites/default/files/Africa%27s%20Blue%20Economy%20Issues%20Paper%20UNECA.pdf> (Accessed on 28/09/2025)

²³ World Bank Group., 'Blue Economy in Africa: a Synthesis' Op Cit

²⁴ Secretariat of the Convention on Biological Diversity., 'Oceans Contain a Wealth of Biodiversity' Available at <https://www.cbd.int/article/biodiversityforwater-1#:~:text=Deep%2Dseabed%20habitats%20host%20between,sustainable%20fishery%20and%20mariculture%20management>. (Accessed on 28/09/2025)

²⁵ United Nations., 'Marine Biodiversity and Ecosystems Underpin a Healthy Planet and Social Well-Being' Available at <https://www.un.org/en/chronicle/article/marine-biodiversity-and-ecosystems-underpin-healthy-planet-and-social-well-being> (Accessed on 28/09/2025)

²⁶ Secretariat of the Convention on Biological Diversity., 'Oceans Contain a Wealth of Biodiversity' Op Cit

²⁷ United Nations., 'Marine Biodiversity and Ecosystems Underpin a Healthy Planet and Social Well-Being' Op Cit

²⁸ World Bank Group., 'Blue Economy in Africa: a Synthesis' Op Cit

²⁹ World Bank Group., 'What You Need to Know About Blue Carbon' Available at <https://www.worldbank.org/en/news/feature/2023/11/21/what-you-need-to-know-about-blue-carbon> (Accessed on 28/09/2025)

biodiverse habitats³⁰. They are effective carbon sinks and have been described as carbon removal powerhouses, storing up to 5 times more carbon per area than tropical forests and absorbing it from the atmosphere about 3 times as quickly as tropical forests³¹. In addition, these ecosystems support livelihoods through fisheries, improve water quality, and provide coastal protection against floods and storms³².

Due to the foregoing opportunities, it has been argued that a sustainable Blue Economy is at the heart of Africa's development and competitiveness³³. This is recognised under African Union's *Agenda 2063*³⁴ which seeks to exploit the vast potential of Africa's blue/ocean economy for Sustainable Development. Agenda 2063 acknowledges the potential of the Blue Economy to trigger Sustainable Development in Africa through marine resources, fishing, tourism, energy, port operations, mining and marine transport³⁵. It calls for the sustainable utilization and management of the Blue Economy in Africa in order to realize its potential³⁶.

Further, the *Africa Blue Economy Strategy*³⁷ aims to foster an inclusive and sustainable Blue Economy that significantly contributes to Africa's transformation and growth. The Strategy seeks 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 resources³⁸. The Africa Blue Economy Strategy therefore seeks to harness opportunities and address challenges towards nurturing the Blue Economy in Africa for Sustainable Development.

Despite having an immense Blue Economy potential, Africa faces several challenges that undermine the role of the ocean economy in the continent's development agenda. For example,

³⁰ Wood, K., Ashford, O., 'How Blue Carbon Can Tackle the Climate, Biodiversity and Development Crises' Available at <https://www.wri.org/insights/what-is-blue-carbon-benefits-for-people-planet> (Accessed on 28/09/2025)

³¹ Ibid

³² United Nations Environment Programme., 'Why protecting & restoring blue carbon ecosystems matters' Available at <https://www.unep.org/explore-topics/oceans-seas/what-we-do/protecting-restoring-blue-carbon-ecosystems/why-protecting> (Accessed on 28/09/2025)

³³ World Bank Group., 'Blue Economy in Africa: a Synthesis' Op Cit

³⁴ Africa Union., 'Agenda 2063: The Africa we Want.' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 28/09/2025)

³⁵ Ibid

³⁶ Ibid

³⁷ 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 (Accessed on 28/09/2025)

³⁸ Ibid

unsustainable infrastructure development, pollution, and the inadequate management of natural habitats and resources are key challenges threatening the productivity of the Blue Economy in Africa³⁹. In addition, it has been pointed out that oceans and aquatic inland ecosystems in Africa face multiple stresses from resource overexploitation, poor governance, rapid coastal population growth, habitat degradation, and pollution⁴⁰. In particular, marine pollution is a major challenge in Africa with the continent estimated to be the second biggest ocean plastic polluter⁴¹. This undermines economic activities such as fisheries, aquaculture, tourism, and shipping while also harming marine life⁴². In addition unsustainable practices including overfishing, deforestation of mangroves, unsustainable coastal development and habitat degradation are impacting coastal/marine ecosystems leading the loss and decline of marine biodiversity with severe consequences for people and planet⁴³. Climate change is also impacting the Blue Economy in Africa. For example, 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 Africa⁴⁴. Further, according to the Africa Blue Economy Strategy, harmful and illegal practices including maritime terrorism, sea piracy, human trafficking, illicit trade in crude oil and arms, and drug trafficking are serious challenges to Africa's Blue Economy since these incidences pose a real threat not only to the safety of vessels and their crew but also to the economies of affected countries⁴⁵.

In light of the foregoing challenges, it is imperative to nurture a sustainable Blue Economy for Africa's development.

3.0 Nurturing the Blue Economy in Africa for Sustainable Development

The Blue Economy is at the core of Sustainable Development efforts in Africa. A sustainable Blue Economy provides immense opportunities for economic development by supporting key sectors including fisheries, tourism, maritime trade and transport, blue energy and ocean mining⁴⁶. The Blue Economy is also at the heart of biodiversity conservation, climate action due to the vital role of blue carbon ecosystems in confronting climate change, and coastal protection against adverse climatic and weather events including sea-level rise, flooding and storm surges⁴⁷. Despite its important contribution to Sustainable Development, the Blue Economy in Africa is facing mounting threats including marine pollution, illegal and unsustainable fishing, coastal erosion,

³⁹ World Bank Group., 'Blue Economy in Africa: a Synthesis' Op Cit

⁴⁰ Africa's Blue Economy – it's time for Action, not Words., Op Cit

⁴¹ World Bank Group., 'Blue Economy in Africa: a Synthesis' Op Cit

⁴² Ibid

⁴³ Ibid

⁴⁴ Childs. J & Hicks. C., 'Securing the Blue: Political Ecologies of the Blue Economy in Africa.' *Journal of Political Ecology*, 2019

⁴⁵ Africa Union., 'Africa Blue Economy Strategy.' Op Cit

⁴⁶ World Bank Group., 'Blue Economy in Africa: a Synthesis' Op Cit

⁴⁷ United Nations., 'Marine Biodiversity and Ecosystems Underpin a Healthy Planet and Social Well-Being' Op Cit

degradation and destruction of marine/coastal ecosystems, harmful and illegal activities and adverse climatic events⁴⁸.

In light of the foregoing, it is imperative to harness opportunities and address challenges towards nurturing the Blue Economy for Sustainable Development in Africa. In particular, it has been argued that promoting good governance in the Blue Economy sector and establishing regional and sub-regional cooperation in the Blue Economy can enable Africa to harness opportunities and address challenges facing this vital sector⁴⁹. Through good governance, it is possible to ensure a sustainable Blue Economy by curbing harmful practices including overfishing, unsustainable coastal development, habitat degradation, marine biodiversity loss and marine pollution⁵⁰.

By embracing good governance practices that take into account all levels of government, all stakeholders including the private sector and coastal communities, and all Blue Economy sectors including fisheries and aquaculture, tourism, renewable energy, marine biotechnology, transport, ports, logistics, wastewater and solid waste management, it is possible to harness opportunities and curb challenges facing the Blue Economy through sustainable fisheries, sustainable wastewater and solid waste management, sound marine biodiversity conservation, and sustainable extraction of resources including blue energy, minerals, oil and gas⁵¹. Further, global, regional and sub-regional cooperation is key towards tackling harmful and illegal practices in the Blue Economy including, piracy, human trafficking, maritime terrorism, illicit trade and drug trafficking⁵².

It is also imperative to utilise technology towards harnessing opportunities and addressing challenges facing the Blue Economy in Africa. Technology can strengthen governance of the Blue Economy in Africa through integrated maritime surveillance which can inform better decision making, digital mapping of maritime and coastal space and natural assets which can form the basis for cross-sector analysis and planning in order to prevent conflicts and avoid externalities, sustainable extraction of resources including fish, minerals, oil and gas, and effective monitoring and conservation of marine biodiversity⁵³. It has been argued that modern data and information

⁴⁸ World Bank Group., 'Blue Economy in Africa: a Synthesis' Op Cit

⁴⁹ 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 (Accessed on 28/09/2025)

⁵⁰ Ibid

⁵¹ World Bank Group., 'Blue Economy in Africa: a Synthesis' Op Cit

⁵² Roy. A., 'Blue Economy in the Indian Ocean: Governance Perspectives for Sustainable Development in the Region.' Op Cit

⁵³ 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/uploadeddocuments/SROs/EA/HIGH-LEVEL-SUSTAINABLE-BLUE-ECONOMY-CONFERENCE-2018/nairobistatement-of-intent-advancing-global-sustainable-blue-economy.pdf> (Accessed on 28/09/2025)

technologies are key towards nurturing the Blue Economy in Africa through evidence-based knowledge and information and growing the marine knowledge base required for sound governance of the Blue Economy⁵⁴. Utilising science and technology is therefore key towards effective governance of coastal and marine resources and ecosystems⁵⁵. It is thus necessary to harness opportunities in the technology era by increasing scientific knowledge, developing research capacity and transfer of marine technology towards ensuring a sustainable Blue Economy in Africa⁵⁶.

4.0 Conclusion

Africa has an immense Blue Economy potential. It is therefore necessary to harness opportunities in key sectors including tourism, fisheries and aquaculture, maritime trade and transport, blue energy, minerals, oil and gas extraction, marine biodiversity conservation, and climate action through blue carbon sinks towards nurturing the Blue Economy for Sustainable Development in Africa⁵⁷. It is also vital to address challenges including overfishing, unsustainable coastal development, habitat degradation, marine biodiversity loss and marine pollution towards nurturing the Blue Economy in Africa for Sustainable Development⁵⁸. It is also important for Africa to utilise science, technology and innovation towards harnessing opportunities and tackling the challenges facing its Blue Economy sector⁵⁹. Nurturing the Blue Economy in Africa is therefore a practical ideal that can be actualised in the technology era for Sustainable Development.

⁵⁴ World Bank Group., 'Blue Economy in Africa: a Synthesis' Op Cit

⁵⁵ Africa Union., 'Africa Blue Economy Strategy.' Op Cit

⁵⁶ Ibid

⁵⁷ World Bank Group., 'Blue Economy in Africa: a Synthesis' Op Cit

⁵⁸ Ibid

⁵⁹ Africa Union., 'Africa Blue Economy Strategy.' Op Cit

Greening of Transport Systems in Africa: Utilising Renewable Energy for Low Emission Vehicles

Abstract

This paper critically examines the need to green transport systems in Africa. The paper argues that Africa is facing the challenge of balancing the increasing demand for transport services with environmental conservation. It posits that if not well designed, transport systems can contribute to environmental challenges including climate change, biodiversity loss, pollution and environmental degradation. In light of these challenges, the paper argues that greening transport systems in Africa and the rest of the world is a vital agenda towards sustainability. The paper discusses how Africa can utilise renewable energy for low emission vehicles towards greening transport systems for sustainability.

1.0 Introduction

Transport systems are vital sectors that ensure economic growth in all countries. It has been argued that transport systems including roadways, public transit systems, airports, train stations, bus stations, ferry terminals, pipelines and warehouses ensure the safe movement of people and goods therefore significantly contributing to economic growth¹. Further, it has been pointed out that transport is fundamental to supporting economic growth, creating jobs and connecting people to essential services including education and healthcare². Due to its intensive use of infrastructures, the transport sector has been identified as an important component of modern economies and a common tool used for development³. The global economy has transformed to the extent where economic opportunities are increasingly related to the mobility of people, goods and services, including information and communication technologies⁴.

Due to its benefits, it has been pointed out that there is a positive correlation between the level of economic development in a country and the quantity and quality of its transport systems⁵. Safe, accessible, reliable, affordable and modern transport systems are associated with lower transport costs, shorter transit times, and business expansion making economic activities more productive and competitive⁶. Integrated and well-functioning transport facilities are therefore necessary for

¹ How to build more sustainable transportation infrastructure., Available at <https://www.ibm.com/think/topics/sustainable-transportation> (Accessed on 26/09/2025)

² World Bank Group., 'Transport' Available at <https://www.worldbank.org/en/topic/transport/overview#:~:text=Transport%20plays%20an%20important%20role,%2C%20efficient%2C%20clean%20and%20accessible>. (Accessed on 26/09/2025)

³ Rodrigue. J.P., & Notteboom. T., 'Transportation and Economic Development' Available at <https://transportgeography.org/contents/chapter3/transportation-and-economic-development/> (Accessed on 26/09/2025)

⁴ Ibid

⁵ Ibid

⁶ Transport Impacts on Economic Opportunities., Available at <https://transportgeography.org/contents/chapter3/transportation-and-economic-development/economic-opportunities-transport-impacts/> (Accessed on 26/09/2025)

achieving sustained and inclusive economic growth⁷. Such transport systems play a key role in countries' competitiveness, balanced and liveable urban spatial development, access to water and energy, and food security, and are critical for social inclusion and improved quality of life⁸. Further, well-designed and functioning transport systems facilitate mobility and positively impact the development and welfare of the population through employment and income creation, connecting and providing to businesses and vital services thus enhancing economic development and growth⁹.

Accessible, reliable, safe and efficient transport systems are therefore key in ensuring economic growth. However, it has been pointed out that transport systems especially those in developing countries are not accessible or reliable¹⁰. For instance, most people in rural areas remain unconnected to transport systems¹¹. Further, it has been argued that in most cities, public transport remains unsustainable, unsafe, inefficient, inaccessible or unaffordable – a situation that is particularly detrimental to people living in poverty¹². Further, the transport sector comes at a huge cost since it may cause adverse planetary and environmental changes if left unchecked¹³. In light of these challenges, it has become necessary to build safe, accessible, affordable, reliable and modern transport systems. Greening of transport systems is therefore a key pathway towards sustainability.

This paper critically examines the need to green transport systems in Africa. The paper argues that Africa is facing the challenge of balancing the increasing demand for transport services with environmental conservation. It posits that if not well designed, transport systems can contribute to environmental challenges including climate change, biodiversity loss, pollution and environmental degradation. In light of these challenges, the paper argues that greening transport systems in Africa and the rest of the world is a vital agenda towards sustainability. The paper discusses how Africa can utilise renewable energy for low emission vehicles towards greening transport systems for sustainability.

⁷ Kumar. G.P., & Soumyananda. D., 'Revisited the Relationship Between Economic Growth and Transport Infrastructure in India: An Empirical Study' Available at <https://mpr.ub.uni-muenchen.de/116876/5/MPRA> (Accessed on 26/09/2025)

⁸ Okoro. C., Musonda. I., & Agumba. J., 'Validity and Reliability of a Transportation Infrastructure Sustainable Performance Framework: A Study of Transport Projects in South Africa.' *Construction Economics & Building*, Volume 19, No. 2 (2019)

⁹ Ibid

¹⁰ United Nations., 'Fact Sheet: Inequalities' Available at https://www.un.org/sites/un2.un.org/files/media_gstc/FACT_SHEET_Inequalities.pdf (Accessed on 26/09/2025)

¹¹ Ibid

¹² Ibid

¹³ Brickstone., 'Low-Carbon Infrastructure in Curbing Climate Change.' Available at <https://brickstone.africa/low-carbon-infrastructure-in-climate-change/#:~:text=Urban%20transport%20projects%2C%20such%20as,emissions%20compared%20to%20fo%20fuels> (Accessed on 26/09/2025)

2.0 The Need to Green Transport Systems in Africa

The transport sector both globally and in Africa is linked to several environmental challenges. For instance, it is estimated that transport systems account for more than one-third of carbon dioxide emissions from end-use sectors¹⁴. This is due to the fact that motorised transport on land, sea and air remains dependent on internal combustion engines that run on fossil fuels¹⁵. The transport sector is therefore a major contributor to the global climate crisis. It has been argued that the transport sector significantly generates greenhouse gas emissions due to burning of fossil fuels making its transformation an urgent priority towards confronting climate change¹⁶.

In addition, transport systems in Africa and the rest of the world are a major cause of air pollution¹⁷. According to the World Health Organization (WHO), the transport sector is responsible for a large proportion of air pollution, as well as being a leading source of greenhouse gas emissions¹⁸. It has been argued that the transport sector is linked to air pollution-related deaths and illnesses due to transport emissions such as carbon monoxide, nitrogen oxides and methane¹⁹. Air pollution from transport is a major global environmental threat that impacts the health and well-being of millions of people all over the world²⁰. This is caused by the release of harmful pollutants into the atmosphere as a result of the operation of vehicles and transport systems which rely on fossil fuels such as petrol and diesel²¹. Air pollution has been linked to millions of deaths all over the world as well as respiratory and cardiovascular illnesses in humans demonstrating the urgent need to transform the transport sector towards sustainability²².

Transport systems can also lead to environmental degradation and biodiversity loss. For example, the development of transport systems including roads, public transit systems, railways and airports often leads to habitat loss and a subsequent decline in biodiversity²³. Extensive transport systems including major roads and railway lines usually pass through areas with endangered

¹⁴ International Energy Agency., 'Transport' Available at <https://www.iea.org/energy-system/transport> (Accessed on 26/09/2025)

¹⁵ Ibid

¹⁶ United Nations Development Programme., 'What is sustainable transport and what role does it play in tackling climate change?' Available at <https://climatepromise.undp.org/news-and-stories/what-sustainable-transport-and-what-role-does-it-play-tackling-climate-change#:~:text=Why%20is%20transforming%20the%20transport,adults%20aged%205%E2%80%9329%20years>. (Accessed on 26/09/2025)

¹⁷ World Bank Group., 'Transport' Op Cit

¹⁸ World Health Organization., 'Air Pollution' Available at <https://www.who.int/teams/environment-climate-change-and-health/healthy-urban-environments/transport/health-risks> (Accessed on 26/09/2025)

¹⁹ Ibid

²⁰ Air pollution from transport: causes, effects and solutions., Available at <https://kunakair.com/air-pollution-from-transport/> (Accessed on 26/09/2025)

²¹ Ibid

²² Ibid

²³ Transportation and Biodiversity., Available at https://transact.enotrans.org/wp-content/uploads/2014/04/Transportation_and_Biodiversity_Report.pdf (Accessed on 26/09/2025)

species, productive landscapes and critical ecosystems posing a threat to biodiversity conservation and ecosystem services²⁴. For instance, the construction of major transport systems in Kenya including the Standard Gauge Railway and the Nairobi Expressway led to significant biodiversity loss due to cutting down of indigenous trees and encroachment into green spaces and parks²⁵.

In light of the foregoing challenges, it has become necessary to green the transport sector both globally and in Africa. It has been argued that in order to curb the negative environmental impacts associated with transport systems while maintaining transport as a priority sector for national economic growth, governments need to radically rethink how transport is planned, delivered and managed in order to make it suitable for a green, sustainable, low emission and resilient future²⁶. Governments have been urged to provide transport services for the mobility of people and goods in a manner that is safe, affordable, accessible, efficient, and resilient, while minimizing carbon and other emissions and environmental impacts including pollution and biodiversity loss²⁷.

The need to green transport systems globally is envisioned under the United Nations *2030 Agenda for Sustainable Development*²⁸. The Agenda seeks to achieve sustainable transport systems; and quality and resilient infrastructure²⁹. Among the key targets under SDG 11 include providing access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons³⁰. In addition,

²⁴ Experts propose solutions for sustainable European transport by mainstreaming biodiversity., Available at <https://bison-transport.eu/2022/09/14/experts-propose-solutions-for-sustainable-european-transport-by-mainstreaming-biodiversity/#:~:text=Transport%20sustainability%20policies%20focus%20on,preserve%20biodiversity%20and%20ecosystem%20services>. (Accessed on 26/09/2025)

²⁵ Greening expressway to reverse environmental loss., Available at <https://peopledaily.digital/news/greening-expressway-to-reverse-environmental-loss> (Accessed on 26/09/2025)

²⁶ Brickstone., 'Low-Carbon Infrastructure in Curbing Climate Change.' Op Cit

²⁷ International Institute for Sustainable Development., 'The Road to Sustainable Transport.' Available at Available at <https://www.iisd.org/articles/deep-dive/road-sustainable-transport#:~:text=Transport%20accounts%20for%20about%2064,directly%20attributed%20to%20vehicular%20pollution>. (Accessed on 26/09/2025)

²⁸ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 26/09/2025)

²⁹ Ibid

³⁰ Ibid, SDG 11.2

African Union's *Agenda 2063*³¹ seeks to expand Africa's transport and infrastructure systems including railway and road networks, port facilities and other transport infrastructure to enhance connectivity, spur trade and economic growth and create jobs³². *Agenda 2063* further seeks to ensure that every citizen in Africa has affordable and sustainable access to quality transport and other services³³. It further seeks to ensure that all urban mass transport will operate on renewable and low to zero emissions fuels³⁴.

Greening transport systems is therefore a key theme both globally and in Africa. It is imperative to actualise this agenda for sustainability.

3.0 Greening of Transport Systems in Africa

In light of the environmental impacts of the transport sector both globally and in Africa, there is need to green transport systems. Green transport which is also referred to as sustainable transport aims to minimize greenhouse gas emissions and environmental impacts of the transport sector while ensuring safety and affordability and providing equitable access to mobility for all³⁵. It has been that greening of transport systems is not a single solution, but a systems approach, which integrates technology, infrastructure, planning, policy and behavior change to reduce emissions and curb the negative environmental impacts of transport systems while enhancing connectivity³⁶. According to the United Nations Environment Programme (UNEP), greening of transport systems is vital towards mitigating and adapting to the impacts of climate change, decarbonizing economies, conserving biodiversity and minimizing pollution³⁷. By greening transport systems, it is possible to ensure that people and nature thrive together³⁸.

Greening of transport systems therefore involves designing and utilising environmentally friendly modes of travel towards lowering emissions, conserving energy, and reducing the environmental footprint of transporting people and goods³⁹. Achieving this ideal involves

³¹ Africa Union., 'Agenda 2063: The Africa we Want.' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 26/09/2025)

³² Ibid

³³ Ibid

³⁴ Ibid

³⁵ United Nations Development Programme., 'What is sustainable transport and what role does it play in tackling climate change?' Available at <https://climatepromise.undp.org/news-and-stories/what-sustainable-transport-and-what-role-does-it-play-tackling-climate-change#:~:text=Sustainable%20transport%20refers%20to%20mobility,across%20land%2C%20water%20and%20air?> (Accessed on 27/09/2025)

³⁶ Ibid

³⁷ United Nations Environment Programme., 'New Report Reveals how Infrastructure Defines our Climate.' Available at <https://www.unep.org/news-and-stories/press-release/new-report-reveals-how-infrastructure-defines-our-climate> (Accessed on 27/09/2025)

³⁸ Ibid

³⁹ What is Green Transportation and its Significance?., Available at <https://nextbillion.ai/blog/what-is-green-transportation> (Accessed on 27/09/2025)

embracing sustainable modes of transport including the use of electric vehicles, public transit systems, cycling and walking⁴⁰. It also requires scientific and technological advancements through low carbon infrastructure projects such as railway infrastructure; urban transport projects including metros and light rail projects which reduce car usage; and renewable energy projects including solar, wind, and hydropower which are essential in transitioning the transport sector towards sustainability⁴¹.

Africa has the potential to green its transport systems through the use of low and zero emission, energy efficient, affordable modes of transport, including electric and alternative fuel vehicles, as well as domestic fuels⁴². In particular, low emission vehicles provide an effective pathway towards transitioning the transport sector in Africa towards sustainability. These vehicles are designed to produce fewer emissions such as carbon dioxide emissions when compared to convention vehicles⁴³. Low emission vehicles have become a vital tool in ensuring the sustainability of the transport sector due to improvements to engine technology, as well as using 'hybrid' technology, where a vehicle runs in electric mode sometimes and petrol or diesel mode at others thus reducing emissions among other environmental impacts⁴⁴. These vehicles include battery-electric vehicles, plug-in hybrid electric vehicles and hybrid electric vehicles⁴⁵. Since these vehicles utilise viable and green sources of energy including electric power and hydrogen they have fewer environmental impacts due to little or no reliance on fossil fuels while also saving the cost of fuel⁴⁶.

Africa has immense potential to utilise low emission vehicles towards greening its transport systems. For example, it has been argued that renewable sources of energy including wind and solar power are a vital component of green transport systems by generating electricity for low emission vehicles thus reducing the environmental impacts of the transport sector⁴⁷. The

⁴⁰ Ibid

⁴¹ Muigua. K., 'Enhancing Low Carbon Development for Sustainability.' Available at <https://kmco.co.ke/wp-content/uploads/2023/09/Enhancing-Low-Carbon-Development-for-Sustainability-.pdf> (Accessed on 27/09/2025)

⁴² Office of the Energy Efficiency & Renewable Energy., 'Sustainable Transportation and Fuels.' Available at <https://www.energy.gov/eere/sustainable-transportation-andfuels#:~:text=Sustainable%20transportation%20refers%20to%20low,as%20well%20as%20domestic%20ofue%20ls.> (Accessed on 27/09/2025)

⁴³ Low emission and zero emission vehicles., Available at [https://www.rbwm.gov.uk/transport-and-streets/motoring/guide-electric-vehicles/low-emission-and-zero-emission-vehicles#:~:text=An%20ultra%2Dlow%20emission%20vehicle,pollution%20from%20tyres%20and%20brakes\).](https://www.rbwm.gov.uk/transport-and-streets/motoring/guide-electric-vehicles/low-emission-and-zero-emission-vehicles#:~:text=An%20ultra%2Dlow%20emission%20vehicle,pollution%20from%20tyres%20and%20brakes).) (Accessed on 27/09/2025)

⁴⁴ Ibid

⁴⁵ Ibid

⁴⁶ Ibid

⁴⁷ European Commission., '5 things you should know about electric cars' Available at <https://climate.ec.europa.eu/news-other-reads/news/5-things-you-should-know-about-electric-cars-2024-05->

electricity used to power low emission vehicles such as battery-electric vehicles is increasingly being derived from renewable sources of energy such as solar and wind, which means that such vehicles cause fewer greenhouse gas emissions⁴⁸. Africa is rich in renewable energy with wind, solar, hydro, bioenergy, ocean tidal waves, geothermal among other renewables being abundant throughout the continent⁴⁹. In addition, Africa is rich in critical minerals such as manganese, bauxite, graphite, lithium and cobalt which are vital to renewable and low- carbon technologies including solar, electric vehicles, battery storage, green hydrogen and geothermal⁵⁰. Africa therefore has the potential to harness its vast renewable energy potential and critical raw materials towards greening its transport systems through low emission vehicles. It is therefore imperative to put in place and implement policies that support sustainable transport and enhance investments, technology development and transfer, research and innovation towards harnessing renewable energy and critical raw materials to support the uptake of low emission vehicles towards greening transport systems in Africa⁵¹.

4.0 Conclusion

Greening of transport systems is key towards tackling climate change, pollution and biodiversity loss among other environmental impacts of the transport sector. Africa has immense potential to green its transport systems due to the abundance of renewable sources of energy and critical raw materials in the continent which can support the adoption of low emission vehicles⁵². Utilising renewable energy for low emission vehicles is therefore a worthy endeavour that should be fast-tracked towards greening transport systems in Africa for sustainability.

[14 en#:~:text=The%20electricity%20used%20to%20power,levels%20of%20road%20traffic%20noise?](#)

(Accessed on 27/09/2025)

⁴⁸ Ibid

⁴⁹ Africa Union., 'Agenda 2063: The Africa we Want.' Op Cit

⁵⁰ Renewable Energy Technologies in the Global South: Insights from Africa., Available at <https://saiia.org.za/research/renewable-energy-technologies-in-the-global-south-insights-from-africa/> (Accessed on 27/09/2025)

⁵¹ Ibid

⁵² Ibid

Trade and Sustainable Development in Africa: Ensuring Equity, Peace, Prosperity and Environmental Protection

Abstract

This paper critically discusses how trade can be effectively harnessed in Africa for Sustainable Development. The paper argues that trade can be a powerful engine in the quest towards Sustainable Development. It posits that Africa has immense potential to utilise trade towards Sustainable Development including through the African Continental Free Trade Area (AfCFTA). However, despite its benefits, the paper notes that trade fuels several economic, social and environmental challenges in Africa which undermines the continent's development efforts. It examines some of the negative impacts of trade in Africa. In light of these concerns, the paper explores how trade can be effectively harnessed to spur Sustainable Development in Africa by ensuring equity, peace, prosperity and environmental protection.

1.0 Introduction

Trade refers to the voluntary exchange involving two or more parties in need of each other's resources (goods and services)¹. Trade therefore entails the voluntary exchange of goods and services. Trade can occur at various levels including between individuals, businesses, or nations, and it can take many different forms, such as direct bartering, cash transactions, and electronic payments². Trade has been identified as a powerful engine that can unlock Sustainable Development by creating jobs, reducing poverty and increasing economic opportunities for individuals, businesses and nations³. It has been correctly noted that there are positive links between a country's trade policies and its socio-economic development⁴. For example, properly designed, open and well-functioning trade policies especially those supporting global and regional trade can enhance economic growth and reduce poverty in a country⁵. Effective trade policies and environments can foster Sustainable Development by enhancing competition, supporting economies of scale, attracting foreign investments, promoting equal access to resources and ensuring innovation and technological progress⁶.

¹ What is 'Trade', Available at <https://economictimes.indiatimes.com/definition/trade?from=mdr> (Accessed on 28/10/2025)

² Introduction to Trade: Trade Definition and Importance., Available at <https://financialcrimeacademy.org/introduction-to-trade/> (Accessed on 28/10/2025)

³ World Bank Group., 'Trade' Available at <https://www.worldbank.org/en/topic/trade> (Accessed on 28/10/2025)

⁴ Trade and Economic Development- Understanding the Relationship., Available at <https://www.kommerskollegium.se/en/development-and-sustainability/trade-and-economic-development/> (Accessed on 28/10/2025)

⁵ Ibid

⁶ United Nations Economic and Social Commission for Asia., 'Trade and Sustainable Development' Available at <https://www.unescap.org/sites/default/d8files/knowledge-products/Session%201%20Trade%20and%20sustainable%20development%20v.2.pdf> (Accessed on 28/10/2025)

The role of trade as an engine of growth is acknowledged under the United Nations 2030 Agenda for Sustainable Development⁷. The Agenda recognizes international trade as tool for inclusive economic growth and poverty reduction, and an important means of attaining the Sustainable Development Goals (SDGs)⁸. It has been argued that trade can help the global community achieve the SDGs through investments in food security, generating higher living standards towards reducing poverty, promoting decent employment opportunities for all, fostering technology transfer including access to low-carbon technologies to confront climate change, and ensuring availability of basic services such as health, education, water, sanitation and energy⁹.

Despite its role on fostering Sustainable Development, trade also raises several economic, social and environmental concerns including imbalances between developed and developing countries, high costs which negatively impact the poor, vulnerable and small businesses, biodiversity loss, land use changes and climate change¹⁰. Addressing these challenges is key in strengthening the role of trade in the quest towards Sustainable Development.

This paper critically discusses how trade can be effectively harnessed in Africa for Sustainable Development. The paper argues that trade can be a powerful engine in the quest towards Sustainable Development. It posits that Africa has immense potential to utilise trade towards Sustainable Development including through the African Continental Free Trade Area (AfCFTA). However, despite its benefits, the paper notes that trade fuels several economic, social and environmental challenges in Africa which undermines the continent's development efforts. It examines some of the negative impacts of trade in Africa. In light of these concerns, the paper explores how trade can be effectively harnessed to spur Sustainable Development in Africa by ensuring equity, peace, prosperity and environmental protection.

2.0 Trade and Sustainable Development in Africa: Promises and Pitfalls

Trade plays an important role in fostering Sustainable Development in Africa and the rest of the Global South. The World Trade Organization (WTO), notes that international trade accounts for over 50 per cent of low-income countries' Gross Domestic Product (GDP) and is an important source of income for both the private and public sectors in developing countries¹¹. Trade is

⁷ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 28/10/2025)

⁸ Ibid

⁹ Galmés, G.V., 'Trade as an enabler of sustainable development and poverty eradication,' in United Nations, The Road from Rio+20: Towards Sustainable Development Goals, Issue 4, September 2014, p. 10. UNCTAD/DITC/TED/2014/1 Available at http://unctad.org/en/PublicationsLibrary/ditcted2014d1_en.pdf (Accessed on 28/10/2025)

¹⁰ United Nations Economic and Social Commission for Asia., 'Trade and Sustainable Development' Op Cit

¹¹ World Trade Organization., 'The WTO's Contribution to Achieving the SDGs.' Available at https://www.wto.org/english/thewto_e/coher_e/sdgs_e/wtoachsdgs_e.htm (Accessed on 28/10/2025)

unlocking socio-economic development in Africa and the Global South by increasing the number and quality of jobs, stimulating economic growth, and driving productivity increases¹².

It has been argued that for Africa, intra-African trade holds immense potential for sustained economic growth, regional integration and development¹³. For example, intra-African trade can help Africa reduce vulnerability to global shocks, achieve economic diversification, enhance export competitiveness and create employment opportunities¹⁴. For Africa, regional trade is more resilient than trade with other continents since manufactured goods are less susceptible to price shocks which affect primary products that constitute over 50 percent of trade between Africa and other regions¹⁵. By enhancing intra-African trade, Africa can promote sustained and inclusive economic growth thereby creating more decent job opportunities for its citizens, enhancing industrialization and innovation, improving food security by stabilizing food prices and building more resilient socio-economic structures¹⁶.

African Union's *Agenda 2063*¹⁷ recognises the role of trade in unlocking Sustainable Development in Africa. Agenda 2063 notes that Africa is still to harness the full benefits that accrue from trading with itself, or with the rest of the world, resulting in a share of global trade that is not commensurate with its population or resource endowments¹⁸. It seeks to boost intra-African trade including through the creation of a Continental Free Trade Area in order to strengthen trade as a tool for Sustainable Development in Africa¹⁹. In addition, the *Action Plan for Boosting Intra-African Trade*²⁰ recognises that trade is an important engine of economic growth and development both globally and in Africa. However, despite the role of trade as an engine for Sustainable

¹² World Bank Group., 'The Role of Trade in Ending Poverty' Available at <https://www.worldbank.org/en/topic/trade/publication/the-role-of-trade-in-ending-poverty> (Accessed on 28/10/2025)

¹³ African Development Bank Group., 'Intra-African Trade is Key to Sustainable Development – African Economic Outlook.' Available at <https://www.afdb.org/fr/news-and-events/intra-african-trade-is-key-to-sustainable-development-african-economic-outlook-17022> (Accessed on 28/10/2025)

¹⁴ United Nations Conference on Trade and Development., 'Intra-African Trade: Unlocking Private Sector Dynamism.' Available at https://unctad.org/system/files/official-document/tdb60d4_en.pdf (Accessed on 28/10/2025)

¹⁵ African Development Bank Group., 'Intra-African Trade is Key to Sustainable Development – African Economic Outlook.' Op Cit

¹⁶ Mene. W., 'Intra-African trade and its potential to accelerate progress toward the SDGs' Available at <https://www.brookings.edu/articles/intra-african-trade-and-its-potential-to-accelerate-progress-toward-the-sdgs/> (Accessed on 28/10/2025)

¹⁷ African Union., 'Agenda 2063: The Africa we Want' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 28/10/2025)

¹⁸ Ibid

¹⁹ Ibid

²⁰ African Union., 'Action Plan for Boosting Intra-African Trade' Available at https://au.int/sites/default/files/newsevents/pressreleases/26498-pr-action_plan_for_boosting_intra-african_trade_f-english.pdf (Accessed on 28/10/2025)

Development, the Action Plan notes that trade has not served its purpose as an effective tool for the achievement of rapid and sustainable economic growth and development in Africa²¹. The Action Plan further notes that due to its failure to harness trade for Sustainable Development, Africa remains the most aid-dependent continent of the world, unable to eliminate poverty through trade²². According to the Action Plan, boosting intra-African trade and deepening regional market integration constitute a necessary response to the challenges facing Africa in the multilateral trading system and the global economy towards harnessing trade as an instrument for Sustainable Development²³.

Strengthening trade including through boosting intra-African trade is therefore key in fostering Sustainable Development in Africa. The continent has immense potential to utilise trade as pathway towards sustainability. For example, with its abundant natural resources including arable land, forests, wildlife, minerals and the Blue Economy, Africa is well-positioned to become a leader in green industrialization by putting in place effective trade policies and instruments²⁴. Further, Africa's vast renewable energy potential including the abundance of wind and solar energy provides opportunities to harness trade for low-carbon and climate-positive growth²⁵. In addition, due to the abundance of green minerals in Africa including lithium, cobalt, nickel, rare earth elements and platinum group metals, Africa has the opportunity to develop green regional value chains that would foster industrialization and jobs towards a more sustainable and equitable future²⁶.

Establishment of the African Continental Free Trade Area (AfCFTA) also provides opportunities to harness trade for Sustainable Development in Africa. The *Agreement Establishing the African Continental Free Trade Area*²⁷ creates AfCFTA whose objectives include to create a single market for goods, services, facilitated by movement of persons in order to deepen the economic integration of Africa²⁸; to create a liberalised market for goods and services through successive rounds of negotiations²⁹; to contribute to the movement of capital and natural persons and facilitate investments building on the initiatives and developments in the State Parties and

²¹ Ibid

²² Ibid

²³ Ibid

²⁴ Greening Africa's Future: Sustainable Trade and Green Industrialisation., Available at <https://tessforum.org/latest/greening-africas-future-sustainable-trade-and-green-industrialisation> (Accessed on 28/10/2025)

²⁵ Ibid

²⁶ Africa's Green Mineral Strategy., Available at https://au.int/sites/default/files/documents/44539-doc-AGMS_Final_doc.pdf (Accessed on 28/10/2025)

²⁷ 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 (Accessed on 29/10/2025)

²⁸ Ibid

²⁹ Ibid

Regional Economic Communities³⁰; to enhance the competitiveness of the economies of state parties within the continent and the global market³¹; to promote industrial development in Africa through diversification and regional value chain development, agricultural development and food security³²; and to resolve the challenges of multiple and overlapping memberships and expedite the regional and continental integration processes in Africa³³. AfCFTA seeks to achieve the goals and aspirations of African Union's *Agenda 2063*³⁴ for a continental market with the free movement of persons, capital, goods and services, which are crucial for deepening economic integration, and promoting agricultural development, food security, industrialisation and structural economic transformation in Africa³⁵.

The creation of AfCFTA is a crucial step towards harnessing trade for Sustainable Development in Africa. AfCFTA is appropriately designed to deepen regional integration, foster trade and investment, enhance the mobility of capital and labour, support industrialization, and the development of a dynamic services sector in Africa³⁶. It has been argued that AfCFTA provides Africa with a renewed opportunity to steer its economic relations away from a reliance on external donors, foreign creditors and excessive commodity dependence towards a new economic era focused on self-reliance, cooperation, deeper regional integration and higher levels of intra-African trade³⁷. AfCFTA creates the world's largest free trade areas bringing together 55 countries which form the African Union together with 8 Regional Economic Communities (RECs) to enable the free flow of goods and services across the continent and boost the trading position of Africa in the global market³⁸. According to the African Union, AfCFTA is properly designed to accelerate intra-African trade and boost Africa's trading position in the global market through a common voice and policy space in international trade negotiations³⁹. If well implemented, AfCFTA has the ability to promote trade, industrialisation, investments, food security, technology development and transfer, climate action, and job creation therefore enhancing the

³⁰ Ibid

³¹ Ibid

³² Ibid

³³ Ibid

³⁴ Africa Union., 'Agenda 2063: The Africa we Want.' Op Cit

³⁵ African Union., 'Agreement Establishing the African Continental Free Trade Area.' Op Cit

³⁶ United Nations., 'Africa's Free Trade on Track, More Efforts Needed.' Available at [https://www.un.org/africarenewal/magazine/january-2023/africa%E2%80%99s-free-trade-track-moreefforts-needed#:~:text=lies%20ahead%2C%20though,-.Presently%2C%20intra%20Africa%20trade%20stands%20low%20at%20just%2014.4%25%20of,day\)%2C%20according%20to%20UNCTAD](https://www.un.org/africarenewal/magazine/january-2023/africa%E2%80%99s-free-trade-track-moreefforts-needed#:~:text=lies%20ahead%2C%20though,-.Presently%2C%20intra%20Africa%20trade%20stands%20low%20at%20just%2014.4%25%20of,day)%2C%20according%20to%20UNCTAD) (Accessed on 29/10/2025)

³⁷ Ibid

³⁸ East African Community., 'African Continental Free Trade Area (AfCFTA) Agreement' Available at <https://www.eac.int/trade/international-trade/trade-agreements/african-continental-free-trade-area-afcfta-agreement> (Accessed on 29/10/2025)

³⁹ African Union., 'The African Continental Free Trade Area' Available at <https://au.int/en/african-continental-free-trade-area> (Accessed on 29/10/2025)

development and competitiveness of Africa in the global stage⁴⁰. Implementing AfCFTA is therefore key towards harnessing trade for Sustainable Development in Africa.

From the foregoing, it is evident that if well harnessed, trade can be a powerful tool towards achieving Sustainable Development in Africa. However, trade also fuels several economic, social and environmental concerns in Africa. For example, dependence on external markets undermines Africa's voice in global trade negotiations raising equity concerns⁴¹. In addition, vulnerable groups including women, the youth and small businesses face several barriers such as limited access to finance, trade information and markets raising trade inequalities in Africa⁴². Further, socio-economic conflicts in the continent and hostile regulatory actions fuel intra-African trade wars undermining Africa's capacity to harness trade for Sustainable Development⁴³. Trade can also undermine environmental sustainability. For instance, due to heavy reliance on natural resources, high energy consumption, and transportation over long distances, trade can fuel environmental degradation, biodiversity loss, pollution and climate change due to greenhouse gas emissions from energy and transport activities⁴⁴. It is imperative to address these challenges in order to effectively harness trade for Sustainable Development in Africa.

3.0 Strengthening Trade for Sustainable Development in Africa

Trade is a powerful tool that can accelerate progress towards Sustainable Development in Africa. With the continent's immense trade potential, it is imperative to harness benefits and address challenges in order to spur Sustainable Development. This requires Africa to accelerate the implementation of AfCFTA. It has been argued that the successful implementation of AfCFTA will lead to the creation of more decent jobs, improved welfare and better quality of life for all citizenry in Africa for equity, prosperity and Sustainable Development⁴⁵. It is also vital to strengthen Africa's voice in global trade negotiations⁴⁶. Boosting Africa's voice and representation in global trade negotiations can enhance the role of trade in fostering Sustainable

⁴⁰ East African Community., 'African Continental Free Trade Area (AfCFTA)' Op Cit

⁴¹ African Union., 'The African Continental Free Trade Area' Op Cit

⁴² Chelangat. F., 'Boosting Trade in Africa: Inclusion of Marginalized Trade Actors in Development Financing' Available at <https://www.afronomicslaw.org/category/analysis/boosting-trade-africa-inclusion-marginalized-trade-actors-development-financing#:~:text=To%20ensure%20that%20trade%20genuinely,in%20trade%20finance%20and%20development.> (Accessed on 29/10/2025)

⁴³ Akinkugbe. O., & Amarh. G., 'A Reflection on African Trade and Investment Wars in Context' Available at <https://www.afronomicslaw.org/category/analysis/reflection-african-trade-and-investment-wars-context> (Accessed on 29/10/2025)

⁴⁴ Mpuure. D et al., 'The environmental impact of international trade in Sub-Saharan Africa: Exploring the role of policy and institutions for environmental sustainability' *Research in Globalization.*, Volume 9, December 2024

⁴⁵ United Nations., 'AU Summit 2023: Powering Trade through AfCFTA' Available at <https://www.un.org/africarenewal/magazine/february-2023/au-summit-2023-powering-trade-through-afcfta> (Accessed on 29/10/2025)

⁴⁶ African Union., 'The African Continental Free Trade Area' Op Cit

Development in Africa including through equitable trade rules, policies and costs⁴⁷. Further, there is in need to ensure the inclusion of vulnerable and marginalized groups including Africa's women, youth and small businesses in intra-African trade towards equity and inclusivity ensuring that no one is left behind in the quest towards the continent's development⁴⁸.

Harnessing trade for Sustainable Development in Africa also involves fostering peace⁴⁹. Conflicts and wars can undermine trade by preventing the free movement of goods and services particularly in cross-border areas⁵⁰. Further, intra-African trade and investment wars affect the flow of goods, capital and investments in the continent thus hindering the growth of trade in the continent⁵¹. Fostering peace by addressing conflicts and wars including intra-African trade wars is therefore key in boosting intra-African trade for Sustainable Development in Africa.

It is also important to ensure environmental protection in order to effectively harness trade for Sustainable Development in Africa. This can be achieved by greening intra-African and international trade in the continent⁵². According to the United Nations Environment Programme (UNEP), greening trade serves as a non-technical entry point for actors keen to navigate the environment-trade policy conversation and promote sustainable trade and the overall Sustainable Development agenda⁵³. This can be achieved through approaches such as reducing carbon emissions from transportation across borders, ensuring energy efficiency in trade activities, promoting international and intra-African trade and investment in green sectors including renewable energy, and facilitating green technology development and transfer in order to tackle environmental threats including climate change⁵⁴.

⁴⁷ Amare. T., 'Africa must strengthen continental unity to boost its global influence' Available at <https://www.chathamhouse.org/2025/09/africa-must-strengthen-continental-unity-boost-its-global-influence> (Accessed on 29/10/2025)

⁴⁸ Kenya Revenue Authority., 'The African Continental Free Trade Area (AfCFTA)' Available at https://www.google.com/search?q=AfCFTA&oq=A&gs_lcrp=EgZjaHJvbWUqDggAEUUYJxg7GIAEGloFMg4IABBFGCcYOxiABBiKBTIGCAEQRRg7MgYIAhBFGDsyBggDEEUYPDIGCAQQRRg8MgYIBRBFGDwyBggGEEUYPDIGCAcQRRg80gEHOTk2ajBqN6gCALACAA&sourceid=chrome&ie=UTF-8 (Accessed on 29/10/2025)

⁴⁹ United Nations., 'UNECA: Intra-regional trade can reduce conflicts in Africa' Available at <https://africarenewal.un.org/en/magazine/uneca-intra-regional-trade-can-reduce-conflicts-africa#:~:text=Trading%20is%20a%20driver%20for,27%20October%20in%20Tangier%2C%20Morocco.> (Accessed on 29/10/2025)

⁵⁰ Ibid

⁵¹ Akinkugbe. O., & Amarh. G., 'A Reflection on African Trade and Investment Wars in Context' Op Cit

⁵² World Trade Organization., 'Harnessing Trade for Sustainable Development and a Green Economy' Available at https://www.wto.org/english/res_e/publications_e/brochure_rio_20_e.pdf (Accessed on 29/10/2025)

⁵³ United Nations Environment Programme., 'Greening International Trade' Available at <https://www.unep.org/resources/publication/greening-international-trade> (Accessed on 29/10/2025)

⁵⁴ United Nations Economic Commission for Africa., 'Africa Should Leverage the AfCFTA to Promote Green Transition' Available at <https://www.uneca.org/stories/africa-should-leverage-the-afcfta-to-promote-green-transition> (Accessed on 29/10/2025)

Through the foregoing, it is possible to effectively harness trade for Sustainable Development in Africa.

4.0 Conclusion

Africa has immense opportunities to strengthen trade for Sustainable Development including through boosting intra-African trade under AfCFTA. However, in light of challenges such as exclusion of vulnerable groups including women, the youth and small businesses, intra-African trade and investment wars, lack of a strong African voice in global trade negotiations and environmental sustainability concerns, it is imperative to reorganize trade in Africa in order to ensure Sustainable Development⁵⁵. Ensuring equity, peace, prosperity and environmental protection is therefore vital in maximising benefits and tackling threats towards strengthening trade for Sustainable Development in Africa.

⁵⁵ United Nations., 'Africa's Free Trade on Track, More Efforts Needed.' Op Cit

Legal Scholarship in the age of Artificial Intelligence: An Appraisal

Abstract

This paper critically examines how Artificial Intelligence (AI) is impacting legal scholarship. The paper argues that AI is a powerful tool that can transform legal scholarship and publishing. It discusses ways through which AI is positively impacting legal scholarship. Despite its role in strengthening legal scholarship, the paper argues that the use of AI can raise ethical, legal, moral and integrity concerns. The paper examines some of the challenges and concerns facing the use of AI in legal scholarship. In light of such challenges, the paper explores how AI can be effectively harnessed in order to strengthen legal scholarship and publishing.

1.0 Introduction

Artificial Intelligence (AI) is a technology that enables computers and machines to simulate human learning, comprehension, decision-making, problem solving, autonomy and creativity¹. It encompasses the fields of computer and data science focused on building machines with human intelligence which enables them to perform tasks associated with human beings including learning, problem-solving, reasoning, perception, and language understanding². AI therefore comprises a set of technologies that enables computers and machines to perform advanced functions. It has been argued that instead of relying on explicit instructions and programming, AI systems learn from data that enables them to effectively handle complex problems and simple repetitive tasks, while also improving how they respond over time³.

AI is a disruptive technology that has permeated in all spheres including the legal profession. It has been argued that AI is disrupting most aspects of the legal profession including how contracts are made and concluded while also fundamentally changing the processes and modes of law enforcement and dispute resolution⁴. AI has the ability to quickly sift through the mass of complex facts to identify the key issues at the heart of each dispute therefore enhancing the efficiency of dispute resolution⁵. There is a rising growth of AI-driven judicial decision-making which has been hailed as a fundamental step in making justice more accessible, effective, and efficient to large and wider segments of society that cannot afford or have access to human

¹ What is AI?., Available at <https://www.ibm.com/think/topics/artificial-intelligence> (Accessed on 10/09/2025)

² What is Artificial Intelligence (AI)?., Available at [https://www.mtu.edu/computing/ai/#:~:text=What%20is%20AI-What%20is%20Artificial%20intelligence%20\(AI\)?,you've%20interacted%20with%20AI.](https://www.mtu.edu/computing/ai/#:~:text=What%20is%20AI-What%20is%20Artificial%20intelligence%20(AI)?,you've%20interacted%20with%20AI.) (Accessed on 10/09/2025)

³ Ibid

⁴ Eidemuller. H., & Wagner. G., 'Digital Dispute Resolution.' Available at <https://blogs.law.ox.ac.uk/business-law-blog/blog/2021/09/digital-dispute-resolution> (Accessed on 10/09/2025)

⁵ Kumtepe. C., 'A Brief Introduction to Blockchain Dispute Resolution.' *John Marshall Law Journal*, Volume 14, No. 2 (2021)

lawyers and judges⁶. AI has the potential to drive productivity in legal tasks including document review, contract analysis, legal research and writing, drafting of correspondence, drafting of briefs⁷. As a result, it has been argued that AI is a transformative force which can have a positive impact on the legal profession if effectively harnessed⁸.

This paper critically examines how AI is impacting legal scholarship. The paper argues that AI is a powerful tool that can transform legal scholarship and publishing. It discusses ways through which AI is positively impacting legal scholarship. Despite its role in strengthening legal scholarship, the paper argues that the use of AI can raise ethical, legal, moral and integrity concerns. The paper examines some of the challenges and concerns facing the use of AI in legal scholarship. In light of such challenges, the paper explores how AI can be effectively harnessed in order to strengthen legal scholarship and publishing.

2.0 Artificial Intelligence and Legal Scholarship: Promises and Pitfalls

Legal scholarship involves the production of legal knowledge in the form of research, books, articles and other legal publications⁹. Legal scholarship can also be described as the body of research and analysis produced by legal scholars which examines the law and legal systems¹⁰. It has been argued that legal scholarship grows out of a specific legal culture and provides a jurisprudential view of the way in which the law should be designed and applied to specific needs in a given society¹¹.

Legal scholarship is a fundamental concept in the legal profession. It has been argued that legal scholarship recognises law as both a theoretical construct and a practical discipline and seeks to enhance comprehensive understanding of existing legal frameworks and their practical implications¹². This field encompasses not only normative questions on the law but also its practical applicability and empirical insights¹³. Legal scholarship describes the current state of the

⁶ Buckland. R., 'Ai, Judges and Judgement: Setting the Scene' Available at <https://www.hks.harvard.edu/centers/mrcbg/publications/awp/awp220> (Accessed on 10/09/2025)

⁷ How AI is transforming the legal profession., Available at <https://legal.thomsonreuters.com/blog/how-ai-is-transforming-the-legal-profession/> (Accessed on 10/09/2025)

⁸ Ibid

⁹ Legal Scholars and Legal Education., Available at <https://www.iisj.net/es/node/1413#:~:text=In%20contemporary%20societies%2C%20legal%20scholars,law%20journals%20and%20university%20presses.> (Accessed on 11/09/2025)

¹⁰ Legal Scholarship., Available at <https://www.sciencedirect.com/topics/computer-science/legal-scholarship> (Accessed on 11/09/2025)

¹¹ Scordato. M.R., 'Legal Theory and Linguistic Reality: A Critical Examination of Modern Legal Scholarship' Available at <https://scholarship.law.edu/cgi/viewcontent.cgi?article=1556&context=scholar#:~:text=NATURAL%20LAW%20AND%20TRADITIONAL%20LEGAL,at%20least%20five%20primary%20functions.> (Accessed on 11/09/2025)

¹² What is Legal Scholarship., Available at https://www.linkedin.com/posts/clairepriscila_first-assignment-law-students-toolkit-activity-7190949551401324544-N2bL/ (Accessed on 11/09/2025)

¹³ Ibid

law, critically evaluates its appropriateness and monitors the future development of law¹⁴. It has been pointed out that legal scholarship is supported by institutional settings including universities or other research institutions, law journals and university presses¹⁵. Legal scholars are usually in charge of production of legal knowledge and preparing future legal professionals¹⁶. It has been argued that legal scholarship enriches legal education, enhances understanding of the law and its practical applicability in the society and adequately prepares students for the opportunities and challenges that they are likely to encounter in the future practice of law¹⁷.

AI is impacting legal scholarship. For instance, AI is influencing how legal knowledge is produced, disseminated and critiqued¹⁸. Generative AI tools such as large language models are able to draft legal memoranda, summarize cases, interpret huge volumes of data and propose novel lines of analysis thus influencing legal scholarship¹⁹. It has been argued that AI provides a set of effective tools that can positively influence legal scholarship by aiding in complex legal research, augmenting judicial reasoning and providing a framework for legal analysis²⁰.

AI is therefore a transformative technology that can strengthen legal scholarship. It has been argued that the field of legal scholarship has already been impacted by technology in the recent past²¹. For example, the growth of the internet revolutionized legal scholarship by digitizing information therefore enhancing accessibility through online research²². This has enabled legal scholars to save valuable hours and access more information that is readily tailored to their specific research needs²³. Similarly, just like the internet transformed legal scholarship by increasing access to resources from all over the world, AI has the potential to strengthen legal scholarship by eliminating research burdens²⁴. AI driven tools such as ChatGPT are being increasingly embraced in legal scholarship providing several benefits including improved efficiency in research, analysis and drafting²⁵. It has been argued that AI has notably influenced academia, with scholars attempting to understand and utilise tools like ChatGPT in research, text

¹⁴ Scordato. M.R., 'Legal Theory and Linguistic Reality: A Critical Examination of Modern Legal Scholarship' Op Cit

¹⁵ Legal Scholars and Legal Education., Op Cit

¹⁶ Ibid

¹⁷ What is Legal Scholarship., Op Cit

¹⁸ Perlman. A., 'Generative AI and the Future of Legal Scholarship' Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5072765 (Accessed on 11/09/2025)

¹⁹ Ibid

²⁰ Ibid

²¹ Nayar. S., 'Foreword: The 'Why d: The 'Why' & How' of Artificial Intelligence in Legal Scholarship' *Texas A& M Journal of Property Law.*, Volume 11, No. 4 (2025)

²² Ibid

²³ Ibid

²⁴ Ibid

²⁵ Conklin. M., 'Measuring the Rapidly Increasing Use of Artificial Intelligence in Legal Scholarship' *St. Mary's Journal of Legal Malpractice & Ethics.*, Volume 15, No. 2 (2025)

revisions, and peer review processes²⁶. Further, AI has been identified as a powerful tool in legal scholarship since it can enable scholars to notice trends in judicial reasoning, legislative behavior, or administrative action that might otherwise go unnoticed²⁷. Through AI, it is also possible to develop new lines of argument, brainstorm counterarguments, or test hypothetical scenarios faster than what human researchers can do²⁸. AI can also enable scholars to integrate different modes of analysis including empirical legal studies and economic modeling to produce more sound and holistic analysis and reasoning²⁹.

Embracing AI can thus strengthen legal scholarship. However, the use of AI in legal scholarship raises moral and ethical dilemmas. For example, it has been argued that the use of AI in legal scholarship raises pressing questions about method, substance, and ethics³⁰. AI challenges the basic nature of legal scholarship since scholars who predominantly utilise doctrinal and theoretical modes of analysis to advance legal arguments face a different landscape where their modes of inquiry are tested against massive sets of data or even co-created using an AI collaborator³¹. In addition, it has been argued that the use of AI in legal scholarship results in difficulty of identifying AI-generated content³². For example, traditional methods of detecting plagiarism are often inadequate since AI does not merely copy existing text but generates novel outputs making it hard to detect plagiarism³³. AI can thus lead to academic dishonesty such as where scholars use it to generate articles or in cases where students utilise AI to complete their assessments³⁴. The use of AI can also perpetuate biases, discrimination and inequalities in legal scholarship³⁵.

Addressing the foregoing challenges is vital towards effectively harnessing AI in legal scholarship.

3.0 Conclusion

AI is a valuable technology whose integration can bolster legal scholarship. It has the potential to positively influence how legal knowledge is produced, disseminated and critiqued³⁶. AI can streamline legal research, reasoning, analysis and review thus strengthening legal scholarship³⁷.

²⁶ Ibid

²⁷ So meta. AI-written paper says AI is the future of legal scholarship., Available at <https://www.reuters.com/legal/legalindustry/so-meta-ai-written-paper-says-ai-is-future-legal-scholarship-2025-01-02/> (Accessed on 11/09/2025)

²⁸ Ibid

²⁹ Ibid

³⁰ Perlman. A., 'Generative AI and the Future of Legal Scholarship' Op Cit

³¹ Ibid

³² Conklin. M., 'Measuring the Rapidly Increasing Use of Artificial Intelligence in Legal Scholarship' Op Cit

³³ Ibid

³⁴ Ibid

³⁵ Ibid

³⁶ Perlman. A., 'Generative AI and the Future of Legal Scholarship' Op Cit

³⁷ Ibid

Despite its appropriateness, the use of AI in legal scholarship raises several concerns including the authenticity and integrity of information and potential biases³⁸. It is therefore imperative to balance the benefits of AI against the serious ethical and moral concerns regarding academic integrity, authorship, and the potential homogenization of legal discourse³⁹. In particular, there is need for legal scholars to avoid overreliance on AI in generating content and only use it as a guide in coming up with novel ideas and lines of argument⁴⁰. Further, editors of law journals have been encouraged to employ AI tools to counter plagiarism and overreliance on AI in journal papers⁴¹. There is also need to address the risk of bias and discrimination in AI by implementing data curation techniques⁴². Further, enhancing training in AI ethics, data science, and bias detection can help students and scholars to navigate these challenges effectively⁴³. Through the foregoing, it is possible to appropriately harness AI towards strengthening legal scholarship. Enhancing legal scholarship in the age of AI is an idea whose time has arrived.

³⁸ Conklin. M., 'Measuring the Rapidly Increasing Use of Artificial Intelligence in Legal Scholarship' Op Cit

³⁹ Ibid

⁴⁰ Ibid

⁴¹ Conklin. M., 'Measuring the Rapidly Increasing Use of Artificial Intelligence in Legal Scholarship' Op Cit

⁴² Perlman. A., 'Generative AI and the Future of Legal Scholarship' Op Cit

⁴³ Ibid

PART VIII – HUMAN RIGHTS, HEALTH AND OCCUPATIONAL SAFETY

Links human well-being to environmental health. It stresses that the right to a clean and healthy environment is inseparable from human rights, emphasizing the importance of occupational safety and equitable access to healthcare.

Health as a Human Right: Exploring Strategies to attain a Clean, Healthy and Sustainable Environment in Africa

Abstract

This paper critically examines how a clean, healthy and sustainable environment can be attained in Africa. The paper conceptualises a clean, healthy and sustainable environment. It argues that a clean, healthy and sustainable environment is a core human right both globally and in Africa and a prerequisite for attaining good health and well-being. Despite being a key ideal in the quest towards Sustainable Development and good health and wellbeing, the paper argues that Africa is yet to attain the right to a clean, healthy and sustainable environment. It discusses some of the factors undermining the right to a clean, healthy and sustainable environment in Africa. In light of these challenges, the paper explores strategies towards attaining a clean, healthy and sustainable environment in Africa for Sustainable Development and human health.

1.0 Introduction

Health has been defined as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity¹. It has been argued that the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition². Further, it has been pointed out that the right to health extends beyond access to health care and includes a wide range of factors that can help everyone to lead a healthy life³. These include safe drinking water and adequate sanitation, safe food, adequate nutrition and housing, healthy working and environmental conditions, health related education and information, and gender equality⁴. Health is therefore a fundamental human right. It has been argued that health is both a basic human right in itself and an essential means for the realisation of other fundamental human rights⁵. Respecting, protecting and fulfilling the human right to health has been identified as one of the cornerstones for the enhancement and improvement of overall wellbeing and human development since it enables human beings to undertake social, economic and cultural activities as well partake in civil and political activities⁶.

¹ Constitution of the World Health Organization., Available at <https://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf> (Accessed on 15/09/2025)

² Ibid

³ Office of the United Nations High Commissioner for Human Rights., 'The Right to Health.' Available at <https://www.ohchr.org/sites/default/files/Documents/Publications/Factsheet31.pdf> (Accessed on 15/09/2025)

⁴ Ibid

⁵ Nampewo. Z., Mike. J., & Wolff. J., 'Respecting, Protecting and Fulfilling the Human Right to Health.' *International Journal of Equity in Health*, Volume 21, No. 36 (2022)

⁶ Ibid

The environment is a key determinant of good health and well-being. It has been argued that the environment can directly and indirectly impact human health and wellbeing⁷. According to the World Health Organization (WHO), healthier environments can prevent almost one quarter of the global burden of disease⁸. WHO asserts that clean air, stable climate, adequate water, sanitation and hygiene, safe use of chemicals, protection from radiation, healthy and safe workplaces, sound agricultural practices, health-supportive cities and built environments, and a preserved nature are key environmental factors that determine good health and well-being⁹. Nurturing clean, healthy and sustainable environments is therefore key towards attaining the human right to health.

This paper critically examines how a clean, healthy and sustainable environment can be attained in Africa. The paper conceptualises a clean, healthy and sustainable environment. It argues that a clean, healthy and sustainable environment is a core human right both globally and in Africa and a prerequisite for attaining good health and well-being. Despite being a key ideal in the quest towards Sustainable Development and good health and wellbeing, the paper argues that Africa is yet to attain the right to a clean, healthy and sustainable environment. It discusses some of the factors undermining the right to a clean, healthy and sustainable environment in Africa. In light of these challenges, the paper explores strategies towards attaining a clean, healthy and sustainable environment in Africa for Sustainable Development and human health.

2.0 The Human Right to a Clean, Healthy and Sustainable Environment and its place in Africa

It has been argued that every person has the right to a clean, healthy and sustainable environment¹⁰. Since human rights and the environment are interdependent, a clean, healthy and sustainable environment is necessary for the full enjoyment of a wide range of human rights, such as the rights to life, health, food, water and sanitation and development, among others¹¹. In addition, it has been argued that the human right to a clean, healthy and sustainable environment is linked to other rights existing under international human rights law¹². This is due to the fact that human rights are considered interrelated, inter-dependent and mutually reinforcing¹³.

⁷ What is Environmental Health., Available at <https://www.ehinz.ac.nz/indicators/overview/what-is-environmental-health/> (Accessed on 15/09/2025)

⁸ World Health Organization., 'Environmental Health' Available at https://www.who.int/health-topics/environmental-health#tab=tab_1 (Accessed on 15/09/2025)

⁹ Ibid

¹⁰ United Nations Development Programme., 'What is the Right to a Healthy Environment?' Available at <https://www.undp.org/sites/g/files/zskgke326/files/2023-01/UNDP-UNEP-UNHCHR-What-is-the-Right-to-a-Healthy-Environment.pdf> (Accessed on 16/09/2025)

¹¹ Ibid

¹² International Labour Organization., 'UN General Assembly recognizes human right to a clean, healthy, and sustainable environment' Available at <https://www.ilo.org/resource/article/un-general-assembly-recognizes-human-right-clean-healthy-and-sustainable> (Accessed on 16/09/2025)

¹³ Ibid

Realizing a clean, healthy and sustainable environment is therefore vital in achieving other human rights including the right to health.

The right to a clean, healthy and sustainable environment encompasses various elements. These include clean and balanced ecosystems, rich biodiversity, clean air, and a stable climate¹⁴. Further, it has been argued that a clean, healthy and sustainable environment comprises several factors such as a safe and stable climate, healthy ecosystems, non-toxic environments, and justice and inclusion for all people in environmental decision making processes¹⁵. The right to a clean, healthy and sustainable environment encompasses both substantive and procedural elements. The substantive elements under this right include clean air; a safe and stable climate; access to safe and clean water and adequate sanitation services; healthy and sustainably produced food; non-toxic environments in which to live, work, study and play; and healthy and rich biodiversity and ecosystems¹⁶. In addition, the procedural elements under the right to a clean, healthy and sustainable environment include access to environmental information, participation in environmental decision-making processes for all people, and access to environmental justice include through effective remedies¹⁷.

Attaining the right to a clean, healthy and sustainable environment is vital for both people and planet. Since the environment contains virtually all ingredients required to sustain human beings, a threat to the right to a clean, healthy and sustainable environment could potentially hinder attainment of other rights such as the right to food, water, energy, health and sanitation among others¹⁸. This right therefore recognises that nature is a keystone of a dignified human existence¹⁹. People depend on nature and thriving ecosystems for vital services including food, clean water and air, energy and climate regulation²⁰. As a result, it has been argued that without a clean, healthy and sustainable environment, human beings are unable to fulfill their aspirations²¹. Further, in the face of mounting environmental problems including the triple planetary crisis of

¹⁴ Zimmer K, 'The Human Right That Benefits Nature' <https://www.bbc.com/future/article/20210316-how-the-human-right-to-a-healthy-environment-helps-nature> (Accessed on 16/09/2025)

¹⁵ Right to a Clean, Healthy and Sustainable Environment., Available at <https://youth4yes.com/youth-human-rights-basics/what-rights-do-young-people-have/rights-to-a-clean-healthy-and-sustainable-environment/> (Accessed on 16/09/2025)

¹⁶ United Nations Development Programme., 'What is the Right to a Healthy Environment?' Op Cit

¹⁷ Ibid

¹⁸ Muigua. K., 'Recognising a Human Right to Safe, Healthy and Sustainable Environment.' Available at <http://kmco.co.ke/wp-content/uploads/2021/04/Recognising-a-Human-Right-to-Safe-Healthy-and-Sustainable-Environment-Kariuki-Muigua-1st-April-2021.pdf> (Accessed on 16/09/2025)

¹⁹ Zimmer K, 'The Human Right That Benefits Nature' Op Cit

²⁰ Ibid

²¹ Office of the United Nations High Commissioner for Human Rights., 'About Human Rights and the Environment' Available at <https://www.ohchr.org/en/special-procedures/sr-environment/about-human-rights-and-environment#:~:text=All%20human%20beings%20depend%20on,unable%20to%20fulfil%20our%20aspirations> (Accessed on 16/09/2025)

climate change, pollution and biodiversity loss, attaining a clean, healthy and sustainable environment is vital in protecting nature, human life, well-being and dignity²². It has been argued that achieving a clean, healthy and sustainable environment is key towards limiting pollution, protecting plants and animals, and countering the impacts of climate change²³.

Achieving a clean, healthy and sustainable environment is a key ideal both globally and in Africa. For example, at the global level, this right is envisaged under the *International Covenant on Economic, Social and Cultural Rights*²⁴ which considers the environment as human right issue. The Covenant requires states parties to improve all aspects of environmental and industrial hygiene²⁵. In addition, the United Nations General Assembly has adopted a *Resolution*²⁶ declaring that everyone on the planet has a right to a clean, healthy, and sustainable environment²⁷. The resolution by the United Nations General Assembly affirms the importance of the right a clean, healthy and sustainable environment for the enjoyment of all human rights²⁸. It calls upon states, international organizations, business enterprises and other relevant stakeholders to adopt policies, to enhance international cooperation, strengthen capacity-building and continue to share good practices in order to scale up efforts to ensure a clean, healthy and sustainable environment for all²⁹.

In the African context, the *African Charter on Human and Peoples' Rights*³⁰ provides that all people shall have the right to a general satisfactory environment favourable to their development³¹. Further, at a national level, the *Constitution of Kenya*³² stipulates that every person has the right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures³³.

²² Office of the United Nations High Commissioner for Human Rights., 'The Right to a Healthy Environment: A User's Guide' Available at <https://www.ohchr.org/sites/default/files/documents/issues/environment/srenvironment/activities/2024-04-22-stm-earth-day-sr-env.pdf> (Accessed on 16/09/2025)

²³ United Nations Environment Programme., 'In historic move, UN declares healthy environment a human right' Available at <https://www.unep.org/news-and-stories/story/historic-move-un-declares-healthy-environment-human-right> (Accessed on 16/09/2025)

²⁴ United Nations General Assembly, *International Covenant on Economic, Social and Cultural Rights*, 16 December 1966, United Nations, Treaty Series, vol. 993

²⁵ Ibid, Article 12 (2) (b)

²⁶ United Nations General Assembly (UNGA)., 'The Human Right to a Clean, Healthy and Sustainable Environment.' UNGA Resolution 'A/76/L.75.', Available at <https://docs.un.org/en/A/RES/76/300> (Accessed on 07/08/2025)

²⁷ Ibid

²⁸ Ibid

²⁹ Ibid

³⁰ Organization of African Unity (OAU), *African Charter on Human and Peoples' Rights* ("Banjul Charter"), 27 June 1981, CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982).

³¹ Ibid

³² Constitution of Kenya, 2010., Government Printer, Nairobi

³³ Ibid, article 42

Attaining a clean, healthy and sustainable environment is therefore an imperative both globally and in Africa. However, Africa still faces significant barriers in actualising this right. For example, the continent is facing several environmental calamities in the form of the triple planetary crisis comprising of climate change, nature and biodiversity loss, and pollution and waste³⁴. It has been argued that environmental challenges facing Africa including deforestation, air pollution, water pollution, biodiversity loss and oil spills threaten the right to a clean, healthy and sustainable environment³⁵. According to the African Union, the unfolding phenomena of climate change, biodiversity depletion, desertification, land degradation and unsustainable use of finite natural resources remain a serious risk for Africa since they pose real impediments to achieving the Sustainable Development Goals (SDGs) and Africa's Agenda 2063³⁶.

Further, despite the inclusion of the right to a clean, healthy and sustainable environment in the Constitutions of several African countries including the Constitution of Kenya, the Constitution of South Africa and the Constitution of Nigeria, implanting this right continues to be a challenge³⁷. For example, economic development is often prioritised at the expense of environmental conservation in Africa leading to destruction of ecosystems, pollution, deforestation, land degradation, biodiversity loss and depletion of natural resources among other environmental challenges³⁸. Most African countries are yet to put in place appropriate policy, technical, human and institutional frameworks to implement the right to a clean, healthy and sustainable environment³⁹.

It is vital to address the foregoing challenges in order to foster the right to a clean, healthy and sustainable environment in Africa.

3.0 Attaining a Clean, Healthy and Sustainable Environment in Africa

Attaining a clean, healthy and sustainable environment in Africa is a vital objective for both people and planet. A clean, healthy and sustainable environment is inextricably linked to the human right to health. Achieving a clean, healthy and sustainable environment in Africa can foster human and environmental health by tackling the impacts of pollution, environmental

³⁴ United Nations Environment Programme., 'Fostering Collaboration to Address Environmental Challenges in Africa.' Available at <https://www.unep.org/news-and-stories/speech/fostering-collaboration-address-environmental-challenges-africa> (Accessed on 16/09/2025)

³⁵ Nguyen. L., '5 Biggest Environmental Issues In Africa In 2023.' Available at <https://earth.org/environmental-issues-in-africa/> (Accessed on 16/09/2025)

³⁶ Africa Union., 'Africa Environment and Wangari Maathai Day.' Available at <https://au.int/en/wangari-maathai-day> (Accessed on 16/09/2025)

³⁷ Natural Justice., 'UNGA Declaration on the Right to a Clean and Healthy Environment and what this could mean for us in Africa' Available at <https://naturaljustice.org/unga-declaration-on-the-right-to-a-clean-and-healthy-environment-a-polite-reminder-of-the-need-to-prioritise-sustainable-development/#:~:text=The%20Constitution%20of%20South%20Africa,a%20clean%20and%20healthy%20environment.> (Accessed on 16/09/2025)

³⁸ Ibid

³⁹ Ibid

degradation climate change and biodiversity loss while ensuring that human beings have access to vital ecosystem services including clean air, food, water and energy for their health and well-being⁴⁰. According to the United Nations Environment Programme (UNEP), fostering clean and healthy environments will lead to a sustainable future where people, animals and the planet can thrive together⁴¹. A clean, healthy and sustainable environment both globally and in Africa can ensure healthy ecosystems, clean and safe water, breathable air, non-toxic food, better management of interactions between humans and wild animals to avoid spread of disease and strengthened traditional knowledge for medicines⁴².

It is therefore vital to implement strategies towards actualising a clean, healthy and sustainable environment in Africa. This requires all African countries to recognise the right to a clean, healthy and sustainable environment as a fundamental right in their national constitutions⁴³. It has been argued that Constitutional recognition of the right to a clean, healthy and sustainable environment is an important safeguard towards enhancing its legal protection⁴⁴. It is also vital for all African countries to strengthen the enforcement and implementation of environmental laws and policies in order to attain the right to a clean, healthy and sustainable environment⁴⁵. Effective implementation and enforcement of environmental laws and policies is a key strategy towards actualising a clean, healthy and sustainable environment by tackling environmental threats and hazards such as pollution, biodiversity loss, deforestation, climate change and environmental degradation⁴⁶. It is therefore necessary for African countries to build strong environmental institutions, invest adequate financial resources in environmental governance and employ effective strategies including the use of science and technology towards achieving a clean, healthy and sustainable environment.

There is also need to realise the procedural elements of the right to a clean, healthy and sustainable environment in Africa. This involves enhancing access to environmental information, public participation in environmental decision-making processes and ensuring access to justice

⁴⁰ United Nations Development Programme., 'What is the Right to a Healthy Environment?' Op Cit

⁴¹ United Nations Environment Programme., 'The environment is fundamental to human health. Here's why' Available at <https://www.unep.org/news-and-stories/story/environment-fundamental-human-health-heres-why> (Accessed on 16/09/2025)

⁴² Ibid

⁴³ United Nations Environment Programme., 'What are Environmental Rights?' Available at <https://www.unep.org/explore-topics/environmental-rights-and-governance/what-we-do/advancing-environmental-rights/what> (Accessed on 16/09/2025)

⁴⁴ Ibid

⁴⁵ The Access Initiative., 'The Road to Realizing Environmental Rights In Africa: Moving From Principles to Practice' Available at https://accessinitiative.org/wp-content/uploads/2022/10/22.01_rep_access_initiative_v583-4.pdf (Accessed on 16/09/2025)

⁴⁶ Ibid

in environmental matters⁴⁷. By realising these tenets, it is possible to ensure more informed environmental decision-making by governments, more responsible environmental actions by companies, more assistance in environmental management by the public, and more effective environmental law⁴⁸. States should therefore enhance access to environmental information to all citizens in order to foster awareness on the right to a clean, healthy and sustainable environment and empower citizens to take appropriate strategies towards fulfilling this right⁴⁹. Further, there is need to embrace the participation of every person in Africa including women, the youth, indigenous peoples and local communities in environmental governance since their contribution is key in achieving the right to a clean, healthy and sustainable environment⁵⁰. It is also imperative for African countries to enhance access to environmental justice through appropriate tools and strategies including court processes and Alternative Dispute Resolution (ADR) mechanisms in order to enable citizens to uphold the right to a clean, healthy and sustainable environment by holding perpetrators accountable and obtaining remedies for violation of this right⁵¹.

Through the foregoing strategies, it is possible to attain the right to a clean, healthy and sustainable environment both globally and in Africa.

4.0 Conclusion

Fostering a clean, healthy and sustainable environment in Africa is vital towards achieving the human right to health. It is therefore imperative to implement strategies towards actualising this right including through recognising the right to a clean, healthy and sustainable environment in national constitutions, enforcing and implementing environmental laws and policies, and fostering access to environmental information, public participation in environmental decision-making processes and access to environmental justice⁵². Attaining a clean, healthy and sustainable environment is therefore an achievable ideal towards realising health as a human right.

⁴⁷ United Nations Environment Programme., 'Environmental Rule of Law: First Global Report' Available at <https://www.unep.org/resources/assessment/environmental-rule-law-first-global-report> (Accessed on 16/09/2025)

⁴⁸ Ibid

⁴⁹ Ibid

⁵⁰ The Access Initiative., 'The Road to Realizing Environmental Rights In Africa: Moving From Principles to Practice' Op Cit

⁵¹ Muigua. K., 'Attaining Environmental Justice through Alternative Dispute Resolution' Available at <https://kmco.co.ke/wp-content/uploads/2023/07/Attaining-Environmental-Justice-through-Alternative-Dispute-Resolution.pdf> (Accessed on 16/09/2025)

⁵² The Access Initiative., 'The Road to Realizing Environmental Rights In Africa: Moving From Principles to Practice' Op Cit

Workers' Rights in the Global South: Implementing Effective Occupational Health and Safety Measures for Sustainability

Abstract

This paper critically discusses how workers' rights can be protected in the Global South through effective Occupational Health and Safety (OHS) measures. The paper defines OHS and examines its core elements. It argues that effective OHS measures are key in safeguarding workers' rights by ensuring safe and healthy working environments. Despite playing a key role in protecting workers, the paper notes that the Global South is yet to implement effective OHS measures. It discusses some of the key threats facing OHS in the Global South. The paper argues that failure to put in place sound OHS measures in the Global South undermines sustainability by exposing workers to the risk of death and injuries. In light of these concerns, the paper discusses how workers' rights can be protected in the Global South by implementing effective OHS measures for sustainability.

1.0 Introduction

According to the International Labour Organization (ILO), productive employment and decent work are key elements towards achieving development and poverty reduction¹. It has been argued that decent work entails productive work for both men and women in conditions of freedom, equality, equity, security and human dignity². Decent work ensures equal pay for equal work, a secure form of employment, safe working conditions, equal opportunities for all workers, social protection for workers and their families, and the freedom of workers to express their concerns and organize among others³. Increasing employment and ensuring decent work for all are essential aspects of Sustainable Development⁴. For instance, quality employment and decent work conditions help reduce inequalities and poverty, and empower people, especially women, young people and the most vulnerable such as people with disabilities⁵.

The United Nations 2030 *Agenda for Sustainable Development*⁶ acknowledges the role of decent work in the quest towards sustainability. The Agenda urges states to create conditions for

¹ International Labour Organization., 'Decent Work' Available at <https://www.ilo.org/topics/decent-work#:~:text=It%20involves%20opportunities%20for%20work,that%20affect%20their%20lives%20and> (Accessed on 01/11/2025)

² European Commission., 'Employment and Decent Work' Available at https://international-partnerships.ec.europa.eu/policies/sustainable-growth-and-jobs/employment-and-decent-work_en (Accessed on 01/11/2025)

³ Ibid

⁴ Ibid

⁵ Ibid

⁶ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 01/11/2025)

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sustainable, inclusive and sustained economic growth, shared prosperity and decent work for all, taking into account different levels of national development and capacities⁷. Sustainable Development Goal (SDG) 8 seeks to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all⁸. Fostering productive employment and decent work for all is therefore key towards Sustainable Development.

Upholding workers' rights is vital towards ensuring productive employment and decent work for sustainability. According to ILO, workers' rights are fundamental human rights and protections that all employees are entitled to in their workplace⁹. It has been pointed out that workers' rights cover a wide range of protections and entitlements afforded to all employees including the right to decent work, right to fair remuneration, freedom of association, right to equal opportunity, protection against discrimination and protection against unfair dismissal¹⁰. The ILO Conventions set out five categories of labour rights which are: freedom of association and the effective recognition of the right to collective bargaining¹¹; the elimination of all forms of forced or compulsory labour¹²; the effective abolition of child labour¹³; the elimination of discrimination in respect of employment and occupation¹⁴; and a safe and healthy working environment¹⁵. It has been argued that upholding these rights is a necessary condition for poverty reduction, tackling inequality, work advancement, productivity, justice and sustainability¹⁶.

This paper critically discusses how workers' rights can be protected in the Global South through effective Occupational Health and Safety (OHS) measures. The paper defines OHS and examines its core elements. It argues that effective OHS measures are key in safeguarding workers' rights by ensuring safe and healthy working environments. Despite playing a key role in protecting workers, the paper notes that the Global South is yet to implement effective OHS measures. It discusses some of the key threats facing OHS in the Global South. The paper argues that failure

⁷ Ibid

⁸ Ibid

⁹ International Labour Organization., 'International labour standards and human rights' Available at <https://www.ilo.org/resource/international-labour-standards-and-human-rights#:~:text=Labour%20rights%20are%20human%20rights,basis%20of%20the%202030%20Agenda>. (Accessed on 01/11/2025)

¹⁰ Workers' Rights., Available at <https://globalnaps.org/issue/workers-rights/> (Accessed on 01/11/2025)

¹¹ International Labour Organization., 'Fundamental Principles and Rights at Work' Available at <https://www.ilo.org/projects-and-partnerships/projects/fundamental-principles-and-rights-work> (Accessed on 01/11/2025)

¹² Ibid

¹³ Ibid

¹⁴ Ibid

¹⁵ Ibid

¹⁶ Bonny. A., 'Crises affect social justice in Africa: Social activists' Available at <https://www.aa.com.tr/en/africa/crises-affect-social-justice-in-africa-social-activists/2507047> (Accessed on 01/11/2025)

to put in place sound OHS measures in the Global South undermines sustainability by exposing workers to the risk of death and injuries. In light of these concerns, the paper discusses how workers' rights can be protected in the Global South by implementing effective OHS measures for sustainability.

2.0 The Need for Effective Occupational Health and Safety in the Global South

OHS is a concept that deals with all aspects of health and safety in workplaces¹⁷. OHS has also been defined as the science of the anticipation, recognition, evaluation and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment¹⁸. OHS can also be described as the practice that deals with the safety, welfare, health and social well-being of workers in all occupations¹⁹.

Ensuring effective OHS is key towards protecting workers' rights through safe and health work environments²⁰. It has been argued that the goal of OHS is to prevent accidents, injuries and diseases at the workplace²¹. By putting in place effective OHS measures, it is possible to safeguard the rights of workers by preventing work-related injuries and diseases, as well as ensuring the protection and promotion of the health of workers²². It has been argued that sound OHS practices are necessary towards improving the working conditions and working environments for workers and ensuring that their safety and health is maintained while working and providing compensation if a work-related injury occurs²³. This is achieved through the promotion and maintenance of the highest degree of physical, mental and social wellbeing in all occupations²⁴; the prevention amongst workers of departures from health caused by their working conditions²⁵; the protection of workers in their employment from risks resulting from factors adverse to

¹⁷ International Labour Organization., 'Occupational Safety and Health' Available at <https://www.ilo.org/bureau-employers-activities/areas-work/occupational-safety-and-health> (Accessed on 01/11/2025)

¹⁸ Alli. B., 'Fundamental Principles of Occupational Health and Safety' International Labour Organization, 2nd Edition, 2018

¹⁹ The Importance of Occupational Health and Safety., Available at <https://pecb.com/en/article/the-importance-of-occupational-health-and-safety> (Accessed on 01/11/2025)

²⁰ A Safe and Healthy Working Environment., Available at <https://unglobalcompact.org/take-action/safety-andhealth> (Accessed on 01/11/2025)

²¹ International Labour Organization., 'Occupational Safety and Health' Op Cit

²² United Nations Global Compact., 'A Safe and Healthy Working Environment' Available at <https://unglobalcompact.org/take-action/safety-andhealth> (Accessed on 01/11/2025)

²³ Ibid

²⁴ Muigua. K., 'Realising Occupational Safety and Health as a Fundamental Human Right in Kenya' Available at <https://kmco.co.ke/wp-content/uploads/2018/08/Realising-Occupational-Safety-and-Health-as-a-Fundamental-Human-Right-in-Kenya.pdf> (Accessed on 01/11/2025)

²⁵ Ibid

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health²⁶; and the placing and maintenance of the worker in an occupational environment adapted to its physiological and psychological equipment²⁷.

Implementing effective OHS measures is thus crucial in protecting workers' rights. According to ILO, a safe and healthy working environment is a fundamental right and principle that all workers in all occupations are entitled to²⁸. This right is set out under several legal instruments at the global and national levels. For example, at the global level, the *Universal Declaration of Human Rights*²⁹ enshrines the right of every person to work which includes the requirement for *just and favourable conditions of work*³⁰. Further, the *International Covenant on Economic, Social and Cultural Rights*³¹ urges all states to recognize the right of everyone to the enjoyment of just and favourable conditions of work, and in particular the right to *safe and healthy working conditions*³². In addition, the right to a safe and healthy working environment is captured under the *ILO Constitution*³³, the *ILO Declaration on Fundamental Principles and Rights at Work*³⁴, and the *Occupational Safety and Health Convention*³⁵.

At a national level, the *Constitution of Kenya*³⁶ stipulates that every worker has the right to reasonable working conditions³⁷. In addition, the *Occupational Safety and Health Act of Kenya*³⁸ seeks to ensure the safety, health and welfare of workers and all persons lawfully present at workplaces³⁹. The purpose of the Act is to secure the safety, health and welfare of persons at work, and to protect persons other than persons at work against risks to safety and health arising out of, or in connection with, the activities of persons at work⁴⁰.

²⁶ Ibid

²⁷ Ibid

²⁸ International Labour Organization., 'Safety and Health at Work' Available at <https://www.ilo.org/topics-and-sectors/safety-and-health-work> (Accessed on 01/11/2025)

²⁹ United Nations General Assembly, *Universal Declaration of Human Rights*, 217 A (III), 10 December 1948

³⁰ Ibid, article 23 (1)

³¹ United Nations General Assembly, *International Covenant on Economic, Social and Cultural Rights*, United Nations, Treaty Series, vol. 993, p. 3, 16 December 1966,

³² Ibid, article 7 (b)

³³ International Labour Organization (ILO), *Constitution of the International Labour Organisation (ILO)*, 1 April 1919

³⁴ International Labour Organization *Declaration on Fundamental Principles and Rights at Work*, Available at https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_467653.pdf (Accessed on 01/11/2025)

³⁵ *Occupational Safety and Health Convention*, 1981 (No. 155)

³⁶ *Constitution of Kenya*, 2010., Government Printer, Nairobi

³⁷ Ibid, article 41 (2) (b)

³⁸ *Occupational Safety and Health Act*, Cap 236 A., Government Printer, Nairobi

³⁹ Ibid

⁴⁰ Ibid, S 3 (2)

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Ensuring safe and healthy work environments through effective OHS measures is therefore a key agenda both globally and at national levels. However, achieving this ideal remains a challenge all over the world especially in the Global South. For example, it has been pointed out that every year, millions of workers all over the world die from occupational accidents and work-related diseases with many more others suffering from non-fatal occupational accidents⁴¹ ILO notes that workers all over the world are exposed to many risks in the workplace, ranging from biological, chemical and physical hazards, to psychosocial and ergonomic hazards⁴². It further points out that millions of workers lose their lives each year due to occupational accidents and diseases, with many more suffering from debilitating work-related injuries and chronic conditions⁴³. According to estimates by ILO, nearly 3 million workers die each year as a result of work-related factors, 395 million workers globally sustain a non-fatal work injury each year, and almost 2.4 billion workers are exposed to excessive heat each year⁴⁴. It is estimated that workplace-related deaths exceed the average annual deaths from road accidents, war, violence, and HIV/AIDS⁴⁵.

This situation is particularly severe in the Global South. For example, it has been pointed out that many workers in the Global South work in the informal sector without adequate OHS measures thus being exposed to deaths, diseases and injuries⁴⁶. In Africa, millions of workers are exposed to several safety and health risks including increasing occupational accidents, lack of adequate investments in OHS best practices including technology and safety gear, inadequate inspection of workplaces, inadequate investigation of accidents and diseases, low awareness on safety and health, and minimal and delay in compensation for the injured and dead⁴⁷. Consequently, implementing effective OHS measures in the Global South is an urgent imperative towards protecting workers' rights for sustainability.

⁴¹ United Nations Global Compact., 'A Safe and Healthy Working Environment' Op Cit

⁴² International Labour Organization., 'Implementing a Safe and Healthy Working Environment: Where are we now?' Available at https://webapps.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_876334.pdf (Accessed on 01/11/2025)

⁴³ Ibid

⁴⁴ International Labour Organization., 'Safety and Health at Work' Op Cit

⁴⁵ United Nations Global Compact., 'A Safe and Healthy Working Environment' Op Cit

⁴⁶ World Health Organization., 'WHO-ILO Joint effort on occupational health and safety in Africa' Available at <https://www.who.int/publications/m/item/who-ilo-joint-effort-on-occupational-health-and-safety-in-africa#:~:text=The%20need%20to%20strengthen%20the%20field%20of,a%20heavy%20burden%20of%20disease%20and%20disability.&text=In%20the%20majority%20of%20African%20countries%2C%20the,a%20safety%20net%20for%20poor%20households'%20income> (Accessed on 01/11/2025)

⁴⁷ Office of the Auditor-General of Kenya., 'Performance Audit Report on Protection of the Safety and Health of Workers at Workplaces' Available at <https://www.oagkenya.go.ke/wp-content/uploads/2023/01/Protection-and-of-the-Safety-and-Health-of-Workers-at-Workplace.pdf> (Accessed on 01/11/2025)

3.0 Implementing Effective Occupational Health and Safety Measures in the Global South

Safeguarding workers' rights is an urgent imperative in the Global South. Millions of workers in the Global South continue to face the risk of work-related injuries, diseases and deaths in addition to other physical and mental risks attributed to their nature of work⁴⁸. Implementing effective OHS measures in the Global South is therefore vital towards preventing work-related deaths, injuries and diseases, as well as protecting the health of workers⁴⁹. Effective OHS measures can be implemented in the Global South by improving the working conditions and working environments for workers and ensuring their safety and health is maintained while working and providing compensation if a work-related injury or death occurs⁵⁰. It has been argued that OHS measures do not just apply to typically dangerous jobs, such as working at height or in industries that deal with chemicals, but to all places of employment, including offices⁵¹. It is therefore imperative to implement OHS measures across all work environments in the Global South in order to effectively protect the rights of workers.

Effective OHS standards and practices include ensuring safety and absence of risks to health in connection with the use, handling, storage and transport of articles and substances at workplaces⁵². It is also imperative for employers to put in place risk management and control principles and practices in order to mitigate potential deaths, injuries and diseases to workers⁵³. By conducting regular risk assessments, it is possible to identify potential hazards in the workplace and develop adequate mitigation measures towards protecting workers⁵⁴. In addition, there is need to ensure that workers involved in dangerous occupations are provided with safety equipment⁵⁵. According to ILO, every employer has a duty to provide personal protective equipment (PPE) at work⁵⁶. PPE are key in protecting workers against the risk of injuries,

⁴⁸ International Labour Organization., 'Implementing a Safe and Healthy Working Environment: Where are we now?' Op Cit

⁴⁹ United Nations Global Compact., 'A Safe and Healthy Working Environment' Op Cit

⁵⁰ Ibid

⁵¹ Ibid

⁵² Health and Safety., Available at <https://africapay.org/kenya/labour-laws/health-and-safety-at-work#:~:text=It%20is%20obligatory%20for%20an,transport%20of%20articles%20and%20substances> (Accessed on 03/11/2025)

⁵³ International Labour Organization., 'Occupational Safety and Health' Op Cit

⁵⁴ Jegede. O., 'How to Stay Compliant With Health and Safety Regulations in Africa' Available at Available at https://www.linkedin.com/pulse/how-stay-compliant-health-safety-regulations-african-jegede?utm_source=share&utm_medium=member_android&utm_campaign=share_via (Accessed on 03/11/2025)

⁵⁵ Health and Safety., Op Cit

⁵⁶ International Labour Organization., 'Personal Protective Equipment' Available at [https://www.ilo.org/topics-and-sectors/occupational-safety-and-health-guide-labour-inspectors-and-other/personal-protective-equipment#:~:text=Personal%20protective%20equipment%20\(PPE\)%20is%20equipment%20that,Monitoring%20and%20reviewing%20that%20PPE%20is%20used](https://www.ilo.org/topics-and-sectors/occupational-safety-and-health-guide-labour-inspectors-and-other/personal-protective-equipment#:~:text=Personal%20protective%20equipment%20(PPE)%20is%20equipment%20that,Monitoring%20and%20reviewing%20that%20PPE%20is%20used) (Accessed on 03/11/2025)

accidents or of adverse effects on health⁵⁷. They include items such as safety helmets, gloves, eye protection, high-visibility clothing, safety footwear, safety harnesses and respiratory protective equipment⁵⁸.

Effective OHS measures also include provision of information, instruction, training and supervision of workers⁵⁹. Through this, workers can be well-equipped to anticipate and manage risks at the workplace towards safeguarding their health and well-being. Further, involving workers in OHS strategies is key in ensuring that such practices are well designed to fit the needs and interests of workers⁶⁰.

Technology also has a crucial role to play in ensuring effective OHS measures in the Global South. It has been correctly noted that technology offers solutions and innovative tools that improve safety, efficiency, and regulatory compliance in working environments towards safeguarding the health and well-being of workers⁶¹. Technology not only enhances the effectiveness of safety measures at workplaces but it also makes it easier to identify and mitigate potential hazards in working environments⁶². Technological advancements have led to the development of tools including robots which are working in hazardous workplaces, doing the heavy lifting that may be dangerous to the health and safety of human beings, managing toxic materials and working in extreme temperatures⁶³. Further, digital tools such as drones and robots are being utilised to perform tasks that are dangerous for humans including inspecting high-rise buildings and structures, exploring confined spaces, and handling hazardous substances⁶⁴. In addition, mobile applications are allowing employees to quickly and efficiently report incidents at workplaces and access information concerning their health and safety⁶⁵. Technological tools such as automation and smart monitoring systems in workplaces can also reduce exposure to hazardous substances, prevent workplace injuries and improve overall working conditions⁶⁶. Adopting technology is therefore important towards ensuring effective OHS measures in the Global South.

⁵⁷ Ibid

⁵⁸ Ibid

⁵⁹ Ibid

⁶⁰ International Labour Organization., 'Occupational Safety and Health' Op Cit

⁶¹ Technological Solutions for OHS: Transforming Workplace Safety., Available at <https://www.sabentis.com/en/blog/technologicalsolutions-ohs/> (Accessed on 03/11/2025)

⁶² Surendran. A., 'The Role of Technology in Enhancing Occupational Safety' Available at <https://www.linkedin.com/pulse/technologies-enhancing-occupational-health-safety-anoop-ipbbc/> (Accessed on 03/11/2025)

⁶³ International Labour Organization., 'Revolutionizing Health and Safety: The Role of AI and Digitalization at Work' Available at https://www.ilo.org/sites/default/files/2025-04/ILO_Safeday25_Report_EN_r8%2B%281%29.pdf (Accessed on 03/11/2025)

⁶⁴ Surendran. A., 'The Role of Technology in Enhancing Occupational Safety' Op Cit

⁶⁵ Technological Solutions for OHS: Transforming Workplace Safety., Op Cit

⁶⁶ International Labour Organization., 'Revolutionizing Health and Safety: The Role of AI and Digitalization at Work' Op Cit

4.0 Conclusion

Implementing effective OHS measures in the Global South is key in fostering sustainability. Sound OHS practices protect the health and well-being of workers, improve productivity and profitability at the workplace, and foster sound business reputation⁶⁷. It is therefore imperative to implement effective OHS measures in the Global South including through providing workers with PPE, training and supervision of workers, conducting regular risk assessments and adopting technology⁶⁸. Ensuring sound OHS practices in the Global South is a noble ideal that should be implemented for sustainability.

⁶⁷ International Labour Organization., 'Occupational Safety and Health' Op Cit

⁶⁸ Ibid

PART IX – RISK REDUCTION AND RESILIENCE

Focuses on building institutional and community resilience through disaster risk reduction, early warning systems, and climate adaptation policies that empower local populations.

Incorporating Disaster Risk Reduction into African Environmental Governance Frameworks for Sustainability

Abstract

This paper discusses how Africa can incorporate Disaster Risk Reduction into its environmental governance frameworks for sustainability. The paper argues that effective Disaster Risk Reduction is a key priority for Africa due to the continent's high vulnerability to disasters. It posits that the frequency and intensity of disasters in Africa is undermining Sustainable Development by causing loss of human life, economic losses and environmental degradation with the poor and vulnerable being adversely impacted. Despite its high vulnerability to disasters, the paper notes that most African countries are yet to put in place effective Disaster Risk Reduction frameworks thus worsening the risk of disasters in the continent. In light of these challenges, the paper discusses interventions towards incorporating Disaster Risk Reduction into African environmental governance frameworks for sustainability.

1.0 Introduction

Disaster Risk Reduction involves reducing the risk of disasters through systematic efforts to analyze and manage the causal factors of disasters including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and environment and improved preparedness for adverse events¹. This idea aims at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience against disasters towards Sustainable Development². It involves policies and actions which seek to manage and transfer residual risks and to minimize losses and damages during hazardous events³. Disaster Risk Reduction can therefore be understood as a concept and practice of reducing disaster risks through systematic efforts to analyse and reduce the causal factors of disasters⁴.

Effective Disaster Risk Reduction is vital in fostering sustainability. It has been pointed out that countries all over the world are facing increasingly severe natural events, driven by extreme

¹ Republic of Kenya., 'National Disaster Risk Management Policy' Available at <https://repository.kippira.or.ke/xmlui/bitstream/handle/123456789/559/NATIONAL%20Disaster%20Risk%20Mannagement%20POLICY%20APPROVED.pdf?sequence=1&isAllowed=y> (Accessed on 30/09/2025)

² International Organization for Migration., 'Taking Sendai Forward: IOM Strategic Work Plan on Disaster Risk Reduction & Resilience' Available at https://www.iom.int/sites/g/files/tmzbd1486/files/our_work/DOE/humanitarian_emergencies/Disaster-Risk-Reduction-Strategic-Action-Plan.pdf (Accessed on 30/09/2025)

³ World Meteorological Organization., 'Disaster Risk Reduction (DRR)' Available at <https://community.wmo.int/en/activity-areas/drr> (Accessed on 30/09/2025)

⁴ United Nations Educational, Scientific and Cultural Organization., 'Disaster Risk Reduction' Available at <https://www.unesco.org/en/disaster-risk-reduction> (Accessed on 30/09/2025)

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weather and risk-blind planning⁵. Environmental and human-induced factors including climate change, poor urban planning and lack of disaster preparedness, are increasingly fuelling natural hazards, such as earthquakes, floods, volcanic eruptions and tsunamis with serious implications on both people and planet⁶. It has been argued that disasters often follow natural hazards and they are a result of the combination of factors including the prevalence of hazards, the conditions of vulnerability and of the insufficient capacity or measures to reduce the potentially negative consequences of the hazard⁷. Disasters often lead to loss of human life, economic losses and environmental degradation⁸.

According to the United Nations, disasters are a growing threat to economic prosperity and Sustainable Development due to their huge human, financial and environmental costs⁹. Further, it has been pointed out that disaster costs are pushing countries into increased debt, lower incomes, increased insurability, and repeated humanitarian crises¹⁰. Disasters are also linked to inequalities with developing countries, the poor and vulnerable communities being hit the hardest due to lack of sufficient resources to protect themselves and recover from the impacts of disasters¹¹. It has been argued that unequal access to resources and services leaves the most vulnerable exposed to the danger of disasters while the effects of disasters exacerbate inequalities and push the most at risk further into poverty¹².

In light of the foregoing, strengthening Disaster Risk Reduction is key towards ensuring Sustainable Development and protecting the most vulnerable. The United Nations' *2030 Agenda for Sustainable Development*¹³ notes that more frequent and intense natural disasters threaten to reverse much of the development progress made in recent decades. It urges all countries to promote resilience and Disaster Risk Reduction¹⁴. The Agenda notes that Disaster Risk Reduction is key in realizing most of the Sustainable Development Goals (SDGs) including combating

⁵ United Nations., 'International Day for Disaster Risk Reduction' Available at <https://www.un.org/en/observances/disaster-reduction-day> (Accessed on 30/09/2025)

⁶ United Nations Educational, Scientific and Cultural Organization., 'Disaster Risk Reduction' Op Cit

⁷ Ibid

⁸ Ibid

⁹ United Nations., 'International Day for Disaster Risk Reduction' Op Cit

¹⁰ Ibid

¹¹ Ibid

¹² United Nations., 'Fighting Inequality for a Resilient Future' Available at <https://www.un.org/en/observances/disaster-reduction-day> (Accessed on 30/09/2025)

¹³ United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> (Accessed on 30/09/2025)

¹⁴ Ibid

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poverty (SDG 1), achieving food security (SDG 2), making cities and human settlements inclusive, safe, resilient, and sustainable (SDG 11), and combating climate change (SDG 13)¹⁵.

In addition, the *Sendai Framework for Disaster Risk Reduction* establishes global targets and objectives towards preventing, reducing and managing the risk of disasters for Sustainable Development¹⁶. Under this Framework, states commit to foster Disaster Risk Reduction and the building of resilience to disasters with a renewed sense of urgency within the context of Sustainable Development and poverty eradication, and to integrate, as appropriate, both Disaster Risk Reduction and the building of resilience into policies, plans, programmes and budgets at all levels and to consider both within relevant frameworks¹⁷. The Sendai Framework identifies four priority actions for effective Disaster Risk Reduction¹⁸. These are understanding disaster risk; strengthening disaster risk governance to manage disaster risk; investing in disaster risk reduction for resilience; and enhancing disaster preparedness for effective response and to 'Build Back Better' in recovery, rehabilitation and reconstruction¹⁹. Effective Disaster Risk Reduction is therefore a key global agenda whose achievement is key towards sustainability.

This paper discusses how Africa can incorporate Disaster Risk Reduction into its environmental governance frameworks for sustainability. The paper argues that effective Disaster Risk Reduction is a key priority for Africa due to the continent's high vulnerability to disasters. It posits that the frequency and intensity of disasters in Africa is undermining Sustainable Development by causing loss of human life, economic losses and environmental degradation with the poor and vulnerable being adversely impacted. Despite its high vulnerability to disasters, the paper notes that most African countries are yet to put in place effective Disaster Risk Reduction frameworks thus worsening the risk of disasters in the continent. In light of these challenges, the paper discusses interventions towards incorporating Disaster Risk Reduction into African environmental governance frameworks for sustainability.

2.0 Examining the Need for Disaster Risk Reduction in Africa

Africa is highly vulnerable to both natural and human-made disasters²⁰. It has been observed that the occurrence of disasters triggered by natural hazards, the number of people affected and economic losses are rising all over Africa²¹. Adverse climatic and weather events including

¹⁵ Ibid

¹⁶ Sendai Framework for Disaster Risk Reduction 2015-2030., Available at <https://www.undrr.org/media/16176/download?startDownload=20240430> (Accessed on 30/09/2025)

¹⁷ Ibid

¹⁸ Ibid

¹⁹ Ibid

²⁰ African Union., 'Africa Regional Strategy for Disaster Risk Reduction' Available at https://www.preventionweb.net/files/7603_AFRICAREGIONALDRRSTRATEGYfullPDF.pdf?startDownload=true (Accessed on 30/09/2025)

²¹ Ibid

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droughts, flood, windstorms, tropical cyclones, landslides and wildfires, occur most pervasively in Africa and account for most of the people affected by disasters in the continent²². Further disease outbreaks including epidemics and pandemics such as HIV/AIDS, malaria and tuberculosis are impacting individuals, households and communities fuelling the risk of disasters in Africa²³.

Climate change has been identified as a major cause of disasters in Africa²⁴. It has been argued that climate change is adversely impacting Africa, unleashing more frequent and severe weather events such as droughts and floods increasing the risk of disasters²⁵. Adverse climatic events including extreme flooding, droughts and wildfires are intensifying disasters in Africa by causing loss of human life, displacement of populations, death of livestock and wildlife, destruction of agricultural yields, and damage to critical infrastructure and essential services including hospitals, schools and roads²⁶.

Disasters in Africa have adverse impacts on vulnerable populations including the poor, women, the elderly and persons with disabilities. For example, it has been pointed out that while natural disasters are gender-neutral, their impacts in Africa reveal gender disparities and vulnerabilities, with women being disproportionately affected²⁷. This is largely driven by resource constraints and structural factors that place women at greater risk due to inadequate access to the critical information and resources they need for effective disaster preparation, response, and adaptation²⁸. Further, the poor and vulnerable communities including indigenous peoples are adversely impacted by natural disasters in Africa due to several factors such as historical marginalization and the lack of adequate financial resources to respond to disasters²⁹. Further, the elderly and persons with disabilities are also severely impacted by natural disasters due to reduced mobility which undermines their coping capabilities³⁰.

²² Ibid

²³ Ibid

²⁴ African Risk Capacity., 'The State of Natural Disasters in Africa' Available at https://www.inter-reseaux.org/wp-content/uploads/ARC_white_paper_2024.pdf (Accessed on 30/09/2025)

²⁵ Ibid

²⁶ Africa Center for Strategic Studies., 'Record Levels of Flooding in Africa Compounds Stress on Fragile Countries' Available at <https://africacenter.org/spotlight/record-levels-of-flooding-in-africa-compounds-stress-on-fragile-countries/> (Accessed on 30/09/2025)

²⁷ African Risk Capacity., 'The State of Natural Disasters in Africa' Op Cit

²⁸ Ibid

²⁹ Ibid

³⁰ Ibid

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The risk of disaster in Africa is therefore very high with adverse impacts on vulnerable people and communities. African Union's *Agenda 2063*³¹ acknowledges the vulnerability of Africa to disasters. It notes that due to its geographic location and low level of technological development, Africa remains highly vulnerable to disasters which usually appear in the form of climate related or hydro-meteorological hazards including droughts, floods and windstorms³². Further, *Agenda 2063* points out that pest infestation, earthquakes, landslides, wildfire and volcanic eruptions are some of the less frequent form of disasters in Africa³³. Africa has also in the recent past faced disease outbreaks including epidemics and pandemics such as Ebola and COVID-19³⁴.

The prevalence and intensity of disasters has negative impacts on Sustainable Development in Africa. It has been argued that disasters in Africa often take a huge toll on vulnerable populations³⁵. Loss of life and livelihoods in the face of already existing challenges sets communities back many years leaving them at risk should other natural hazards occur³⁶. Disasters lead to the loss of human life, destruction of property including vital infrastructure and services, famine, food insecurity and poverty therefore affecting Sustainable Development in Africa³⁷. Natural disasters in Africa also result in environmental degradation, displacement of populations leading to an increase in the number of internally displaced persons and refugees therefore affecting human lives and essential assets required for development³⁸. With increased frequency and intensity of extreme climate and severe weather events alongside other disasters, Africa experiences the severe consequences of disasters since resources for development are diverted to finance disaster emergencies³⁹.

In light of the foregoing, effective Disaster Risk Reduction is vital in fostering sustainability in Africa. However, achieving this ideal remains a challenge in Africa thus intensifying the impacts

³¹ African Union., 'Agenda 2063: The Africa we Want.' Available at https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf (Accessed on 30/09/2025)

³² Ibid

³³ Ibid

³⁴ United Nations- Habitat., 'COVID-19 in Africa Cities: Impacts, Responses and Policies' Available at <https://unhabitat.org/covid-19-in-africa-cities-impacts-responses-and-policies> (Accessed on 30/09/2025)

³⁵ United Nations Office for Disaster Risk Reduction., 'Building Disaster Resilience in Sub-Saharan Africa' Available at <https://www.preventionweb.net/resilient-africa/home.html> (Accessed on 30/09/2025)

³⁶ Ibid

³⁷ United Nations Environment Programme., 'Indigenous Knowledge in Disaster Management in Africa' Available at https://www.humanitarianlibrary.org/sites/default/files/2013/07/Appendix9IndigenousBookletUNE_P.pdf (Accessed on 30/09/2025)

³⁸ East African Community., 'Disaster Risk Reduction and Management' Available at <https://www.eac.int/gender/114-sector/environment-natural-resources-management/disaster-risk-reduction> (Accessed on 30/09/2025)

³⁹ Ibid

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of disasters in Africa with severe consequences on Sustainable Development. For instance, it has been observed that most African countries suffer from inadequate information to enable risk-informed decisions for effective Disaster Risk Reduction⁴⁰. The national capacity to systematically anticipate, respond and recover from disasters in most African countries is low⁴¹. Further, poverty and low levels of economic growth which hinder access to basic services also worsen the impacts of disasters especially for vulnerable individuals and communities⁴².

In light of the foregoing, it is imperative to effectively prevent, reduce and recover from the impacts of disasters in Africa. Strengthening Disaster Risk Reduction in Africa is therefore a key agenda for sustainability.

3.0 Incorporating Disaster Risk Reduction into African Environmental Governance Frameworks

There is need to strengthen Disaster Risk Reduction in Africa. Effective Disaster Risk Reduction is key in ensuring that Africa's development achievements are not lost when disasters hit⁴³. Disaster Risk Reduction is also key in protecting vulnerable individuals, households, and communities in Africa from the adverse effects of disasters⁴⁴. Natural disasters including floods, droughts, cyclones, earthquakes and landslides are worsening in Africa causing increased mortalities and economic losses⁴⁵. In addition, it has been argued that the risk of disasters in Africa is multi-dimensional in nature⁴⁶. This means that the incidence and interactions between different types of hazards such as floods, droughts, cyclones, earthquakes, landslides and conflicts contribute to the overall risk profile of any given locality, country, region and entire continent⁴⁷. It is therefore imperative to strengthen the capacity of African countries to anticipate, respond and recover from disasters in order to foster Sustainable Development in the continent. African countries have been urged to prioritize proactive measures to build a resilient

⁴⁰ United Nations Office for Disaster Risk Reduction., 'Building Disaster Resilience in Sub-Saharan Africa' Op Cit

⁴¹ Ibid

⁴² East African Community., 'Disaster Risk Reduction and Management' Op Cit

⁴³ The World Bank Group., 'Building Resilience in Africa' Available at <https://www.worldbank.org/en/topic/disasterriskmanagement/brief/building-resilience-in-africa#:~:text=The%20World%20Bank%2C%20Global%20Facility,rural%20areas%20throughout%20the%20continent>. (Accessed on 30/09/2025)

⁴⁴ African Risk Capacity., 'The State of Natural Disasters in Africa' Op Cit

⁴⁵ African Union., 'Catalysing Risk-Informed Early Action in Africa: Investing in Multi-Hazard Early Warning Systems to Strengthen Resilience to Disaster Risk' Available at https://au.int/sites/default/files/documents/42530-doc-AUC_DRR_Policy_Brief_2.pdf (Accessed on 30/09/2025)

⁴⁶ Ibid

⁴⁷ Ibid

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future for all citizens in the continent through sound disaster preparedness and responses⁴⁸. Incorporating Disaster Risk Reduction into African environmental governance frameworks is therefore key for sustainability

The *Sendai Framework for Disaster Risk Reduction* sets out several principles and action areas that can guide African countries in integrating Disaster Risk Reduction into their environmental governance frameworks⁴⁹. The Framework urges states to strengthen the understanding of disaster risks; invest in disaster risk governance to manage disaster risk; foster disaster risk reduction for resilience; and enhance disaster preparedness for effective response, recovery, rehabilitation and reconstruction⁵⁰. It is therefore vital for African countries to implement the Sendai Framework for effective Disaster Risk Reduction.

In addition, the *Africa Regional Strategy for Disaster Risk Reduction*⁵¹ aims to contribute to the attainment of Sustainable Development and poverty eradication by facilitating the integration of Disaster Risk Reduction into development programmes in the continent. In order to achieve this goal, the Strategy urges African countries to increase political commitment to Disaster Risk Reduction; improve identification and assessment of disaster risks; enhance knowledge management for Disaster Risk Reduction; increase public awareness of Disaster Risk Reduction; improve governance of disaster risk reduction institutions; and integrate disaster risk reduction into emergency response management⁵².

Effective Disaster Risk Reduction is therefore a key continental priority towards sustainability in Africa. In order to achieve this goal, it is imperative to strengthen disaster early warning and preparedness including through investing in effective early warning systems⁵³. It has been argued that early warning systems are integral in Disaster Risk Reduction efforts by providing timely and informed alerts on disasters enabling individuals, households, communities and nations to effectively anticipate, respond and recover from disasters therefore reducing the impact of disasters on human life and economic development⁵⁴. By disseminating timely and accurate

⁴⁸ AUDA-NEPAD., 'A New Era in Disaster Management: Launch of the African Disaster Risk Management and Recovery Platform' Available at <https://nepad.org/news/new-era-disaster-management-launch-of-african-disaster-risk-management-and-recovery#:~:text=The%20African%20Disaster%20Risk%20Management%20and%20Recovery,Ensure%20ong%2Dterm%20environmental%2C%20social%2C%20and%20economic%20stability> (Accessed on 30/09/2025)

⁴⁹ Sendai Framework for Disaster Risk Reduction 2015-2030., Op Cit

⁵⁰ Ibid

⁵¹ Africa Regional Strategy for Disaster Risk Reduction., Op Cit

⁵² Ibid

⁵³ Ibid

⁵⁴ International Labour Organization., 'The importance of early warning systems in disaster risk reduction' Available at <https://www.ilo.org/resource/article/importance-early-warning-systems-disaster-risk-reduction> (Accessed on 30/09/2025)

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information regarding disasters, early warning systems enable preparedness action as well as a rapid response from workers, employers, and national or local authorities⁵⁵. It is therefore imperative for African countries to invest in early warning systems for effective Disaster Risk Reduction.

It is also vital to build effective institutional frameworks in order to strengthen Disaster Risk Reduction in Africa⁵⁶. Effective institutions are key in ensuring preparedness, prevention, and response to disasters while also strengthening long-term resilience of African countries to future disaster risks⁵⁷. Embracing technology is also important in strengthening Disaster Risk Reduction in Africa. It has been argued that modern technology and digital tools such as remote sensing technologies and satellite imagery are becoming vital tools for disaster prediction and response⁵⁸. African countries should therefore leverage the benefits of technology for effective Disaster Risk Reduction. Further, there is need to protect vulnerable groups and communities including through timely and adequate access to information to enable them anticipate and respond to disasters and humanitarian aid and financial support which is vital in responding and coping with the impacts of disasters⁵⁹.

Harnessing and utilising indigenous knowledge can also strengthen Disaster Risk Reduction in Africa. It has been argued that indigenous and traditional knowledge is a precious national resource that can support the process of disaster prevention, preparedness and response in cost-effective, participatory and sustainable ways⁶⁰. For many centuries, African communities have tackled disasters effectively, often utilizing traditional coping mechanisms based on local knowledge and experiences⁶¹. These communities have utilised various strategies including growing drought-resistant and early-maturing indigenous crop varieties, gathering wild fruits and vegetables, wetlands cultivation, livestock diversifying and splitting, and weather observation techniques which have enabled them to survive disasters including droughts and floods⁶². Harnessing indigenous knowledge is therefore vital for effective Disaster Risk Reduction in Africa.

⁵⁵ Ibid

⁵⁶ Africa Regional Strategy for Disaster Risk Reduction., Op Cit

⁵⁷ United Nations., 'Building a resilient Africa through disaster risk reduction, preparedness' Available at <https://africarenewal.un.org/en/magazine/building-resilient-africa-through-disaster-risk-reduction-preparedness> (Accessed on 30/09/2025)

⁵⁸ Ibid

⁵⁹ Africa Regional Strategy for Disaster Risk Reduction., Op Cit

⁶⁰ International Organization for Migration., 'Indigenous Knowledge for Disaster Risk Reduction' Available at <https://environmentalmigration.iom.int/sites/g/files/tmzbd11411/files/documents/png-indigenous-knowledge-report-print.pdf> (Accessed on 30/09/2025)

⁶¹ Africa Regional Strategy for Disaster Risk Reduction., Op Cit

⁶² United Nations Environment Programme., 'Indigenous Knowledge in Disaster Management in Africa' Op Cit

4.0 Conclusion

Strengthening Disaster Risk Reduction in Africa is a key priority in light of the continent's high vulnerability to disasters including floods, droughts, landslides, windstorms, wildfires and earthquakes. It is therefore imperative to incorporate Disaster Risk Reduction into African environmental governance frameworks including through investing in early warning systems, building effective institutions, protecting vulnerable populations, harnessing technology and utilising indigenous knowledge⁶³. Incorporating Disaster Risk Reduction into African environmental governance frameworks is therefore necessary, for sustainability.

⁶³ Africa Regional Strategy for Disaster Risk Reduction., Op Cit

PART X – REFLECTIONS AND WAY FORWARD

Concludes with a synthesis of lessons, advocating a holistic approach that integrates law, indigenous wisdom, and scientific innovation. It envisions an Africa where justice and sustainability are not aspirations but lived realities.

This collection represents a dialogue between tradition and transformation between Africa's enduring wisdom and its dynamic future. It is written with deep conviction that the pursuit of justice and sustainability is not merely an academic exercise but a moral duty, demanding both courage and collaboration.

I hope that this book will inspire readers to engage critically, act ethically and contribute meaningfully to building a continent and a planet that thrives in harmony with nature and humanity.

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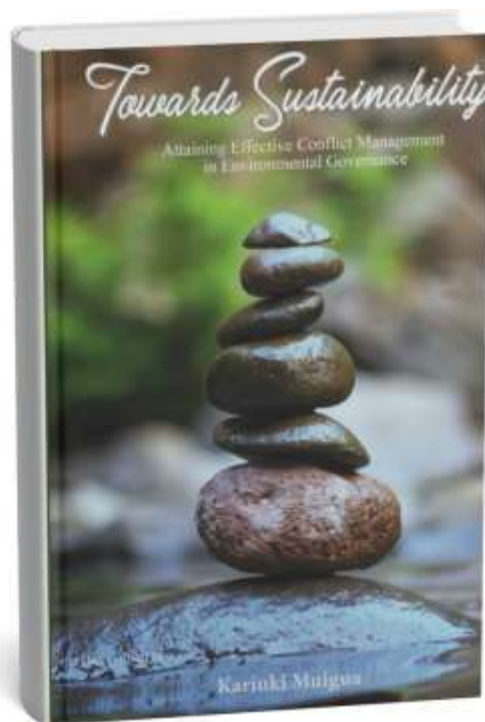
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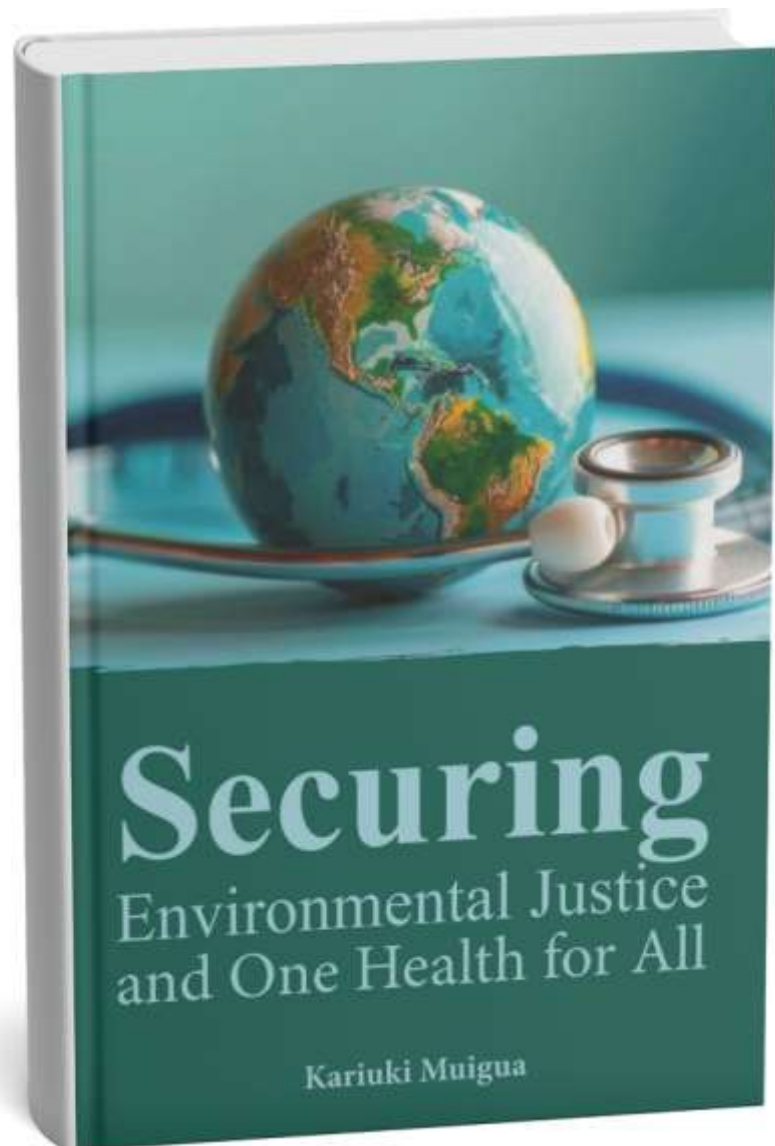
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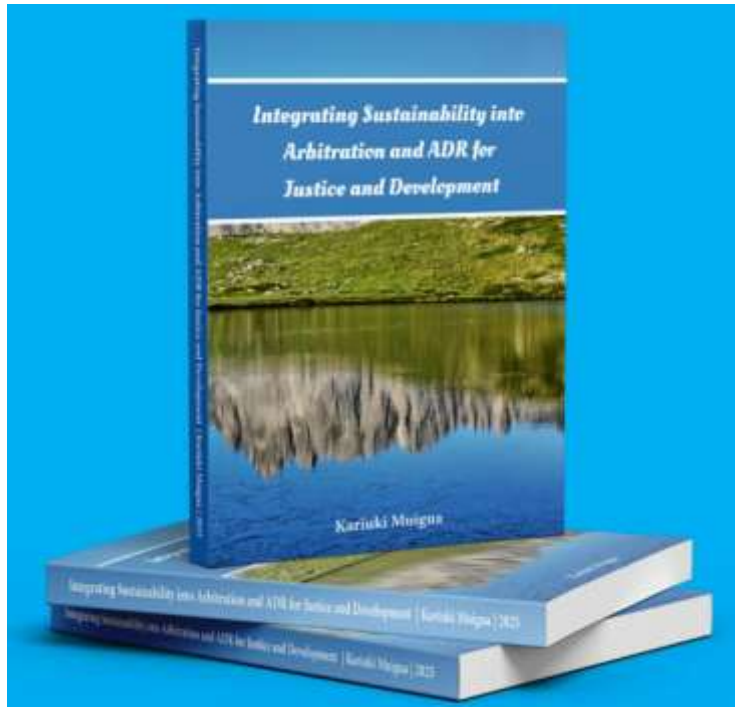
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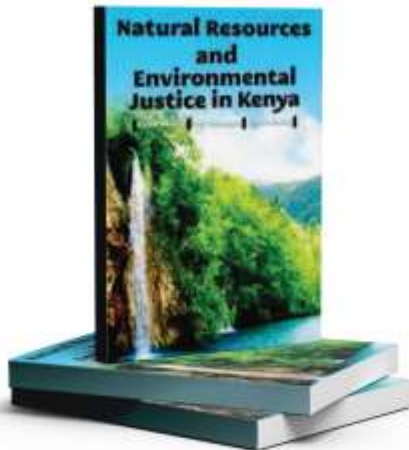
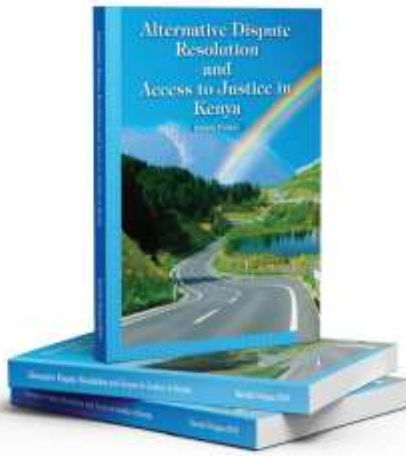
Other books by Kariuki Muigua

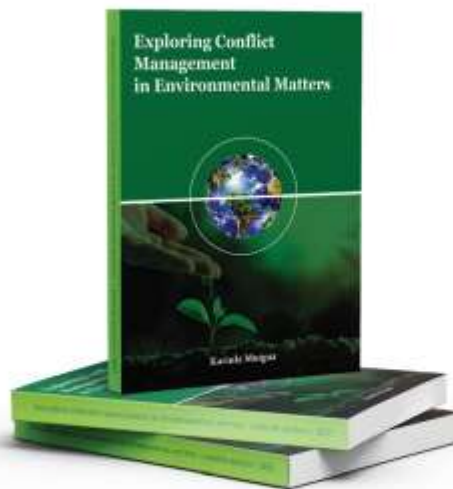
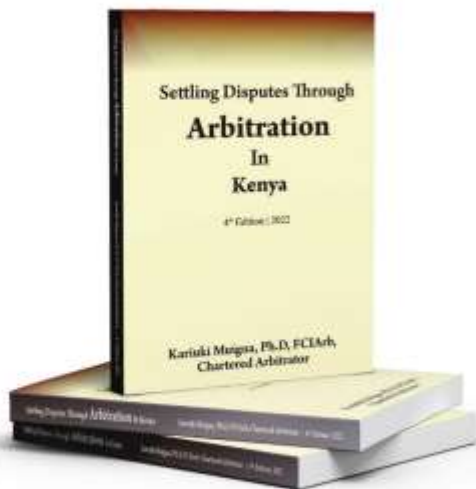
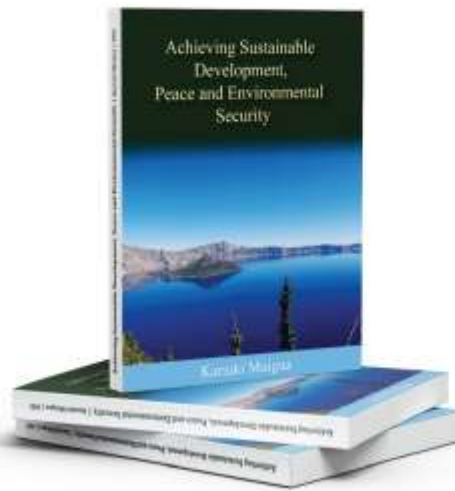
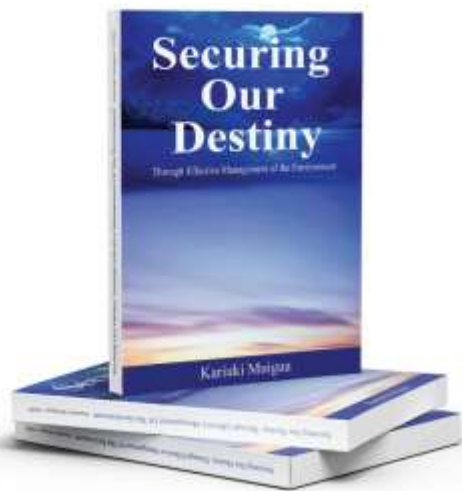


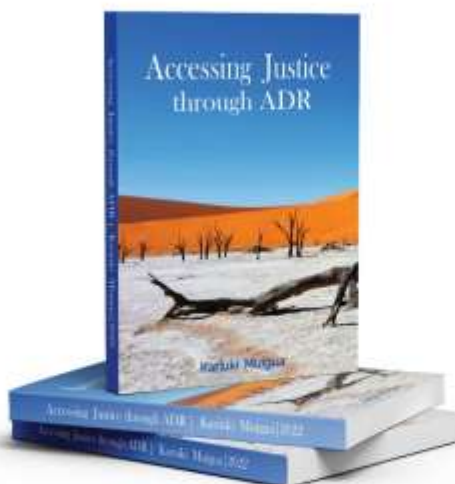
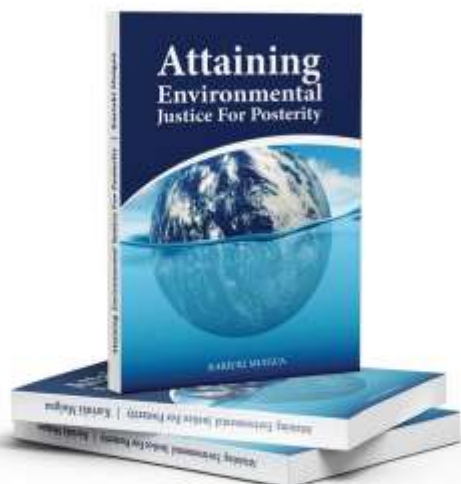
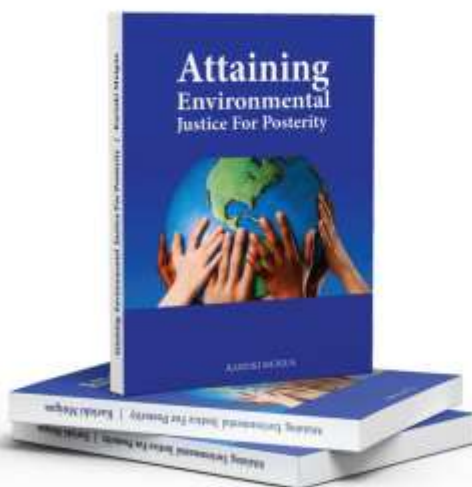


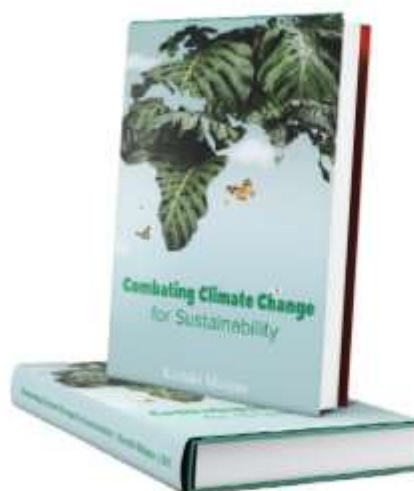


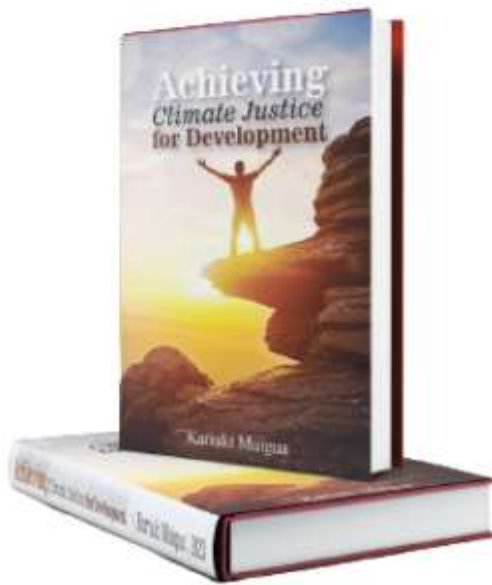


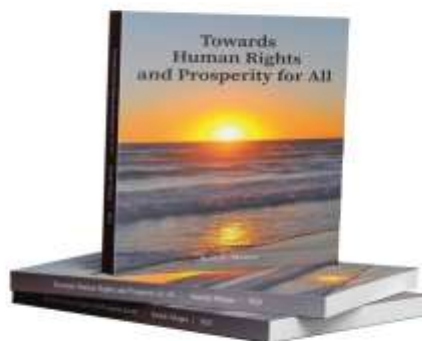












Justice, Sustainability, and Indigenous Wisdom in Africa: Pathways to a Green and Equitable Future presents a visionary exploration of Africa's pursuit of environmental justice and sustainable development through the lens of law, policy, and cultural heritage.

Prof. Karuki Mugua invites readers to rethink Africa's environmental future one grounded in fairness, inclusion, and the profound wisdom of its people. Bridging modern governance with ancestral knowledge, this work illuminates how indigenous systems of harmony with nature can complement contemporary frameworks for climate resilience, biodiversity conservation, and equitable growth.

Through rich analysis and reflection, the book underscores that sustainability in Africa is not merely a technical or economic goal, but a moral and cultural imperative. It calls for a renewed sense of stewardship — one that integrates justice, human rights, and traditional ecological values in shaping Africa's development trajectory.

Engaging, insightful, and deeply rooted in African realities, this book offers scholars, policymakers, practitioners, and students a transformative perspective on how law and indigenous knowledge can unite to secure a greener, fairer, and more resilient continent.

Author's Bio-data

Hon. Prof. Karuki Mugua Ph.D. FCI Arb. OGW. C. Arb is a holder of a Doctor of Philosophy (Ph.D.) degree in law from the University of Nairobi attained in 2011. He also holds a Master of Laws (LL.M) degree attained in 2005 and Bachelor of Laws (LL.B) degree awarded in 1988 both from the University of Nairobi.

He is a Professor of Environmental Law and Conflict Management at the University of Nairobi Faculty of Law and the Centre for Advanced Studies in Environmental Law and Policy (CASELAP). He also teaches at the Wangari Maathai Institute for Peace and Environmental Studies. He is a Member of the Permanent Court of Arbitration (PCA) nominated by the Republic of Kenya and served as a Member of the National Environment Tribunal. He is a distinguished law scholar, Environmental Consultant, an accredited mediator and a Chartered arbitrator. He has widespread training and experience in both international and national commercial arbitration and mediation. He has received numerous awards and honours due to his exemplary work in academia and Alternative Dispute Resolution.

He was appointed as a member of the Protem Committee for the Asian International Arbitration Centre (Malaysia) (AIAC) Court of Arbitration, Chambers and Partners Global Guide 2024 ranked him in Band 1 of Dispute Resolution (Arbitrators), the ranking which recognizes the Top 6 Arbitrators in Kenya noting that he is "highly recommended as a leading lawyer". He was awarded the 'Academic Champion of ADR' at the inaugural Women in ADR Awards 2024. He was also awarded the Outstanding Mentor Award by his mentees in recognition of his guidance, care and support. He was recognized and awarded for his role as the Chartered Institute of Arbitrators (CI Arb) Africa Trustee from 2019 to 2022 by CI Arb Kenya Branch at the CI Arb Kenya Branch ADR Excellence Awards 2022. Chambers and Partners Global Guide 2023 ranked him in Band 1 of Dispute Resolution (Arbitrators), the ranking which recognizes the Top 6 Arbitrators in Kenya noting that he is "highly recommended as a leading lawyer". His book, *Settling Disputes through Arbitration in Kenya*, 4th Edition, Glenwood publishers 2022, was awarded the Publication of the Year Award 2022 by CI Arb Kenya Branch at the CI Arb Kenya Branch ADR Excellence Awards 2022. He is the winner of ADR Practitioner of the Year Award at the AIAA Awards 2022. He is also the winner of the African Arbitrator of the Year 2022 award at the 3rd African Arbitration Awards held at Kigali Rwanda beating other competitors from Egypt, Mauritius, Ethiopia, Nigeria and Kenya. In 2022, Chambers and Partners ranked him in Band 1 of Dispute Resolution (Arbitrators) noting that "He has been involved in several ground-breaking arbitrations," "has an astute understanding of arbitration" and "is respected for litigation." He was awarded the Inaugural CI Arb (Kenya Branch) ADR Lifetime Achievement Award 2021 as well as the ADR Publication of the Year Award 2021 by the Chartered Institute of Arbitrators (Kenya Branch). He also received the ADR Practitioner of the Year Award 2021 by the Law Society of Kenya, Nairobi Branch at the Nairobi Legal Awards. He is a recipient of the 8th C.B. Madan Prize of 2020 for commitment and outstanding scholarly contribution to constitutionalism and the rule of law in Kenya.

Hon. Prof. Mugua PhD has on various occasions been appointed by leading arbitral institutions including the Chartered Institute of Arbitrators (CI Arb-Kenya), the Nairobi Centre for International Arbitration (NCIA), the International Chamber of Commerce (ICC) and the London Court of International Arbitration (LCIA) among other institutions, as both a sole arbitrator and a member of an arbitral tribunal in arbitrations involving commercial disputes.

He is a Fellow of Chartered Institute of Arbitrators (CI Arb)-Kenya chapter. He is a member of the International Bar Association (IBA), the International Commission of Jurists, Human Rights Institute of the International Bar Association, the London Court of International Arbitration (LCIA), Chartered Institute of Arbitrators (UK) and Kenya Branch, Member of Commonwealth Lawyers Association and fellow of the Institute of Certified Public Secretaries of Kenya. He served as the Branch Chairman of CI Arb-Kenya from 2012 to 2015. He was elected (unopposed) to the Chartered Institute of Arbitrators (CI Arb) Board of Trustees as the Regional Trustee for Africa, for the term beginning 1st January 2019 for a term of four years until 31st December 2022.

Hon. Prof. Mugua PhD, also serves as the Editor in Chief of three leading peer reviewed journals in East Africa, the *Alternative Dispute Resolution Journal*, the *Journal of Conflict Management and Sustainable Development* and *Journal of ADR & Sustainability*. The three journals have been hailed as leading publications in the fields of ADR, Conflict Management and Sustainable Development. The *Alternative Dispute Resolution Journal* was awarded the Arbitration Publication of the Year Award 2020 at the Africa Arbitration Awards.

He is an Advocate of the High Court of Kenya of over 35 years standing and practicing at Karuki Mugua & Co. Advocates, a firm that specialises in environmental and commercial law litigation and Alternative Dispute Resolution. The firm is also listed as a leading Kenyan commercial law firm in the distinguished Martindale Hubbell Directory.

He has authored the following books: *Alternative Dispute Resolution and Access to Justice in Kenya*, (Glenwood Publishers, Nairobi, 2015), *Resolving Conflicts through Mediation in Kenya*, (Glenwood Publishers, Nairobi, 2013), *Natural Resources and Environmental Justice in Kenya*, (Glenwood Publishers, Nairobi, 2015), *Nurturing Our Environment for Sustainable Development*, (Glenwood Publishers, Nairobi, 2016), *Settling Disputes through Arbitration in Kenya* (Glenwood Publishers, Nairobi) 1st Edition (2012), 2nd Edition (2012), 3rd Edition (2017), and 4th Edition (2022).

His other works include *Securing Our Destiny through Effective Management of the Environment*, (Glenwood Publishers, Nairobi-2020), *Achieving Sustainable Development, Peace and Environmental Security* (Glenwood Publishers, Nairobi, 2021), *Fostering Environmental Democracy and Biodiversity Conservation*, (Glenwood Publishers 2021), *Exploring Conflict Management in Environmental Matters* (Glenwood Publishers 2022), *Attaining Environmental Justice for Posterity*, Volume 1 and 2, (Glenwood Publishers 2022), *Accessing Justice Through ADR*, (Glenwood Publishers 2022), *Nurturing our Environment for a Green Tomorrow*, (Glenwood Publishers 2023), *Realizing True Sustainable Development*, (Glenwood Publishers 2023), *Embracing Environmental Social and Governance (ESG) tenets for Sustainable Development*, (Glenwood Publishers 2023), *Combating Climate Change for Sustainability*, (Glenwood Publishers 2023), *Achieving Climate Justice for Development*, (Glenwood Publishers 2023), *Promoting The Rule of Law for Sustainable Development*, (Glenwood Publishers 2024), *Actualizing the Right to a Clean and Healthy Environment*, (Glenwood Publishers 2024), *Delivering Justice for Environmental Sustainability* (Glenwood Publishers 2024), *Realizing Environmental Rights for All* (Glenwood Publishers 2024), *Towards Human Rights and Prosperity for All* (Glenwood Publishers 2024), *Protecting People and the Planet through Environmental Rule of Law* (Glenwood Publishers 2024), *Securing Lasting Peace and Justice in Africa through Appropriate Dispute Resolution* (Glenwood Publishers 2025), *Attaining Gender Equity for Inclusive Development in Africa* (Glenwood Publishers 2025), *Nurturing Healthy Ecosystems for People and Planet* (Glenwood Publishers 2025), *Integrating Sustainability into Arbitration & ADR for Justice & Development* (Glenwood Publishers 2025), *Securing Environmental Justice and One Health for All* (Glenwood Publishers 2025) and *Towards Sustainability: Attaining Effective Conflict Management in Environmental Governance* (Glenwood Publishers 2025), *Climate Justice and Sustainable Development in Africa: Rethinking Law, Policy, and Indigenous Knowledge* (Glenwood Publishers November 2025).

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