NATIONAL DEFENCE UNIVERSITY-KENYA

THESIS PAPER

GREEN INITIATIVES AND SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES: A CASE STUDY OF KENYA (2014-2020)

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DECLARATION

I, **Peter Muthama Kimondiu** do hereby declare that this research project is my original work and has not been presented for a degree in any other University.

Signed... Date...23 May 2023...

Peter Muthama Kimondiu

This project has been submitted for examination with my approval as University Supervisor;

Signed... Date...23|05|2023.....

Ms Winnie Rugutt Chebon

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DEDICATION

This thesis is dedicated to my spouse Florah Musyawa Muthama; my Sons Brian Kimondiu Muthama, Ian Mulwa Muthama and Elvis Ernest Mutisya Muthama and to my Daughter Abigael Kavuu Muthama who endured my absence from home during the entire period I was engaged in collecting data and writing the Thesis.

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ABSTRACT

The changing global demographics place varying demands on food, water, energy, services etc. This creates corresponding pressures in complying with the environmental norms for sustainable development and attaining performance targets with the ever finite resources. Although this is cross cutting, developing countries are the most affected requiring a radical shift to attain growth and development. It is against this backdrop for utilisation of environmental resources that pursuit for green economy initiatives for sustainable future has been embraced. For this reason, the United Nations Environment Program (UNEP) launched the Green Economy Initiative in 2008. Green initiative introduces a new approach to economic growth putting human beings at the core of development. Developing countries have embraced green initiatives for sustainable development but with ranging impacts and challenges realised. Kenya, has integrated green initiatives into her development agenda, Vision 2030. The question remains how far Kenya has been able to achieve sustainable development through green initiatives. This study therefore sought to investigate the extent to which green initiatives have contributed to sustainable development in Kenya. The study examines specifically, how green initiatives relate to sustainable development in developing countries. It also analysed the roles institutional frameworks play in implementation of the green economy strategies in Kenya. It then determined the challenges and opportunities that exist as Kenya seeks to implement green initiatives for sustainable development. The study adopted Green Economy Theory and Neo-liberalism Theory. It adopted case study research design with Kenya as the focus. This study targeted 12 administrators and policy makers of institutions tasked with responding to climate change and green economy initiatives. This study utilised both primary and secondary data collection approaches. The instruments used in the field survey included key informant interviews and questionnaires. Data was analysed numerically and non-numerically in every classification where non-numerical data was analysed qualitatively, while obtained numerical data was subjected to quantitative analysis. Kenya has continued to demonstrate its commitment on achieving green economy through developing, adoption and implementing policies. With specialised policies for implementing green economies, Kenya has demonstrated its commitment to green initiatives as a means of achieving the global agenda on sustainable development. However, while there is significant progress, a lot still remains unachieved. The study concludes that there are indications of wide acceptance and adoption of green initiatives to achieve sustainable development. However, while some developing countries have committed to improving social, economic and environmental status in line with SDGs, there are limitations to reducing the achievement of sustainable development. The study recommends that developing countries, Kenya inclusive should focus on monitoring and evaluation frameworks that support the identification of well elaborated findings limiting effective adoption and implementation of green initiatives.

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ABBREVIATIONS

CITES	Convention on International Trade in Endangered Species
GESIP	Green Economy Strategy and Implementation Plan
GKI	Green Kenya Initiatives
IGAD	Inter-Governmental Authority on Development
IGEM	Integrated Green Economy Modelling Framework
KAM	Kenya Association of Manufacturers
KEPSA	Kenya Private Sector Alliance
KNCCI	Kenya Chamber of Commerce and Industry
KOSAP	Kenya Off-grid Solar Access Project
MDGs	Millennium Development Goals
MSMEs	Medium, Small and Micro Enterprises
NEMA	National Environment Management Authority
SDGs	Sustainable Development Goals
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention on Combating Desertification
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNIDO	United Nations Industrial Development Organization
WCED	World Commission on Environment and Development

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.0 Introduction

The chapter discusses the study background, the problem statement, the research questions and study's objectives. It also entails the literature review, hypothesis, justification, theoretical framework, methodology as well as the definition of terms of the study.

1.1 Background of the Study

There is a growing acceptance globally that swift population increase continues to accelerate demand for food, water and energy. By 2050, it is factually revealed that 2 billion people will have added to the current seven billion people pushing the demand of natural resources further.[1] This population will automatically pose a challenge to the strength of environmental and social systems bearing in mind that they are already constrained. The challenge is maintaining a healthy and sustainable environment among other essential needs for the population.

Currently, the level of environmental degradation is already posing a threat to peoples' lives. The environmental degradation impacts are being felt across the world mostly because of unmaintained and uneconomical growth patterns that have existed for years stretching and straining the environment. Developing countries have been greatly affected by the imbalance in global environmental resources occasioned by environmental changes. Third-world nations like Kenya call for a fundamental reorientation of growth and development. It is against this backdrop in utilisation of environmental resources for the growing population that the need for sustainable future is being embraced resulting in pursuit for green economy initiatives.

The United Nations Environment Program (UNEP) launched the Green Economy Initiative in 2008. This worldwide initiative needed country-level assistance aimed at motivating law makers to aid

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[1] Admin, *Kenya Leading In The Green Growth Agenda*, Kenya Climate Change Innovation Centre, https://www.kenyacic.org/2016/05/kenya-leading-in-the-green-growth-agenda/

environmental investments. In 2015, UNEP published a report titled "Uncovering Pathways towards an Inclusive Green Economy" and the document was presented at the United Nations General Assembly (UNGA). The report emphasizes on concepts such as teamwork, sharing, unity, interdependence among others. It persuades governments to encourage green initiatives for a healthy and sustaining environment.

Green initiative introduces a new approach to economic growth putting human beings at the core of development, while assuring the provision of resource and environmental service by natural assets to aid sustainable development. This initiative incorporates both environmental considerations and the importance of natural capital to peoples' economic plan and decision-making.[2] It has been noted that many countries are considering green initiatives as a long-term, secure and strong strategy to achieving sustainable development. Developing countries can rely on green initiatives as best solution to a healthy and sustainable environment.[3] This implies that tackling environmental challenges is a collective global initiative to support participation and commitment of states to realize SDGs.

Besides improving the environment, the green initiatives improve human welfare and foster social justice. Green initiatives work against inequalities, natural resource wastages, unsustainable technological solutions and innovations.[4] It is for this reason that over the past ten years, many governments have prioritized the green initiatives into their economic growth agenda. Thus, green initiatives are becoming the drivers of sustainability and this intends to enable the countries to withstand the main issues in the 21st century such as urbanisation, climate change, among others.

Kenya became one of the countries committed to implementing Green Economy Initiative. Her aim of creating green economy was revealed in the 2013-2017 plan. The Medium-Term Development Plan endorsed the development of a national green economy strategy and clearly emphasised on green

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[2] UNEP, *What is an "Inclusive Green Economy"?* URL: https://www.unep.org/explore-topics/green-economy/why-does-green-economy-matter/what-inclusive-green-economy, 2021
[3] Admin, Kenya Climate Change Innovation Centre, Op. Cit., May 15, 2016
[4] Ibid.

growth opportunities through renewable exploitation, clean production systems, carbon credits, and an integrated "Green Jobs Approach."[5] This was aimed at: implementing the National Climate Change Action Plan, expanding the Urban Rivers Restoration Program, and modernizing the Meteorological Services among the national green economy strategies; implementation of Waste Management and Pollution Control; finalization of Geology, Minerals and Mining Bill; increase acquisition in scientific data. The Kenyan government is currently committed to lowering greenhouse gas emissions by 2030 to 32 percent.[6] Kenya has been part of an on-going dialogue to ensure the success of global summits on biodiversity and climate change.

The country is working towards being the lead in achieving a circular economy. It plans to do this through efficient and effective managing of the waste systems and promoting maintainable methods of production under the Inter-Governmental Authority on Development (IGAD) Climate Prediction and Applications Centre. The facility provides answers to the frequent droughts and many other natural disasters.[7] This implies that Kenya's commitments towards green economy are not only translating into achievement of local actions, but also regional and global.

Despite these commitments, social, economic and environmental challenges persist in Kenya. The SDGs are set to achieve specific targets towards addressing global challenges that Kenya faces, for example poverty, inequality, climate change, environmental degradation, peace and justice. The country is still far from fully addressing these major challenges such as such as climate change (mostly global warming), depletion of natural resources, high poverty rates and high rates of unemployment.[8] Could this situation be the undoing for Kenya to achieve sustainable green initiative

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[5] UNEP, *Country Profile: Kenya 2022*, https://www.unep.org/explore-topics/green-economy/what-we-do/advisory-services/africa-green-economy-project/

[6] Xinhua, *Kenya renews commitment to multilateral green agenda*, http://www.xinhuanet.com/english/africa/2021-05/11/c_139939355.htm 05/11/2021

[7] Republic of Kenya, *IGAD Climate Prediction and Application Centre,* Nairobi: Ministry of Environment and Natural Resources, https://www.president.go.ke/2021/10/27/kenya-aims-at-being-continental-leader-in-sustainable-development-president-kenyatta-says

[8] UNEP, "Op. Cit., 2022

outcomes? The research seeks to establish Kenya's commitment in implementing green initiatives for sustainable development.

1.2 Statement of the Problem

Previous studies have established the nexus between development and the environment. It is documented that in pursuit of satisfying their needs, humans exploit the environment. In the course of exploiting the natural environment through various economic activities, humans have contributed to depletion, damage and pollution of the resources from the environment.[9] Global warming, deteriorating water and soil quality, erratic rains, unprecedented droughts and unpredictable weather changes, reducing biodiversity as well as shrinking vegetation cover are among most results of unsustainable development.

It is being accepted that while the economic activities from exploiting natural resources have contributed to economic transformation, the negative impact outweigh the economic benefits. Despite the benefits that come with implementing green initiatives, it remains unclear how developing countries have adopted the initiative and the impact it has had so far on their national development. In Kenya, while the country has integrated green initiatives into her development agenda such as Vision 2030, the impact created so far remains unclear. The emerging question is how far Kenya has achieved sustainable development through green initiatives. This study therefore sought to investigate the extent to which green initiatives have contributed to sustainable development in Kenya.

1.3 Research Questions

This research seeks to attempt answering the following research questions:

1. What is the relationship between green initiatives and sustainable development in developing countries?

[9] Michael Jacobs, *Green Growth: Economic Theory and Political Discourse*, Centre for Climate Change Economics and Policy Working Paper No. 108, 2012

2. What roles do institutional frameworks play in implementation of the green economy initiatives in Kenya?
3. What challenges and opportunities exist for implementing green initiatives for sustainable development in Kenya?

1.4 Objectives of the Study

The general and specific objectives are as follows:

1.4.1 General Objective

The research generally aimed at assessing the impact of the green economy strategy on sustainable development in developing countries; using Kenya as an example.

1.4.2 Specific Objective

The research aimed specifically to:

1. Examine the relationship between green initiatives and sustainable development in developing countries.
2. Analyse the roles institutional frameworks play in implementation of the green economy strategies in Kenya.
3. Determine the challenges and opportunities that exist as Kenya seeks to implement green initiatives for sustainable development.

1.5 Literature Review

In an effort to combine economic, environmental, and social issues, the green economy project is a very complicated concept. The complexity is increased by the large number of people engaged, the tangible results, and the types of governance required to control economic greening processes. As a result, it presents fresh theoretical and empirical difficulties for the study of socio-environmental futures in social science. This section provides the theoretical and empirical review on this subject.

1.5.1 Theoretical Review

The pursuit for sound environmental management practices in economies continues to shape theoretical view towards what it takes to achieving green economies. Thus, strategies such as green initiatives have emerged from several theories. Available scholarly evidence indicates that the concept of green economy has given rise to increase efforts on ensuring that any economic development does not compromise well-being of current and future generations. In this regard, there is growing body of knowledge on how the expectation of environmental sustainability will be achieved. Thus, several theories have emerged to support the understanding and actualisation of sustainable development from an economic perspective.

One of the theories is Green Economy Theory. Green Economy Theory is hinged on premise that markets are central governance mechanism focused on technology, sustainable entrepreneurship and consumption.[10] The premise points towards neo-liberal paradigm which places emphasis on private investment, free trade and market-based solutions. According to Badrul, implementation of green initiatives in green economies is significantly supported by Neo-liberalism Theory.

Neo-liberalism Theory is one of the theories used in analysing behaviour of states in international system. This theory is market or trade oriented and focuses on behaviour of states.[11] Neo-liberalism theory describes the response of states towards free markets, capitalism and freedom of enterprises from government control. The response of states and the interaction with other actors revolves on policies and related frameworks that enable markets to perform efficiently. Badrul submits that Neo-liberalism theory supports states to place emphasis on pricing as a determinant to efficient use of nature.

Neo-liberalism Theory is therefore a driver for implementing green initiatives at global, regional and local levels. When it comes to the international level, reorienting economic activity will need new

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[10] Badrul Hyder, *Green Economy in Theoretical Dilemma*, Norwegian University of Life science, 2022
[11] Biebricher, Thomas, *The Political Theory of Neo-liberalism*, Stanford, CA: Stanford University Press, 2018

multilateral institutions and 'reprogramming' of existing ones such as World Trade Organisation and UNEP.[12] However, critics of this global approach indicate that a great deal the green economy's strategic direction will be determined by the policies put in place by the nations and the networking that will be there internationally, nationally among the actors as they seek to capitalise on the available opportunities on the green economy. By using the example of China and Brazil, this kind of strategy which involves the Government and Private Sector to drive the green-economy is likely to bring about variable practices which will display a system that is hard for any of the two to account for.[13]

Also, there is regional and local level where states are encouraged to subscribe to this initiative as a way of doing away with managerial list perspectives of the economic transition. This is possible by inserting more attention on the competition that arises among regions, cities and companies as they try to occupy a larger space in the green economy to their benefit and success.[14]This strategy will create differences among regions, cities in terms of development as it shall be uneven. On the other hand, it is assessed that uneven development socially, environmentally and economically may arise as a result of the different measure of stretching the green economy by governments, regions and companies which implies that the implementation of the global economy will depend on a state's interest and beliefs.[15]

It is emerging that, even though organisations try to better the green economy by laying down suitable approaches into the general arenas, they do not outline clearly the role and importance of the major actors and the required processes in making a positive turn in the green economy. This explains behaviour of states as key tenet in the Neo-liberalism theory. Thus, a preferable approach will

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[12] Timothy J Foxon, *A co-evolutionary framework for analysing a transition to a sustainable low carbon economy*, Volume 70, Issue 12, 15 October 2011, Pages 2258-2267

[13] Ostrom Elinor, *Polycentric systems for coping with collective action and global environmental change*, Global Environmental Change 20 550–557, 2010

[14] Shove Elizabeth & Walker Gordon, *CAUTION! Transitions ahead: politics, practice, and transition management* , Environment and Planning A 39 763–770, 2007

[15] Rob Krueger & David Gibbs, *Competitive Global City Regions and 'Sustainable Development': An Interpretive Institutionalist Account in the South East of England*, Environment and Planning A: Economy and Space, 2009

therefore be to consider green economy as a functional domain in probing the major actors, the involvement of global organisations, governance and private actors in the green economy.

1.5.2 Empirical Review

1.5.2.1 Role of Green Initiatives in Promoting Sustainable Development

Green initiatives are joint ventures that provide a mechanism for coordinating UN action on the green economy and to assist member states to deliver the sustainable development goals (SDGs) and monitor progress in their achievement. The concept of "green economy was officially coined at the Rio + 20, about twenty years after the UN conference on environment and development held in Rio de Janeiro in 1992 officially adopted the sustainable development concept."[16] One of the objectives was to tackle the issues hindering sustainable development in terms of the economy and the environment. According to UNEP, green economy is "one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities."[17] Green economy has featured in economic debates since the 2008 financial crisis, without leaving out international organizations and governments, which are currently considering it as an approach in development that, can bring about an improved sustainable development.

The green economy concept is a low-carbon economy model whose objective is "gaining less energy consumption that is also efficient, reduced pollution and gas emissions while at the same time aiding in improving human well-being."[18] Countries such as South Korea and China have been able to adopt new technologies. For example, from 2009 to 2015, South Korea and China respectively put into effect five-year development plans that dedicated a large portion of investments to green initiatives.[19]

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[16] Eleonore Loiseau, Laura Saikku, et. al., *Green economy and related concepts: An overview*, Journal of Cleaner Production, Volume 139, 2016

[17] United Nations Environment Programme, *Green Economy Reports: a Preview*, UNEP, Nairobi, Kenya, 4–5, 2010

[18] Xiaoqin, Jin. *Guang Yuan Low-carbon development Path based on SWOT analysis*, Journal of Sustainable Development; Vol. 5, No. 8; 2012, doi: 10.5539/jsd.v5n8p78

[19] John A Mathews, *Green growth strategies-Korean initiatives*, Futures, Volume 44, Issue 8, 2012, Pages 761-769, https://doi.org/10.1016/j.futures.2012.06.002

"The European Union also integrated the green economy initiatives into the Europe 2020 and the Resource Efficiency Roadmap."[20]

Third world countries are in a precarious stage of their growth as they are faced with internal challenges such as lack of employment, poverty, environmental degradation such as climate change etc. Despite these challenges, they represent a chance for change as the opportunity to channel resources into a low-emission, climate-resilient development route is significant thanks to the green economy. Therefore, through a political process, African countries committed to transition to a sustainable green economy.

1.5.2.2 Adoption of Green Initiatives in Africa

African ministers "adopted the Bamako Declaration on the Environment for Sustainable Development in June 2010 and committed to support the green economy model."[21] In October 2010 during the seventh African Development Forum in Addis Ababa, Ethiopia, there were calls for African countries to make the green economy a priority and support it in attempts to provide remedy to challenges such as climate change.

In March 2011, African Ministers of Finance, Planning and Economic Development committed to lead in the green economy switch. In July 2011, at the seventeenth session of the African Union Summit AMCEN/17/L.3, African Union Heads of State and Government, adopted a resolution asking members to guarantee that African interests on Green Economy matters were articulated and taken into consideration in relation to institutional frameworks for sustainable development, poverty eradication, and sustainable development.

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[20] Leonardo Mazza, Patrick ten Brink, *Green economy in the European Union.* URL: https://ieep.eu/publications/green-economy-in-the-european-union/, 2012

[21] UNECA, *A Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the Implications for Africa?* Addis Ababa: African Commission for Africa, 2012

According to research by Musango et. al, most countries in African have policies and strategies that link with the green economy, for example South Africa, which has the green economy strategies as part of its national agenda.[22] Ghana is also known to have formulated policies and strategies like the low carbon development strategies (LCDs) among others.[23] Such moves are highly encouraged to address the continuously deteriorating climate change that has affected essential sectors such as the health and industry.

Ghana has been highly influenced to promote transitioning away from the traditional economic growth approach and utilizing green economy development techniques due to the bad effects brought about by the conventional model mostly to the environment. However, the country has not yet recorded a significant achievement despite the efforts it has made in implementing and promoting the green economy.

1.5.2.3 Benefits and Challenges of Adopting Green Initiatives

One of the studies showed that a country's location geographically, policies governing its environment, potential for green energy mix, population and ability to reduce poverty and illiteracy levels are the main strengths.[24] On the other hand, a country with factors like weak institutions, inadequate funds to start and run will encounter shortcomings including lack of political will, poor long-term policies for green initiatives, and breakthroughs in green technology..

Commercial interests in driving the development and transfer of green technology, cross-border collaborations, global attention to climate change, local and international support for green economy, awareness and understanding of environmental protection are some of the major opportunities.

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[22] Musango J, Brent A., Bassi M, *Modelling the transition towards a green economy in South Africa*, Technol. Forecast. Soc. Change 87 (2014) 257–273 .
[23] Adu-Boateng, *Barriers to climate change policy responses for urban areas:* a study of Tamale Metropolitan Assembly, Ghana, Curr. Opin. Environ. Sustain. 13 (2015) 49–57.
[24] Ernest Ali, Valery Pavlovich & Bismark Amfo, *Green economy implementation in Ghana as a road map for a sustainable development drive*: A review," Scientific African, 12, 2021

Inadequate commitment to support technology development and transfer, cost of green technologies, corruption and the growing threat of climate change threaten Ghana's efforts towards green economy.

In Kenya, the Medium-Term Development Plan strongly emphasized prospects for green growth through the use of renewable resources, clean production methods, carbon credits, and an integrated green jobs approach. It also backed the creation of a national green economy plan. The government is currently committed to lowering greenhouse gas emissions by 2030 to 32 percent.[25] However, it remains unclear on how other aspects of green initiatives are being implemented and the created impact.

1.5.3 Gaps in Literature

Available literature indicates that there are attempts of achieving green economies through implementing green initiatives in developing countries. The United Nations Economic Commission for Africa reports that countries have adopted the Green Economy initiatives. Additionally, most countries in African have policies and strategies that link with the green economy as evident in South Africa, Ghana and Kenya. However, while most countries have adopted the Green Economy initiatives, the connection to sustainable development remains unclear.

On theoretical review, the behaviour of states is a critical factor in determining the extent to which green initiatives will be implemented. The response of states and the interaction with other actors revolves on policies and related frameworks that enable markets to perform efficiently.[26] As the countries pursue green economies, it remains unclear how the behaviour will support the achievement of sustainable development. This study will attempt to demonstrate the nexus between green initiatives, a country's interests and capacity in achieving sustainable development.

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[25] Xinhua, *Kenya renews commitment to multilateral green agenda*, URL: https://www.xinhuanet.com/english/africa/2021-05/11/c_139939355.htm 05/11/2021
[26] Badrul Hyder, *Green Economy in Theoretical Dilemma,* Norwegian University of Life science, 2022

In terms of empirical review, it is emerging that decisions to implement green economy initiatives is dependent on national interests and capacity. African actors and stakeholders follow precedent while converting into green economies. However, African countries are yet to fully transit to green economies. To some, Green Economics and Green Growth are still rather nebulous concepts. Additionally, there are concerns that African countries are expected to adopt higher environmental standards applied in industrialised countries, which is perceived as a means of protecting markets in the developed World. Moreover, there are fears that 'Green Economy' only act as a front for new types of Eco-protectionism. African countries poor transition to green economies raises serious questions and concerns. Could this be reflective of Kenya's situation? The research therefore attempts to establish to what extent green initiatives contribute to sustainable development.

1.6 Hypotheses

This research tested the following hypotheses:

1. There is no significant relationship between green initiatives and sustainable development in developing countries.
2. There are no significant roles played by institutional frameworks in implementation of green economy strategies in developing countries.
3. There are insignificant opportunities and more challenges in implementing green initiatives for sustainable development in Kenya.

1.7 Justification of the Study

This research encompasses justifications touching on academic and policy issues.

1.7.1 Academic Justification

This study sought to specifically provide scholarly literature and analysis on the extent to which implementation of green initiatives in Kenya has promoted sustainable development. The existing literature has focussed more on policy level frameworks for different sectors; therefore reinforcing it with academic research evidence will support and strengthen the implementation process. It will further shed light on the extent to which green initiatives are and remain beneficial to the economy including challenges encountered during implementation.

1.7.2 Policy Justification

Clear planning at the grassroots level is still lacking and hinders appropriate response. The findings from this study point at weaknesses like lack of internal coherence in laws and policies that require interventions through review, harmonisation and improvement of existing frameworks for proper coordination and efficient implementation.

1.8 Theoretical framework

The Neo-liberalism approach to the green economies was adopted in the study. Neo-liberalism Theory is one of the theories used in analysing behaviour of states in international system in response to common global challenges. This theory is market or trade oriented and focuses on behaviour of states with regard to implementation of common international frameworks.[27] Neo-liberalism theory describes the response of states towards free markets, capitalism and freedom of enterprises from government control. The response of states and the interaction with other actors revolves on policies and related frameworks that enable markets to perform efficiently.

Proponents of Neo-liberalism Theory converge on the identification of several characteristics that define this theory. The characteristics include states becoming facilitators of trade by providing conducive environment that is sustainable.[28] Conducive environment includes ability to utilise natural resources efficiently. Badrul submits that Neo-liberalism theory supports states to place emphasis on pricing as a determinant to efficient use of nature.[29]The characteristics of Neo-liberalism Theory are

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[27] Biebricher, Thomas, *The Political Theory of Neo-liberalism*, Stanford, CA: Stanford University Press, 2018
[28] Friedman, Milton, *Neo-Liberalism and Its Prospects*, Farmand, February 17: 89–93; reprinted Friedman 2012: 3–10, 2012
[29] Badrul Hyder, *Green Economy in Theoretical Dilemma,* Norwegian University of Life science, 2022

grounded on its tenets namely economic and political freedom. The nexus between economic and political tenets highlights the interests and behaviour of a state.

Generally, Neo-liberalism Theory extensively addresses the conditions of international trade including exploitation of natural resources. The neoliberals contend that states regulate markets by enforcing international policies on trade.[30] Additionally, functional markets require not only legal frameworks but also value system which should include sound utilisation of natural resources. However, critics of this theory indicate that the theory is structuring societies under markets, patriarchy market relations thus building a society around a cash nexus. How this argument contributes to achievement of sustainable development remains a central focus in this study.

1.9 Methodology

The following methodology was adopted by the study.

1.9.1 Research Design

Case study design was employed and focuses on qualitative or quantitative data employing methods like interviews, observations and analysis of data to excavate into the situation.[31] Case study design assists in the production of case studies by providing more realistic replies than a purely statistical survey of a thorough understanding of a single example or phenomenon in the social sciences. The case study approach supports the gathering and interpretation of both quantitative and qualitative data.

1.9.2 Study Scope

The research was conducted in Kenya. It focuses on how Kenya has progressed in implementing green economy initiatives. The independent variable is green economy and the dependent variable is

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[30] Biebricher, Thomas, Op. Cit., 2018
[31] Ranjit Kumar, *Research Methodology: A Step by Step Guide for Beginners*, SAGE Publications Inc. 2455 Teller Road Thousand Oaks, California 91320

sustainable development. In terms of time frame, the study focuses on the period starting 2014, when Kenya officially commenced the implementation of the green economy initiatives, up to 2020.

1.9.3 Research Target Population

This research targeted administrators and policy makers of institutions tasked with responding to climate change and green economy initiatives. The study involved officials at the ministry of planning and finance and ministry of industrialisation and trade and ministry of environment and natural resources, The study also targeted officials at the Vision 2030 secretariat, National Environment Management Authority (NEMA). Non-Governmental Organisations whose mandate is in natural resource management also formed part of the target population. The list of NGOs will include GIZ and UNEP.

1.9.4 Research Samples and Sampling Technique

The sample of this study was individuals distributed as follows:

Institution	**Sample Size**
Ministry of Environment and Natural Resources	2
Ministry of Finance and Planning	2
Ministry of Trade and Industrialisation	2
National Environment Management Authority (NEMA)	2
GIZ	2
UNEP	2
Total	**12**

Purposive sampling generates non-probability samples that are selected in accordance with the characteristics of a given population and the nature of the research. The process is also sometimes referred to as judicial, subjective, or selective sampling, although the basic framework remains the same. Compared to other sampling techniques that effectively use random sampling, the study’s goal is to purposefully select participants in order to collect data. Through perspective of quantitative research, researchers work towards a certain objective. Still, specific individuals within the chosen group of interest are the focus.

1.9.5 Data Collection Method

This research utilised both primary and secondary data collection approaches. In primary data collection, the researcher carried a field survey. The instruments used in the field survey included key informant interviews and questionnaires.

Key informant interviews were administered to government officials tasked with implementation of green initiatives. Interview guides were designed and included questions on achievements and challenges of green initiatives for sustainable development in Kenya. The interview guides were administered orally to the selected officials and responses recorded. This data collection tool was appropriate since it allowed the researcher to probe more questions and gain deeper understanding of the problem under investigation. Questionnaires were used to collect data from officers who were not available for interviews. The questionnaire were prepared and shared on their official email for response.

For secondary data, the researcher conducted desktop reviews from books, journals, dissertations and reports. The researcher searched for data from the internet and the library while coming up with literature review. The researcher analysed data taking into consideration the aim of this study, the source and data types. According to the study's goals, the researcher divided the data into themes that were related to those goals. The researcher went ahead to sort information into primary and secondary sources and group the data into qualitative and quantitative data. Data was analysed numerically and non-numerically in every classification where obtained numerical data was analysed quantitatively while qualitative analysis was done on non-numerical data.

1.9.6 Piloting

Piloting was done for selected officials who did not form part of the study. Responses obtained were analysed and used to improve the data collection tools.

1.9.7 Ethical Considerations

Ethical considerations in the conduct of the research involved two steps. The first step was acquisition of research permits from relevant institutions. The second step involved instructions to the respondents prior to engagement. An introduction letter was also obtained from National Defence College as evidence of research endeavour. The letter granted to the researcher was used to obtain a research permit. In the second step, research participants' consent was sought. Participants' rights such as confidentiality, the right to skip some or all questions and anonymity were outlined in the instructions. The respondents' signature was required to show their agreement to take part in the study.

1.9.8 Definition of Terms

Green economy refers to an economy with both investment and consumption of processes and products that aim at reducing environmental degradation by reducing carbon emissions and pollution, improving energy and resource efficiency, protecting biodiversity, and preserving ecosystem services are some of the goals.

Green Initiatives refers to the strategies and practices for achieving the expectations of green economy.

Sustainable Development refers to development that does not compromise wellbeing of current and future generations.

1.9.9 Chapter Outline

A total of five chapters constitute the thesis paper. Chapter one is majorly introduction focusing on the study's background, a research problem statement, questions the research will answer and research objectives. It also describes literature review, hypotheses, theoretical framework, and justification of the study, methodology and organization of the study. Chapter Two examines the relationship between green initiatives and sustainable development in developing countries. Chapter

Three analysed the part institutional frameworks play in putting green economy initiatives into practice in poor nations. Chapter Four was used to determine the challenges and opportunities that exist on implementation of green initiatives for sustainable development in Kenya. Chapter Five is a Summary of the Findings, Conclusion and Recommendations on the study.

CHAPTER TWO

GREEN INITIATIVES AND SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES

2.1 Introduction

This chapter describes the relationship between green initiatives and sustainable development in developing countries. The chapter analyses concepts on green initiative, sustainable development and their relationship.

2.2 Green Initiatives

The concept of the 'green economy' was officially coined at the Rio + 20, about twenty years after the UN conference on environment and development held in Rio de Janeiro in 1992 officially adopted the sustainable development concept.[32] This was in response to the global environmental challenges. It was widely accepted that the world is currently grappling with environmental challenges that continue to make social, economic and ecological life unbearable.

Green initiatives for green economies are always considered in addressing climate change and mitigation issues. According to Bulkeley, the world is experiencing climate change phenomenon

[32] Eleonore Loiseau, Laura Saikku, Riina Antikainen, Nils. Droste, et. al., *Green economy and related concepts: An overview*, j*ournal of Cleaner Production*, *139*, 361-371, URL: https://doi.org/10.1016/j.jclepro.2016.08.024

manifested through unprecedented rising of global temperatures, extreme weather patterns such as droughts, floods and hurricanes. [33] It is unfortunate that the changes in climatic and weather patterns have continued to impact on livelihoods, cause deaths and destruction of property. Available scientific evidence indicates that if unchecked for the next 50 years, global warming will result to unprecedented heat waves, increase in sea level due to melting of Arctic and Antarctic glaciers, extreme droughts and floods in some areas where the phenomenon have never occurred.[34] In reality, the globe is staring at loss of biodiversity, human life and other undetermined worst experiences. It is against this backdrop in ecologically sound planet that there are deliberate attempts to reverse the trends in climate change.

One of the major interventions for reversing impacts of climate change is green initiatives. The United Nations Environment Program (UNEP) launched the Green Economy Initiative in 2008. This worldwide initiative needed country-level assistance aimed at motivating law makers to aid environmental investments. In 2015, UNEP published a report titled "Uncovering Pathways towards an Inclusive Green Economy" and the document was presented at the United Nations General Assembly (UNGA). The report emphasizes on concepts such as teamwork, sharing, unity, interdependence among others. In order to create a liveable and sustainable environment, it persuades governments to support the green growth agenda.

Green initiative introduces a new approach to economic growth putting human beings at the core of development while ensuring that natural resources will enable environmental protection, services as well as resources in order to support sustainable development. This initiative incorporates both environmental considerations and the importance of natural capital to peoples' economic plan and

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[33] Bulkeley, H., Newell, P. (2010). *Governing Climate Change*. London: Routledge, 2010.
[34] Harvey, F. *Everything you need to know about the Paris climate summit and UN talks*. The Guardian 2015. URL: https://www.theguardian.com/environment/2015/jun/02/everything-you-need-to-know-about-the-paris-climate-summit-and-un-talks

decision-making.[35] It has been noted that many countries are considering green initiatives as a long-term, secure and strong strategy to achieving sustainable development. Developing countries can rely on green initiatives as best solution to a healthy and sustainable environment.[36] This implies that tackling environmental challenges is a collective global initiative to support participation and commitment of states towards achieving SDGs.

Besides improving the environment, the green initiatives improve human well-being and create social equity. Green initiatives work against inequalities, natural resource wastages, unsustainable technological solutions and innovations.[37] It is for this reason that over the past ten years, many governments have prioritized the green initiatives into their economic growth agenda. Thus, green initiatives are becoming the drivers of sustainability and this will enable the countries to withstand the main issues in the 21st century such as urbanisation, climate change, among others.

2.3 Sustainable Development

Sustainability is a term that continues to elicit paradigm shift in the way business, activities and operations locally, regionally and internationally. Sustainability stems from the term "sustainable development that was informed by the World Commission on Environment and Development (WCED) Report of 1987 which highlighted the impact of businesses on the environment and society."[38] Since then, the report elicited debate around the need for creation of awareness on impacts on the environment and this resulted into the coining of "Sustainable Development". The report defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." A more operational definition of Sustainable Development was considered as "development aimed at achieving societal

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35 UNEP, Op. Cit., 2021
36 Kenya Climate Change Innovation Centre, Op. Cit., May 15, 2016
37 Kenya Climate Change Innovation Centre, Op. Cit., May 15, 2016
38 Moufty, S. (2014). *Sustainability Practices and their Effect on Performance in the Banking Sector* - A Stakeholder Approach, PhD Thesis, Brunel University

and environmental equity while, at the same time, pursuing economic gain."[39] Sustainable Development therefore means engagement in growth that satisfies present-day demands without endangering those of generations to come.

Since its adoption in 1987, Sustainable Development gained wide recognition in the 21st Century. "The world adopted the Sustainable Development Goals as an urgent response to global environmental, political and economic challenges"[40] in 2015, The Sustainable Development Goals (SDGs) replaced the Millennium Development Goals (MDGs) which were largely focused on tackling poverty, hunger, diseases and other social inequities. In connection to the environment, it was largely considered that tackling the poverty, hunger, diseases and other social inequities was as good as promoting environmental management.

SDGs reaffirm commitment of governments to ending poverty and more important building societies that are safer, prosperous and sustainable to everyone. It is expected that sustainable development should be addressed through 17 goals.[41] The first goal is ensuring no poverty followed by zero hunger, good health and well-being, quality education and gender equality as the fifth goal. The sixth goal is ensuring clean water and sanitation followed by affordable and clean energy, decent work and economic growth. The ninth goal is about industry, innovation and infrastructure while the tenth is about reducing inequities. The eleventh goal is promoting sustainable cities and communities while the twelfth is about responsible consumption and production. The thirteenth goal is about climate action followed by life below water and life on land. The fifteenth goal is about peace, justice and strong institutions and lastly partnerships for the goals.

SDGs have 169 targets expected to be achieved through an integrated approach. Available studies indicate that 86 of the 169 targets have direct or indirect link to environmental protection through

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[39] Ngwakwe, Collins. (2012). *Rethinking the accounting stance on sustainable development,* Sustainable Development, 20, 28-41. 10.1002/sd.462
[40] UNDP, *Background of Sustainable Development Goals,* URL: https://www.undp.org/sdg-accelerator/background-goals
[41] UNDP, *Background of Sustainable Development Goals,* https://www.undp.org/sdg-accelerator/background-goals

reduction of environmental damage, emphasis on the role of natural resources and ecosystem services in human well-being and prosperity.[42] The implication is that environmental aspects are weighty and should critically form part of the social and economic plans at local, national, regional and international development agenda. However, critics caution that achievement of the goals may remain a challenge in many countries across the world.

2.4 Green Initiatives role in Achieving Sustainable Development in Developing Countries

Developing countries stand hard hit when it comes to adoption of green initiatives. Additionally, the countries are faced with internal challenges such as lack of employment, poverty, environmental degradation such as climate change etc.[43] Despite these challenges, they represent a chance for change as the green initiatives offer considerable opportunities for mobilizing resources toward a low-emission, climate-resilient development pathway. In this regard, through a political process, developing countries committed to transition to a sustainable green economy.

In Europe, green economy initiatives are becoming important discourse factors in shaping social and economic development. Most developing countries are in various stages of operationalization of Sustainable Development Goals. The countries are developing green economy frameworks largely adoption of Rio+20 Conference upon which interventions in social, economic and environmental are implemented. For example, the economy of Belarus is being transformed along energy safety, food safety, climate change adaptation and waste management.[44] The policy framework places emphasis on the nexus between green economy and development of other sectors.

In accordance with the United Nations Economic Commission for Africa (2012), the African ministers of environment adopted the Bamako Declaration on the Environment for Sustainable

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[42] Asian Development Bank, *Strengthening the Environmental Dimensions of the Sustainable Development Goals in Asia and the Pacific: Tool Compendium*, ADB 2019, URL: http://dx.doi.org/10.22617/TIM190002-2

[43] UNECA, *A Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the Implications for Africa?* Addis Ababa: African Commission for Africa, 2012

[44] Dorothea Frohn, Filip Jovanovich, Nadya Boneva, *Elaboration of National Principles of Green Economy in Belarus*, Europe Aid/135512/DH/SER/BY, April 2015

Development in June 2010.It is in this declaration that states committed to support the green economy model.[45] In October 2010, there were calls in the seventh African Development Forum held in Addis Ababa, Ethiopia for African countries to make the green economy a priority and support it in attempts to provide remedy to challenges such as climate change.

In March 2011, African Ministers of Finance, Planning and Economic Development committed to lead green economy transitioning. In July 2011, African Union Heads of State and Government meeting at the seventeenth session of the African Union Summit adopted a decision urging member States to ensure that Africa's interests on the Green Economy issues within the context of sustainable development, poverty eradication, and institutional frameworks for sustainable development are defined and taken into account.

According to research by Musango et. al, most countries in Africa have policies and strategies that link with the green economy, for example South Africa, which has the green economy strategies as part of its national agenda.[46] Ghana is also known to have formulated policies and strategies like the low carbon development strategies (LCDs) among others.[47] Such moves are highly encouraged to address the continuously deteriorating climate change that has affected essential sectors such as the health and industry.

Ghana has been highly influenced to promote the green economy development strategies and to transition from the conventional economic development strategy due to the bad effects brought about by the conventional model mostly to the environment. However, the country has not yet recorded a significant achievement despite the efforts it has made in implementing and promoting the green economy.

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[45] UNECA, *A Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the Implications for Africa?* Addis Ababa: African Commission for Africa, 2012
[46] Musango J, Brent A., Bassi M, *Modelling the transition towards a green economy in South Africa,* Technol. Forecast. Soc. Change 87 (2014) 257–273 .
[47] Adu-Boateng, *Barriers to climate change policy responses for urban areas: a study of Tamale Metropolitan Assembly, Ghana,* Curr. Opin. Environ. Sustain. 13 (2015) 49–57.

In general, developing countries have demonstrated commitment for achieving sustainable development goals through implementing green initiatives. The green initiatives are implemented across all sectors of the economy.

2.5 Institutional Frameworks for Implementing Green Economy Initiatives

Efforts have intensified in recent times for achieving sustainable development that is characterised by a cleaner economic growth that incorporates environmental management. In this regard, it is increasingly becoming necessary for governments and other actors to develop and implement institutional frameworks that encapsulates economy and climate change. The frameworks are designed to help organisations build sustainability from environmental perspective by focusing on green alternatives and lowering of emissions.[48] It is expected that the institutional frameworks should provide basis upon which economic growth, social inclusion and environmental quality are implemented and achieved.[49] The institutional frameworks designed to support achievement of sustainable development, environmental governance and green economies mainly exist at international, regional and national levels.

At international level, there are frameworks such as the Sustainable Development Goals (SDGs), United Nations Framework Convention on Climate Change (UNFCCC) and the Integrated Green Economy Modelling Framework (IGEM). SDGs are a globally recognised framework upon which the world is called to engage in interventions that would end poverty, protect the planet and promote peace and prosperity. Adopted in 2015 by the United Nations, SDGs contain 17 integrated goals that seek to balance social, economic and environmental sustainability.[50]

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[48] UNEP, "Op. Cit., 2022

[49] Opeyemi Akinyemi, Ikechukwu Okoli, Felix Chedozie, *Institutional Framework and the Transition to Green Growth for Sustainable Development in Africa,* African Journal of Business and Economic Research, 16(1), 2021

[50] UNDP, *The SDGs in Action*: *What are the Sustainable Development Goals?* URL: https://www.undp.org/sustainable-development-goals/

In Belarus, green economy initiatives are becoming important discourse factors in shaping social and economic development of the European nation. The country developed a framework on operationalization of Sustainable Development upon which green economy principles were drawn. The green economy framework was largely adoption of Rio+20 Conference upon which interventions in social, economic and environmental are implemented. The economy of Belarus is therefore transformed along energy safety, food safety, climate change adaptation and waste management.[51] The policy framework places emphasis on the nexus between green economy and development of other sectors.

In Africa, a study institutional framework and transition to green economy indicated significant improvement in the adoption of green economy initiatives. From the 52 countries, while there was significant interaction between economic institutions and political institutions, there was need for strong framework that would strengthen the relationship.[52] It is for this reason that the study recommended that policy makers in Sub-Saharan Africa should strengthen frameworks for green economy transition.

Initiatives promoting a green economy have been in place in South Africa for more than ten years. The green strategies are embedded in government's policies on carbon emission where green energy is highly considered to be driver of the economy.[53] However, while South Africa has made progress in reducing carbon emission, the economic interventions have created disincentives among various groups in the population with private movement of capital being worst hit.

In Angola, attempts of transiting to green economy remain futile. According to one study, implementations of green economy initiatives were hindered by irresponsive government policies in

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[51] Dorothea Frohn, Filip Jovanovich, Nadya Boneva, *Elaboration of National Principles of Green Economy in Belarus,* Europe Aid/135512/DH/SER/BY, April 2015

[52] Opeyemi Akinyemi, Ikechukwu Okoli, Felix Chedozie, *Institutional Framework and the Transition to Green Growth for Sustainable Development in Africa,* African Journal of Business and Economic Research, 16(1), 2021

[53] Moyo Thomas, *Green economy/growth policies and their implementation in the context of the renewable energy sector: The case of Mozambique, South Africa and Zimbabwe*, International Journal of African Renaissance Studies, Vol. 9 No. 2 pp: 39-60, 2014

energy sector.[54] Alternatives to reliance on oil were expected to be pursued by seeking greener approaches in the whole economy. However, costs related to transition especially phasing out oil production proved significant challenge to be addressed in future. This implies that Angola may not implement any green economy initiatives anytime soon.

In Nigeria, Cameroon and other African countries including Kenya, there is gradual adoption to green economies. The countries have developed and adopted policy frameworks that will support compliance not only to internationally recognised green economy frameworks but also suitable approach to their economic growth.[55] It is for this reason that Opeyemi Akinyemi et. al. concluded that transition of African countries to green economy will largely depend on the extent to which political will is mainstreamed into green economy agenda.

The African Development Bank[56] provides a framework that would support green growth. The framework establishes the interconnectedness of sustainable infrastructure, efficiency in sustainable use of natural resources and resilience in livelihoods across economic sectors. Sustainable infrastructure comprises of interventions that minimise pollution and wastes while efficient use of natural resources involves sustenance of renewable resources. The resilience in livelihoods focuses on strengthening adaptive capacities to risks and disasters as well as improvement in safety nets. The outcomes of the interactions is inclusive economic growth characterised by green jobs, economic diversification, innovation, gender inclusivity as well as improved safety and health conditions. The African Development Bank places emphasis on policy instruments that encourage economic incentives, regulations, behavioural changes and social marketing as suitable aspects that would promote green growth.

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[54] Pablo Burkolter & Leisa Perch (2014) Greening growth in the South: practice, policies and new frontiers, South African Journal of International Affairs, 21:2, 235-259, DOI: 10.1080/10220461.2014.941917

[55] Opeyemi Akinyemi, Ikechukwu Okoli, Felix Chedozie, *Institutional Framework and the Transition to Green Growth for Sustainable Development in Africa,* African Journal of Business and Economic Research, 16(1), 2021

[56] African Development Bank, *Transitioning towards Green Growth: A Framework for the African Development Bank,* 2014 URL: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Green_Growth_Framework_-_approved_by_co-chairs_SMCC_-_08_2014.pdf

In developing countries, OECD considers green economy a function of both economic and sustainable policies. OECD recognises that developing countries should give priority to tackling poverty through sustainable exploitation of natural resources, efficient use of available energy and other ecosystem services.[57] In this regard, developing countries are expected to place environmental management at the core of tackling poverty. Thus, the countries are required to incorporate environmental approaches in economic growth including economic stimulus packages that are environmental centric. However, the OECD considers that most developing countries do not have suitable frameworks for achieving green growth. It is for this reason that OECD developed a framework that would support developing countries transition to green economy. The framework contains not only environmentally oriented policies but also social and economic policies.

2.6 Challenges of Green Initiatives in Achieving Sustainable Development in Developing Countries

African countries are highly dependent on natural resources. According to UNECA and AUC (2010), African countries are endowed with vast natural capital assets critical to addressing poverty and unemployment. However, while the continent is finding ways of exploiting its resources in a bid to address poverty, diseases and social inequities, there are significant challenges that limit achievement of sustainable development goals. The challenges are broadly identified to include inadequate funds, insecurity in most countries, threats of natural calamities, conflict between the need for profit against sustainable technologies and poor governance.[58] This implies that proper programme management is required in addressing the challenges of achieving sustainable development.

A study by United Nation's Department of Economic Affairs revealed inherent challenges to achieving Sustainable Development. In the study, it was observed that the development strategies

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[57] Organisation for Economic Cooperation and Development, *Green Growth and Developing Countries: A Summary of Policy Makers*, OECD, 2012
[58] International Young Nature Friends, *Sustainable Development and its Challenges in Developing Countries*, https://www.iynf.org/2018/08/a-guide-to-sustainable-development-and-its-challenges-in-developing-countries/

could not support the achievement of sustainable development. This was largely attributed to several reasons including the impact of climate change which in absence of adequate safeguards would not encourage the sustainable and integrated management of natural resource.[59] Similarly, other reasons were persistence of hunger and malnutrition, income inequality and recurrence of financial crisis. The challenges were noted to cause review of priorities thereby derailing the execution of the green initiatives for sustainable development.

Another study showed that a country's location geographically, policies governing its environment, potential for green energy mix, population and capacity to lower levels of illiteracy and poverty remaining key advantages.[60] On the other hand, a country with factors like weak institutions, inadequate funds to start and run the green technology innovations, lack of political will and long-term plans for green measures will possess key flaws.

Some of the major opportunities include commercial interests in promoting the development and transfer of green technology, international cooperation, global attention to climate change, local and international support for the green economy, and awareness and understanding of environmental protection. Threats to efforts toward green initiatives and sustainable development in developing nations include corruption, lack of support for technology advancement and transfer, high costs associated with green technologies, and the increasing danger posed by climate change.

2.7 Summary

This chapter has demonstrated the nexus between green initiatives and sustainable development. With focus on developing countries, there are indications of wide acceptance and green initiatives adoption to achieve sustainable development. However, while some developing countries have committed to improving social, economic and environmental status in line with SDGs, there are limitations to

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[59] UN Department of Economic and Social Affairs, *World Economic and Social Survey 2013: Sustainable Development Challenges*, UN DESA, 2013

[60] Ernest Ali, Valery Pavlovich & Bismark Amfo, *Green economy implementation in Ghana as a road map for a sustainable development drive: A review*, Scientific African, 12, 2021

reducing the achievement of sustainable development. This calls for further assessment to determine causes and effects so that a way forward is identified.

CHAPTER THREE

ROLES OF INSTITUTIONAL FRAMEWORKS IN IMPLEMENTATION OF THE GREEN ECONOMY INITIATIVES IN KENYA

3.1 Introduction

This chapter provides details of institutional frameworks for implementing green economy initiatives in Kenya and highlights the achievements of implementing them. It outlines details of Kenya's transformation in formulation, adoption and implementation of frameworks for green initiatives since independence. The chapter also provides analysis of the framework for green initiatives on topics including encouraging resource efficiency, creating resilient infrastructure, and managing natural resources sustainably. Besides the framework, the chapter also provides details of the achievements of green initiatives since 2014. The analysis of the achievements is exclusively on constructing resilient infrastructure, managing natural resources sustainably, and maximizing resource efficiency.

3.2 Kenya's Efforts towards Green Economy

Kenya's efforts towards a green economy span immediately from her independence in 1963 to date. After independence, the country embarked on establishing systems that were aimed at promoting self-rule not only in political matters but also in economic and social aspects. The famous Sessional Paper No. 10 of 1965 laid the foundation of African Socialism. African Socialism was aimed at Africanization of the Kenyan economy by rejecting both Western Capitalism and Eastern

Communism.[61] This put Africans at the core of exploring and utilising their natural resources. Through the spirit of *harambee,* Kenyans were expected to fight poverty, disease and ignorance partly by rolling-up their sleeves in a spirit of self-help for realisation of the true fruits of freedom.[62] This political philosophy implied that Kenyans were expected to put in more effort for social and economic development without relying on external support.

Exploring and utilising natural or environmental resources was therefore part of the freedoms Kenyans yearned for. The Sessional Paper was grounded on the principle of equity, impartiality, fairness and justice for all. Specifically, paragraph 133 on "Provisional Balance and Social Inertia" encouraged people to move to high productive areas in a bid to transform the economy and gather more resources in the short term to transform the marginalised areas. The productive areas contained natural resources that were considered important for driving the industrial sector. This explains the existence of high population in areas such as Nairobi, Thika, Nakuru, Eldoret, Nyeri and Mombasa to name but a few. In their surrounding areas, protection of environment was necessary to ensure steady supply of materiel for the growing industrial base.

Owing to prominence given in transforming the economy, the Sessional Paper laid another foundation for the agitation of environmental protection. In 1965, Kenya was focused on hosting the UN industrial development organization (UNIDO) to show case its preparedness for economic and industrial transformation. She however lost the opportunity of hosting the event. Having recognised the need for equity in promoting social and economic development, the Kenyan delegation played a key role in the establishment of United Nations Environment Programme (UNEP). The high level

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[61] Nyangena Kenneth, *Jomo Kenyatta: An Epitome of Indigenous Pan-Africanism, Nationalism and Intellectual Production in Kenya,* African Journal of International Affairs, Vol. 6 No. 1-2 (2003), URL: https://www.ajol.info/index.php/ajia/article/view/57203

[62] Republic of Kenya, *Sessional Paper No. 10 of 1965 on African Socialism and its Application to Planning in Kenya,* Government Printers, 1965.

delegation petitioned the United Nations to set its presence in Kenya on basis of equity.[63] In their petition, the delegation demanded presence of UN in global South as most of the UN bodies were in Western Europe and North America.

The need for equity in distribution of global resources coupled with Kenya's strong efforts in environmental conservation for social and economic prosperity resulted in the establishment of UNEP headquarters in Nairobi in 1972. This was a major milestone for Kenya in her efforts towards environmental management and conservation. The country therefore provided land and other resources required in establishing the global environmental body.

In the 1980s, the *Nyayo* philosophy coined by the late former President Daniel arap Moi, pushed the environmental agenda further. During Moi's reign, Nyayo philosophy became a national motto, which symbolised continuity, peace and stability.[64] The philosophy was considered an extension of Jomo Kenyatta's legacy. The late President defined *Nyayo* as an African spirit, although it is arguably considered universally human due to its tenets of peace, love and unity.[65] The philosophy contains an element of sustainable development, peace where livelihoods of future generations are guaranteed from the current tranquillity.

Besides the *Nyayo* philosophy, communities were urged to participate in environmental conservation. This became necessary following the decline of agricultural productivity occasioned by poor agricultural practices. The President championed for restoration of the environment including construction of gabions in a bid to sustain the agricultural production which was the major economic driver. The efforts of sustainable agricultural were complimented by civil society groups led by late Professor Wangari Maathai. The participation of both government and civil society groups in the

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[63] UNEP, *How Nairobi came to host UNEP's headquarters,* URL: https://www.unep.org/news-and-stories/story/how-nairobi-came-host-uneps-headquarters. Accessed 14 April 2023

[64] Stephen Katz, *The Succession of Power and the Power of Succession: Nyayoism in Kenya*, Journal of African Studies 12(3): 155-161

[65] K'olale, S M W. *PHILOSOPHY AND DEVELOPMENT: (An Inquiry into the Role of Philosophy in the Development Process of Post-Independence Kenya),* 1992.

1989 Bruntland Commission proceedings resulted in the conceptualisation of the term Sustainable Development.

The recognition of Kenya's contribution in environmental protection was observed in the nomination of Professor Wangari Maathai for the prestigious Nobel Peace Prize in 2002-2003. Further, the civil society and other lobby groups supported the entrenchment of environmental matters in the Bill of Rights. Article 70 of the Kenya Constitution 2010 accords everyone the right to a clean and healthy environment. This implies that social and economic efforts of transforming the economy should allow people to access environment that does not harm them and future generations. The enforcement of the right in accordance with the Constitution is a demonstration of the efforts towards green economy.

Post the 2010 Constitution, Kenya further enforced both local and international frameworks and provisions of promoting green economies. For example, the Medium-Term Development Plan endorsed the development of a national green economy strategy and clearly emphasised on green growth opportunities through renewable exploitation, clean production systems, carbon credits, and an integrated Green Jobs Approach.[66] Additionally, the adoption of SDGs in 2015 marked the beginning of Kenya's implementation of green initiatives that would build a green economy.

3.3 Commitments of Kenya towards achieving Green Economy

In honouring local, regional and international instruments in environmental management, Kenya has continued to demonstrate its commitment in achieving green economy. At international level, Kenya is committed to implementing SDGs and other conventions that promote sustainable utilisation of natural resources as well as protection of the environment. For example, as a member of the international community, Kenya has ratified all major conventions in environmental protection and conservation including Vienna Convention for the Protection of Ozone Layer in 1985, United Nations

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[66] UNEP, Kenya. *An integrated green Jobs Approach*, URL: https://www.unep.org/explore-topics/green-economy/what-we-do/advisory-services/africa-green-economy-project/, 2022

Convention on Biological Diversity (UNCBD) and United Nations Framework Convention on Climate Change (UNFCCC). Others include United Nations Convention on Combating Desertification (UNCCD) and Convention on International Trade in Endangered Species (CITES).

At regional level, Kenya has signed conventions and treaties including African Convention on the Conservation of Nature and Natural Resources, Bamako Convention on the Ban of Imports into Africa and the Control of Trans-Boundary Movement and Management of Hazardous Wastes within Africa, 1991. Besides the conventions and treaties, Kenya as a member of the African Union has ratified Agenda 2063 that calls for African states to adopt green technologies that would drive the industrial and economic transformation. At local level, Kenya has robust framework for promoting green economy and sustainable development. The entrenchment of environmental matters in the Constitution is a clear demonstration of mainstreaming matters green economy in social and economic initiatives. Additionally, the country has devolved matters development to counties thereby allowing people to participate in green economy across the country.

3.4 Institutional Frameworks for Implementing Green Initiatives in Kenya

Kenya is one of the countries committed to implementing Green Economy Initiatives. Her aim of creating green economy was revealed in the 2013-2017 plan. “The Medium-Term Development Plan endorsed the development of a national green economy strategy and clearly emphasizing on green growth opportunities through renewable exploitation, clean production systems, carbon credits, and an integrated Green Jobs Approach.”[67] The anticipated results included the creation of national plan for green economy, implementation of national action plan on climate change action, expansion of rehabilitation program for urban rivers, modernized meteorology service, the implementation of waste management and pollution control, the completion of the geology, minerals, and mining bill, and increased scientific data collection. The government is currently committed to lowering

[67] UNEP, Kenya. *An integrated green Jobs Approach*, URL: https://www.unep.org/explore-topics/green-economy/what-we-do/advisory-services/africa-green-economy-project/, 2022

greenhouse gas emissions by 2030 to 32 percent.[68] Kenya has been part of an on-going dialogue to ensure the success of global summits on biodiversity and climate change.

The country is working towards being the lead in achieving a circular economy. It plans to do this through efficient and effective managing of the waste systems and promoting sustainable methods of production. This provides answers to the frequent droughts and many other natural disasters.[69] This confirms that Kenya's commitments towards green economy are not only translating into achievement of local actions, but also regional and global.

In Kenya, policy development in green initiatives dates back to her participation in the 1972 global environmental conference that led to the formation of United Nations Environment Programme (UNEP). As a host country to UNEP, Kenya has continued to champion for environmental sustainability through various policy initiatives. In recent times, she has placed emphasis on green economy. This has culminated into the formulation of regulatory frameworks that comprise of policies, legislations and institutions as critical success factors for transforming Kenya into a green economy.

Green Economy Strategy and Implementation Plan (GESIP) is a macro policy framework that identifies drivers for rapid transition of the country into a Green Economy. Spearheaded by the Ministry of Environment and Natural Resources, the strategy was designed to align national policies towards achievement of sustainable development.[70] The main activities of the strategy include macroeconomic stability, human development, sustainable financing, good governance among others. Infused in Vision 2030, the strategy would be implemented through Green Kenya Initiatives (GKI) such as manufacturing eco-friendly materials, renewable energy, solid waste management and general

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[68] Xinhua, *Kenya renews commitment to multilateral green agenda,* http://www.xinhuanet.com/english/africa/2021-05/11/c_139939355.htm 05/11/2021

[69] Shahidi, *Kenya Aims at Being Continental Leader in Sustainable Development, President Kenyatta Says,* https://shahidinews.co.ke/2021/10/27/kenya-aims-at-being-continental-leader-in-sustainable-development-president-kenyatta-says/

[70] Republic of Kenya, *Green Economy Strategy and Implementation Plan 2016-2030: A Low Carbon, Resource Efficient, Equitable and Inclusive Socio-Economic Transformation,* Nairobi: Ministry of Environment & Natural Resource, 2016

environmental management.[71] The initiatives were expected to be implemented under 2013 -2017 medium term plan.

Table 1 contains summarised initiatives per thematic area.

Table 1: Green Initiatives

Objective	**Outcomes**	**Initiatives**
Theme 1: Promoting sustainable infrastructure		
Enhancing sustainable mobility	Shifting transportation model towards low carbon	Establish Bus Rapid Transit (BRT) in major urban areas especially Nairobi, Mombasa and Kisumu cities
		Integrate non-motorized transport in the design and construction of roads at least 50% of the towns hosting county headquarters.
		Reduce vehicular emissions
		Incorporate climate proofing into road and design construction and maintenance
Improve water & sanitation service at national and county level	Improved accessibility to water & sanitation services	Build and improve sewage infrastructure
		Create drainage systems and repair them in metropolitan areas
		Encourage eco-toilets for urban as well as rural locations
		Enhance water delivery service
Increase percentage of renewable energy sources in the energy mix.	Reduced emissions by the energy sector	At least 70% of the nation's energy needs should be met by geothermal, wind, and solar sources.
	Reduced pollution from fossil fuel plants	Revise the Feed-in Tariff (FiT) policy to incorporate additional net metering and off-grid power
		Revise the Feed-in Tariff (FiT) policy to incorporate additional net metering and off-grid power
Sustainable building design, construction, and upkeep	Reduced water and energy use in buildings	Guarantee that 75% of newly constructed and rebuilt large-scale public (national and local) and private structures are green.
	Greener and more efficient buildings	Build the skills of designers, contractors, and other stakeholders in integrating green technologies into projects.
		Create and execute green building certification standards.
To raise money for green investments, use the capital markets and other financial tools.	Increased private investment in infrastructure that is environmentally friendly	Create new finance strategies and tools, such as loans to pay debt, to refocus investment on sustained infrastructure.
		Strengthen turnaround of funding for sustained infrastructure by awareness-raising, legislative, economic reforms, and capacity building
Create and improve agricultural infrastructure	Enhanced food nutrition and sufficiency	Increasing irrigation while utilizing the right technologies to improve crop production
	Increased rural incomes	Reducing post-harvest losses through increased value chain efficiency (transport, store, process and market)
	Reduced poverty levels	Expansion of the network of roads and other forms of transportation in agricultural areas
Theme 2: Building Resilience		
Encourage responsible administration of the public purse for green economy	Changed attitude towards finance management	Develop and implement green fiscal policies
	Capacity enhanced/built	Increase the ability of national and local organizations to manage public finances effectively
	Better saving on sectors plus extra	Mobilizing resources for building resilience

[71] UNEP, *Green Economy Assessment Report: Kenya, Nairobi*: UNEP, 2014

Objective	Outcomes	Initiatives
	resource for GE	
	New technologies/ methods of public resource management	Develop and implement public information management systems.
Promote livelihood diversification for vulnerable communities	Enhanced adaptive capacity of vulnerable communities	Enhanced social protection mechanisms to cushion vulnerable groups
	Reduced poverty level	Establish market access and the necessary infrastructure
	Application of alternative livelihood support systems	Increase communication and awareness by gathering feedback on livelihood systems sustainability
		Ingress sanitary facilities plus clean water
		Provide an insurance program with a focus on health, livelihood, and weather for endangered people from rural and urban.
	Increase the ability of national and local organizations to manage public finances effectively	Technology transfer and development, as well as promoting locally accessible knowledge technologies
		Cultivate trees that mature quickly and have a variety of economic purposes.
		Encourage food crops that can withstand drought
Improve disaster risk reduction	Improved coordination of disaster risk reduction	A national disaster management law and policy should be reviewed and adopted.
		Bolster the national framework for disaster management, coordination, and institutions
		Include climate change and disaster preparedness in sectoral development plans
		Construct a comprehensive national early warning system for disasters.
		Infrastructure for communication to be expanded and climate-proofed in susceptible locations
		Insurance plans for losses and damages
		Use of native communication methods
		Improve the long-term care for natural environments
Theme 3: Sustainable Natural Resource Management		
Promote application of market- based instruments and entrepreneurship in natural resources management	Increased value of NRM in GDP	Adopt a system for accounting of natural resources.
		Create businesses based on nature, such as ecotourism
	Equity in NRM benefits	Increase ecosystem payment for water services
Promoting sustainable natural resources restoration	Percentage change in tree cover	Moving towards a ten percent tree cover
	Improved quality of the environment	Reforesting the lands
	Improved security of food, water, household energy, biodiversity, and livelihood	Invest in marine and aquatic resource preservation while promoting the advantages of a blue economy.
Bolster the extractive industry's sustainability	Minimized externalities on extractives	Adoption of industry standards and best practices
		In the extractive business, place a focus on local content
	Improved living conditions for communities in mining zones	Accept value addition at the raw material source.
Expanding opportunities in marine and	Enhance resilience of marine and aquatic resources	Enhancing the ability of other stakeholders and coastal communities to utilize marine resources.

Objective	Outcomes	Initiatives
aquatic resource	Increased advantages for communities from using marine and aquatic resources	Effective enforcement of marine park resource
Support the management of sustainable land	Increased land productivity	Support national and local levels of integrated SEA land use planning
		Encourage community involvement in management and conservation of National Resources
Theme 4: Promoting resource efficiency		
Boost the country's energy efficiency.	An increase in the population's access to renewable energy	Encourage voluntary environmental agreements for clean, renewable energy, and energy efficiency
		Enroll urban residential, commercial, and industrial businesses in demand-side energy efficiency programs.
		Implement supply-side energy efficiency programs through grid extension projects, transformer upgrades, and system reinforcement
		Set minimal requirements for lighting and industrial items' energy efficiency
		Build the technical and infrastructure necessary for energy efficient equipment certification, testing, and audits.
		Examine regional and local legal and policy frameworks to respond to innovation and new technology.
Improve the efficiency of water consumption in rural and urban locations.	Better water accessibility for rural and urban setups	Do periodic assessments of the country's, a county's, a basin's, and a sector's water footprint sustainability to find chances for efficiency
		Create water footprint in specific sector benchmark metrics.
		Upgrade promotion of voluntary programs on reducing water footprint
		On the supply side, cut non-revenue water by at least 10%.
		To promote a culture of efficiency and conservation, review consumption-based water pricing.
		Streamline issues with national and local government collaboration in the water sector.
		Incorporate demand-side water-saving initiatives into urban residential, commercial, and industrial facilities.
Manage waste as a resource	Reduction in environmental related health risks	Encourage resource-efficient, greener production methods that encourage industrial symbiosis and waste prevention at the source.
		Create and put into effect a landfill policy that forbids the disposal of any recyclable garbage.
		Create and practice producer's responsibility for sustainment and management of new streams of waste, such as plastics and e-waste.

Source: Greening Kenya's Economy-An Assessment of the Green Economy Strategy and Implementation Plan.

3.5 Achievements on the Implementation of Green Economy Initiatives in Kenya

Significant achievements in implementation of green initiatives have been realised since 2014. Notable ones have been observed in developing resilient infrastructure, managing natural resources sustainably, and utilizing resources efficiently. These achievements are in policy development that cuts across all sectors. The Government has continued to review existing policy frameworks on investment and management of natural resources. For example, on renewable energy which is increasingly gaining popularity as an alternative to non-renewable energy sources, the government is implementing feed-in-tariffs. These are becoming part of effective policy instruments for encouraging large-scale investments in renewable energy. The tariffs involve mandatory purchase of power by utility companies from renewable energy sources at a predetermined rate thereby stimulating more investments in mini-grids. This policy provision ensures that producers of renewable energy have a guaranteed market.

In 2014, a national climate change response strategy and action plan was created by the Kenyan government as part of her commitment to Sustainable Development Goals. The plan sought to promote low carbon development responsive to inclusivity, equity and global competitiveness needs. Infused in Vision 2030, the strategy was to be implemented through Green Kenya Initiatives (GKI) such as manufacturing eco-friendly materials, renewable energy, solid waste management and general environmental management.[72] In the strategy, targets were set. The per capita growth was expected to double by 2030 reaching 12%. In the period 2014 and 2020, the growth was not considered to be substantial; however, the initiatives were expected to trigger investments in renewable energy and other eco-related sectors leading to rapid economic transformation across all sectors. Generally, the initiatives were expected to be implemented under 2013 - 2017 medium term plan.

On energy, Kenya recognised this sector as an important point of transition to a middle income country. The drivers of this sector were exploitation of geothermal energy, discovery of coal and oil. In this regard, the government was expected to embark on several green initiatives with increased awareness of climate change mitigation techniques worldwide. The government therefore committed to considering green and low-carbon activities such as encouraging use of green technologies in coal and oil mining, use of non-renewable energy and allocating resources for green royalty programme.

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[72] UNEP, *Green Economy Assessment Report: Kenya,* Nairobi: UNEP, 2014

Additionally, the government was expected to reduce greenhouse emissions. The global carbon dioxide emissions were projected to rise to 24.35 million tonnes up from 12 million tonnes in 2012.[73] Kenya's contribution towards reduction in the gases was estimated at 9% by 2030. By 2020, it was estimated that there will be 2% reduction in the emissions. In general, the energy sector was the litmus test on the extent to which Kenya government was committed to sustainable development. As a key driver to economic development, the impact was cutting across all sectors of the economy and therefore energy footprints remained significant point of control.

Agricultural sector was identified as a key sector in the achievement of Green Initiatives. As a primary source of livelihood for majority of Kenyans, the agricultural sector faces a myriad of challenges that required green interventions. The challenges include subdivision of land, conversion of agricultural land into real estate use, loss of soil quality among others.[74] In recognising the challenges, the government of Kenya through the Agricultural Sector Development Strategy (ASDS) 2013-2020 committed towards improving legal, regulatory and institutional frameworks, restructure functions of parastatals, invest in research and extension services as well as enhance access to quality inputs and markets.[75] Additionally, the government promised to devote funds to widespread irrigation, the distribution of seeds resistant to drought, and the involvement of young people in agribusiness.

The manufacturing sector was also considered an important actor in promoting green initiatives. As one of the key pillars in the Vision 2030, the sector was expected to stimulate wealth, innovation, job creation and synergy in value chains. The sector was however a culprit in pollution of waterways, soil and air. This was largely attributed to factors such as weak and fragmented national coordination policy framework, low technological innovation and weak capacity for meeting quality standards. In

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[73] Republic of Kenya, *Green Economy Strategy and Implementation Plan 2016-2030: A Low Carbon, Resource Efficient, Equitable and Inclusive Socio-Economic Transformation,* Nairobi: Ministry of Environment & Natural Resource, 2016
[74] UNEP, *Green Economy Assessment Report: Kenya*, Nairobi: UNEP, 2014
[75] Republic of Kenya, *Transport Sector Climate Change Annual Report 2019-2020: Performance and Implementation of Climate Change Actions*, Nairobi: Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works.

addressing the challenges from a green initiative point of view, the government committed to improve legal and regulatory framework and general greening of the sector.

According to UNEP, greening the manufacturing sector involves a myriad of activities on both supply and demand sides. On supply side, the government was expected to promote re-designing of products, processes, going for green inputs, recycling and reuse among others.[76] On the demand side, the government was expected to promote manufactured eco-friendly products and undertaking mandatory energy audits.

In the manufacturing sector, it was recognised that radical green initiatives were part of key indicators for promoting sustainable development. The sector was estimated to triple carbon dioxide emissions by 2030.[77] Thus green initiatives were expected to address challenges of the sector such as inadequate funding for infrastructure and enforcement of relevant laws. Most importantly, the government committed to greening the sector by encouraging the shift to environmentally-efficient modes namely public transport, pedestrian roads, fuel efficiency of vehicles, integrating land use and transport planning.[78] The choice of sector was informed by the fact that transport sector contributes significantly to emissions.

3.5.1 Infrastructure Development

Infrastructure development was considered a key strategic pillar to achieving social and economic transformation. The government has been investing heavily in key infrastructure projects aimed at creating ripple effect in the economy. Table 2 demonstrates the achievements in infrastructure development in the period 2014 and 2020.

Table 2: Achievements in Infrastructure Development

Objective	Outcomes	Initiatives	Achievements made by 2020

[76] Republic of Kenya, *Green Economy Strategy and Implementation Plan 2016-2030: A Low Carbon, Resource Efficient, Equitable and Inclusive Socio-Economic Transformation*, Nairobi: Ministry of Environment & Natural Resource, 2016
[77] UNEP, *Green Economy Assessment Report: Kenya*, Nairobi: UNEP, 2014
[78] Ibid.

Objective	Outcomes	Initiatives	Achievements made by 2020
To enhance sustainable mobility	Shift in transport model towards low carbon	Create Bus Rapid Transit (BRT) in key urban areas, particularly in the new Kenyan cities	BRT plans of Nairobi City were in place and construction had begun.[79] Similar projects were yet to start in the new Kenyan cities.
		Include non motorised transport on road planning and construction in half of the towns that house county administrative centres.	At least 300 km of non-motorized transport had been done across the country.[80]
		Reduce vehicular emissions	12.09 metric tonnes of Carbon Dioxide emissions reported in 2019.[81]
		Include climate protection in road construction, maintenance, and design	1,570.4kms of roads climate-proofed.
Improve county and national water and sanitation services	Improved access to water and sanitation services	Construct and upgrade sewerage infrastructure	15% of households connected to sewer system.[82] Average of 19% growth in sewer coverage in Nairobi, Kiambu, Machakos and Kajiado.[83]
		Create drainage systems and repair them in metropolitan areas.	-
		Encourage eco-toilets for rural as well as urban locations.	-
		Enhance water delivery service	57% of population accessing water and sanitation services.[84]
Increase percentage of renewable energy sources in the energy mix.	Reduced emissions from energy sector	Raise the national grid's proportion of renewable energy sources (such as geothermal, wind, and solar) to at least 70 percent	74% by 2019: "percentage of geothermal, wind, and solar energy in the national grid."[85]
	Reduced pollution from fossil fuel plants	Revise the Feed-in Tariff (FiT) policy to incorporate additional net metering and off-grid power.	-
		Encourage the use of bioenergy in homes, businesses, and other public spaces.	-
Designing, building, and using sustainable maintenance of buildings	Decrease of building energy and water usage	Guarantee that 75% of newly constructed and rebuilt large-scale public (national and local) and private structures are green.	-
	Greener and more efficient buildings	Build the skills of designers, contractors, and other stakeholders in integrating green technologies into projects.	-
		Develop the abilities of architects,	Six. EDGE, Green Star Africa -Kenya, Arc,

[79] Frankline Sunday, *State kicks off plans for city's bus rapid transport system rollout,* The Standard, URL:https://www.standardmedia.co.ke/business/business/article/2001429099/state-kicks-off-plans-for-city-s-bus-rapid-transport-system-rollout
[80] Republic of Kenya, *Transport Sector Climate Change Annual Report 2019-2020: Performance and Implementation of Climate Change Actions,* Nairobi: Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works.
[81] Republic of Kenya, *Transport Sector Climate Change Annual Report 2019-2020: Performance and Implementation of Climate Change Actions,* Nairobi: Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works.
[82] Water Services Regulatory Board, *Impact: A Performance Report of Kenya's Water Services Sector - 2019/20,* Nairobi: WASRB, 2021
[83] Ibid
[84] Water Services Regulatory Board, *Impact: A Performance Report of Kenya's Water Services Sector - 2019/20,* Nairobi: WASRB, 2021
[85] Musyoka Philip, *Greening Kenya's Economy: An Assessment of the Green Economy Strategy and Implementation Plan*, https://www.researchgate.net/publication/364317554

Objective	Outcomes	Initiatives	Achievements made by 2020
		builders, and other project stakeholders to incorporate green technologies.	LEED, Safari Green Building Index, World Green Building Council were developed and implemented.[86]
Use financial institutions and capital markets to raise finances for green investment.	Greater investments on environmentally friendly infrastructures	Innovate new strategies on finances and tools, such as debt financing (bonds), to refocus investment on sustainable infrastructure.	No. of Legal measures:[87] a. Constitution, Vision 2030, Medium Term Plan (MTP3) b. National Climate Change Action Plan c. National Policy on Climate Finance d. CMA guidance principles for the issuance of green bonds – 2019 e. Amendment of the Finance Act to exempt income from green bonds from taxation takes effect – 2020 f. A Policy Guidance Note on Green Bonds No. of Fiscal Measures:[88] a. Green Bonds Programme Kenya – launched in 2017 b. Acorn Holdings issued Kenya's first green bond -2019 c. Sustainable Finance Initiative (SFI) launched by the KBA d. Revised Listing Rules, with provisions on green bonds51 e. A Green Bond Issuer's Guide f. County climate change funds establishment
		Increase the amount of money going into sustainable infrastructure by capacity building, taking appropriate legislative and budgetary action and raising awareness.	-
Expand and improve agricultural infrastructure	Improved food security and nutrition	Increasing irrigation while utilizing the right technologies to improve crop production.	-
	Increased rural incomes	Reducing post-harvest losses through increased value chain efficiency (transport, store, process and market)	-
	Reduced poverty levels	Expansion of the network of roads and other forms of transportation in agricultural areas.	-

Source: Greening Kenya's Economy-An Assessment of the Green Economy Strategy and Implementation Plan.

Focus on infrastructure development is intended to build the required support systems for implementing green initiatives. It has been observed that large investment in infrastructure have been done in Kenya for the last 2 decades. The need for multiple infrastructure development was intended

[86] Ibid
[87] New Climate Institute, *Transforming the finance sector with technical assistance: SNAPFI Case Study for Kenya*, https://newclimate.org/wp-content/uploads/2021/06/SNAPFI.-Transforming-Kenyas-Financial-Sector.pdf, 2021
[88] New Climate Institute, *Transforming the finance sector with technical assistance: SNAPFI Case Study for Kenya*, https://newclimate.org/wp-content/uploads/2021/06/SNAPFI.-Transforming-Kenyas-Financial-Sector.pdf, 2021

for using it as the key stepping-stone into Kenya's economic growth and prosperity. The infrastructure projects are also expected to attract investors and financiers.

3.5.2 Building Resilience

The green initiatives for building resilience were aimed at promoting judicious usage of government funds to support the green economy, diversifying livelihoods of disadvantaged populations and enhance disaster risk management. Table 3 illustrates the achievements in these thematic areas by 2020.

Table 3: Achievements in Building Resilience

Objective	Outcomes	Initiatives	Achievements made by 2020
Encourage responsible public financial management for a green economy.	Changed attitude towards finance management	Develop and implement green fiscal policies	Policies developed by 2020: a. The Climate Change Act, 2016 b. National Climate Change Action Plan (Kenya) 2018-2022 c. National Climate Finance Policy 2018
	Capacity enhanced/built	Increase the ability of national and local organizations to manage public finances effectively.	-
	Better saving on sectors plus extra resource for GE	Mobilizing resources for building resilience	-
	New technologies/methods of public resource management	Develop and implement public information management systems.	Integrated Financial Management System (IFMIS) improved to include budget coding for tracking climate financing and expenditures.
Promote livelihood diversification for vulnerable communities	Enhanced adaptive capacity of vulnerable communities	Enhanced social protection mechanisms to cushion vulnerable groups	At National level, about Kshs 30 billion were allocated to orphans and vulnerable children in the period between 2015 and 2020.[89] In the same period, at least Kshs. 50 billion were allocated and disbursed to older persons. A further Kshs. 5 billion were allocated to persons living with disabilities in the same period. County governments spent a total of Kshs. 2.5 billion between 2015 and 2020 on social protection of vulnerable groups.[90]
	Reduced poverty level	Establish market access and the necessary infrastructure.	-
	Application of alternative livelihood	Increase communication and awareness by gathering feedback on	-

[89] Kenya National Bureau of Statistics, *National Economic Survey, 2020* Nairobi: KNBS
[90] Ibid.

	support systems	livelihood systems sustainability.	
		Accessibility of sanitary facilities plus clean water.	-
		Provide an insurance program with a focus on health, livelihood, and weather for endangered people from rural and urban.	19% of the population had access to medical insurance.[91] - -
	Doubled technology transfer and development	Technology transfer and development, as well as promoting locally accessible knowledge technologies	-
		Cultivate trees that mature quickly and have a variety of economic purposes.	-
		Encourage food crops that can withstand drought	-
Improve disaster risk reduction	Improved coordination of disaster risk reduction.	National disaster management law, policy review and adoption.	-
		Bolster the national framework for disaster management, coordination institutions	-
		Include climate change and disaster preparedness in sectoral development plans	-
		Construct comprehensive early warning system for disasters.	-
		Infrastructure for communication be expanded and climate-proofed in susceptible locations	-
		Insurance plans for losses and damages.	-
		Use of native communication methods	-
		Improve the long-term care for natural environments	-

Source: Greening Kenya's Economy-An Assessment of the Green Economy Strategy and Implementation Plan.

Kenya's commitment towards green economy is observed in the implementation of green initiatives such as formulation of relevant polices. The Climate Change Act of 2016 and the National Climate Change Action Plan (Kenya) 2018-2022, are good examples that provide guidelines to government and private sector in making investments related to reducing impacts of climate change. The involvement of people in development agenda is also a notable thing aimed at improving participation. This is where technology transfer takes place thereby reducing far reaching adverse impacts on the populations.

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[91] Institute of Economic Affairs, *Can People Afford to Pay Out of Pocket for Health Care in Kenya?* https://ieakenya.or.ke/blog/

3.5.3 Sustainable Natural Resource Management

Green initiatives in natural resource management were expected to support use of market-based instruments, restoration of depleted resources, sustainable extraction and land use, and enhancing resilience of marine and aquatic resources. The information in Table 4 displays the achievements.

Table 4: Achievements in Sustainable Natural Resource Management

Objective	Outcomes	Initiatives	Achievements made by 2020
Encourage the use of market-based tools and entrepreneurship in natural resources management	Increased value of NRM in GDP	Embrace a system for accounting for natural resources.	Natural resource rents reduced from 2.96 in 2015 to 1.09 in 2019.[92]
		Create businesses based on nature, such as ecotourism	-
	Equity in NRM benefits	Precise ecosystem services (PES) compensation in water towers	-
Promoting sustainable natural resources restoration	Percentage change in tree cover	Moving towards a ten percent tree cover	-
	Improvement in environmental quality	Reforesting lands	-
	Improved security of food, water, household energy, biodiversity, and livelihood	Invest in marine and aquatic resource preservation while promoting the advantages of a blue economy.	-
Bolster the extractive industry's sustainability	Minimized externalities on extractives	Adopt industry standards and best practices	-
		Place a focus on local content in the extractive business.	-
	Increased living conditions for communities in mining zones	Accept value addition at the raw material source.	-
Expanding opportunities in marine and aquatic resource	Enhance resilience of marine and aquatic resource	Enhance the ability of other stakeholders and coastal communities to utilize marine resources	-
	Increased advantages for communities from using marine and aquatic resource	Effective enforcement of marine park and resource	-
Encourage environmentally sound land management	Increased land productivity	Support national and local levels of integrated Sea-Land use.	-
		Rally communities to get involved in NR management plus conservation.	-

Source: Greening Kenya's Economy-An Assessment of the Green Economy Strategy and Implementation Plan.

Notable changes have been experienced in re-forestation of ecosystems. The Government has increasingly continued to recognize importance of enhancing and sustaining the role of natural and cultural assets in national development. This has necessitated the need for seeking investments in

[92] World Bank, *The World Bank Data 2022*, URL: https://data.worldbank.org.

protected areas through efforts such as reforestation of rehabilitation of such valuable ecosystem. It is reported that Kenya valued contribution of Mau Complex towards other areas of the economy like agriculture, tourism, and hydropower at U.S. $ 1.5 billion.[93] The estimated value triggered the need for concerted efforts in restoring the complex, destroyed by increased encroachment of human activities such as charcoal burning, illegal logging and farming.

For renewable energy, in order to electrify homes, businesses, community centers, and water pumps in underserved areas, the government increased investments in solar technology in collaboration with the World Bank and other development partners. The Government in partnership with World Bank and other development partners intensified investments in solar technology aimed at electrifying households, enterprises, community facilities, and water pumps in marginalised areas. The goal of having universal access to power by 2022 includes a green program implemented under the off-grid solar access project in Kenya (KOSAP). Its intention remains connect more people in off-grid areas at affordable cost hence stimulating economic growth at micro-level. The project is estimated to cost more than USD 100 million. Achievements of investing in renewable energy include reduction in greenhouse emissions, enhanced energy supply and stimulated micro-economic status in marginalised areas.[94]

3.5.4 Promotion of Resource Efficiency

In this thematic area, the green initiatives were developed to improve efficiency in energy and water use, as well as managing waste as a resource as described in Table 5.

Table 5: Achievements in Promoting Resource Efficiency

Objective	Outcomes	Initiatives	Achievements made by 2020
Boost the country's	Increase in the population's access to	Encourage voluntary agreements on environment for clean, renewable energy,	Developed Kenya National Energy that contains voluntary

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[93] United Nations Economic Commission for Africa and United Nations Environment Programme. 2012. *A Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the Implications for Africa?* https://wedocs.unep.org/20.500.11822/32426

[94] UNEP, *A Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the Implications for Africa?* https//www.unep.org/greeneconomy/SuccessStories/FeedintariffsinKenya/tabid/29864/Default.aspx.

efficiency on energy	renewable energy	and energy efficiency.	energy management agreements.[95]
		Enrol urban residential, commercial, and industrial businesses in demand-side energy efficiency programs.	-
		Implement supply-side energy efficiency programs through grid extension projects, transformer upgrades, and system reinforcement	2014.8 Giga Watt hours saved.[96]
		Set minimal requirements for industry and lighting items' energy efficiency.	Energy (Appliances' Energy Performance and Labelling) Regulations 2016 enacted.
		Build the technical and infrastructure necessary for energy efficient equipment certification, testing, and audits.	1,800 energy audits carried out.[97]
		Examine regional and local legal and policy frameworks to respond to innovation and new technology.	Energy (Appliances' Energy Performance and Labeling) Regulations 2016 enacted, National Energy Policy 2018, Kenya National Energy Efficiency and Conservation-Strategy 2020.[98]
Enhance water usage efficiency in rural and urban areas	Better water accessibility for rural and urban setup	Do regular assessments of the country, a county, a basin, and a sector's water footprint sustainability to find chances for efficiency.	-
		Create water footprint for specific sector benchmark and metrics.	-
		Encouraging voluntary use of programs with lesser water footprint.	-
		On the supply side, cut non-revenue water by at least 10%.	Non-revenue water comprised 47% in 2020.[99]
		Promote a culture of efficiency and conservation, review consumption-based water pricing.	-
		Streamline issues with national and local government collaboration in the water sector.	-
		Incorporate demand-side water-saving initiatives into urban residential, commercial, and industrial facilities.	-
Manage waste as a resource	Reduction in environmental related health risks	Encourage resource-efficient, greener production methods that encourage industrial symbiosis and waste prevention at the source.	-
		Create and put into effect a landfill policy that forbids the disposal of any recyclable garbage.	-
		Create and practice producer's responsibility for sustainment and	-

[95] International Energy Agency, *National Energy Policy 2018*, IEA/IRENA Renewables Policies Database
[96] Ministry of Energy, *Kenya National Energy Efficiency and Conservation Strategy2020*, URL: https://unepccc.org/wp-content/uploads/2020/09/kenya-national-energy-efficiency-and-conservation-strategy-2020
[97] Musyoka Philip, *Greening Kenya's Economy: An Assessment of the Green Economy Strategy and Implementation Plan,* URL: https://www.researchgate.net/publication/364317554
[98] Ibid
[99] WSRB, *Impact 13: A Performance Report of Kenya's Water Services Sector - 2019/20*, URL: https://wasreb.go.ke/impact-report-issue-no-13/

		management of new streams of waste, such as plastics and e-waste.	

Source: Greening Kenya's Economy-An Assessment of the Green Economy Strategy and Implementation Plan.

On promotion of resource efficiency, the notable observations include the continued investment in geothermal energy in Naivasha which has supplemented the available energy for the large population. The government's policy of rural electrification has exacerbated the need for more uptake of renewable energy across the country. Further exploration of water and enforcement of water conservation measures are also major observations in the wake of transforming towards green economy.

3.6 Chapter Summary

This chapter has provided details of the frameworks for implementing green initiatives. The chapter has also highlighted achievements of green initiatives in Kenya in the period between 2014 and 2020. It has generally established some significant progress in green initiatives across all sectors in the economy. While some data is still missing, the progress made is an indication of Kenya's commitment to addressing issues nationally, regionally and globally in as far as sustainable development is concerned.

CHAPTER FOUR

CHALLENGES AND OPPORTUNITIES OF IMPLEMENTING GREEN INITIATIVES FOR SUSTAINABLE DEVELOPMENT IN KENYA

4.1 Introduction

This chapter provides details on challenges and opportunities of implementing green initiatives for sustainable development in Kenya. The chapter outlines the challenges encountered by Kenya in implementing the green initiatives. It also outlines the opportunities upon which Kenya can tap into to ensure sustainable development is achieved.

4.2 Challenges of Implementing Green Initiatives for Sustainable Development

The previous chapter established achievements of implementing green initiatives. However, while Kenya has made significant strides in achieving sustainable development through implementing green initiatives, there are significant challenges that limit effectiveness of the programs.

4.2.1 Compliance and Enforcement

Kenya has continued to entrench adoption and implementation of green initiatives in her policy framework. For example, GESIP which is a macro policy framework was designed to align national policies towards achievement of sustainable development.[100] Infused in Vision 2030, the strategy would be implemented through GKI such as manufacturing eco-friendly materials, renewable energy, solid waste management and general environmental management.[101] The initiatives were anticipated to be put into action in the Medium-Term Plan 2013-2017. However, available studies indicate that compliance and enforcement remain a major challenge to achieving sustainable development through implanting green initiatives.

Kenya has a number of advanced environmental and sustainable management rules, but enforcing them is still difficult. A major hitch on enforcement is weak governance. According to the World Bank, County governments now have the duty to carry out environmental policies, but this does not always translate into a parallel transfer of the necessary technical know-how. Budget allocations that are insufficient and sluggish budgetary transfers are widespread, and institutional coordination is still lacking. The county administrations are having a difficulty with this, which makes it difficult to implement environmental (and other) laws and goals.[102] This implies that implementation of green initiatives will remain difficult unless governance structures are strengthened to ensure effective enforcement.

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[100] Republic of Kenya, *Green Economy Strategy and Implementation Plan 2016-2030: A Low Carbon, Resource Efficient, Equitable and Inclusive Socio-Economic Transformation,* Nairobi: Ministry of Environment & Natural Resource, 2016
[101] UNEP, *Green Economy Assessment Report: Kenya*, Nairobi: UNEP, 2014
[102] World Bank Group, *Kenya Country Environmental Analysis, September 2019* , URL: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/939861592515485722/pdf

A study by United Nation's Department of Economic and Social Affairs revealed that non-compliance with global guidelines on implementing green initiatives is a major challenge of achieving sustainable development goals. In the study, it was established that most countries across the world especially the developing ones lack frameworks and resources for enforcing the green initiatives.[103] The weaknesses in the enforcement are largely due to inadequate financing and technical skills. This implies that while there is awareness about green initiatives, adherence to project work plans and other expectations may remain a challenge.

In Kenya, implementations of some of the green initiatives have delayed largely due to compliance. The examples include Urban Rivers Rehabilitation Programme pending due to the need for compliance with legal frameworks on water and waste disposal. Another one is the Scientific Data Acquisition programme that has delayed due to the need to comply with Data Protection Act 2019 in Kenya. The two case examples illustrate that implementation of some green initiatives is connected to some requirements that should be fulfilled through compliance.

4.2.2 Limited Standards

It has been established that implementation of green initiatives should be guided by quality standards for green technologies, goods and services. One analysis revealed that there is inadequate information about green technologies which tends to limit adoption and transfer of best practices. Lack of awareness among users and the general public may therefore limit appreciation of green technologies and how such should be distinguished from other technologies. The low awareness has contributed to low uptake of emerging technologies especially those related to energy efficiency such as solar driven equipment.

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[103] United Nations Department of Economic and Social Affairs, *World Economic and Social Survey 2013: Sustainable Development Challenges*, 2013 URL: https://www.un.org/en/development/desa/publications/world-economic-and-social-survey-2013-sustainable-development-challenges.html

It is reported that proliferation of sub-standards energy equipment in Kenyan market continues to limit uptake of internationally recognised standard and genuine products.[104] This is largely attributed to slow ratification of international standards in Kenyan market. However, there is progress towards adoption of minimum energy standards for most green technology products in Kenya. It is expected that policies on adopting standards for green technologies will not only make the members of public aware but also ensure trade in certified goods and services that are eco-friendly.

Standards are expected to support implementation of green initiatives within the framework of sustainable development. The standards are designed to fulfil the requirements of sustainable development. In Kenya standards have been adopted to ensure conformance with national and international standards. For example, there are standards and regulations for environmental protection such as air quality, water quality, chemical usage, solid and hazardous wastes.[105] The standards allow for actors within the value chains to build trust in products and processes resulting from exploitation of natural resources. However, implementation of standards is dependent on several systems which may not be guaranteed. This is becomes a limiting factor in achieving sustainable development goals.

4.2.3 Gaps in Policy Frameworks

One of the challenges of implementing green initiatives stems from policy constraints. Policy is a principle course of action undertaken by governments or any formal institution or organisation.[106] At government level, policies are developed in what is termed as policy making process. Policy development involves several stages which include formulation, implementation and monitoring. In Kenya, national values and vision are considered important in the policy making process. The Kenya's policy making process is anchored in the Kenya's Constitution where values such as unity and diversity, public participation, honour and patriotism, peace and liberty, quest for prosperity and

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[104] GIZ, *Promotion of Climate-Friendly Cooking: Kenya and Senegal,* URL:https://www.giz.de/en/worldwide/85477.html
[105] Mallowah Stephen & Oyier Christopher, *The Environment and Climate Change Law Review: Kenya*, TripleOKlaw Advocates, 2023. URL:https://www.thelawreviews.co.uk/title/the-environment-and-climate-change-law-review/kenya
[106] Fischer Frank, Miller Gerald & Sidney Mara, *Handbook of Public Policy Analysis: Theory, Politics and Methods,* Eds. London: CRC Press, 2007

harambee spirit inform the policy making process.[107] This implies that national values guide the policy making process.

Policy making process also involves participation of the people. One of the principles of good governance and that which promotes and safeguards rights of the people (political, economic and social rights) is participation.[108] Putting people at the centre of any activity that affects them is as important as getting support for the activity. This implies that seeking people's opinion about their aspirations, vision and challenges or problems is important in identifying their needs and providing solutions to their problems. In this regard, policy making process requires that sovereignty of the people is respected. In this regard, people are consulted and demand for accountability on matters that affect them. Such a process is critical in policy making process in the context of increased globalisation where people are seeking to interact with others in other countries for purposes of social, economic and political development. People therefore make decisions on their needs within the context of interacting with other regional and international social groups, political formations or economic blocs.

Kenya's policy framework on green initiatives is under improvements. Available evidence indicates that while there has been progress, the policy framework has several gaps that limit achievement of sustainable development. For example, one analysis reveals that the current policy framework does not account for intrinsic value of Kenya's natural capital.[109] In the study, it was established that just like in most other African countries, Kenya's policy framework does not provide for guidelines or regulations that support accounting of costs associated with eco-friendly technologies, products and services. The implication of this policy gap is low demand for green alternatives.

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[107] Republic of Kenya, *Kenya Foreign Policy 2014,* URL: http://repository.kippra.or.ke/handle/123456789/624
[108] Kafarneh Ahmed, *Decision-making in foreign policy,* Journal of Law, Policy and Globalization, 10: 2013
[109] https://www.tunza.eco-generation.org/ambassadorReportView.jsp?viewID=38676

In view of the fundamental aspects of policy making process, Kenya's challenges highlight gaps in the policy frameworks. This could largely be attributed to aspects such as poor involvement of the people and failure to integrate national values in the policy making process. Generally, it is expected that policy provisions on tariffs and incentives that are well defined will promote awareness on the need for adopting green solutions. However, lack of awareness implies non-involvement of the people which result into under-utilisation or over-utilisation of resources. For example, "Kenya has feed-in-tariff for promoting green energy yet it excludes energy sources such as tidal wave and ocean thermal energy conversion."[110] The inclusion of the tariffs in policy framework would not only attract investments but also widen the green alternatives thereby addressing issues of over-reliance on fossil energy sources. It therefore follows that policy framework on green initiatives should be open and accommodate all possible green initiatives.

4.2.4 Inadequate Funding

Funding remains a core driver to achieving sustainable development. Implementing green initiatives in most cases is capital intensive and therefore requires adequate funding. As most developing countries are struggling to provide basic services to their populace, capital investments remain underfunded. Additional requirements especially green technologies remain a major challenge for adoption mainly due to inadequate funding.

In Kenya, it is recorded that while progress has been made in budgeting for the transition to green economy, the inability to mobilize domestic funds remains a major challenge in promoting investments in renewable technologies.[111] Additionally, the ability to mobilise funds is worsened by low level of utilisation of international funds for carbon trade.[112] The inadequate funding implies that Kenya may not achieve sustainable development unless the issue of funding is addressed.

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[110] Green Cooling Initiative, *Kenya launches the Green Cooling Initiative III*, URL: https://www.green-cooling-initiative.org/news-media/news/news-detail/2022/08/11/kenya-launches-the-green-cooling-initiative-iii
[111] GIZ, *Energising Development (EnDev) Kenya*, https://www.giz.de/en/worldwide/21975.html
[112] Ibid.

The current situation indicates that Kenya and other developing may seek donations and other forms of funds to ensure they comply with international requirements on sustainable development. In addition, Kenya is faced with other challenges which may bring competition to the available funds. In this regard, prioritisation of both government and private green initiatives may suffer setback in financing. For example, some of the green initiatives in infrastructure projects have faced delays largely due to inadequate financing. The delays are therefore negatively affecting implementation of green initiatives and achievement of sustainable development goals.

4.3 Opportunities of Implementing Green Initiatives for Sustainable Development

The previous section has highlighted challenges of implementing green initiatives. However, while the challenges remain significant, there are opportunities which Kenya can be explored to promote the achievement of sustainable development.

4.3.1 Carbon Trade

One ton of carbon dioxide removed from the atmosphere represents one carbon credit, a tradeable commodity. It's established that Kenya underutilises the opportunities in carbon trade and other climate change funding. Carbon emissions trading aims to reduce the amount of carbon emissions brought on by industrial activity. In the voluntary market, participants trade carbon credits, operating outside the compliance markets. For the Country, the Kenya Forest Service as well as Small Scale Framers can sell carbon credits, especially those produced by diverse farming operations in the voluntary markets. A similar approach is taken by the Rural Electrification and Renewable Energy Corporation (REREC), which takes advantage of opportunities provided by the clean development mechanism and other methods, such as trading in carbon credits. Kenya can develop more detailed frameworks for regulating carbon trading, including rules governing the market price of carbon credits and safeguards for smallholder farmers against exploitation.

4.3.2 Investment in Manufacturing Sector and the Place of Eco-Friendly Processes

The manufacturing sector in developing countries is poised to hold huge potential in the future. In Africa, while the sector remains largely unexplored, it is considered crucial in the development of the continent. The manufacturing sector is linked to the transformation agenda of the continent. According to Agenda 2063 of the African Union, one of the aspirations is about inclusive growth and sustainable development where goals such as transformation of the economies are largely hinged on manufacturing and industrialization.[113] The manufacturing sector which accounts for 10% of the GDP in Africa is expected to create employment to the burgeoning youth population, improve value addition and make the continent competitive across the world.

As an African agenda, all African economies are expected to cascade and align their internal development agenda to the continental one. It is with this reason that Kenya has given attention to the manufacturing sector as envisaged in Vision 2030. Kenya' vision 2030, medium term three, has adopted the objective of transforming Kenya into a middle income industrialized nation. Aligned to this, is Kenya's Big Four Agenda blueprint and Kenya Industrial Transformation Program, both of which identify the manufacturing sector as the primary engine of economic expansion and development, and envisions this sector to have the potential to contribute to about 10% of the GDP.[114] Additionally, the sector also remains as one of Kenya's enabler of the realization of the SDGs.

One of the reasons Kenya is paying attention to manufacturing sector is that it is a labor intensive sector, and as a result, has an inherent potential in remedying high unemployment in the country and in the region as well, by creating employment opportunities especially at the bottom of the manufacturing pyramid (micro and small enterprises), and consequently spurring rapid skills transfer. In view of a broader economic development perspective, the sector's outcome of value addition to

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[113] African Union Commission, *African Integration Report 2022: The Status of Regional Integration in Africa,* Policy Brief, June 20, 2022

[114] Republic of Kenya, *Implementation Status of the Big Four Agenda 2018/19,* Nairobi: The National Treasury and Planning 2020

commodities through labor intensive manufacturing is also noted as a facilitator of The Africa Agenda 2063's goal of transformed inclusive and sustainable economies.

The manufacturing sector is therefore a low hanging opportunity that can be tapped to promote achievement of sustainable development. One of the ways of ensuring that manufacturing sector remains relevant is its alignment to modern eco-friendly technologies that are supported globally. The increasing need for adopting green energy to drive the manufacturing sector is a critical green initiative intended to boost achievement of sustainable development where carbon emissions are reduced. Additionally, there is wide acceptance of manufacturing technologies that utilize few natural resources and other inputs thereby reducing carbon footprint. In this regard, inputs and processes applied in manufacturing are highly supported and accepted through marks of quality standards thereby making it attractive.

Kenya's quest for eco-friendly manufacturing inputs, processes and outputs is therefore expected to gain wide support and promote investments. However, the exploring this manufacturing opportunity has significant challenges. The challenges include pollution control, waste management as well as cost of adopting the technologies.[115] It is expected that manufacturing units should have investment expected in addressing the listed challenges, which could be costly to implement. Thus, partnerships and concerted efforts from both government and private sector players are required in achieving sustainable development through implementing green initiatives.

4.3.3 Eco-centered Policies

The success of implementing green initiatives is partly dependent on the extent to which responsive policy frameworks are formulated and enforced. As green initiatives are globally accepted, ratification and direct adoption should be anchored on new or existing policy frameworks. The policy

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[115] United Nations Economic Commission for Africa and United Nations Environment Programme. 2012. *A Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the Implications for Africa?* https://wedocs.unep.org/20.500.11822/32426

framework should therefore provide guide on behavioural and procedural aspects related to development, acquisition and utilisation of green technologies intended to support the achievement of sustainable development. Generally, eco-centred policies are expected to support and control innovation, production, distribution and uptake of inputs, processes and outputs required in implementing green initiatives.

By taking example of energy which is a key driver to most social and economic activities, eco-friendly policies are expected to play critical role in achieving sustainable development. Policies intended to increase energy efficiency are expected to support reduction of energy consumption, improve energy performance standards as well as raise awareness and attract investments.[116] The policy framework that is responsive to the stated aspects provides an opportunity for wide acceptance and investment in green initiatives. Thus, Kenya is expected to further improve the existing policy frameworks on sustainable development as a means of showcasing its commitment to implementing green initiatives.

4.3.4 Involvement of Private Sector

Private Sector remains one of the cardinal player in social and economic transformation of a country. The role of private sector in economic growth, job creation and sustainable development cannot be ignored in any economy. In low- and middle-income countries, the private sector generates more than 80% of tax revenue. The revenue from private sector is generated in form of corporate taxes, resource rents, income taxes from employees among others. Additionally, private sector generates more than 90% of both formal and informal employment opportunities in developing countries.[117] This implies that private sector remains a formidable force in survival of countries in Africa.

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[116] Ibid.

[117] African Development Bank, *African Development Report 2011: Private Sector Development as an Engine of Africa's Economic Development.* Tunis 2011

Private sector in Africa is largely categorised depending on annual turnover. In recent times, there is growing interest in Medium, Small and Micro Enterprises (MSMEs) which form the largest chunk of the private sector. It is estimated that MSMEs represent about 95% percent of Africa's businesses.[118] It therefore follows that governments are expected to support the growth of the MSMEs through creating a supportive environment for the start-up, growth, and sustainability of the enterprises.

The private sector cuts across all sectors of an economy. In Africa, majority of private sector business are in agricultural, service and mining sectors. This presents an opportunity for ensuring optimum utilisation of resources in these sectors thereby enhancing sustainability. The role of private sector in linking businesses across borders, voicing for business friendly tariffs, customs and suitable business environment should be amplified. Uptake of eco-friendly standards, technologies and products is will largely be reported among private sector players.

Private sector in Africa is organised in form of alliances, sector and value chain specific associations locally, nationally and at regional levels. The existence of Chamber of Commerce in each country demonstrates the extent to which private sector is organised. The sole purpose of private sector groups is largely to undertake lobbying, advocacy and capacity building for members. The increased participation of private sector alliances and groups in public-private dialogue provides opportunity for the bodies to undertake advocacy and lobbying roles including influencing tax regimes, championing for business enabling environment among others. Additionally, the private sector groups have established business networks in which they link members to business opportunities across borders. It is for these reasons that governments and development partners pushing for the agenda of green initiatives and sustainable development should tap into the wide entrenchment of the private sector.

In Kenya, existence of private sector players such as Kenya Association of Manufacturers (KAM), Kenya Private Sector Alliance (KEPSA) and Kenya Chamber of Commerce and Industry (KNCCI)

[118] Ibid.

provides an opportunity for involving them in policy making and implementation, incentive provision and investment hubs. Both national and county governments should look into partnerships with private sector players in a bid to promote innovation and uptake of green initiative technologies, products and other related aspects.

Specifically, there are plenty of opportunities in integrating the MSEs into the national, regional and global value chains. This will promote implementation of green initiatives through transfer of recommended technologies, trade in eco-friendly goods and spurring sustained manufacturing and industrialization.[119] In order to do this, targeted interventions, aimed at involving MSEs in implementing green initiatives through strengthening their productivity, compliance and supporting governance capabilities will enable them to scale up their participation, create more jobs and in the long term- better compete for local, regional and international market opportunities.

4.3.5 Government Utilization of Partnerships

Several alliances are required in achieving sustainable development across the world. The joint effort between governments and development partners or private sector is critical in implementing green initiatives. The role of National and County Governments in Kenya is required in strengthening governance and policy coordination which remain critical in implementation of GESIP.[120] It is for this reason that the relationship is expected to attract investors and build confidence among private sector players.

Another opportunity is that building partnerships with private sector players is important in resource mobilisation required in driving the green initiatives. Tapping into corporate social responsibility schemes provided by private sector players is critical in promoting innovation for sustainable technologies and approaches. Additionally, Public-Private Partnerships for large infrastructure

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[119] Republic of Kenya, *Green Economy Strategy and Implementation Plan 2016-2030: A Low Carbon, Resource Efficient, Equitable and Inclusive Socio-Economic Transformation,* Nairobi: Ministry of Environment & Natural Resource, 2016
[120] Owino Tom, Ernst Kuneman & Ries Kamphof, *Kenya: A green growth utopia?* Clingedeal, Policy Brief November 2016

projects will be implemented easily when there is a strong partnership between government and private sector.

The private sector in partnership with government has been able to build capacity of SMEs and other entrepreneurs engaged in implementing green initiatives. For example, the Kenya KEPSA is implementing the Ajira Programme that supports youth to venture in sustainable development based projects. The government in partnership with World Bank and other development partners provide funds for implementing the green initiatives. The opportunities are therefore expected to support planning, development of policies, resource mobilisation and enforcement of standards thereby reducing risks in implementing green

4.4 Chapter Summary

This chapter has provided details on challenges and opportunities of implementing green initiatives in Kenya. The information analysed reveals the existence of challenges which have significant limitations on the achievement of sustainable development. However, while the challenges are not only applicable to Kenya, each country is expected to have a unique way of addressing them. In this regard, the existing opportunities will define the extent to which the challenges should partly be addressed.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings, conclusion and recommendations of the study.

5.1 Summary of the Findings

This study sought to assess how the green economy strategy impacts on sustainable growth in developing countries. The first objective examined how green projects and sustainable development interrelate in developing countries. The second objective analysed the roles played by institutional frameworks in green economy strategy implementation. Objective three determined the challenges and opportunities that exist as developing countries implement green initiatives for sustainable development. This chapter summarizes the findings of each objective as follows:

5.1.1 Interrelation between Green Initiatives and Sustainable Development in Developing Countries

Green initiatives introduce a new strategy for economic development that places people at the centre of development, ensuring the availability of environmental resources and services by natural assets to aid sustainable development. Besides improving the environment, the green initiatives improve human well-being and create social equity. Many governments in developing countries have prioritized the green initiatives into their economic growth agenda. Thus, green initiatives are becoming the drivers of sustainability and this enables the countries to withstand the main issues in the 21st century such as urbanisation, climate change, among others.

For objective one, it was established that developing countries including Kenya encounter challenges in the course of adopting green initiatives. Most nations' development paths are at a crossroads as they are faced with internal challenges including lack of employment, poverty, environmental degradation such as climate change. These challenges represent a chance for change as the green initiatives offer great potential for resource mobilization in the direction of a low-emission, climate-resilient development path. Through political processes, developing countries can commit to transition to a sustainable green economy as one necessity for attaining sustainable development.

As a global agenda, developing countries considered the need for achieving sustainable development through implementing green initiatives. This study has established that most countries in Africa have policies and strategies that link with the green economy. Each country in Africa has ratified and integrated the international and regional policies and guidelines into local frameworks. However, while some developing countries including Kenya have committed to improving social, economic and environmental status in line with SDGs, there are limitations to achievement of sustainable development. This calls for further assessment to determine causes and effects, thus determine the way forward.

5.1.2 The Green Economy strategies in Kenya and Role of Institutional Frameworks

Kenya's efforts towards a green economy spans from her independence in 1963 to date. Implementation of green initiatives has been done through protection and conservation of natural resources, development of policies as well as ratification of international and regional frameworks on environmental conservation.

Kenya has continued to demonstrate its commitment towards achieving green economy. At international level, Kenya is committed to implementing SDGs and other conventions that promote sustaining the use of natural resources and preserving the environment. At regional level, Kenya has signed the conventions and treaties including being a member of the African Union and has therefore adopted the Agenda 2063 which calls for African states to adopt green technologies that would drive the industrial and economic transformation.

At local level, Kenya has a solid foundation for advancing the green economy and sustainable development through entrenchment of environmental matters in the Constitution. Additionally, development matters have been devolved to counties thereby allowing local citizens to participate in green economy across the country. Specifically, Kenya is one of the countries committed to implementing Green Economy initiatives. The 2013-2017 plan revealed the country's focus on creating green economy. It emphasized prospects for green growth through use of renewable resources, clean production methods, carbon credits, an integrated green jobs approach as well as creation of a national green economy strategy.

Being host to UNEP, Kenya continues to champion for environmental sustainability through various policy initiatives. In the recent past, Kenya has placed emphasis on green economy culminating into formulation of regulatory frameworks that comprise policies, legislations and institutions as critical success factors for transforming to a green economy. The GESIP macro-policy framework defines the factors that will help Kenya quickly attain a green economy. The strategy's activities include macroeconomic stability, human development, sustainable financing, good governance among others. Infused in Vision 2030, this strategy would be implemented through Green Initiatives such as manufacturing eco-friendly materials, renewable energy, solid waste management and general environmental management.

Notable achievements have been realised since 2014 in implementing green initiatives. These include advances in resource efficiency, resilient building, sustainable natural resource management, and infrastructure development. The achievements are in policy development that cuts across sectors. The Government has also continued to review existing policy frameworks on investment and management of natural resources.

5.1.3 Challenges and Opportunities in Implementation of Green Initiatives for Sustainable Development

The study established that while Kenya has made significant strides in achieving sustainable development through implementing green initiatives, there are significant challenges that limit effectiveness of the programs. The challenges include weaknesses in compliance and enforcement of the policies formulated for achieving sustainable development and gaps in standards for meeting green initiatives requirements. Other challenges include gaps in policy frameworks and inadequate funding. Despite the challenges, there are opportunities which Kenya can be explored to promote the achievement of sustainable development. The opportunities include carbon trade and other climate change funding, investment in manufacturing sector with a focus on sustainability, formulation of eco-centred policies, involvement of private sector and building partnerships.

5.2 Conclusion

This study has demonstrated the nexus between green initiatives and sustainable development. With focus on developing countries, there are indications of wide acceptance and adoption as a technique of attaining sustainable development, of the green projects. However, while some developing countries have committed to improving social, economic and environmental status in line with SDGs, there are limitations to reducing the achievement of sustainable development. This calls for further assessment to determine causes and effects so that a way forward is determined.

It can also be concluded that Kenya has continued to demonstrate its commitment on achieving green economy through developing, adoption and implementing policies. With specialised policies for implementing green economies, the country has a strategy and execution plan for a green economy. She has demonstrated its commitment to green initiatives as a means of achieving the global agenda on sustainable development. However, while there is significant progress, a lot still remains unachieved.

On challenges and opportunities of implementing green initiatives in Kenya, the information analysed reveals the existence of challenges which have significant limitations on the achievement of sustainable development. However, while the challenges are not only applicable to Kenya, each country is expected to have a unique way of addressing them. In this regard, the existing opportunities will define the extent to which the challenges should partly be addressed.

5.3 Recommendations

In view of the identified gaps, the following are recommended:

1. Developing countries, Kenya inclusive should focus on monitoring and evaluation frameworks that support the identification of causes limiting effective adoption and implementation of green initiatives. This is intended to cure the endemic and inherent challenges inhibiting transition to green economies.

2. Developing countries, Kenya inclusive, should effectively track the progress made across all sectors and ensure the information is disseminated to all concerned stakeholders. Matters climate change, green strategies should be given much weight to ensure everyone participates.
3. Developing countries, Kenya inclusive, should expand partners for financial and technical support in the course of transitioning to a green economy.

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