RESPONSE TO CLIMATE CHANGE FINANCING BY COMMERCIAL BANKS IN KENYA

BY

GACHANJAH EVELYN WANJIRU-662512

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DECLARATION

I duly confirm that this research project is my original output and has not been previously submitted to any other examining institution. In addition, any reproduction of the contents herein, will require my express written authority or that of the United States International University- Africa

Signed by: ………………………………………

Name: Gachanjah Evelyn Wanjeru  ID: 662512    Date: 12/05/2022

I confirm that this research project has been prepared and submitted for examination under my supervision as the supervisor

Signed by:  ………………………………...  Date: 12/05/2022

Name: Dr. Elijah N. Munyi

Signed:  …………………………………………  Date:  …………………………...

Name: Professor Martin C. Njoroge

Dean, School of Humanities & Social Sciences (SHSS), USIU-A
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DEDICATION

I dedicate this research to my Dad for his tremendous support as well as to God for giving me the strength and wisdom.
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LIST OF ABBREVIATIONS

ADB- Asian Development Bank

AFDB- African Development Bank

CDM- Clean Development Mechanism

CICERO- Centre for International Climate and Environmental Research

COP- Conference of Parties

CSR- Corporate Social Responsibility

EIB-European Investment Bank

EM- Emission Trading

ESG- Environmental, Social Governance

EU- European Union

GHG- Green House Gas

IPCC- Intergovernmental Panel on Climate Change

INTRACEN- International Trade Centre

JI- Joint Implementation

KBA- Kenya Bankers Association

MDGs- Millennium Development Goals

NCCAP- National Climate Change Action Plan

NDC- Nationally Determined Contribution (s)
UK- United Kingdom

UN- United Nations

UNFCCC- United Nations Framework Convention on Climate Change

US- United States

SCCF- Special Climate Change Fund

SD- Sustainable Development

SDGs- Sustainable Development Goals

SFI- Sustainable Finance Initiative
ABSTRACT

As the adverse impacts of climate change become more evident, almost every sector of the society is being challenged to adopt considerations for mitigation and adaptation that move away from business-as-usual models. In the banking sector, this has meant a growing pressure for commercial banks to inculcate aspects of mitigation and adaptation in their lending. This requires instituting aspects of green and climate financing in their commercial lending. One may wonder, what is the progress in Kenya in inculcating principles of climate change financing for development under sustainable development (SDG) targets and what accounts for why commercial banks adopt or fail to adopt green finance? Therefore, this research examined the status and trends in implementation of green and climate financing requirements in Kenyan commercial banks, the impediments, and drivers of adoption of green and climate finance schemes as well as the firm level drivers for the adoption of green finance using a case study. The results showed the increasing adoption of green and climate finance considerations among Kenyan banks, although there are significant divergences among the banks on this adoption. Based on extant literature, study interviewed industry players on the key hurdles or drivers in adoption of climate change financing and in order of importance finds that; (i) transitional risks, (ii) regulatory pressure and (iii) customer ignorance are the most crucial driving factors in adoption or failure to adopt green climate finance. In addition, the study highlights the centrality of international partnerships in adoption of green finance, while augmenting existing literature’s assertions on the role of transitional risks and regulatory pressure as principal factors in adoption.
CHAPTER ONE: INTRODUCTION

1.1. Introduction

The banking sector in any country is at the center of dilemmas involving the most appropriate ways of balancing between developments and reducing carbon emission as part of the Sustainable Development Goals (SDGs). Consider a case example where a company in the energy sector in Kenya, say in the hydro-power and geothermal production, makes an application to a bank in Kenya, for a loan facility. A bank by tradition as we all know, is driven mainly by commercial ambitions of revenue maximization. The said client on the other hand is also driven by their aim of distributing energy across to all its clients in Kenya. Before we can unpack the client relationship, it would be good to run through some of the available information regarding energy production in Kenya.

Going by the existing statistics of energy power supply, power is obtained from hydro and thermal sources out of which 47.35% accounts for electricity generated from geothermal, 32.6% from hydro, 11.36% from wind, thermal 7.80% and solar at 0.8% (African Development Bank Group, 2021). According to the Kenya’s National Climate Change Action Plan 2018-2022, the energy sector accounts for 7.1% of the total country carbon emissions and this rate is anticipated to rise to 29.7% by 2030 (National Climate Change Action Plan). The rise can be attributed to the increase in electricity demand as the rural areas continue to transition from the fossil fuels to grid electricity.
Interestingly, Kenya as part of its climate action plan, has committed to focus on reduction of the carbon emission in the energy sector by promoting use of more renewable energy sources and increasing hydro- power and thermal electricity production. With the above knowledge of the national intent to reduce carbon emission in the energy sector, we can resume to the client relationship we had begun discussing.

A bank upon receipt of the application is faced with certain financial decisions which include: granting credit to the company based on its creditworthiness, its financial position as well as its ability to meet the scheduled financial repayments within the agreed timelines. These are all commercial decisions. However, with the increased commitment on climate change and in support of the National Climate Change Action Plan, a bank will now be faced with another consideration. This is the environment consideration where the bank needs to assess the impact of its loan facility to be granted to this energy company, on the environment. This is for the very reason that, where a bank grants the loan facility to boost energy production, there will be a direct participation by the bank in reducing the carbon emissions.

Therefore, in consideration of the increasing commitment to climate change, the bank can opt to finance the energy company to supplement the hydro-power and geothermal energy sources, with wind and solar. This will ensure the company has a huge power capacity to distribute comfortably to the rural areas where fossil fuels are largely at use and have a high carbon footprint as compared to the aforementioned renewable sources. If it fails to lend, it loses the revenue, if it lends, it increases its commitment to climate change and also recoups the commercial benefit. On the other hand, if it fails to support the energy company to supplement the renewable sources, the company will have limited capacity to support the increasing energy demand thus leaving room for the non-renewable energy use in the country and hence promoting the increase in carbon footprint.
The increased carbon emissions will add to the greenhouse gas effect which may lead to climate changes affecting the same energy sector. This will include the change in rainfall patterns which in turn reduces the water supply which the company is relying on to generate power. On the other hand where the energy company is not willing to supplement the energy production with renewable sources for the company, a bank can opt not to continue supporting it financially. This will also be a bold communication that a bank can make such a decision in the event that a commercial decision is unlikely to advance an environment benefit.

In consideration of the above example, this research examines the importance/role of commercial banks in Kenya in responding to climate change risks through climate change financing, in the subsequent sections below. This is premised on the fact that climate action is part of the Sustainable Development Goals which are part of a global commitment, to achieve a net zero effect by the year 2050. This is for a greater good of the environment to make it a habitable place for the current and future generations. Therefore banks’ participation through climate change financing which supports the carbon transition efforts of its clients, will be strongly contributing towards this course and supplementing the financial resources set aside by the Government of Kenya towards achieving the national climate change action plan. It will also be achieving the Sustainable Development Goal 17 which places a strong emphasis on global partnerships in the achievement of the global goals.

1.2. Background

Climate change has been given many meanings and one common definition is, the fluctuations in weather patterns which exist in different seasons of the year over a long time (Riedy, 2016). These weather variations have resulted in significant environmental disasters such as drought, floods, wildfires and change in rainfall patterns among others (Intergovernmental Panel on Climate Change, 2021).
In turn, the said disasters impact on activities such as agriculture, health and energy use which further ends up affecting everyone (Tol, 2009). The scientists have tagged these variations to human activities and more specifically, carbon emissions (Riedy, 2016). The carbon emissions lead to the greenhouse effect (Riedy, 2016) which is a key contributor to global warming and the resultant environmental disasters earlier mentioned. The emissions emanate from vast sources including companies, farms and household activities among others (Tol, 2009).

Notably, climate change has since caught global attention as a global emergency (United Nations, n.d.). It has resulted in alliances through bilateral and multilateral forums to discuss this significant issue with a bid to mitigate it. The conversation on how to reduce the carbon emissions dates far back but the researcher will focus on the developments from the installation of the United Nations Framework Convention on Climate Change (UNFCCC) in 1997 for now, as a detailed discussion is in chapter two.

The UNFCCC is a governance framework that was adopted by 195 countries with a bid to regulate and control the carbon emissions concentration in the atmosphere. It achieves this objective through regular meetings with member states in a bid to set the governing standards and to assess the levels of compliance (Riedy, 2016). There is also the Intergovernmental Panel on Climate Change, a United Nations (UN) body formed out of the collaboration between the United Nations Environment Programme (UNEP) and the World Meteorological Organization (Intergovernmental Panel on Climate Change, n.d.).
The Intergovernmental Panel on Climate Change through its network of 234 scientists, assesses the science related to climate change globally and presents the status of global warming and climate change. It paints a picture of the extent of the problem and the horizon risks. Intergovernmental Panel on Climate Change works in conjunction with the UNFCCC to release its reports (Intergovernmental Panel on Climate Change, n.d.).

UNFCCC also refers to the reports from Intergovernmental Panel on Climate Change during the Conference of Parties (Intergovernmental Panel on Climate Change, n.d.). The last report dubbed climate change 2021, which is the sixth assessment report released in August 2021, confirmed that global warming is at 1.1°C warmer than in the years 1850-1900 which is an escalation at an unprecedented rate. The report further indicates that to achieve the Paris Agreement target of retaining the global warming temperatures at 1.5°C, global net zero greenhouse gas emissions much be achieved at the earliest otherwise that target will be a far-fetched dream. It also confirms that there are dire effects of climate change being experienced globally (Di Liberto & Herring, 2021).

In 2005, the UNFCCC adopted the Kyoto Protocol as part of implementation of its objectives but some countries such as the United States resisted the move and botched the protocol (Riedy, 2016). It was only in 2015 when the United States and other member states totaling to 191 adopted the Paris Agreement which is an internationally binding treaty. It contains the devotion of each member country towards reduction of their emissions which is a clear commitment to climate change (United Nations, n.d.). As part of this, each country was tasked with the responsibility of developing the Nationally Determined Contributions and filing them with the UNFCCC.
These are usually assessed periodically (after every five years) to confirm the extent of implementation. The assessment also determines whether there is need to revise them to make them bolder depending on the extent of the crisis as well as the capacity of the countries to implement them. The study also looked at other important terminologies such as green and climate finance that are strongly associated with climate change and will be very instrumental in the unpacking the research topic. Climate finance is a sub-component of green finance, which initially referred to public resources of a financial nature that are allocated towards promotion of the climate change agenda through the UNFCCC (Aizawa, 2016). It refers to both national and international funding obtained from private, public and alternative sources for financing climate action commitments (UNFCCC, n.d.).

Climate specific finance are capital related flows that are targeted towards low-carbon and climate resilient development (Buchner, Falconer, Mignucci, Trabachi & Brinkman, 2011). It is finance that is directed towards bringing down the levels of emissions and the greenhouse effects thus minimizing the climate risks as well as building resistance of human and ecological systems against the diverse climate change effects (Graham Research Institute, 2018). The concept of climate finance has been noted to extend to the provision of resources by developed to developing countries to enable them to meet their costs of implementing climate change (Graham Research Institute, 2018) as is the spirit of the Paris Agreement. As per the UNFCCC, the developed countries have a primary responsibility to provide funding from various sources (Aizawa, 2016).

Further, the developed countries have committed to increase their support to Usd.100 billion per year by the year 2020 (Buchner, Falconer, Mignucci, Trabachi & Brinkman, 2011). The instruments of climate finance include but are not limited to, concessional loans, policy incentives and ownership interests (Buchner, Falconer, Mignucci, Trabachi & Brinkman, 2011). Once the funds are received from the developing countries, they are administered by the funds established and granted such authority. Examples of such funds include; the Green Climate Fund, the
Adaptation Fund, the Green Environment Facility among others. These organizations distribute the funds to developing countries (Watson & Schalatek, 2021). The developing countries access these funds through their national accredited entities or the authorized implementing agencies. The national accredited entities are entities that have been authorized by the specific country to apply for accreditation with the fund. The implementing agencies include the African Development Bank and the World Bank among others. Other countries such as Kenya have supplemented such access through implementation of national climate funds (Watson & Schalatek, 2021).

Therefore a developing country can receive climate finance through a national climate change fund, through the national accredited agencies or through the implementing agencies. In addition, there has also been a misconstrued notion that climate finance only streams from public sources but research shows that private sources contribute significantly to it in the global scene. This proves that the role of private sector is quite critical for any climate change activities (Buchner, Falconer, Mignucci, Trabachi & Brinkman, 2011).

Green financing on the other hand is a deliberate action by the financial institutions to move away from traditional investments and align their financial practices to sustainable development (Aizawa, 2016). In addition, it involves developing green projects, risk management of such projects as well as carrying out proper due diligence to ensure such projects do not have any adverse effects on the environment (Aizawa, 2016). It is all the activities by the private and public sector that are geared towards assisting sustainable programs through diverse monetary mechanisms (International Trade Center, n.d.). Green finance is the financial investments trickling into sustainable products and policies which encourage the implementation of sustainable economic practices (Krushelnytska, n.d.).
Green financing is the reduced version of making the financial structure green. This involves a set of activities including developing fresh mechanisms, policies, regulations and processes to encourage the financial sector to consider climate and environmental factors as they always make investment decisions (Spinaci, 2021). Under green financing there are varied monetary tools that have been so far developed which include social bonds, blue bonds and green loans among others (Spinaci, 2021).

Examples of green financial products include; green mortgages which are offered as at a significantly subsidized interest rate for purchasing and installing green efficient technology in the house (e.g. homes that have solar panels); green commercial building loans which are aimed at financing construction of green buildings (e.g. buildings that adopt waste reduction and energy efficient mechanisms); loans for green cars (loans to purchase or lease cars that have a high fuel conservation or even electric cars) (Burhanudin, Ronny & Sihotang, 2021); carbon finance which includes the financing of water treatment plants, solar panels manufacturing plants, waste disposal plants among others; green bancassurance which seeks to underwrite risks for ecofriendly solutions (green buildings, fuel efficient vehicles) at discounted premium rates in collaboration with the Insurers (Akomea-Frimpong et al., 2021).

Today green financing has become a topical issue and the World Economic Forum had estimated that in 2020, Usd. 5.7 trillion Investment ought to be invested in green infrastructure. On the other hand, the Climate Policy Initiative has noted an annual investment of only Usd. 360 billion, signaling an existing investment gap towards a low carbon world (Chartered Banker Institute, n.d.) as aimed in the Paris Agreement. The other important terminology in climate change has been Sustainable Finance. This refers to monetary facilities that have incorporated environmental, social and governance methods into the commercial or investment ideas (Swiss Sustainable Finance, n.d.). It also refers to funds committed to assist areas or projects which add to the implementation of any one sustainability agenda (Migliorelli, 2021).
This therefore means that sustainable financing has a wide scope as compared to climate and green financing, as it goes beyond the financial decisions and incorporates the environmental and social factors into financial decision making. It is also important to note an emerging risk globally of labelling activities as green financing or sustainable financing yet the initiatives have no benefit to the environment neither are, they sustainable beyond the name. This has been classified as green washing (Migliorelli, 2021) and is mainly driven by the urge of institutions’ need to fit in the climate change agenda with little or no effort. This tends to take different forms which includes renaming the product to be perceived as environment friendly (Migliorelli, 2021).

In reacting to climate change from a global perspective, the Multilateral Developing Finance Institutions have taken significant leadership. The Multilateral Developing Finance Institutions are international financial institutions which have been developed in partnership with more than one country. Their main purpose is to offer financial support to projects and have a broad financial muscle as compared to the bilateral financial institutions and they support the collaboration among governments. They include the African Development Bank, the International Finance Corporation, the European Investment Bank and the Asian Development Bank among others such as the Green Climate Fund developed under the UNFCC framework (Migliorelli, 2021).

These institutions have set aside funds to support low carbon and climate change resilient activities whereas others have been noted to align their practices to take part in shaping of policies and procedures that are aligned to the climate change agenda. It does not stop there as they have inculcated practical mechanisms such as data collection, reporting and analysis in a bid to improve their reaction to climate change (UNEP, 2016).
Specifically, these institutions are floating green bonds which go into supporting the low carbon activities, they are investing in listed companies at the capital exchanges that are low carbon emitters and they are issuing green mortgages as part of green real estate meaning they are investing in energy efficient and low carbon buildings, among other similar activities (UNEP, 2016).

In terms of local implementation of climate change activities, Kenya ratified the Paris Agreement on 26 December 2016 (UNFCCC, n.d.). This was its commitment to the important cause as it also experiences the adverse effects of climate change which include drought floods and scanty rainfall among others. In this regard, Kenya put in place climate change governance frameworks which include the national adaptation plan and the national climate change action plan to localize the implementation of the climate change agenda.

Kenya also shared with the UNFCCC its nationally determined contributions towards climate change the recent one being for the period 2018-2022. The national climate change action plan is a framework for the implementation of Kenya’s nationally determined contributions. It outlines the commitment roadmap, implementation strategies and financial targets and strategies for the climate change agenda. Under it, Kenya has committed to reduce its greenhouse gas emissions by 30% which is equivalent to 42.9 metric tons of carbon dioxide by the year 2030 and has identified seven sectors which will contribute to this reduction (Government of the Republic of Kenya, 2018).

The sectors are waste, industrial processes, agriculture, transportation, energy demand, electricity generation and forestry. It has specified each of the sector’s carbon emissions contributions (Government of the Republic of Kenya, 2018). In relation to waste, Kenya has committed to utilize it to generate electricity and to develop efficient and less carbon intense composition mechanisms. For agriculture the commitment is to encourage agroforestry and carbon efficient livestock activities. Under electricity generation, the focus is to adopt grid renewable energy.
Under transport, the commitment is to encourage use of rail and mass transport mechanisms. Finally, under energy demand, the commitment is to distribute renewable energy across the country. It also sets out the budgetary estimates for the implementation of the said mitigation/adaptation activities (Government of the Republic of Kenya, 2018).

The following are some of the climate change effects in Kenya as documented in the national climate change action plan: In 2017, 0.5 million Kenyans lacked water due to drought whereas 3.4 million lacked food. In 2018, over 183 lives were lost due to floods whereas 225,000 Kenyans and 145,000 children were displaced and lastly reduced crop production by 45 percent is expected by the year 2100.

From an estimate perspective, these adverse effects account for a liability in the economy of 2-2.8% of Kenya’s gross domestic product per year (Government of the Republic of Kenya, 2018). This is because Kenya’s economy heavily relies on the diverse climate conscious sectors such as agriculture, tourism, energy and health (Mazza, Balm, & Van Caenegem, 2021). The cost of implementing the national climate change action plan from 2020-2030 is estimated at Usd. 62 billion (UNFCCC, n.d.).

To achieve this ambitious budget, Kenya has opted to supplement the resources with budgetary allocations and financial support from public and private sources both local and international (UNFCCC, n.d.). Kenya as one of the developing countries, receives monetary support from developed countries through the Green Climate Fund and other established funds under the UNFCCC, for developed countries to support the developing countries financially from a climate change perspective. The total funds received by Kenya from the Green Climate Fund is Usd. 211.8 million (Green Climate Fund).
The total budgetary allocation for environment, agriculture and water sector for the financial year 2021/2022 is Kes. 173.21 billion (Parliamentary Service Commission, n.d.). In addition, Kenya has identified key stakeholders that will add to the financial muscle to support the financial resource. These have been included in the national climate change action plan and importantly the private sector has been recognized as a key player from an investment perspective (Government of the Republic of Kenya, 2018). It is thus evident that besides the allocations from the developing countries, Kenya needs a strong financial muscle to implement its nationally determined contributions through the national climate change action plan.

This is where the research’s examination of the role played by commercial banks in Kenya, came in. It interrogated how well commercial banks complement the national and international efforts in supporting climate and green financing. The conviction on the role that commercial banks can play, was driven by recognition that private finance can play an important part in the climate action agenda and the overall economy of the country.

There are a total of 39 banks in Kenya (Central Bank of Kenya, 2021) which are licensed under the Banking Act and provide funds to businesses across numerous sectors of the economy including the small and medium enterprises and the micro enterprises. These include the six sectors identified under the national climate change action plan as the largest contributors of greenhouse gases in Kenya. In 2019, the banks advanced loans to a total of Usd. 2.7 Billion (Kenya Bankers Association, 2020). This is clear evidence that commercial banks are a key economic pillar and their participation in the climate action cannot be ignored.
That said, the commercial banks have not been all silent as preliminary research shows that their focus has greatly been on sustainable finance. They have conducted sustainable finance activities within their banking practices. In doing this, they have been guided by sustainable finance principles. The implementation of the sustainable finance principles has been through a collaboration with their umbrella body the Kenya Bankers Association. The sustainable finance initiative was launched in 2013 and is championed by Kenya Bankers Association in partnership with United Nations Environment Programme Finance Initiative, the Netherlands Development Finance Company, the International Finance Corporation and the German Investment Corporation (Kariuki, 2020). In 2020, the Kenya Bankers Association published a report (Kenya Bankers Association, 2020) showing the sustainable finance initiatives by the commercial banks in Kenya. In addition, in 2020 and 2021 two commercial banks in Kenya were accredited by the Green Climate Fund and have received loans for onward lending to activities that support green projects in Kenya.

The Central Bank of Kenya which regulates the commercial banks, has not played a very pivotal role in supporting green and climate finance initiatives by commercial banks or even providing guidance on the requirements for climate change financing. It is only until October 2021 when it issued the guidance on climate related risk management (Central Bank of Kenya, 2021). The guidance among other things requires commercial banks to identify, monitor and report on climate relate risks. It has however not shed light on the risk assessment matrix as it expects the banks to understand and pick out the risks. In addition, there is no requirement in it related to climate and green finance.

Having noted the great strides deployed by the commercial banks, this forms the second conviction that these institutions need to do more. This is on the basis that they are a key contributor to the economy, they stand to be adversely affected by the climate change effects which may lead to shutting down their businesses and there is an existing funding gap on the implementation of the climate action which the banks can solve for.
1.3. Problem Statement

The background significantly sets the scene and brings into perspective what climate change as well as the associated terms mean. Climate action is quite imperative and the commercial banks have a significant role to play in it and further that there is a big funding opportunity for them. Climate change impacts are quite dire and Kenya as a country continues to be affected by environmental disasters attributed to climate change which also affects its key economic activities such as agriculture.

Climate action is also part of the Sustainable Development Goals. This therefore means that where banks in Kenya contribute by responding to climate change through climate change financing, they will also be contributing towards the achievement of the Sustainable Development Goals. They will ensure that the country and the world at large becomes a sustainable place for the current and the future generations. Failure to support the climate change action implementation through climate change financing, they will be failing their country in the commitment towards carbon emission reduction as well as the global commitments under the Sustainable Development Goals. If they continue to carry out traditional finance and continue to provide capital to the economy which is not green and efficient, this will be a significant risk as they are the largest capital providers in Kenya.

Notwithstanding the reactions from the commercial banks from a voluntary sustainable financing perspective, there exists more that they can do in comparison to the significant steps taken by the multilateral finance institutions. It is not clear whether they have gone beyond sustainable finance and played any role in climate and green finance. This is because the sustainable finance practices are broad and have too many moving pieces unlike climate and green finance.
In implementing the sustainable finance initiatives, there is risk of not achieving maximum climate action as the focus will be split to three goals, environment, social and governance. While the social and governance pillars are equally important aspects of the sustainable development goals, climate action stands out going by the overwhelming risk effect of climate change being currently experienced. Hence there ought to be a concerted focus on the reduction of the greenhouse gas emissions which as we have noted is the primary objective of climate action.

The extent of the divergences as well as the challenges and drivers for the implementation or lack of it thereof is not clear as well as the drivers of firm level adoption of green finance. Further, from the preliminary research conducted, there is no evidence of studies in Kenya examining the topic under review. The closest is an interrogation of how the microfinance institutions have incorporated climate change activities to their business operations.

A lot of the studies available have focused on the national Government’s response to the climate change and the implementation of the national climate change action plan. Little attention has been paid to the great potential of the financial institutions in Kenya, to significantly contribute to climate change in compliment of what the Government has already put in place. In addition, the existing legal framework largely addresses the duties of the public sector on climate change but has not defined the duties of the private sector where the commercial banks would fall under. From a regulatory standpoint this is not something the Central Bank of Kenya has actively taken leadership to regulate and monitor save for their recent release of the climate related risk management guideline.
As earlier mentioned, this guideline has not provided guidance on green and climate finance which is the central focus in this paper. The Central Bank’s focus has been on monetary policies which are not inclined to climate change. There is also no evidence so far of proper guidance on what climate and green finance even from the Government which may result to green washing as earlier discussed in the background. It was also not clear whether commercial banks appreciate their participation in climate change action or whether they consider their participation significant if at all.

Besides the work done in collaboration with the Kenya Bankers Association on reporting the voluntary sustainable finance initiative. There is no central information available at a glance on what other initiatives beyond sustainable financing such as development of green products, carbon offsetting activities, transition finance, green and climate finance policy development, green and climate finance reporting, green finance knowledge transfer among others, that the banks have implemented. The same applies to case studies. This means one must interrogate every time they need such information which might be too tasking.

It is clear that commercial banks in Kenya support all the sectors identified in the national climate change action plan as the highest greenhouse gas emitters as they provide capital to and generate revenue from these sectors. The greenhouse gas emissions result to climate change which in turn affects the productivity of the largest economic contributors in Kenya such as agriculture which contributes to 26% of Kenya’s gross domestic product and provides employment to 70% of the total population (Government of the Republic of Kenya, 2018).
The above therefore are the issues this research interrogated and addressed in detail going by the subsequent sections ahead.

1.4. Objectives of the Study

1.4.1. To examine the divergences in the extent of entrenchment of climate and green financing considerations by the commercial banks in Kenya.

1.4.2. To interrogate existing impediments or drivers to the application of climate and green finance by commercial banks in Kenya.

1.4.3. To examine firm level drivers for the adoption of green finance using a case study.

1.5. Research Questions

1.5.1. Have commercial banks in Kenya entrenched climate and green financing considerations in their business practices?

1.5.2. Why do commercial banks in Kenya implement or fail to implement climate and green finance in their business practices?

1.5.3. What drives firm level adoption of green finance?
1.6. Significance of the Study

The principles of responsible banking for climate change remain a voluntary ideal that many countries have not enforced legally. Considering the problem statement, this research unpacked how the commercial banks have responded to climate change from a climate and green finance perspective. It is also geared towards influencing policy formulation and amendment based on emerging best case studies. At an ideational level the study sheds light on why banks adopt or fail to adopt best practices in climate finance. It also sheds light on the difference between climate finance, green finance and sustainable finance as well as the importance of the role of commercial banks Kenya, in responding to climate change.

Further, it has provided the benefit of climate change financing which is a critical role within climate action. Climate action is part of the sustainable development goals which are commitments at a global level geared towards combating the adverse effects of climate change. While we note the sustainable development goals have a target implementation date of year 2030, the net zero achievement target has been set at year 2050. This however is not to be interpreted that the climate action has a lifecycle after which it will be a thing of the past, it is a continuous obligation to improve the environment that goes beyond the set target implementation dates.

Lastly, it has closed the existing gap of lack of studies on the research topic and educate the readers of the projects that some of the banks have undertaken towards climate change from the documented case studies as we note this information was not centrally reported or available. The practical recommendations therein are also useful and where implemented fully will make the implementation of green and climate finance extremely seamless.
1.7. Organization of the Research

This research contains a total of five chapters as highlighted in this section: Chapter one has the introduction, background information, problem statement, the study objectives followed by the specific research questions and the importance of the study. Chapter two contains the historical development of the climate change framework as well as the history of the green and climate finance implementation. It also discusses the existing literature on climate and green finance as well as theoretical underpinning which the study is anchored on.

Chapter three discusses the research design adopted, the research method, the data collection and analysis methods and concludes with a section on the ethical considerations. Chapter four presents the results and findings of the data collected in detail whereas chapter five contains a discussion of the findings, presents the conclusion and shares practical recommendations for areas that require to be addressed.
CHAPTER TWO: HISTORICAL DEVELOPMENTS, LITERATURE REVIEW AND THEORETICAL FRAMEWORK

This has discussed the historical developments of international regimes on climate change, climate and green finance. It has analyzed the implementation of green and climate finance by commercial banks as well as their implementation of sustainable finance, as an alternative and the challenges thereof. It also looks at the impact of climate change financing to the environment as identified by scholars. It concludes with an analysis of the theoretical framework by discussing at length the sustainable development concept and its relevance to this research.

2.0. Historical Developments of International Regimes on Climate Change, Climate Finance and Green Finance

This section has highlighted the origin of climate change and the various global efforts in place to tackle the issue, which have been made across the years. It clearly specifies the frameworks that have been developed as a result and those that continue to be implemented currently, to tackle climate change. It also gleans over the birth of climate and green financing over the years and how the concepts have continued to evolve and be adopted by financial institutions.

2.0.1. From Rio to Glasgow- A Background to Evolution of Climate Change Framework

Climate change has been a topical issue which dates to the 1990s owing to the ministerial declaration at the second world climate conference held in 1990 (Jackson, n.d.). During this period, there were numerous political and
scientific meetings and discussions which were instrumental in the framing of climate change as a problem requiring a global solution (Pattberg & Widerberg 2018).

This resulted in the establishment of an Intergovernmental Negotiating Committee for a framework convention on climate change in 1990, by the UN General Assembly. The main assignment for the committee was to identify and recommend a convention with appropriate commitment to climate change (Pattberg & Widerberg 2018).

Thus, in 1992 the UNFCCC was adopted at the United Nations Conference on Environment and Development in Rio de Janeiro commonly referred to as the Rio Earth Summit and came into force in 1994 (UNFCCC, n.d.). The Convention’s most important objective is to stabilize the greenhouse concentrations to “a level that would stop human interference with the climate system” (UNFCCC, n.d.). Its key decision-making body has been the conference of parties containing all the parties to the convention. It stipulates the specific roles and responsibilities for the parties that are geared towards climate change. It also monitors and evaluates the member parties’ efforts towards mitigating climate change risks (Pattberg & Widerberg 2018).

In 1997, the Kyoto Protocol was adopted at third conference of parties, in Kyoto, Japan. This was the first treaty to be negotiated under the UNFCCC. It had a role to ensure reduction of the overall carbon dioxide and other greenhouse gas emissions of industrialized countries, by percent. The protocol came into effect in 2005, seven years after being open for signature in 1998 (Jackson, n.d.). This protocol unlike the convention, specified comprehensible responsibilities for industrialized countries to control their greenhouse gas emissions but left the implementation process, up for discussion (Luterbacher & Sprintz, 2001).
Prior to the establishment of the protocol, there were a few important preceding events which included; The 1st conference of parties held in 1995 in Berlin which led to the initiation of a 2 year negotiation process to establish a protocol or a preferred legal instrument which would advise the most preferred action for the period beyond year 2000 (Kreienkamp, 2019). The release of the Intergovernmental Panel on Climate Change report in 1996 which clearly identified human activities as the key contributors to climate change. The 2nd conference of parties held in 1996 in Geneva, which adopted the Intergovernmental Panel on Climate Change report and urged parties to speed up the discussions for a binding treaty that defines the targets and implementation time frames for industrialized countries. This decision was however shied away from, by the oil exporting countries and was just noted but not adopted as a resolution of the meeting (Kreienkamp, 2019).

Following the adoption of the Kyoto protocol and prior to it becoming effective in 2005, the United States withdrew from the Protocol in 2001 for reasons that it was unfair as it exempted 80 percent of the world (Kreienkamp, 2019). Further, the European Union, Japan and Canada, being the major industrialized countries, ratified the protocol in 2002 (Kreienkamp, 2019). The other significant event after the protocol was the Copenhagen accord established at the 15th conference of parties in 2009. This was a political and non-binding agreement spearheaded by a group of heads of states including those from developing countries and led by the United States, outlining country pledges on mitigating the climate change impacts and to maintain global warming to $2^\circ$ C by the year 2010 (Kreienkamp, 2019). This was the first-time major emitters from developing countries demonstrated their support to the global effort to mitigate climate change issues (Falkner, 2016).

In 2015, there was a significant breakthrough in the climate change agenda, which was the adoption of the Paris Agreement at the 21st conference of parties in Paris. This treaty reflected the global agreement to limit global temperatures to 2 degrees Celsius but preferably 1.5 degrees and was binding upon the member states unlike the
Copenhagen accord (Kreienkamp, 2019). This treaty has continued to guide climate change mitigation and adaptation efforts up to date. To achieve the commitments under the agreement, it has mandated states to put in place nationally determined contributions towards reduction of carbon emissions. These contributions are to be evaluated within a 5-year period as a way of monitoring the achievement progress. The agreement also expects setting more ambitious targets by states, at the end of the evaluation period. It also deviates from the Kyoto Protocol as it includes all emitters globally as Kyoto had only focused on the industrialized countries (Falkner, 2016).

2.0.2. Origin of Climate Finance

Climate finance saw its way into climate change action, after the establishment of the Kyoto Protocol. Upon signing of the protocol, member states gave themselves a two-year grace period to formulate implementation mechanisms. This led to the creation of the Clean Development Mechanism, Joint Implementation as well as Emission Trading. The Clean Development Mechanism (CDM) aimed to offer financial resources for emission reduction projects in developing countries, Joint Implementation aimed to provide financial resources to sustainable projects in transition countries whereas emissions trading facilitated trading in carbon credits (Jaycocks, 2019). In 2001 there was the establishment of the Adaptation Fund whose aim was to support adaptation projects in the developing countries. This fund received financial contributions from private donors, governments as well as a two percent levy on certified emission reductions from CDM projects (Jaycocks, 2019).

In the same year, there was the establishment of the first climate resources through the Global Environment Facility, the Least Developed Country Fund and the Special Climate Change Fund each of which had a specific purpose (Jaycocks, 2019). The issue of climate finance continued to be a sticking point that prominently featured in the conference of parties meetings. At the Bali Conference in 2007, the international circle largely acknowledged the
need for financial resource provision. Further, at the Copenhagen summit in 2009, a pledge was made by the developed countries of Usd. 100 billion annually, geared towards supporting carbon efficient adaptation and development initiatives (Jaycocks, 2019).

In 2010, the Green Climate Fund was established whose aim is to ensure financial flows to developing countries to support environment resilient projects. It does this by providing financing to partner institutions (accredited entities) through instruments such as grant, concessional loans, and guarantees among others (Jaycocks, 2019). The financial instruments are accessed through public, private or non-governmental entities which are accredited by the fund. These entities submit financing proposals which the Green Climate Fund reviews for funding. Further for the entities to be accredited, they ought to have evident and practical climate change projects or programs from a climate change mitigation and adaptation perspective that they can showcase to the Green Climate Fund. The entities must also meet the standards set by the Green Climate Fund from an environment, social, governance and gender perspective. There are two types of accredited entities, direct access and international access. Under direct access entities include national or regional organizations that are nominated by the developing countries through their relevant designated authorities or key points of contact on matters climate change.

On the other hand, international access entities include the multilateral and bilateral financial institutions, as well as the United Nations agencies. Currently there are over 200 accredited entities and out of those, two are commercial banks in Kenya i.e. Kenya Commercial Bank and the Co-operative Bank of Kenya (Green Climate Fund, n.d.). Overtime and in addition to the above, there have been other multilateral funds and initiatives as well as bilateral funds and initiatives that have been established to supplement the channels for distributing climate finance to developing countries.
The multilateral funds and initiatives include the Forest Carbon Facility, the Africa Climate Change Fund and the Climate Investment Fund among others. The bilateral funds and initiatives include the Global Climate Change Initiative, the International Climate Finance and the Global Climate Partnership Fund among others (Watson & Schalatek, 2021). Further a number of developing countries including Kenya have also implemented national climate initiatives by setting up national climate funds through which they receive the climate funds (Watson & Schalatek, 2021). The said countries also support entities (both private and public) in their countries to receive accreditation from the multilateral funds for purposes of distributing climate finance.

2.0.3. The Birth of Green Finance

The beginning of green finance can be traced to the issuance of the green bond in 2008 by the World Bank floated. The year 2008 was the peak of advanced discussions between various actors to achieve the issuance. It began with an idea from a group of Swedish pension funds who wanted to invest in projects that have an impact on the climate. They did not know how to do this, but they reached out to the World Bank (World Bank, 2018). The Swedish group was triggered mainly by the then increasing environmental disasters as well as the Intergovernmental Panel on Climate Change 2007 report which linked human action to global warming (World Bank, 2018).

The World Bank embraced the assignment with a lot of passion and went into consultative meetings with experts including those from the Centre for International Climate and Environmental Research, who were leading in climate issues at the time and ended up issuing the green bond. This bond created awareness on climate change issues and was a clear demonstration of the opportunity for private investors to support climate products. It also formed the foundation of the establishment of the green bond principles coordinated by the International Capital Markets Association (World Bank, 2018).
This then accelerated the issuance of green financing guidelines over the years by multi stakeholders across the globe. As at 2019 there have been over 200 standards issued by the 3 main actors who are: government and regulators, intermediary groups and associations (Nedopil, Dordi & Weber, 2021). Green finance standards serve to mobilize finance for green development by addressing numerous aspects of the green instruments such as the green loans, green bonds. They provide guidance on their issuance and seek to define the nature of the said instruments to avoid green washing in the markets (Nedopil, Dordi & Weber, 2021).

The most recent standards are the equator principles which were issued in 2019 and came into effect in 2020. This is a risk management framework embraced by financial institutions for identifying, reviewing and monitoring environmental and social risks in projects that they finance. The standards apply to all sectors globally. Currently 123 financial institutions in 37 countries have adopted the principles including the majority of international project finance debt within developed and emerging markets. They have been quite instrumental in steering guidance on the financial and banking industry by supporting them to develop their unique environmental and social risk management frameworks (Equator principles, 2020).

2.1. Literature Review

This chapter consists of an overview of the existing written material including but not limited to research papers, online articles, journal articles, online texts among others, on the research topic. It is mainly guided by the research questions as documented in the previous chapter. The purpose was to interrogate and exhibit the thoughts of past scholars in relation to the research questions which are instrumental to the research.
2.1.1. The Implementation of Climate Change Financing by Commercial Banks in Kenya

The financial sector is faced by various risks during its business lifecycle which include transition and credit risks (International Finance Corporation, 2016). Transition risks are those that attract during the changeover to a low carbon economy whereas the credit are those that attract from the effects of climate change. It has thus become increasingly important for commercial banks to provide direct financial investments to manage risks that attract from the assets impacted by the adverse environmental effects (Mishra, 2013).

As a result, investors are continuously gaining interest in climate and green finance to protect against the said climate risks (World Bank, 2020). According to researchers, green financing continues to gain interest among the financial institutions with a bid to abandon in totality the brick and mortar focus on profitability. This is on the basis that the financial industry has a crucial role through risk mitigation and go between activities, in the promotion of sustainable economic advancement. (Cizelj, 2021). Their role of providing capital to the sectors of the economy makes a proper justification of such importance (Gilchrist, Yu & Zhong, 2021).

Around the globe, different commercial banks, international, regional and local, have embraced the practice of green finance and are demonstrating leadership in this area. Some have gone beyond developing green products and have taken bold stands to dissociate with clients whose practices are not eco-friendly. A specific example, the World Bank announced its commitment to cease their support to countries and companies that have less focus on the conservation of the environment in their business practices. Further, other financial institutions such as the Deutche Bank, Hong-Kong Banking Corporation and BNP Paribas among others are reported to have aligned their company standards and procedures to allow for the implementation of green financial solutions (Akomea-Frimpong et al, 2021).
According to Akomea-Frimpong et al. (2021), there are several motivations that have led to banks adopting green finance which include the international climate agreements and regulatory guidelines among others. Under the international climate agreements, they argue that the readiness by banks to adopt eco-friendly practices have been strongly motivated by the existing framework on climate change and that the push began significantly immediately after the adoption of the Paris Agreement in 2015 (Akomea-Frimpong et al, 2021). They also acknowledged that the bank regulatory authorities in many countries have embraced the need to provide guidance through regulatory framework on green financial solutions (Akomea-Frimpong et al, 2021). The authors noted that in furtherance of this, some regulators were promoting green certifications, development of green credit scores, green products as well as green reporting.

They highlighted that to promote these green policies, regulators were providing incentives such as tax breaks and other incentives (Akomea-Frimpong et al, 2021). In their conclusion they argued that some banks had abandoned the financing of coal and fossil fuels whereas there are some banks in the United States and Australia that continue to finance coal and fossil fuels. This is clear evidence that there was no commonality in the practice of green finance or even standards to guide such implementation, across the globe. They noted from their research that studies have been done in Europe and Asia and there was little done on the other continents like Africa (Akomea-Frimpong et al, 2021).

Kapadia (2021) also agreed with Akomea-Frimpong et al (2021) that financial regulators cannot be left behind in this exercise of green finance. Kapadia (2021) argues that it is imperative that the financial regulators actively support the financial institutions through monetary and fiscal policies. This support was demonstrated in the first instance by the development of the Network for Greening Financial System, a network of central banks and financial regulators established in 2017 (Kapadia, 2021). It promotes voluntary information sharing across of best practices.
across the financial system to scale up green financing (Kapadia, 2021) something which Akomea-Frimpong et al (2021) had noted to be lacking across the globe.

Berensmann & Lindenberg (2016) also participated in this discussion of implementation of green finance. They noted from their studies that the existing financial environment has largely been encouraging short term goals and hence there is a gap for long term and sustainable solutions and the gaps need to be closed as a matter of priority. The authors agreed with Kapadia (2021) and Akomea-Frimpong et al. (2021) that the financial and regulatory environment has not mandated banks in most of the countries around the world, to report and share among each other information on environmental risks, save for China and Peru (Berensmann & Lindenberg 2016). They acknowledged that banks were an important part of the international economy as they account for a significant share of the assets globally (Berensmann & Lindenberg 2016).

From a global perspective, multilateral financial institutions were also noted to participate in green finance. A classic example is the implementation of the first green bonds by the European Investment Bank and the World Bank. Initially this bond market was dominated by the multilateral development banks however this has continuously changed with notable diverse issuers (International Finance Corporation, 2016). In addition to the sources from the multilateral institutions, the bilateral institutions also raised their participation in climate finance significantly. This was demonstrated by the support from Germany, China and United States through the funds those countries have implemented (Selin, 2016).
On the same breadth the researcher came across a study conducted in 2009 by Bank track (Bank Track, 2009) that was analyzing the responses by banks to climate change. The paper largely provided a general view of commercial banks without defining the scope being analyzed. Nonetheless the study depicted the importance of responses by banks to climate change by giving classic examples of how banks in the United States (e.g. JP Morgan and Citi Bank) had implemented practices favoring the climate change agenda. It also concluded strongly that banks had not adequately responded to the issue and they needed to do more (Bank Track, 2009). The other way international green finance was being evidenced was through the practice of green banking by the commercial banks which massively practices green finance. This involved internal mechanisms geared towards energy saving as well as external elements which are largely advised through client engagements such as product implementation (Konduyukova & Shershneva, 2020).

From a regional perspective the African Development Bank demonstrated leadership with regards to climate finance. Regionally it dominates the disbursement of the green climate funds which are part of climate finance as it is an accredited entity. Notably in 2020 it launched the initiative for the private sector which is aimed at equipping the African enterprises including the financial institutions, with skills to adopt climate change into their operations, through providing them with product knowledge and climate change tools (African Development Bank, 2021).

A study report by the African Development Bank reinforced the position that the private sector finance is critical in the achievement of the nationally determined contributions by the African countries where Kenya falls in. The report showed that the highest recipients of climate finance in Africa are Morocco and South Africa. This was attributed to their implementation of clear national policies and strategies to tackle climate change which gave them a competitive edge in accessing the Green Climate Fund financing directly through their national accredited entities (Fobissie et al., 2021). The African Development Bank has also implemented a green bond program as part of green finance
through which it has issued six green bonds raising a total of Usd. 2.5billion. The green bonds supported a total of 24 projects in 14 countries which are expected to lead to reduction in the greenhouse gas by approximately 43 million tons of carbon dioxide (ESG, 2020).

From a local perspective, the focus on climate finance in terms of literature, was largely on the public sector. This was evident as noted by Odhengo et al. (2019) that the efforts by Kenya have been focused on the national and county government budgetary allocations and investment to climate change (Odhengo et al., 2019). The same sentiments were shared by Nzau (2015) who acknowledged that there ought to be incentives to the private sector to boost their investment to climate change activities. He however did not single out the banking industry in a bid to demonstrate its importance to the cause, a thought that would have been instrumental to this research. (Nzau, 2015).

On the other hand, Githungo (2010) undertook an assessment of the climate change response by the microfinance institutions in Kenya. He was able to identify the significant role to be played by the microfinance institutions towards climate change and the existing investment opportunities for the microfinance institutions. His study primarily focused on the microfinance institutions and nothing on commercial banks (Githungo, 2010).

According to a statement issued by the Central Bank of Kenya Governor on 11 May 2021 at the European Union Kenya Green Policy Diplomacy Conference, it is acknowledged that the financial sector should be aligned to the environmental considerations. In his statement the Governor pointed out the key successes by the financial sector towards green and climate finance (Njoroge, 2021). These included; the launch of the voluntary Sustainable Finance Initiative in 2015, the launch of the first corporate green bond by Acorn Group in 2019 which was listed in the Nairobi Securities Exchange and the International Securities Market segment at the London Stock Exchange and finally the accreditation of the Kenya Commercial Bank by the Green Climate Fund as a financial intermediary in
East Africa. He also acknowledged the need for the financial sector to do more and for the regulators to step up their participation and guidance towards mitigating the climate risk (Njoroge, 2021).

In support of the regulatory participation, Gelzinis (2021) contributed by stating that there were vast policy mechanisms that the regulators could adopt which included; disclosure rules to induce investors and public understanding of the climate risks being faced by the financial system as well as introduce stronger capital requirements to cover for anticipated climate risks (Gelzinis, 2021). Additionally, the opportunities available for the banking sector from a climate and green finance perspective are numerous as noted by various authors. Specifically, the International Finance Corporation noted the following opportunities that financial institutions could tap into; green construction finance, financing the energy efficient appliances, renewable energy by financing the energy service providers, green bonds (International Finance Corporation, 2016).

Okumu (2014) joined the conversation by introducing the concept of green banking and she noted that green banking increases financial performance. Her focus was more on green banking as opposed to green finance and used the terms interchangeably without distinguishing the two. Green banking as she described goes beyond green finance as it includes incorporation of environmentally friendly activities e.g. mobile banking and automated teller machines (Okumu, 2014). The implementation of green financing has not been seamless with numerous challenges being faced. This includes the lack of a universally accepted definition of what green financing is as well as guiding principles for the classification of green investments (Czelji, 2021). This has been left to interpretation of each country and institutions have sought to approach the same differently with most of the notable common practice.
2.1.2. Analysis of the Environment Benefit of Climate Change Financing

In analyzing whether green finance has a direct impact in the reduction of carbon emissions, Meo & Karim (2021) undertook an empirical study on top ten economies that champion green finance (Canada, Denmark, Hongkong, Japan, New Zealand, Norway, Sweden, Switzerland, United Kingdom and United States). They were able to conclude that in Canada, the green finance does reduce carbon footprint (Meo & Karim, 2021).

In Norway, they noted that as the green finance need increases, the carbon emissions also rise however, green investment is not always a first choice at the beginning. The increase in demand for green investment in high carbon emissions was also noted in Japan. In Hongkong, United Kingdom, Denmark, Switzerland they did identify a positive relationship between green investment and the carbon emissions whereas in Canada they noted a positive and negative relationship on the variables. They admitted that not so many studies had argued a strong case for improvement of the environment by green financing (Meo & Karim, 2021).

Additionally, they supported their empirical study by giving an example of China which they noted had financed two green projects through green finance and these projects were approximated to reduce carbon emissions by 126m tons annually. They cited another scholar who also concluded that green finance reduced carbons emissions by 108 million tons (Meo & Karim, 2021). The above shows that climate change financing translated to tangible results of carbon emissions which create a better justification for the implementation of green finance. It was evident that banks had made strides in sustainable finance beyond just including the same into their corporate social responsibility practices.
2.1.3. Green and Climate Finance Measurement Matrix

<table>
<thead>
<tr>
<th>Green Finance</th>
<th>Climate Finance</th>
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<tbody>
<tr>
<td>1. Implementation of green products:</td>
<td>1. Extent of knowledge of climate finance and the accreditation by the climate</td>
</tr>
<tr>
<td>• carbon finance</td>
<td>change funds such as the Green Climate Fund</td>
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<tr>
<td>• green bonds,</td>
<td>2. Adoption of the qualification practices described by the Green Climate Fund</td>
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<tr>
<td>• green mortgages</td>
<td>3. Climate finance reporting</td>
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<tr>
<td>• green bancassurance</td>
<td>4. Existence of policies and procedures on climate finance</td>
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<tr>
<td>• transition finance</td>
<td>5. Public disclosures on climate finance</td>
</tr>
<tr>
<td>• green construction loans</td>
<td>6. Commercial and environment benefit of the climate finance implementation</td>
</tr>
<tr>
<td>2. Carbon offsetting initiatives</td>
<td>7. Public-Private partnerships through climate finance</td>
</tr>
<tr>
<td>3. Monitoring, evaluation and reporting of climate risks</td>
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<tr>
<td>4. Existence of policies and procedures governing green products development</td>
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<tr>
<td>as well as monitoring and implementation of the climate risks mitigation</td>
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<tr>
<td>plans (e.g. those defining the categorization of the eligible and non-eligible</td>
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<td>sectors for financing. Those defining the green finance criteria)</td>
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<tr>
<td>5. Existence of knowledge transfer and stakeholder education on green finance</td>
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<tr>
<td>(training)</td>
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<tr>
<td>6. Public disclosures on green finance</td>
<td></td>
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<tr>
<td>7. Commercial and environment benefit of the green finance implementation</td>
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</tr>
</tbody>
</table>
All the above literature reviewed on climate and green finance agreed that climate change is an important discussion globally and its implementation has been accelerated over the years with countries taking more and more bold steps on the same. Most authors agreed that to effectively achieve climate change, enough resources must be allocated. They also acknowledge the importance of the participation of the commercial banks to partly close the existing financing gap through green financing.

Further, they unanimously acknowledged the existing funding gap for the implementation of mitigation and adaptation activities for the developing countries. One author specifically noted the significant funding gap in Kenya. Prior to acknowledging the funding gap, they acknowledged that financial resources were the key drivers of the implementation of the climate change activities. They also agreed that there are numerous sources of climate finance and that the private sector which includes the commercial banks, has a significant role to accelerate. Regulator participation was as well acknowledged as pivotal to the implementation and they have a big role to provide guidance on the implementation of green and climate finance. Their need to put in place a strong regulatory framework to address the mitigation of climate risks was prominently set out by the authors. The main reason for this conclusion was that there are significant divergences in the implementation as noted by most authors.
The reviewed texts strongly articulated that much of the studies on green and climate finance had been conducted in Europe and Asia, as there was not so much in Africa and Kenya save for the earlier mentioned research. They demonstrated that the multilateral institutions have taken the lead in the green and climate finance space as they have been the engineers of the green solutions in the market as far back as 2008. All the authors agreed that climate change is a huge risk that must be addressed with utmost priority by all sectors of the economy including the private sector. One of the authors brought out the fact that implementation of green finance has a commercial benefit and boosts revenues while creating financial stability for the commercial banks. They have cited the various challenges that the commercial banks have faced in such implementation over and above the existing motivations.

The literature clarified the importance of the sustainable development which stems from the global commitments of the need to make the world a much better place. It also brings out the capability approach which sets out the need for persons to focus on creating much value over and above the economic value. This supports the argument that commercial banks need to not only focus on creating profits in their businesses but begin to also create value through climate change financing and support in the climate action. Whereas the literature painted a clear picture of the global, regional and local position on the state of green and climate finance there are still areas which it did not provide clarity on. It did not distinguish between green and climate finance from other principles such as sustainable finance which is broader. Hence, there is likelihood of an assumption that application of sustainable finance principles by commercial banks is actually green and climate finance.

The literature did not comprehensively set out the challenges causing lack of implementation or those arising from the implementation of green and climate finance both globally and locally. It only highlighted lack of regulatory leadership. The studies conducted in Kenya did not clearly bring out the environment value of the
green and climate financing by commercial banks or financial institutions, instead the commercial value was emphasized. It was also not clear to what extent the divergences are in the implementation of green and climate finance by commercial banks in Kenya.

The other notable gap is the specification of the actual instruments of green and climate finance being implemented by the commercial banks in Kenya. Even though it set out the instruments being utilized regionally and globally though such as the green bonds, it did not set out the possibility of each country developing its own set of instruments and the methods of doing so. It also attempted to highlight some of the motivations of implementation of green and climate finance by financial institutions and none of those were really for the benefit of reducing carbon emissions by entities they bank as they included the climate action euphoria as well as commercial incentives.

Lastly, the literature did not act as a central data point on the divergences of the implementation of green and climate finance by the commercial banks in Kenya. In this regard therefore, the above discussion on the green and climate finance helped to unpack the various approaches and findings by earlier scholars on their implementation for the better understanding of the reader. The gaps noted from the literature supported the gaps identified in the problem statement which backs the need to conduct this research to close the said gaps.
2.2. Theoretical Framework

There are several theoretical frameworks that can be utilized to analyze the research topic. In this regard and to narrow down the theoretical scope, this research is anchored under the sustainable development concept. Therefore, this section includes the foundational principles of the concept as articulated by various written texts followed by an in-depth discussion of its relevance to this research.

2.2.1. Sustainable Development Concept

This concept can be traced back to the year 1972 when the first human environment conference was held in Stockholm dubbed, the Unites Nations Conference on the Human Environment. At the summit, countries were encouraged to be mindful of the environment as they implement their economic strategies. Besides that, there was no definite definition on what exactly Sustainable Development is (Shi, Han, Yang & Gao, 2019). In 1987 however, the World Commission on Environment and Development (WCED) defined sustainable development in its report on human development. It stated that sustainable development is the advancement that fulfils the need of the present without interfering with the capability of the future generation to meet their needs (Shi, Han, Yang & Gao, 2019).

In 1992 at the United Nations Conference on Environment and Development, the Rio Declaration on Environment and Development was adopted. (Shi, Han, Yang & Gao, 2019). This declaration called for member states to collaborate in a bid to build their capacity to achieve sustainable development by sharing scientific knowledge. It also defined sustainable development through its 27 principles. Further, differentiated responsibilities between developed and developing countries were also recognized. This was a first-time commitment to implement sustainable development from a global perspective (Shi, Han, Yang & Gao, 2019).
In 2000, at the United Nations Millennium Summit held in New York, the United Nations Millennium Declaration was adopted which brought to life the millennium development goals. These were to guide development of humanity for a period of 15 years from their adoption which was part of promoting sustainable development (Shi, Han, Yang & Gao, 2019). In 2012 at the United Nations Conference in Rio, it was apparent that there was a conflict among the three pillars of sustainable development which are environment, social and economic and the need to regulate the three became apparent. The summit acknowledged that governance would be a treatment plan for the conflict. This thus led to the birth of the fourth pillar, governance (Shi, Han, Yang & Gao, 2019).

In 2015, the global leaders sought to address the aforementioned concern by putting in place 17 Sustainable Development Goals. These were targeted at alleviating poverty, combating inequality and tackling climate change to create a sustainable future for everyone. Importantly, climate action was noted as the thirteenth goal whose commitment is to take immediate steps to combat climate change and its severe impacts. The climate action goal has several targets which include to enhance knowledge capacity to tackle climate change, to inculcate climate change into policies and planning as well as to implement the UNFCCC (Global Goals, n.d.). The above summary provides a lead on the evolution of sustainable development and the implementation of the economic, environment, social and governance pillars. It is important then to now investigate what the scholars have written about this concept including their thoughts on its importance.

Mensah (2019) argues that the concept is made up of two distinct words i.e. sustainability and development. He relates to an author who has defined sustainable development as an approach to development which utilizes resources
in a resourceful manner by allowing them to continue to exist for others (Mensah, 2019). He also fronts the argument that sustainable development seeks to achieve equity among generations by recognizing both near and long-term impacts of sustainability and development. He has isolated three conceptual pillars of sustainability which include economic sustainability, social sustainability and environmental sustainability. According to him economic sustainability rest with ensuring that the decisions that are arrived at, are equitable and fiscally sound and consider other aspects of sustainability (Mensah, 2019). On social sustainability, Mensah (2019) argues that it embraces equity, empowerment, accessibility, participation and cultural identity among others (Mensah, 2019). It implies that people are at the heart of development and hence they should all be enabled to have the ability to achieve their needs at all points in time (Mensah, 2019).

On environmental sustainability he highlights the issue of climate change which forms foundation to his argument. He argues that environmental sustainability is how the environment remains resilient and productive to support human life (Mensah, 2019). In conclusion he draws out the important fact that implementation of sustainable development ought to be participatory and all people and entities have a key role to play. He also argues that the three pillars cannot be disintegrated and must be implemented simultaneously for sustainable development to achieve its maximum potential (Mensah, 2019).

Ha-Brookshire (2015) introduces the moral responsibility theory of corporate sustainability and sustainable supply chain. She argues that corporates are persons and as such they should always adopt moral practices within their business decisions. She argues that in doing so, the individuals within those corporations who implement policies and procedures must behave in a sustainable manner as well. She also states that corporate sustainability is a long-term objective for a corporation. Further that a corporation must have well defined structures and it must view sustainability as its perfect duty, for it to be fully sustainable.
Additionally, to achieve a sustainable supply chain, she argues that the entire members of the supply chain process must view sustainability as a perfect duty (Ha-Brookshire, 2015). Van-Durren, Platinga & Scholtens (2015) undertook a review of how United States and European assets managers have incorporated the environmental, social and governance factors into the investment frameworks (Van-Duren, Platinga & Scholtens, 2015). The authors were able to conclude that most of the United States and European investment managers utilize environment, social and governance information in their investment procedures. They argue that the implementation of environment, social and governance principles requires a lot of strategic organization. This is because the irregular control of the environmental and social angle may negatively impact the ability of a firm to perform its business. Further and just like Mensah (2019) noted, the authors also note that the asset managers prefer to apply the environment, social and governance principles together other than in their exclusion. They also note that environmental, social and governance investors consider their investment more like a proper business activity than activism to improve the world (Van Durren, Platinga & Scholtens, 2015).

Puaschunder (2016) attributes the increasing demand to apply social responsibility in economic markets to globalization as well as the trends in the social and political arena. She introduces the concept of financial social responsibility which she states is the factoring of corporate social responsibility in the investment decision making. She argues that socially responsible investment is a philosophy that puts together the economic value maximization with the social aspirations. She further notes that the increased financial social consciousness as well as the regulatory rebirth in the finance sector will help to boost the prosperity of socially responsible investment. This kind of investment also creates a space for the investors to have trust in the markets once again following the aftermath of the 2008/2009 global financial crises (Puaschunder, 2016).
Schaltegger et al., (2016) argue that business activities are the root cause of numerous environmental and social problems and a major concern for sustainability. They also acknowledge that on the same breath, some key leading corporates are key implementers of sustainable development. They introduce the concept of sustainable business models which they indicate are the models that factor in the full life cycle of a product and ensure that the products have minimal impact to the environment. They also highlight on sustainable entrepreneurship which they consider to be the establishment of outcomes, mechanisms or solutions that improve life quality and reduce negative impact to the environment.

In addition, they bring out strongly the fact that innovation of business models is key to achieve sustainability transformation. (Schaltegger et al., 2016). Greenberg (2013) introduces sustainability. She states that to understand sustainability, it is critical to first understand whose sustainability one is seeking to achieve. This leads her to introducing various forms of sustainability that she considers critical for achievement. These include eco-oriented sustainability, justice-oriented sustainability, vernacular sustainability and market-oriented sustainability. In doing so, her argument is that there are multiple sustainability all competing for attention. Hence the need to zero in into a more specific sustainability to achieve maximum benefit (Greenberg, 2013).

Moliterni (2018) takes a similar path to Van-Durren et al. (2015) which seeks to establish the entrenchment of sustainable practices in the investment decisions. He establishes that asset managers have succumbed to media pressure to consider carbon intense clients and products in their portfolios. This has led them to appreciate the seriousness of climate change related risks and the change to an economy that is sustainable. To this, the author states that the asset managers need to engage in sustainable relationships with their clients.
The other important issue introduced by Amartya Sen as discussed in the work of Shijja (2018), is on the capability approach. He emphasizes on an individual’s opportunity to create value in a society over and above the economic value. Further that the extent to which an individual can create value depends on the available opportunities and freedoms to pursue such opportunities. If there are issues curtailing such pursuit of opportunities then the extent to which an individual can achieve the capabilities is thus limited to a great extent (Shijja, 2018).

On the other hand, Liang & Renneboog (2020) introduced corporate social responsibility which they defined as corporate practices that incorporate the environmental, social and governance principles. They brought out an important point on reporting of the said practices as part of corporate social responsibility. They indicated that this was what helped investors and shareholders to appreciate the extent of implementation of environmental, social and governance as part of corporate social responsibility by the corporations. They appreciated that despite the existing literature on corporate social responsibility and environmental, social and governance, the topic continued to evolve over time with the focus slowly shifting towards the commercial benefit of applying such practices as opposed to whether firms should incorporate these principles (Liang & Renneboog, 2020). In contribution to this discussion, Coleton et al. (2020) noted that banks had begun recognizing the sustainability risk owing to the pressure from investors, clients and shareholders. This largely motivated banks to incorporate sustainability risk mitigation and management frameworks. (Coleton et al., 2020).

According to the results of the survey, they were able to pick out that some banks are taking sustainability initiatives beyond corporate social responsibility into the core of their businesses. The authors also noted that some banks have begun treating climate risk as part of their financial risks as opposed to just treating it as part of reputational risk (Coleton et al., 2020). Further, they acknowledged that the financial regulators had conducted similar surveys that arrived at the same conclusion.
They gave the example of the UK Prudential Regulation Authority which noted a change in approach by banks where they now viewed climate as a financial risk and not just as part of corporate social responsibility. Despite the strong strides taken by banks in sustainable finance, the authors noted through their survey that banks experienced challenges with the said implementation. The most cited reasons were lack of proper understanding of climate change risks and lack of proper regulatory guidance on the subject (Coleton et al., 2020).

In view of the above scholarly dispositions on the sustainability development concept, the environment consideration is a key component of sustainable development. It is also evident from the brief background of the evolution of the sustainable development goals, climate change is at the center of the said global goals and world leaders have made pertinent commitments to tackle the climate risks across the world. The other important factor that comes out is the need to incorporate environment decisions while making economic decisions such as investment and financial among others.

In coming up with investment and financial solutions it is always important to factor in the environmental factors. Majority of the authors agree that most business decisions are the main contributors of the environmental and social problems that the countries all over the world are facing. Humans have been noted to be at the center of the three pillars of sustainable development and are the implementers of such development and most critically to guard the environmental degradation which poses climate risks. Currently the global goals have been crystallized into 17 sustainable development goals (United Nations, n.d.) and these have been singled out as a global priority that must be met within the set timeframe.
From the above discussion, it is evident that Sustainable Development stems from the global commitments/norms agreed to by countries across the world to achieve sustainable development goals under which climate action falls. On the other hand sustainable finance is voluntary and has stemmed from the good will of some sectors to practice the same. These sectors have demonstrated leadership by developing sustainable principles and have influenced other sectors through their practice of the said principles, to also adopt them.

This agrees with Moliterni (2018) who confirms that climate risks alleviation should go together with the wider sustainable objectives. Doing so will ensure the environment becomes a habitable place, resources and lives are reserved for use by the current and future generations which is the main aim of the sustainable development. This is where the commercial banks in Kenya come in to supplement the efforts of the government in achieving the carbon emission reduction through the capital they provide to all sectors that are non-carbon efficient. As Mensah (2019) has confirmed that all people and entities have a place to actively participate in this just course. It also creates a case for the commercial banks in Kenya to consciously abandon the tradition financing and adopt green and climate financing in this important agenda noting that they are the largest capital providers to the economy.

It also clearly demonstrates that commercial banks as persons have the opportunity to create value from a human development perspective over and above the economic value. This opportunity stems from the fact that banks can participate in climate change financing to improve human development. Further that, where the commercial banks fail to supplement the efforts by the Government, it is highly unlikely that the nationally determined contributions for Kenya will be achieved. This will create a crisis as the carbon levels will continue to escalate and Kenya will fall behind its global commitments. This may lead to other consequences including a strain in international relations which may significantly impact Kenya. It may be viewed as a not so good partner in achieving global targets and
this will be a reputational risk. Besides the strain in international relations, Kenya may continue to face extreme environmental disasters resulting from global warming and this may be disastrous for Kenya’s economy and habitat.

In this regard, the sustainable development concept is an important foundation for this research. It anchors this research to demonstrate how by commercial banks Kenya participating in the climate action, they will in turn be supporting the achievement of sustainable development. This is for the reason that it acknowledges climate action as an important target within the concept. It exposes climate action as a number of practical activities that are aimed at ensuring the carbon emissions to the environment are controlled within the agreed minimum levels. It also demonstrates the global effort in tackling the emerging issues as part of the Sustainable Goal 17 which advocates for development of global partnerships in the implementation of these goals. If climate change action was not as important it surely would not have made it as part of the goals.
CHAPTER THREE: RESEARCH METHODOLOGY

3.0. Introduction

This chapter describes the methodology adopted in this research. It specifically discusses the research design, the population that the study focused on and how it was determined, the exact sample size utilized and why, the nature and form of the data collection methods applied, the strategies applied to analyze the collected data and concludes with the ethical considerations.

3.1. Research Method

Broadly, this research adopted mixed methods. These included both the qualitative and quantitative, to answer the research questions. The reason for applying these methods was to ensure the information obtained is both primary and secondary to achieve the maximum intended effect. The qualitative method was utilized to answer question one and two and the quantitative method was applied to answer the third research question.

3.2. Research Design

This research applied the case study of commercial banks in Kenya to answer research questions. There are thirty-nine (39) registered commercial banks in Kenya. In this regard, the study focused on twenty five (25) banks. This was specifically the head offices located in Nairobi, Kenya of the said banks, as that is where the relevant persons are located. The selection of the banks was based on their peer group (large, medium and small), market share and asset base as defined by the Central Bank of Kenya in the annual supervision report for 2020 (CBK, 2020).
The list of the specific banks is as per appendix 1. This is a fraction of the total population of banks to narrow down the scope and present more refined and extremely relevant data noting the limitation of time. Therefore, to analyze the implementation of green and climate finance by the sample banks, the researcher utilized all the areas specified in the green and climate finance measurement matrix indicated under point 2.1.3 on pages thirty four and five above.

3.3. Sampling Method

The researcher utilized the convenient sampling method to select the representatives from the twenty-five (25) commercial banks in Nairobi, Kenya. This represented 64% of the total commercial banks in Kenya. This enabled the researcher to conveniently select the respondents guided by the research objectives. This way the researcher was able to receive relevant and targeted information for the research. Additionally, owing to the time constraints experienced in conducting research, the researcher preferred this method.

3.4. Data Collection Methods

This research used the following qualitative data collection methods; documentary analysis, online/telephonic interviews as well as observation. Documentary analysis included a review of the annual reports of the twenty-five (25) selected banks as well as review of the available written content on the website in relation to their products, policies client segments, sustainability initiatives related to climate change as well as the Central Bank of Kenya’s annual supervision report for the year 2020, among other relevant material that was available. The researcher also conducted one expert interview with officers of the twenty five (25) selected banks. The persons were people with the requisite knowledge on product development, portfolio management, sustainability, credit risk management, compliance, monitoring and reporting among other areas that the research sought to obtain information on.
Further, the interviews were structured, making use of closed ended questions guided by the matrix of areas to be examined by this research for example; the existence of green products, policies advising on green financial and non-financial solutions, carbon dated reports showing the spread of the carbon emissions per portfolio held, reporting on green financial solutions, among others. The semi-structured interviews allowed the interviewer to probe further for more information where necessary. The nature of the questions were informed by the secondary data collected before conducting the interviews. The sample questions utilized are attached to this research as appendix 2. In a bid to independently assess the responses provided by the participants from the commercial banks, the researcher also interviewed one official from the list of participants stated in appendix 1 table 2. In answering the third research question, the researcher utilized observation research specifically, semi-structured observation utilizing the sample observation guide under appendix 2.

3.5. Data Analysis Techniques

The research applied qualitative data analysis method specifically the thematic analysis method. In applying this method, the researcher followed three steps. The first step included categorization of data through manual open coding to package it in more sensible format. The second step included identifying the emerging themes from the data collected. This mainly included a comparative analysis between the secondary data collected and primary data collected. The last step included packaging the data in a summary format connecting the findings to the research questions and objectives.
3.6. Ethical Consideration

In conducting the research, the researcher ensured to uphold and apply ethical principles. This included obtaining consent from the research participants prior to interviewing them as well as informing them the purpose of the interview and the research. The researcher ensured not to disclose the names of the participants but instead utilized created names in order not to reveal their identity. The researcher informed the researchers that the research is unpaid as well as the overall benefit of the research to the banking industry and to the individual participants if any. The most important and key point was to disclose to the participants the area of study including the disclosure that it is for academic purposes which may ultimately influence policy development. This disclosure also entailed the relevant information about the researcher.

The research only utilized data obtained from individuals above the age of 18 years. Most importantly the researcher ensured to obtain prior, all the relevant authorization for conducting the research and avoided plagiarism at all costs. The researcher ensured to keep the data confidentially and to store the same in a secure place where its access cannot be compromised. The researcher avoided disclosing the results of one bank with another so as to maintain integrity of the data. During secondary data collection, the researcher ensured to seek authorization to access nonpublic information or sites.

For the primary data, the researcher ensured to inform the participants and receive their consent where information was being recorded prior to the recording or where notes on important information are written down. The researcher made all the relevant preparations beforehand including mapping the contact list as well as analyzing ways of negotiating access and leaving the field. This also included proper time management to avoid overstaying in the field which might lead to over saturation.
During the field visit, the researcher upheld the highest level of professionalism and avoided any unethical conduct by all means to secure the integrity of the research. The researcher conducted the research during working hours as agreed with the participants as well as constantly consulted the supervisor during the research. Further, templates of the debrief form, the confidentiality agreement, the informed consent, the Institutional Review Board Approval as well as the research license from the National Commission for Science, Technology and Innovation are attached herein as appendix 3, 4, 5, 6 & 7 respectively.
CHAPTER FOUR: RESULTS AND FINDINGS

4.0. Introduction

This chapter provides a summary of the primary and secondary data collected in response to the research questions. It begins by providing a description of banks based on the selection criteria defined under the design and methodology chapter. It then proceeds to discuss the results obtained under each research question.

4.1. Divergences in the Extent of Entrenchment of Green and Climate Financing Considerations by the Commercial Banks in Kenya

4.1.1. Description of Data Collected & Banks

The researcher began by reviewing the 2020 annual reports, the 2020 financial statements for the banks that have not prepared an annual report, the website section on products and sustainability for the said banks as well as the 2020 Central Bank of Kenya (CBK) annual bank supervision report and other available information on the same. The review was guided by the assessment matrix highlighted on page thirty four and five under paragraph 2.1.3. The secondary data review was conducted for the twenty five (25) banks specified under appendix 1 table 1. The peer group is segmented into large, medium and small. Out of the twenty five (25) banks, eight (8) were in the large peer group, six (6) medium and eleven (small). Further, all the said banks are regulated by the Central Bank of Kenya as well as the Capital Markets Authority for the participants listed at the Nairobi Stock Exchange in Kenya.

The secondary data was supplemented by primary data collected through interviews conducted on one official from each of the banks and independent sources specified under appendix 1 table 1 and 2 respectively. The nature of
questions asked are also highlighted in appendix 2. The participants were conveniently selected and they included bank officials within the head office branches located in Nairobi, who have knowledge on product and sustainability matters of the bank who ranged from compliance officers, risk officers, credit officers, as well as sustainability managers. For triangulation purposes the researcher interviewed one official with relevant knowledge of the research areas from the independent sources listed in appendix 1, table 2. These were a mix of the relevant regulatory authorities, associations as well as development finance institutions. The researcher also conducted a site visit on one of the firms to collect data for the third research question.

Question one sought to examine the divergences in the extent of entrenchment of climate and green financing considerations by the commercial banks in Kenya. Question two sought to interrogate the drivers or impediments of adoption of green and climate finance. Question three on the other hand sought to examine firm level adoption of green finance. In this regard, below is a tabular illustration of the results under question one and a tabular summary of the themes and sub-themes identified. It is then followed with a discussion summary of the results accompanied by a discussion of the subthemes identified.
Table 1- Summary Results of Responses as per the Assessment Matrix

<p>| Bank                              | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| Green Product loans              | ✓ | ✓ | x | ✓ | ✓ | x | x | x | x | x | ✓ | x | ✓ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Carbon offsetting activities     | ✓ | ✓ | x | ✓ | ✓ | x | x | x | x | x | ✓ | x | x | x | x | ✓ | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Monitor &amp; evaluation of climate risks | ✓ | x | x | x | ✓ | x | x | x | x | x | ✓ | x | x | x | x | x | ✓ | x | x | x | x | x | x | x | x | x | x | x | x |
| Policies and Procedures on Green finance | ✓ | x | ✓ | ✓ | ✓ | ✓ | x | x | x | x | ✓ | x | x | x | x | x | ✓ | x | x | x | x | x | x | x | x | x | x | x | x |
| Training                         | ✓ | x | x | x | ✓ | ✓ | ✓ | x | x | x | ✓ | x | x | x | x | ✓ | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Disclosures of green finance     | ✓ | ✓ | x | ✓ | ✓ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Commercial and environmental benefit of green finance | ✓ | ✓ | x | ✓ | ✓ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Public Private partnerships through green finance | ✓ | x | ✓ | ✓ | ✓ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Climate Finance funds (e.g. Green Climate) | ✓ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |</p>
<table>
<thead>
<tr>
<th>Fund) accreditation</th>
<th>Climate finance reporting</th>
<th>Adoption of the qualification practices described by Green Climate Fund</th>
<th>Policies on climate finance</th>
<th>Public Disclosures on climate finance</th>
<th>Commercial and environment benefit of climate Finance</th>
<th>Public Private Partnerships through climate finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>×</td>
<td>×</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>
### Table 2: Summary Results of the Themes Derived

<table>
<thead>
<tr>
<th>Interview Question</th>
<th>Code</th>
<th>Quotes</th>
<th>Sub themes</th>
<th>Dominant Themes</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you practicing any of the aspects of green finance? What is the extent of entrenchment?</td>
<td>Transition</td>
<td>We are supporting organizations (through funding) in transition and identifying workable banking solutions</td>
<td>Agnosticism</td>
<td>Agnosticism</td>
<td>Around the globe, different commercial banks, international, regional and local have embraced the practice of green finance and are demonstrating leadership in this area .......... Further, other financial institutions such as the Deutche Bank, Hong-Kong Banking Corporation and BNP Paribas among others are reported to have aligned their company standards and procedures to allow for the implementation of green financial solutions (Akomea-Frimpong et al, 2021).</td>
</tr>
<tr>
<td></td>
<td>Partnership with a solar firm</td>
<td>“No” “We haven’t considered this yet.” “Work in progress.” “N/A at this point in time.” Green financing is being handled at our group office. It is at tail end of being embedded in our credit process.</td>
<td>Partnership</td>
<td>Ignorance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Report</td>
<td>“The green energy financing product.” “Not at the moment” “The bank is in the process of developing a policy on the same.”</td>
<td>Governance</td>
<td>Porous</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work in progress</td>
<td>“Yes, the Bank had a Green Loan product before the introduction of interest capping...” “We have partnered with a solar firm to assist our high carbon emitters to transition into a renewable and affordable energy pathway.” “Not yet.”</td>
<td>Technology</td>
<td>Green Taxonomy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Policies</td>
<td>“We haven’t considered this yet.” “Work in progress.” “No.” “We have partnered with a solar firm to assist our high carbon emitters to transition into a renewable and affordable energy pathway.” “We monitor our internal activities from a carbon emission perspective e.g. solarizing branches and plans are underway to use electronic vehicles for taxi services.” “The bank is in the process of developing a policy on the same.” “Not at the moment.” “N/A at this point in time.”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>online training</td>
<td></td>
<td></td>
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</tbody>
</table>

From a global perspective, multilateral financial institutions were also noted to participate in green finance. A classic example is the implementation of the first green bonds by the European Investment Bank and the World Bank. Initially this bond market was dominated by the multilateral development banks however this has continuously changed with notable diverse issuers (International Finance Corporation, 2016).

The other way international green finance was being evidenced was through the practice of green banking by the commercial banks which massively practices green finance. This involved internal mechanisms geared towards energy saving as well as external elements which are largely advised through client engagements such as product implementation (Konduyukova & Shershneva, 2020).

Okumu (2014) joined the conversation by introducing the concept of green banking and she noted that green banking increases financial performance. Her focus was more on green banking as opposed to green finance and used the terms interchangeably without distinguishing the two. Green banking as she described goes beyond green finance as it includes incorporation of environmentally friendly activities e.g.
| Do you prepare a report on all the activities undertaken by your bank regarding carbon offsetting? | “We do portfolio reviews which are ongoing…”  
“We will have our first sustainability report released next year. It is currently embedded in the integrated annual report. There is merit in public disclosure of the reports in our opinion.”  
“No.”  
“We haven’t considered this yet.”  
“Still work in progress.”  
“N/A at this point in time.”  
“In consideration.”  
“Yes”  
“We have a quarterly report on this for Bank activities. We have a scorecard on the same. This year we have a target of 30% carbon emission reduction this year. E.g. do have a sustainability report.”  
“No”  
“None.”  
“We have undertaken a carbon emissions inventory for our energy consumption, transport and printing paper usage” | Berensmann & Lindenberg (2016) also participated in this discussion of implementation of green finance. They noted from their studies that the existing financial environment has largely been encouraging short term goals and hence there is a gap for long term and sustainable solutions and the gaps need to be closed as a matter of priority. The authors agreed with Kapadia (2021) and Akomea-Frimpong et al. (2021) that the financial and regulatory environment has not mandated banks in most of the countries around the world, to report and share among each other information on environmental risks, save for China and Peru (Berensmann & Lindenberg 2016). They acknowledged that banks were an important part of the international economy as they account for a significant share of the assets globally (Berensmann & Lindenberg 2016). |
| --- | --- | --- |
| Some banks have adopted policies and procedures on Green finance. Is your bank considering or has it adopted such policies? | “We have a number of policies e.g. on sustainability reporting. We also have standards related to sustainable finance e.g. coal finance. We intend to develop more.”  
“Yes, we have adopted the same.”  
“The Bank has already formulated an Environmental, Social and Governance (ESG) policies that provides guidelines for implementing Green finance.”  
“The Bank is currently at the drafting stage before approval by the Board Risk Committee and Main Board for adoption.”  
“Yes”  
“The bank is in the process of developing policies and procedures on the same.”  
“Yes, we have adopted the same.” | Not mentioned by scholars in the literature review |
| The training you conduct on the staff, in your assessment, is it having an impact in the implementing? | “The Board and Management are being trained on this subject on a regular basis. The trainings are having an impact because the Board and Management are now aware of this emerging issue. The trainings are online. The facilitators are external since the bank still does not have in-house expertise on the subject.”  
“No”  
“We haven’t considered this yet”  
“No Comment”  
“We do conduct training for staff. E-Learning and we also invite consultants. 6000 staff trained. It does have an impact from our assessment.” | Not mentioned by scholars in the literature review |
Are there any Public Private partnerships that your Bank has participated in from a green and climate finance perspective?

Yes. We have partnerships with various organizations promoting use of solar products and also improved cook stoves. This has reduced the carbon emissions to the environment especially in rural areas.”

“We haven’t considered this yet”

“Yes. We are doing affordable housing project in partnership with the government as one of the financing partners. The houses are IFC edge certified…”

“Yes. But it is being handled from our Group Office”

“No.”

“No comment”

“No. We have not had an opportunity to partner yet.”

“We have PPPs in place e.g. urban housing- green building (ongoing). They are demand driven.”

“The bank has not yet participated in any green and climate finance Public Private Partnerships.”

Not mentioned by scholars in the literature review

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Objective 2

Existing Drivers or Impediments to the Application of Green and Climate Finance by Commercial Banks in Kenya

Drivers

<table>
<thead>
<tr>
<th>What is your entity’s motivation for green and climate finance adoption and reporting?</th>
<th>International best practice</th>
<th>Global conversations.</th>
<th>Market best practice.</th>
<th>Partnerships</th>
<th>Compliance</th>
<th>Sustainability</th>
<th>Knowledge gap</th>
<th>……… In their conclusion they argued that some banks had abandoned the financing of coal and fossil fuels whereas there are some banks in the United States and Australia that continue to finance coal and fossil fuels. This is clear evidence that there was no commonality in the practice of green finance or even standards to guide such implementation, across the globe. They noted from their research that studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internationa</td>
<td>&quot;We are members of the UNEP FI. Our benchmark is global so more of global market best practice.”</td>
<td></td>
<td></td>
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<tr>
<td>best practice</td>
<td>Customers and shareholder awareness and interest as well.”</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Customer Demand</td>
<td>Partnerships</td>
<td>Compliance</td>
<td>Sustainability</td>
<td>Knowledge gap</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;International best practice&quot;</td>
<td>&quot;Global conversations.&quot;</td>
<td>&quot;Market best practice.”</td>
<td>Partnerships</td>
<td>Compliance</td>
<td>Sustainability</td>
<td>Knowledge gap</td>
<td>……… In their conclusion they argued that some banks had abandoned the financing of coal and fossil fuels whereas there are some banks in the United States and Australia that continue to finance coal and fossil fuels. This is clear evidence that there was no commonality in the practice of green finance or even standards to guide such implementation, across the globe. They noted from their research that studies</td>
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<td>Social responsibility</td>
<td>“The need by banks to support sustainable projects as part of their social responsibility and customer led demands.”</td>
<td>Legislation gap</td>
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<td>Regulator y pressure</td>
<td>“Customer led demands.”</td>
<td>Luxurious</td>
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<tr>
<td>Affiliation</td>
<td>“Reporting in future (June 2022) will not be voluntary but mandatory as per CBK’s Climate Risk Management work plan. Banks will be expected to undertake green and climate finance adoption and financing.”</td>
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<tr>
<td>Cost conscious ness</td>
<td>“Reporting on climate finance is now a regulatory requirement.”</td>
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<td></td>
<td>“Over and above compliance with the CBK regulations, the adoption and reporting is voluntary as the Bank is much centered on sustainability and safeguarding of the environment for future generations and climatic impact as well.”</td>
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<td>“It is currently primarily driven by compliance.”</td>
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<td>“IS2 has issued a clear Guidance Note on the steps that an issuer should take in raising capital through this route.”</td>
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<td>“The motivation has been based on directives by the CBK.”</td>
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<tr>
<td>Corporate responsibility</td>
<td>“............the adoption and reporting is voluntary as the Bank is much centered on sustainability and safeguarding of the environment for future generations and climatic impact as well.”</td>
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<td></td>
<td>“To reduce on carbon emission and rise in global temperature”</td>
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<td></td>
<td>“Ensuring we have a sustainable financing culture.”</td>
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<td>“............However, we see an opportunity to impact both the society and our bottom line positively. Therefore, there is a secondary driver – impact lending.”</td>
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<td></td>
<td>“............The need by banks to support sustainable projects as part of their social responsibility....”</td>
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<td>“By advancing green and climate finance, banks are not only creating long-term value for the environment but are able to avoid obtaining stranded assets (depreciated assets – in this case, devalued as a result of the effects of climate change) in their loan portfolios.”</td>
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As a result, investors are continuously gaining interest in climate and green finance to protect against the said climate risks (World Bank, 2020).

According to Akomea-Frimpong et al. (2021), there are several motivations that have led to banks adopting green finance which include the international climate agreements and regulatory guidelines among others. Under the international climate agreements, they argue that the readiness by banks to adopt ecofriendly practices have been strongly motivated by the existing framework on climate change and that the push began significantly immediately after the adoption of the Paris Agreement in 2015 (Akomea-Frimpong et al, 2021).

According to researchers, green financing continues to gain interest among the financial institutions with a bid to abandon in totality the brick and mortar focus on profitability. This is on the basis that the financial industry has a crucial role through risk mitigation and go between activities, in the promotion of sustainable economic advancement. (Cizelj, 2021).

Not mentioned by past scholars.

Legislation gap

| Luxurious |

have been done in Europe and Asia and there was little done on the other continents like Africa (Akomea-Frimpong et al, 2021).
“DFI partnerships”

“It is voluntary but the same has also attracted various DFIs to the bank, how now require us to do various reports on the same.”

“Availability of investors both local and international, who are willing to invest in and support green finance”

“Additionally, Development Finance Institutions are divesting from fossil fuels. This is also motivating banks to innovate and advance green and climate finance”

“To increase financial resources to achieve the carbon transition from a much stronger position”

### Challenges and Impediments of Implementation of Green and Climate Finance of Lack of it

<table>
<thead>
<tr>
<th>What are some of the challenges that your organization has faced while implementing green or climate finance? If not implemented any what are some of the impediments?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expertise</td>
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<td>Insufficient regulation</td>
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<td>Cost consciousness</td>
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<td>Incentives</td>
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<td>Prioritization</td>
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The implementation of green financing has not been seamless with numerous challenges being faced. This includes the lack of a universally accepted definition of what green financing is as well as guiding principles for the classification of green investments (Czelji, 2021). This has been left to interpretation of each country and institutions have sought to approach the same differently with most of the notable common practice.

Kapadia (2021) argues that it is imperative that the financial regulators actively support the financial institutions through monetary and fiscal policies. This support was demonstrated in the first instance by the development of the Network for Greening Financial System, a network of central banks and financial regulators established in 2017 (Kapadia, 2021).

Berensmann & Lindenberg (2016) also participated in this discussion of implementation of green finance. They noted from their studies that the existing financial environment has largely been encouraging short term goals and hence there is a gap for long term and sustainable solutions and the gaps need to be closed as a matter of priority. The authors agreed with Kapadia (2021) and Akomea-Frimpong et al. (2021) that the financial and regulatory environment has not mandated banks in most of the countries around the world, to report and share among each other information.
“CBK has started the conversation and are doing training for banks on the expectations of the recently released Climate Risk Guideline”

“We do have the Climate Change Act and various other regulations.”

“Climate financing is new globally. The legal and regulatory environment is in progress.”

“We are yet to conclusively say that there is an enabling legal and regulatory framework for the carbon emission reduction activities. Probably have another regulation by CBK as a start.”

“Lack of incentives to encourage adoption.”

“The interest rates on the external financing (DFIs financing).”

“Most activities do not have a positive impact on our clients’ business profitability and thus they do not prioritize green or climate finance.”

“As an incentive, we developed awards to recognize banks who are actively leading in sustainable finance practices. This has encouraged banks to see the value in advancing green finance. The recognition has greatly impacted banks’ lending practices.”

“Collaboration with international entities such as FSD Kenya and British High Commission to scale up work on climate finance and especially capacity building, enhancing issuance framework for purposes of implementing recommendations of Taskforce on Climate-related Financial Disclosures (TCFDs) in Kenya.”

“The biggest challenge is transition risk. With an evolving technological and regulatory environment, banks are constantly in a learning curve to ensure the knowledge they have today, is relevant for tomorrow. We support this by constantly developing new modules to keep banks abreast with new regulations and technology on sustainability. Most recently, with the issued CBK Guidance on Climate Related Risk Management, banks have had to learn how to embed considerations on financial risks that emanate from climate change in banks’ Governance structures and adopt disclosure mechanism benchmarking on The Task Force on Climate Related Financial Disclosures. Such new regulations are good but pose as a challenge to Banks to allocate resources and build capacity of staff to comply.”

“Perception that issuing Green Bonds is more expensive than conventional bonds.”

| Not mentioned in the Literature | | | | |
| Not mentioned in the Literature | | | | |

According to a statement issued by the Central Bank of Kenya Governor on 11 May 2021 at the European Union Kenya Green Policy Diplomacy Conference... He also acknowledged the need for the financial sector to do more and for the regulators to step up their participation and guidance towards mitigating the climate risk (Njoroge, 2021).

In support of the regulatory participation, Gelzinis (2021) contributed by stating that there were vast policy mechanisms that the regulators could adopt which included; disclosure rules to induce investors and public understanding of the climate risks being faced by the financial system as well as introduce stronger capital requirements to cover for anticipated climate risks (Gelzinis, 2021).

........They highlighted that to promote these green policies, regulators were providing incentives such as tax breaks and other incentives (Akomea-Frimpong et al, 2021).

Nzau (2015) acknowledged that there ought to be incentives to the private sector to boost their investment to climate change activities (Nzau/ c, 2015)

The financial sector is faced by various risks during its business lifecycle which include transition and credit risks (International Finance Corporation, 2016).

Transition risks are those that attract during the changeover to a low carbon economy whereas the credit to climate change. It has become increasingly important for commercial banks to provide direct financial investments to manage risks that attract from the assets impacted by the adverse environmental effects (Mishra, 2013).

Not mentioned in the Literature
Largely around price differentiation for green products

“The interest rates on the external financing (DFIs financing).”

“Lack of carbon emission measuring metrics”

“Climate finance has until recently not been prioritized because there were more pressing risks and opportunities as the bank was implementing a turn-around strategy. Once the bank has been stabilized, the bank is now turning its focus on legacy initiatives including sustainability of its business activities.”

“View of green and climate finance not being seen as a development issue.”

4.1.2. Implementation of Green Products

Green products include green loans, carbon finance, green mortgages, green bancassurance, transition finance as well as green construction loans. In providing the said products to the market, this significantly provides capital to carbon reduction activities with an aim of reducing the carbon emissions. In regard to implementation of the green products by the banks, only 8 out of 25 banks were noted to have implemented green loans which accounts for only 32%. Five out of the 8 banks are in the large peer group with a large asset base ranging from Kes.290 to Kes.760 billion and large market share ranging from 5% to 14%. All the medium and small banks totaling to 17 were noted not to have implemented green products.
In response to the question; for the carbon intense sectors is your bank doing anything to change that e.g. what are some of the financial and non-financial measures you have adopted to facilitate transition? An officer of bank F in the large peer group stated, “The green energy financing product.” (OBF, personal communication, February, 21, 2022). In addition, an officer from bank O in the small peer group in response to the question; some banks have adopted Green and Climate finance. Is your bank considering adopting the same, stated, “Yes, the Bank had a Green Loan product before the introduction of interest capping...” (OBO, personal communication, March, 3, 2022).

4.1.3. Carbon Offsetting Initiatives

Carbon offsetting initiatives are internal or external activities geared towards ensuring carbon footprint reduction. These activities would range from solarization of operations, printing reduction, avoiding single use plastics among others. From the data collected, only 8 banks out of the 25 were noted to have implemented carbon offsetting initiatives, which accounted for 32% of the sample. Two out of the said banks had actually reported the carbon reduction metric totaling to up to 23% of the overall bank’s operations for one of the banks and up to 108,000 metric tons for the other respectively. These ranged from reduction of printing, energy efficiency and afforestation.

In response to the question; for the carbon intense sectors is your bank doing anything to change that e.g. what are some of the financial and non-financial measures you have adopted to facilitate transition, an officer from bank O in the small peer group stated, “We have partnered with a solar firm to assist our high carbon emitters to transition into a renewable and affordable energy pathway.” (OBO, personal communication, March, 3, 2022). Another officer from bank A in the large peer group, in response to the same question posed to OBO above stated, “We monitor our internal activities from a carbon emission perspective e.g. solarizing branches and plans are underway to use electronic vehicles for taxi services.” (OBA,
personal communication, March, 16, 2022). In addition, the medium and small banks were noted not to have implemented any carbon offsetting initiatives totaling to 68% of the banks.

### 4.1.4. Monitoring, Evaluation & Reporting of Climate Finance

This section involved an assessment of whether the participating banks had put in place governance mechanism which facilitates monitoring, evaluation and reporting framework for climate change financing. In this regard, out of the twenty five (25) banks, only 6 banks were noted to be monitoring, evaluating and reporting on climate finance which accounts for only 24% of the sample size. Further, out of those, 3 out of the total 8 banks are in the large peer group. The 6 banks were noted to be screening their lending transactions against the environmental, social and governance (ESG) criteria. Therefore, 76% of the sample was yet to put in place a monitoring, evaluation and reporting framework.

An officer of bank P in the small peer group, in response to the question; how do you identify and monitor green or climate finance in your bank? Like do you know which sectors are carbon intense? And possibly are there loans you have back out of because of carbon impact concerns, stated, “The bank has implemented an ESMS checklist which all customers seeking credit consideration are subjected to. Further, the bank is guided by the IFC performance standards as our benchmark.” (OBP, personal communication, March, 9, 2022). In addition, an officer of bank E in the large peer group while responding to the same question posed to OBP above stated, “We do portfolio reviews which are ongoing. We are yet to quantify risks from a monetary perspective on the portfolio based on carbon emission. It is possible to support on transition.” (OBE, personal communication, March, 18, 2022).

Policies and procedures which define what green products are, the approvals required for such implementation, the client documentation framework for the said products, client eligibility criteria, as well as product governance and reporting, are crucial for the implementation of green finance. Therefore the researcher under this section sought to understand whether Kenyan commercial banks had deployed such policies. From the data collected, it was noted that 10 out of 25 banks had put in place environmental, social and governance policies. This accounts for 40% of the sample. From the ten banks, six are in the large peer group, 3 in the medium category and 1 in the small peer group.

An officer of bank E in the large peer group in response to the question, some banks have adopted policies and procedures on Green finance. Is your bank considering or has it adopted such policies, stated, “We have a number of policies e.g. on sustainability reporting. We also have standards related to sustainable finance e.g. coal finance. We intend to develop more.” (OBE, personal communication, 18 March, 2022). While responding to a similar question posed to OPE above, an officer from bank O in the small peer group stated, “Yes, we have adopted the same.” (OBO, personal communication, March, 3, 2022). This shows that 60% of the sample banks are yet to implement policies and procedures for the monitoring and reporting of climate finance in their business. However, there was no indication of implementation of separate policies and procedures for green financing and hence no standard criterion is being adhered by the Banks in the implementation of green and climate finance.
4.1.6. Training on Green Finance

In as far as training is concerned, the researcher examined whether the commercial banks in Kenya had created awareness among the staff members of the banks on green financing especially to the product development, sales and credit teams. Such implementation would ensure the said teams have the requisite knowledge while developing products, while selling them to the clients as well as while reviewing appraising client credit application. They would understand the benefit and the ultimate goal of green financing to the environment.

In this regard, the data collected showed that only 8 out of the 25 banks had implemented training programs in relation to environmental, social and governance (ESG) perspective. This accounts for 32% of the sample. There was no evidence of training conducted on green and climate finance save for the aforementioned ESG training. This demonstrated that 68% of the sample banks were yet to implement training programs for green finance. The lack of training programs could be attributed to the lack of implementation of the green products. If the training programs had been implemented then perhaps there could have been a better outcome in the implementation of green products.

An officer of bank X in the small peer group in response to the question; is your entity conducting any training on the staff on green and climate finance? If yes, in your assessment, is it having an impact in the implementation of green and climate finance. It online or classroom? Are the facilitators external and why, stated, “The Board and Management are being trained on this subject on a regular basis. The trainings are having an impact because the Board and Management are now aware of this emerging issue. The trainings are online. The facilitators are external since the bank still does not have in-house expertise on the subject. (OBX, personal communication, March, 6, 2022).
In addition, an officer of bank A while responding to the same question posed to OBX above stated, “We do conduct training for staff. E-learning and we also invite consultants. 6000 staff trained. It does have an impact from our assessment.” (OBX, personal communication, March, 6, 2022).

4.1.7. Public Disclosures on Green Finance

Under this section, the researcher assessed whether the banks had implemented any public reporting of the green financing initiatives in their annual reports, the company’s website or the regulator’s website. Out of the twenty five (25) banks reviewed, only 5 banks had disclosed information about their green financing which accounts for 20% of the sample. They had mentioned projects which they had supported through green finance. All the five banks are in the large peer group and are listed companies.

The other 20 banks (80% of the sample) which are in the medium and small categories were noted not to have reported anywhere on green finance. This can be explained by the fact that as earlier mentioned the said 5 banks were the only ones who were earlier noted to have implemented green loans as one cannot report on what they have not implemented.

4.1.8. Commercial and Environment Benefit of the Green Finance Implementation

This involved an assessment of whether the green finance initiatives have a commercial benefit in regard to revenues as well as if they have a net carbon reduction effect. This helped to determine whether the banks were only generating revenues out of the projects yet they were not accounting for the reduction of carbon emissions by the said projects.
Out of the banks assessed, it was noted that only 5 banks, 20% of the sample, had reported the commercial value of the green finance implemented whereas out of the 5, only 2 had reported the net carbon reduction in metrics. One of the two banks reported a 23% carbon emission reduction whereas the other reported a carbon emission reduction of 108,000 metric tons. The other 20 banks had not provided their statistics from a commercial perspective and not from a net carbon reduction perspective. It was thus evident that 80% of the sample had not reported anything in this respect. This could be attributed to the fact that most medium and small peer group were noted not to have implemented green finance or even internal green initiatives which would result in the net carbon reduction.

4.1.9. Public-Private Partnerships through Green Finance

Public private partnerships are collaboration between the public and private bodies towards the implementation of development activities in varied sectors of the economy. Therefore, the researcher examined the existence of joint initiatives between the commercial banks in Kenya and the Kenya government entities to provide finance for the implementation of green initiatives in Kenya. The initiatives include those that are geared towards the reduction of carbon emissions e.g. railway construction to divert from road transport which is attributed to high carbon emission, generation and distribution of solar and hydro energy to avoid other forms of energy production that are attributed to high carbon emissions such as fossil fuels.

In this regard, from the banks assessed, it was noted that only seven (7) of them had implemented public private partnerships on financing solutions that are green. This accounts for 28%. An officer of bank S in the small peer group, while responding to the question; Are there any Public Private partnerships that your Bank has participated in from a green and climate finance perspective? If yes, what are some of the benefits to the revenue and environment? If no, please elaborate why. E.g. in transportation, distribution of clean energy, affordable housing
agenda, stated “Yes. We have partnerships with various organizations promoting use of solar products and also improved cook stoves. This has reduced the carbon emissions to the environment especially in rural areas.” (OBS, personal communication, March, 2, 2022).

On the other hand, an officer of bank E while responding to the same question posed to OBS above stated, “Yes. We are doing affordable housing project in partnership with the government as one of the financing partners. The houses are IFC edge certified…” (OBE, personal communication, March, 18, 2022). In this regard, it was clear that seventy two (72) percent of the Banks are yet to participate in the public private partnerships.

### 4.1.10. Trends in the Divergences in Entrenchment of Climate Finance

#### Table 3- Summary of the Findings on Implementation of Climate Finance

| Bank                      | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| Extent of knowledge of climate finance and the accreditation by the climate funds such as the Green Climate Fund | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Adoption of the qualification practices described by the Green Climate Fund | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Climate finance reporting | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Existence of policies and procedures on climate finance | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Public disclosures on climate finance | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Commercial and environment benefit of the climate implementation | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Public-Private partnerships through climate finance | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
The assessment in this section included checking through the areas of implementation of climate finance against the assessment matrix documented on paragraph 2.1.3 on pages 34 and 35 above. As earlier defined, climate finance is the activity of onward lending monies received from the established multilateral funds (e.g. Green Climate Fund, Adaptation fund, Global Environment Facility among others) with the mandate of distributing funds received from the developed countries to the developing countries, as mandated under the various climate change frameworks. In order to take part in the onward lending, the commercial banks in Kenya must receive accreditation from the said multilateral funds.

From the analysis of the data collected, it was evident that out of the 25 banks only 2 banks had received accreditation from one of the existing multilateral funds, the Green Climate Fund. This amounts to 8% of the banks assessed. The 2 banks were in the large peer group. The said participant banks had also reported on their website and in their 2020 annual reports the climate funds they had received from the Green Climate Fund. They however have not indicated the statistics of onward lending of such funds hence it was not possible to determine the commercial and environment benefit of the initiatives.

By virtue of receiving the accreditation, it was evident that the 2 banks had met the pre-conditions set by the Green Climate Fund for such accreditation. In regard to policies and procedures on climate finance, these were not in place for the 2 banks. There also was no evidence of any public private partnerships with the between the 2 banks and the government on any climate finance initiatives.
The other 23 banks which accounts for 92% of the sample, had a nil entry on all the assessment areas of climate finance as per the earlier highlighted criteria. This therefore shows that a majority of the commercial banks in Kenya were not implementing climate finance.

4.1.11. Emerging Themes from Data Analyzed Under Question One

Going by the above summary and the data analyzed, there were three main sub thematic areas that the researcher was able to derive. These include; agnosticism, governance and technology. The researcher initially had six codes before crystallizing them into three sub themes. The codes included; transition, partnership with a solar firm, report, work in progress, policies, online training, partnership an online training.

In relation to agnosticism, this is willingness of a person to undertake a particular activity. From the data collected, it was noted that majority of the commercial banks were yet to implement green and climate finance. Their use of the words “not yet in response to the areas of assessment, was construed to mean they were not presently undertaking green and climate finance, however this is something they were putting into consideration for future adoption. It thus showed they were open to the adoption of green and climate finance. In addition, seeing none of the banks had implemented all the areas of assessment, even those with some areas of implementation were committing to full implementation in future. This thus showed there was hope in as far as the adoption of green and climate finance.

In support of the above from the literature review, Akomea Frimpong et al. (2021) had in their contribution noted efforts made by commercial banks across the world in embracing green finance and the fact that the said banks were aligning their company standards and procedures to allow for the implementation of green financial solutions (Akomea-Frimpong et al, 2021).
On the other hand agnosticism can also be construed to mean that the banks had completely shied away from climate change financing. That they were not considering the same as a priority or even that they lacked interest in the topic. This was evident from their responses majority which were “no” to many areas of the assessment especially on climate finance. Those implementing seemed comfortable with the voluntary sustainable finance and were not really warm to climate change financing going by the data. Some banks even had nil entries in majority of the areas of assessment clearly signifying their disinterest.

Governance was the other sub-theme noted and it is the activity of ensuring there are in place mechanisms to guide and ensure transparency and accountability in the implementation of a particular action. Therefore, the data collected showed the existence of policies and procedures in some commercial banks in Kenya. These were aimed at ensuring good governance of the climate change financing and providing step by step guidance on the implementation of climate change financing. It could also be construed that the commercial banks were not haphazardly implementing climate change financing but were doing so in a controlled environment. They were being deliberate as to how they would like their implementation to look like and which steps were to be adhered to for successful implementation. In so far as the literature was reviewed, the theme of governance did not arise and hence this is an emerging theme.

The final sub-theme identified was technology. This includes utilization of the internet of things to perform a particular activity. Therefore, it was noted that banks were conducting their knowledge transfer on climate change financing, through online platforms. The banks that confirmed to be implementing the said trainings, also indicated the trainings were scalable and effective. This thus showed that banks can leverage on technology to increase the
knowledge on climate change financing and this will in turn improve the demand from their clients as well as the technical expertise of their clients going by the statistics noted from the research.

Now that technology has proved to be effective they could also explore other ways they can use technology to efficiently scale climate change financing. Notably, this is something the literature reviewed, was silent about.

### 4.2. Existing Drivers or Impediments to the Application of Green and Climate Finance by Commercial Banks in Kenya

In this section, the researcher sought to understand the impediments of implementation of green and climate finance by the sample commercial banks in Kenya as well as the motivations or drivers of implementation for the banks already implementing green and climate finance. The question was posed to all the banks despite their extent of implementation of green and climate finance as well as the independent participants.

#### 4.2.1. Drivers for the Implementation of Green and Climate Finance

Below is a tabular summary of the percentage results of the responses followed by a detailed analysis of the responses:

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>1. Corporate Social Responsibility &amp; Sustainability</td>
<td>15.6%</td>
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<tr>
<td>2. Affiliations/Partnerships</td>
<td>15.6%</td>
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<tr>
<td>3. Regulatory Pressure</td>
<td>12.5%</td>
</tr>
<tr>
<td>4. Global Best Practice</td>
<td>12.5%</td>
</tr>
<tr>
<td>5. Customer and Shareholder demands</td>
<td>6.3%</td>
</tr>
</tbody>
</table>
• Global Market Best Practice

To answer this question, the researcher was guided by an interview guide which among others sought to determine what motivated the banks to implement green finance. The researcher noted from the responses provided by 12.5% of the banks, that global market best practice was one of the drivers towards implementation of green finance. In support of this, an officer from bank F in the large peer group, responded to the question, some top banks still do not have policies and Procedures on Green finance. What propelled you to adopt these, by stating one of the reasons as, “International best practice” (OBF, personal communication, February, 21, 2022). In response to the similar question posed to OBF above, an officer from bank A stated one of the reasons as, “Global conversations.” (OBA, personal communication, March, 16, 2022). Further, an officer from one of the independent sources, IS1, responded to the similar query posed to OBF and OBA above and stated, “Market best practice.” (OIS2, personal communication, March, 18, 2022).

• Shareholder and Customer Demands

The push from the clients and shareholders to adopt climate change financing was indicated as a driver by 6.3% of the respondents. In response to the question on what is your entity’s motivation for green and climate finance adoption and reporting, an officer from bank E, in the large tier category, stated, “…Customers and shareholder awareness and interest as well.” (OBE, personal communication, March, 18, 2022). On the other hand, an officer from one of the independent sources, IS2, also responded to a similar question posed to an officer of bank E and stated, “The need by banks to support sustainable projects as part of their social responsibility and customer led demands.” (OIS2, personal communication, March, 18, 2022).
• **Regulatory Pressure**

The other key driver indicated by 12.5% of the respondents was regulatory pressure. This is the persistent push by the existing legal and regulatory authorities for commercial banks to implement the existing climate change framework. In response to the question what is your entity’s motivation for green and climate finance adoption and reporting, an officer from bank Z, in the small peer group, stated, “It *is currently primarily driven by compliance...*” (OBZ, personal communication, March, 2, 2022).

Despite the existence of these frameworks, one which has been recently rolled out, some of the banks indicated their approaches were largely voluntary having begun their implementation prior to the roll out of such guidelines. To support this, an officer from bank P, in the small peer group, responded to the question; what is your entity’s motivation for green and climate finance adoption and reporting. Is it voluntary, by indicating, “*Voluntary.*” (OBP, personal communication, March, 9, 2022).

In view of the above summary, compliance was noted as an emerging sub-theme from the data analyzed. This showed that commercial banks were on a path to ensure compliance with the existing standards set by the regulators as one of the drivers for implementation of climate change financing. It further showed they were no longer considering such implementation as voluntary as was the case earlier. It could also be construed to mean they were merely doing it because they were under scrutiny from the authorities. Whereas they complained about the gaps in the existing framework, they were still implementing it to perhaps avoid sanctions from the said authorities. It was also not evident whether they were making efforts to push for reforms to the framework even through their umbrella bodies.
Instead they were just implementing silos with their own interpretations of the framework. In unclear situations, they were supplementing that gap with best practices borrowed from their international financial partners.

From a literature perspective, Akomea-Frimpong et al. (2021) in their work supported this theme of compliance in their work. They argued that the willingness by banks to implement green initiatives, had been strongly facilitated by the existing framework on climate change (Akomea-Frimpong et al, 2021). Therefore, this can be construed to mean if there was no framework, the accelerated implementation of climate change financing would not be felt presently.

- **Corporate Social Responsibility**

On the other hand, 15.6% of the banks indicated that the motivation to implement green and climate finance was the corporate social responsibility aspect. This is the ability of a company to do well for the society over and above it profits obligation. Hence the said percentage of banks believed that their participation in the climate action results in the improvement of the environment. An officer from bank L, in the middle peer group, in response to the question, what is your entity’s motivation for green and climate finance adoption and reporting, stated, “*Over and above compliance with the CBK regulations, the adoption and reporting is voluntary as the bank is much centered on sustainability and safeguarding of the environment for future generations and climatic impact as well.*” (OBL, personal communication, March, 8, 2022).

In response to the similar question posed to OBL above, an officer from bank Z, in the small tier category, stated, “*It is currently primarily driven by compliance. However, we see an opportunity to impact both the society and our bottom line positively...*” (OBZ, personal communication, March, 2, 2022). Lastly, an officer from the independent source IS2 contributed
with their responses to a similar query posed to OBL and OBZ above by stating, “The need by banks to support sustainable projects as part of their social responsibility…” (OIS2, personal communication, March, 18, 2022).

In analyzing the responses provided relating to corporate responsibility, the sub-theme of sustainability strongly emerged. The responses showed that the banks were implementing green financing and internal green initiatives as part of the greater good and not for profit. They were concerned about safeguarding the environment for the sake of the society. Further they were doing so in order to reduce the carbon emissions to the atmosphere which is in line with the climate action targets. This also ties in with the work of Czelji (2021) which noted that financial institutions were abandoning traditional lending which was more profit led and were now also promoting sustainable development (Czelji, 2021).

In as much as they were implementing sustainability, as we earlier noted this is not similar to climate action. Indeed they were doing well for the environment but not as single focus. They were commingling this with other pillars such as social and governance. This can easily distract them from doing well for the environment. It at all they were focusing on carbon emission reduction only, the current statistics of such emission would be reduced. They would also ensure they are tagging their clients along this journey. It can also be seen as an act to appease the community in the guise of doing well so that the community can continue to procure their services and be happy with them. This would in turn run the risk of green washing activities which is a dire misrepresentation.
- **Affiliations/Partnerships**

Finally, the other notable driver stated by a total of 15.6% of the banks was the increase in need for additional financial resources. This has led commercial banks to establish partnerships with development finance institutions for example, to receive the said resources. As they seek such additional resources they have been led to adopt practices as part of conditions to receiving such resources. It has forced them to revise their business models and practices to meet the eligibility criterion for receiving such support. It has involved adopting green practices in to their day to day activities in the first instance, revising their policies and procedures to be embed green suitability among others.

In support of the above, an officer of one of the independent sources, IS1, in response to the question; there are major divergences between commercial banks in Kenya on adoption of green and climate finance. What do you think accounts for the motivations to adopt these aspects of green finance, indicated, “DFI partnerships” (OIS1, personal communication, March, 18, 2022). In addition, an officer of bank A, in the large peer group, while responding to the question, your entity is among the pioneers of climate finance. What propelled you to implement the same, stated, “To increase financial resources to achieve the carbon transition from a much stronger position.” (OBA, personal communication, 16 March, 2022).

The sub-theme of partnerships emerged here. These are financial relations developed between a local and international financial institution. These arise when an international finance institution provides financial support through lending to a local bank. In furtherance of that it requires a local bank to adopt certain practices such are green lending to minimize the environment risk. Sometimes they don’t mandate this but they encourage the local bank to adopt the practices the international bank is already implementing. This is thus achieved through influence
and wanting to fit in. Therefore, the commercial banks that participated in the research, attributed their implementation of climate change financing to the various partnerships they have with development finance institutions. This was noted in their responses to their adoption of policies and procedures on sustainable financing, their monitoring of internal carbon emission activities as well as on the public-private partnerships.

This theme unfortunately did not feature among those identified by the previous scholars from the literature review and for that it is safe to classify it as an emerging theme.

4.3. Challenges and Impediments of Implementation of Green and Climate Finance or Lack of it

Under this section, the researcher sought to determine the exact bottle necks the banks were encountering that can be attributed to their lack of participation in the green and climate financing field. It was also an opportunity to understand whether the ones implementing were also encountering some implementation hitches. In doing so the researcher posed a question to all the participating banks and below is a summary of what came out based on their responses as well as a tabular percentage summary of the responses:

**Table 5- Percentage Summary of the Results on the Challenges Identified**

<table>
<thead>
<tr>
<th>No.</th>
<th>Challenges</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Lack of technical expertise and consumer awareness</td>
<td>31.3%</td>
</tr>
<tr>
<td>2.</td>
<td>Lack of an enabling legal and regulatory framework</td>
<td>12.5%</td>
</tr>
<tr>
<td>3.</td>
<td>Lack of prioritization</td>
<td>9.4%</td>
</tr>
<tr>
<td>4.</td>
<td>Transition Risk</td>
<td>9.4%</td>
</tr>
</tbody>
</table>
- Lack of Technical Expertise and Consumer Awareness

A total of 31.3% of the banks indicated the shortage in experts, both internally and externally, with the relevant technical skills to support them in the implementation of green and climate finance as an impediment. An officer from one of the independent sources, IS2, in response to the question on what are some of the challenges that your organization has faced while implementing green or climate finance, stated, “Lack of enough local expertise in terms of transaction advisers and independent verifiers for issue of Green Bonds”. (OIS2, personal communication, March, 18, 2022). In response to a similar query posed to an officer of one of the independent sources, OIS2, an officer of bank X, in the small peer group stated, “Lack of in-house expertise” as one of the challenges (OBX, personal communication, March 6, 2022). Further, an officer of bank I, in the middle peer group, responded to a similar query posed to OIS2 and OBX above by providing one of the challenge as, “Lack of experts in green financing.” (OBI, personal communication, March, 1, 2022).

The lack of proper awareness by the consumer was also part of the responses provided. An officer of bank O, in the small peer group in response to the question on, what are some of the challenges that your organization has faced while implementing green or climate finance, stated, “Lack of by-in from clients who would rather go to competitors who are not keen on the same.” (OPO, personal communication, March, 3, 2022).

Whereas an officer from bank A, in the larger peer group in response to the similar query posed to an officer of bank O above, stated, “Lack of consumer knowledge on the green products,” as one of the challenges they were facing. (OPA, personal communication, March, 16, 2022). An officer of IS1, one of the independent sources, also contributed to this conversation by responding to a similar query posed to officers from banks A and O above by stating, “Lack of awareness on the topic” as a challenge they were also facing (OIS1, personal communication, March, 18, 2022).
From the above data, two themes emerged: knowledge gap. Knowledge gap is the lack of awareness on climate change financing on the part of both the bank and that of its customers. This can extremely hinder the implementation of climate change financing. Therefore, the data showed there was a significant knowledge gap on what exactly climate change financing is and this was hindering its successful implementation. This thus explained the low adoption of climate change financing. This lack of knowledge was in addition, occasioning capacity constraints as not many climate change experts were available for banks to utilize. The lack of expertise was noted across all the peer groups. This thus showed that even the large peer groups banks with massive resources were struggling to really understand the phenomena that climate change financing is. It would be expected that they were the ones to be market leaders but that seemed not to be the case.

From the literature and in agreement with the above, Czelji (2021) acknowledged that there was not universal definition of what exactly green financing was as it had been left for interpretation of institutions who had their own different interpretations with no common definition or practice (Czelji, 2021).

- **Enabling Legal and Regulatory Framework**

Even though a large number of the banks acknowledged the efforts of the recently rolled out regulatory framework, 12.5% of the banks still felt more needed to be done from that perspective. An officer of bank A in the large peer group responded to the question; from your assessment is there an enabling legal and regulatory framework for the carbon emission reduction activities, by stating, “CBK has started the conversation and are doing training for banks on the expectations of the recently released Climate Risk Guideline.” (OBA, personal communication, March, 16, 2022).
Whereas an officer from bank N in the middle peer group responded to a similar query posed to an officer of bank A above, by stating, “I think there is still more work to be done to have legal and regulatory framework for carbon emission reduction in Kenya.” (OBN, personal communication, March, 3, 2022). Further an officer of bank S, in the small peer group, in response to the similar query posed to an officer of bank A, stated, “… more needs to be done by the relevant authorities through licensing and continued monitoring on the levels of carbon emissions.” (OBS, personal communication, March, 2, 2022).

The researcher noted from the responses provided, that there was no standardized industry benchmark as most banks were implementing in silos. An officer from bank E in the large peer group, in response to a similar query posed to an officer of bank A above, stated, “Currently the implementation is in silos” (OBE, personal communication, March, 18, 2022). Another response provided by an officer of bank P, in the small peer group, alluded to the same as they stated, “Industry benchmark”, as a challenge their organization has faced in the implementation of green and climate finance (OBP, personal communication, March, 9, 2022).

The most dominant sub-theme that arose from the data analyzed under this section was; legislation gap. This basically defines a legal and regulatory framework that has gaps or one that is not sufficient to support seamless implementation of climate change financing. Whereas the banks acknowledged the recent efforts from the Central Bank of Kenya in issuing a climate risk guidance, they were of the view that the regulator needed to do more. They indicated that perhaps another regulation, one that gives clarity on the implementation of climate change financing, would useful. They therefore considered this as an impediment which explains the low adoption of climate change financing.
Kapadia (2021) agreed with this theme by acknowledging in their work that, regulator support of banks through monetary and fiscal policies, in the implementation of green and climate finance, is imperative (Kapadia, 2021). On the other hand, Berensmann & Lindenberg (2016) noted in their studies that the existing financial environment was largely encouraging short term goals and hence there is a gap for long term and sustainable solutions and the gaps need to be closed as a matter of priority (Berensmann & Lindenberg, 2016). In addition, according to a statement issued by the Central Bank of Kenya Governor on 11 May 2021 at the European Union Kenya Green Policy Diplomacy Conference, he acknowledged the need for the financial sector to do more and for the regulators to step up their participation and guidance towards mitigating the climate risk (Njoroge, 2021).

- Transition Risk

The perception that the implementation of green and climate finance was costly compared to the implementation of the traditional banking services, was noted from the responses by 9.4% of the banks. Further, in response to the question on what challenges has your entity faced in implementation of green or climate finance? An officer of one of the independent sources, IS3, stated, “The biggest challenge is transition risk. With an evolving technological and regulatory environment, banks are constantly in a learning curve to ensure the knowledge they have today, is relevant for tomorrow. We support this by constantly developing new modules to keep banks abreast with new regulations and technology on sustainability. Most recently, with the issued CBK Guidance on Climate Related Risk Management, banks have had to learn how to embed considerations on financial risks that emanate from climate change in banks’ Governance structures and adopt disclosure mechanism benchmarking on The Task Force on Climate Related Financial Disclosures. Such new regulations are good but pose as a challenge to Banks to allocate resources and build capacity of staff to comply.” (OIS3, personal communication, March, 15, 2022). In response to the same question, IS2 stated, “Perception that issuing Green Bonds is more expensive than conventional bonds.” (OIS2, personal communication, March, 18, 2022).
Luxurious was derived as a sub-theme from the above data. This defines elevated costs associated with a particular activity to an extent that one avoids the implementation or implements the same and continues to worry about such costs. In this regard, banks were considering green and climate finance as emerging concepts which required additional resources such as time and the technical expertise required, to implement. It would also require additional capital resource to support the clients in the transition exercise. This therefore was an impeding factor to implementation as the banks did not prioritize budgeting for this cost. The perception was also arising from a cost benefit analysis where banks were reviewing the said implementation from a lens of the commercial benefit they stand to gain from the same. They thus were considering the transition exercise to be very expensive. This can explain why the commercial banks are implementing partnerships with development finance institutions in their implementation journey of climate change financing.

In alignment to the above, International Finance Corporation (2016) in their work noted that the financial sector is faced by various risks during its business lifecycle which include transition and credit risks (International Finance Corporation, 2016). In addition, Mishra (2013), defined transition risks as those risks that attract during the changeover to a low carbon economy whereas the credit to climate change. (Mishra, 2013).

- **Lack of prioritization**

According to the responses provided by a total of 9.4% of the total banks, it was noted that climate change financing was not a priority for the banks. An officer from bank S in the small peer group, in highlighting this challenge stated,

“*Most activities do not have a positive impact on our clients’ business profitability and thus they do not prioritize green or climate finance.*”

(OBS, personal communication, March, 3, 2022).
In agreeing with this an officer from bank Z, in the small peer group stated, “Climate finance has until recently not been prioritized because there were more pressing risks and opportunities as the bank was implementing a turn-around strategy. Once the bank has been stabilized, the bank is now turning its focus on legacy initiatives including sustainability of its business activities.” (OBZ, personal communication, March, 2, 2022). In regards to this section, there was no dominant sub-theme save for the ones discussed in the earlier sections.

### 4.4. Case Study on a Renewable Energy Project

The researcher visited a site located within Nairobi, Kenya within the industrial area. The purpose of the visit was to view the renewable energy project implemented and to understand the overall carbon emission reduction metric of the same. In addition, to understand the source of funding of the project and to also determine whether there were any considerations for climate change financing support for the implementation of the project among others. This was guided by the observation guide whose sample is under appendix 2, coupled with interview questions to seek further clarity on the non-observable areas.

In this regard, the researcher was able to determine that the entity is in the manufacturing sector specifically the food and beverage subsector. It had increased its overall capacity in the last 5 years due to increase in demand of its output. It had adopted the use of solar energy which powers the plant equipment in use for the manufacturing activities as opposed to other forms of energy sources such as fossil or diesel fuels. The entity had put up a total of 334 solar panels on the rooftop of the plant, which were generating power for its consumption. The power generated was consumption based, meaning the panels were only generating the energy amount required per day.
The total cost for first phase of solarization was Kes. 15 million and the company was in the process of solarizing the whole plant in the next phase, in the coming quarter for a total cost of Kes. 50 million. The first phase of the project was funded through a capital expenditure and there was indication that for the second phase the entity would be seeking external financial resources from their preferred local financier. The motivation for the transition was reduction of the increased cost of grid energy that they were utilizing previously as they are currently experiencing less costs as 80% of their consumption is solar energy (D. Muchiri, personal communication, April 30, 2022).

Below is a simulation of the cost saves (D. Muchiri, personal communication, April 30, 2022).

<table>
<thead>
<tr>
<th>day time consumption bill</th>
<th>night time consumption bill</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH RATE kwh</td>
<td>LOW RATE kwh</td>
</tr>
<tr>
<td>Jul-21</td>
<td>22,101.41</td>
</tr>
<tr>
<td>Jun-21</td>
<td>22,101.41</td>
</tr>
<tr>
<td>May</td>
<td>22,500.00</td>
</tr>
<tr>
<td>Aug-21</td>
<td>23,845.00</td>
</tr>
<tr>
<td>Sep-21</td>
<td>21,535.06</td>
</tr>
<tr>
<td>Oct-21</td>
<td>6959</td>
</tr>
<tr>
<td><strong>112,082.87</strong></td>
<td><strong>22,476.88</strong></td>
</tr>
</tbody>
</table>

- **units consumed per day (kwh /day):** 749.22
- **ksh per unit (kplc):** 22.52
- **solar intensity (kwh/day/m2):** 5.20
- **efficiency system:** 0.80
- **Plant size:** kwp
- **kwh per day/(solar intensity*eff):** 180.10
- **units generated:** 749.22
- **kwh per day:**
- **215,776.12:** kwh year
- **EPC Approx. savings per year:** 4,859,278.11
- **KSH:**

**NB:** Savings are equivalent amount they would have paid to Kenya Power for the same number of kwh used

Saving is factor after cost for installation of the system has been recovered (IRR)

In regard to the carbon emission reduction, the researcher was informed that the solar system was being monitored through a mobile app. The app is able to track solar power consumption, extent of solar power generated, the carbon emission reduction and the total cost saves. The carbon emission reduction computation was being done in comparison to other sources of energy for example heavy fuel oil. The specific CO₂ emission for heavy fuel oil used
in power generation is 0.27kgCO₂/kwh generated (D. Muchiri personal communication, May 6, 2022). Therefore, below is a simulation based on the said information to illustrate the CO₂ reduction for the entity if it were using heavy oil fuel as opposed to solar power energy:

**Total daily CO₂ emission:** Total daily units consumed 749.22 kilowatts × CO₂ emission per kilowatt 0.27kgCO₂ = 202.29 KgCO₂

**Total Annual CO₂ emission:** Daily annual CO₂ emission 202.29 × 365 days = 73,835.85 kgCO₂.

The above information therefore demonstrated the environment benefit for transitioning to the renewable energy. It also indicated that the main driver for the adoption of the renewable source of energy is cost saves.
CHAPTER 5: FINDINGS AND CONTRIBUTION TO KNOWLEDGE DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

This chapter provides a discussion of the key findings from analysis of the data collected in response to the three research objectives. It thereafter indicates the contributions to knowledge as well as conclusions drawn from the findings and ends with a set of practical recommendations to address the areas of improvement noted.

5.1. Findings and Contribution to Knowledge - Discussion

The research managed to achieve the three research objectives earlier highlighted. The data collected was able to show that whereas the banks in the large peer group had shown leadership in the implementation of some areas of climate change financing, banks in the small and medium peer groups were yet to do so as some of those their implementation was in infancy stages. Despite the small and medium tier banks lagging behind, they were open to adopting climate change financing in future. It was also evident that the four dominant themes emerging from the earlier sub-themes discussed were; Agnosticism, partnerships, awareness and porous green taxonomy.

In as far as porous green taxonomy is concerned, this explains why there was no enabling legal and regulatory framework and perhaps why there was low adoption of climate change financing. However for the large tier banks the progress was different as the regulator for listed companies had provided guidance on sustainability reporting which the large tier banks seem to be adhering to. The banks wished if the legislative framework would support fully their appetite for implementation which would ensure common governed practices devoid of the risk of unusual or unfair market practices. This is based on the fact that the existing legal and regulatory framework was noted to have gaps as it does not provide guidance on the implementation green and climate finance by the commercial banks.
The national policies have also not addressed the subject comprehensively. The lacuna has occasioned the divergences in implementation of green and climate finance. While the Central Bank of Kenya has attempted to provide guidance on the monitoring of climate risks in their recently released guideline, a lot remains unclear in that field. This thus exposes the banks to numerous foreign practices they little understand in the name of best practice which may render their products and services irrelevant to the consumer. It may also read to a market bear run as the consumer continue to reject the said product and services.

All banks were agnostic in most areas of the assessment matrix signifying some hope towards the entrenchment of climate change financing. Despite agnostic nature of the banks, they seemed to be wary of the elevated costs that comes with such transition as luxurious was noted as a dominant theme. This was forcing them to source for international financial partners to provide them with the much needed financial muscle for such implementation. It also showed that the banks were willing to abandon the traditional banking practices that were profit motivated and were now adopting climate change financing. This therefore is a positive participation by commercial banks towards the carbon emission reduction efforts by the national government and the world at large. The other notable issue is that the firms were also concerned about their current operating costs and were transitioning to less costly operations and implementing such transitions using climate change finance. This therefore showed that banks had an opportunity now that firms were onboard of the transition exercise.

The other dominant point is the ignorance on climate change financing. Banks cannot implement what they do not have a firm grasp of. Similarly they cannot convince their clients to transition to green practices with a view of reducing the carbon emissions. They also will be constrained in as far as implementation of green products is concerned. This again shows why there is low adoption of climate change financing. While they are a step ahead with a significant number having policies and procedures of sustainable financing, that does not conclusively cover
climate change financing. Furthermore, they are heavily borrowing from the expertise of the partnerships with international finance institutions for best practices. They thus run a risk of being misled or implementing something which is not customized to their client needs or operating market.

Despite the banks leveraging on the partnerships (both local and international) and this being a dominant theme noted from the research, there was still the low uptake of public private partnerships. This was mainly attributed to awareness of the existence of the partnerships under climate change financing as well as the criteria for selection of partners as well as the demand for the same. The banks focus was traditional lending out of which there was still low uptake of the public private partnerships. In terms of monitoring, reporting and public disclosure of climate change financing, very few banks were implementing this. In addition, very few of the banks were actually monitoring their portfolios to shield them against the risks associated with climate change. It is also clear that the partnerships with international financial institutions have been a key influence in the adoption of climate change financing by commercial banks in Kenya. The commercial banks especially the ones in the large tier category, have received vast knowledge and expertise from the international financial institutions. They have been provided with best practices which they have in turn adopted, demonstrating that such partnerships have been very beneficial.

In this regard, the new observations brought forth by this research include the fact that there are other drivers and challenges which go beyond transition risk, credit risk, regulatory pressure and incentives. They show that ignorance of both the banks and their clients, lack of an enabling regulatory framework are among the key impediments towards the adoption of climate change financing. This creates an interesting dynamic seeing that regulatory pressure was noted as a driver as part of this research and at the same time an enabling legal and regulatory framework was noted to be missing. It thus shows that even as the regulators continue to push for climate change financing, there still
exists an opportunity for them to develop an enabling legal and regulatory framework in consultation with the commercial banks.

This research acts as a central data point to enable readers understand at a glance the extent to which banks have implemented climate change financing. It summarizes the dominant sub-themes as well as the themes based on the data collected. This provides a clear analysis of the trend in as far as the how banks are approaching climate change financing. This is something past scholars had not done in their work. They had simply highlighted the efforts multilateral and bilateral banks towards climate change financing. It also segments the banks in categories based on their peer group which helps to understand among the tiers who is far ahead from an implementation perspective as well as their perception of challenges and drivers of implementation.

In terms of the relationships drawn between the drivers and the impediments for implementation, the researcher was able to note that transition risk as an impediment can be related to the need for funding noted as a driver. This therefore shows that as firms continue to experience transition risks, they are seeking external financing from international financial institutions to support them financially with the transition. As they do that they are slowly being encouraged as part of the conditionality’s for the external lending, to adopt climate change financing mechanisms. It is also evident that firms are also experiencing transition risks as they shift to green projects which is creating a need for them to seek external financing from commercial banks in Kenya.
The other relationship that can be drawn is between regulatory pressure as a driver and lack of enabling legal framework as an impediment. This demonstrates that as the regulators are pushing for the implementation of green and climate finance, they are creating a challenge for such implementation to commercial banks in Kenya as they are not providing an enabling legal and regulatory framework. It would have been useful if the regulator as they push they put an enabling legal and regulatory framework to supplement their efforts in rallying Banks to implement climate change financing.

Besides the additional areas brought forth and the relations discussed above, the findings somewhat tally with the findings of other scholars as discussed under literature review. Bank Track (2009) for example had noted that despite the existing efforts by the banks towards green finance, there was a great opportunity for the banks to do more. This was corroborated by the results of the findings which demonstrate low implementation of green and climate finance among the medium and small tier banks with a significant effort among the banks in the large tier group.

The same findings agree with the finding by Akomea- Frimpong et al. (2021) that one of the key drivers for implementation of green finance was regulatory push. The said authors also alluded to the existence of international climate agreements as another driver which the findings of this research did not adduce. The findings also agree that transition risks is one of the top ranked challenge/impediment towards the implementation of green and climate finance. This agrees with the conclusion drawn by Mishra(2013) who concluded that the risks facing the financial sector are transition and credit and she goes ahead to describe transition risks as those risks that attract during a change over to a low carbon economy.
Therefore the key contributions of this research are that it explains the differences between green, climate and sustainable financing to help the readers differentiate the three, something which most scholars have not managed to achieve. It helps the reader appreciate that the banks are not being left behind in the implementation of green and climate finance even where there exists a huge opportunity for their improved participation to boost the current low uptake. It clearly sets out the challenges which advise the recommendations herein and gives a sense of the key drivers for the implementation of green and climate finance which were not addressed by the previous scholars. In addition, it provides a clear picture of additional findings which past scholars omitted or did not come across when preparing their work and takes the opportunity to demonstrate areas which this research agrees with other scholars.

5.2. Conclusions

The study demonstrates the direct role for commercial banks in Kenya in the climate action through climate change financing which is in line with the Sustainable Development framework. It draws a clear distinction between Sustainable Development and Sustainable Finance. It encourages the alignment by commercial banks away from sustainable finance which is not a single effort towards reduction of carbon emission as it is tied to other pillars such as governance and the social aspects of the society. The Sustainable Finance approach is not an appropriate anchor for climate action as its implementation does not primarily focus on the environment which needs to be prioritized going by the statistics for the effects of climate change.

In as far as the capability approach is concerned, this research has demonstrated that the commercial banks in Kenya have the capability to implement climate change financing however they lack the freedom, owing to the lack of an enabling legal framework earlier noted. The approach however emphasizes on the individuality yet this research has brought out the importance of global partnerships which have resulted in large tier banks leading the way in the
implementation of climate change financing. To this extent the capability approach is useful as it encourages the creation of value which is more than the economic value. This supports the findings of the research that the banks are slowly transitioning from traditional lending practices which were more profit focused.

This research shows the benefit of adopting global best practices in as far as climate change financing is concerned. This therefore slightly differs with Akomea-Frimpong et al. (2021) who were of the view that the climate instruments need to be Africanized to be more relevant to the African market. This is for the reason that the researcher has opted to understand whether the existing instruments or practices have yet been adopted by the local banks and whether they are suitable prior to suggesting the need for customization from a local perspective. This will thus inform further research and the researcher invites scholars to look into this off this research which has set the foundation on the implementation of climate change financing by the local banks.

At the same time, this study portrays the inequalities in the application of climate change financing between local and international banks. It shows that the local banks which have partnerships or relations with international financial institutions are way ahead in the implementation of climate change financing. This therefore agrees with the post colonialism theories for example orientalism. It shows that the colonial effects continue to be felt in the world of climate change financing even from a local perspective.

In addition, this research has deliberately shied away from the economic theories such as the capital theory. This theory justifies how institutions provide capital to the economy to fund economic activities while at the same time maximizing revenue from such activities. This theory supports the traditional lending which the banks have applied in the past. However as this research has evidenced, the commercial banks in Kenya are implementing climate change
financing. This form of financing provides capital to the economy to promote green activities which promote carbon emission reduction. Therefore the local banks as they implement climate change financing they are indeed promoting sustainable development which is different from the capital approach theory.

Lastly, this study agrees with constructivism as it has demonstrated that the strides achieved by commercial banks in Kenya have been largely as a result of global partnerships. The Banks are borrowing best practices across the world and are using those practices to implement their strategies locally. This the benefit derived from those global connections by the large tier banks and compared to the small tier banks.

5.3. Recommendations

5.3.1. Curriculum Development, Training and Awareness

To eradicate the existing lack of experts in the green and climate finance field, I would encourage that the government to enhance the curriculum for university education to include courses on green and climate finance. This should also apply to private universities. This will ensure that as the students graduate they are equipped with green and climate finance knowledge at an early stage which they can transfer in their areas of employment. This will provide a pool of experts from which the employers can select from as they recruit staff to their organization. The government and the private universities can each partner with international institutions that have a vast knowledge on green and climate finance for them to provide the requisite training.
There ought to be a certified examination body to certify climate change experts including sale, credit and investment officers similar to the certification for other professionals such as accountant’s etc. This should be mandated by legislation, similar to the existing practice for other professions such as accountants, supply chain practitioners among others. As the curriculum is being developed, the low hanging fruit will be for the banks to partner with institutions that have the technical expertise on green and climate finance to ensure their personnel are provided with the relevant technical training. They can also make use of the available material on green and climate finance in the first instance to develop their training programs.

This training ought to be extended to their clients to help them understand the value of transitioning their practices to low carbon emission as well as the benefits of green financing solutions vis a vis the traditional instruments. This can be achieved through online and classroom channels.

5.3.2. Enhancement of the Green Taxonomy

The existing green taxonomy ought to be revised. It currently provides for climate risk management. It thus should be enhanced to define what green and climate finance is from a Kenya perspective, the mitigation and adaptation priorities for commercial banks, and requirements for implementing a green product and the factors to be considered while doing so including the eligibility criteria for green financing. It needs to also provide for the public disclosure of the climate change financing to ensure there is a central data point from this perspective. The banks can be mandated to periodically report on the status of implementation of green and climate finance, the commercial benefit derived out of that as well as the exact amount of carbon emission. This would help to understand in a quick analysis the extent of implementation.
It would be helpful to understand the trend with an aim of constantly improving the statistics. In relation to climate financing, the framework should guide on the eligibility criteria, define the existing opportunities and encourage competitive pricing models for climate financing. It should encourage reporting of successful case studies on public private partnership projects implemented through climate finance to encourage implementation. This framework can also create an environment supporting banking clients that are carbon intense and have resisted to transition without being cited for discrimination. Another opportunity for reform is the formulation of a legislation requiring climate change experts to receive certification and a professional examining body be put in place.

This will be similar to what exists for other professionals such as supply chain, accountants, and lawyers among others. This will improve credibility of the experts and encourage more professionals to advance in the field. In addition to this, the framework can encourage joint collaboration between the banks, the national environment authority, the relevant association bodies such as the private sector alliance, the bankers association, for a coordinated approach. The environment authority would participate by providing the environmental statistics based on their analysis in terms of carbon emission reduction. The banks would in turn rely on this information to make their green and climate financing decisions whereas the association bodies would use the information shared by their members on the extent of implementation of green and climate finance which would be useful to track compliance.

It would also be worthy to document the consequences for non-compliance by the commercial banks of the conditions precedent. This will create some level of responsibility and also deter non-compliance. The measures can vary and more importantly include for example fines, penalties and de-licensing especially where there is a significant impact to the commercial banks and the economy at large as a result of non-compliance. This will encourage green lending which is part of sustainable development.
There is also an opportunity for the umbrella association bodies such as the bankers association, the manufacturers association, the private sector alliances as well as the human rights association to call for the reforms in the green taxonomy. They can apply the relevant pressure to ensure the changes to the taxonomy are applied at the earliest and also to create awareness.

5.3.3. Provision of Incentives

To improve implementation of green and climate finance, it is my opinion that the banks ought to be incentivized. This can be done by one, introducing tax exemptions or reduction on for example the green bonds. The withholding tax for green investments can be subsidized to increase subscription. The products of providing renewable energy for example solar panels, should be exempted from taxed at a lower cost. Further for banks implementing green and climate finance, they can be considered for tax reduction in the corporation tax or other tax as may be relevant.

This will reduce the transition risks and encourage increased implementation. The other form incentive can be increase in recognition awards. I note the Government through the Kenya Revenue Authority awards for large taxpayers annually to encourage payment of taxes. These awards can also be adopted to incentivize implementation of green and climate finance. The criteria for selection can include the net carbon reduction effect and the number of clients each bank has supported in the transition process. The recognition awards can be in partnership with other international institutions that encourage the implementation of green and climate finance.
5.3.4. Development of Standardized Carbon Measurement Metrics

The carbon emission measurements are very critical. They enable an institution to know their emission threshold. The banks would in turn as part of lending, collate this information with a view of ultimately classifying their portfolios from a carbon emission perspective to be in an informed position to quantify and mitigate the risks. In the absence of a standardized measurement metric the banks and their client will be left to their own adjustments which may not reflect the correct position thus leading to improper reporting and mitigation of such risks. Further, the classification of the portfolio will help the banks understand their risks spread and will inform the amount of resources they will invest to mitigate the same based on the quantified impact. This will also be very instrumental in effectively monitoring the credit risks arising from climate related impact.

To achieve this, the Government should commission a taskforce to determine the standardization of the carbon measurement metrics for the country. They can do this by engaging the meteorological department, scientists and environment specialists who will be in apposition to provide the guidance. This can be frequently reviewed and updated to accommodate any emerging trends. The metrics need to be readily available and the Government can provide a daily database of the same similar to information on daily stock exchange that is provided by the Nairobi Stock Exchange. In creating this, the banks will be able to categories their portfolio and quantify their risks based on the carbon emissions per sector.

This will ensure their green and climate finance decisions are well informed and not hypothetical as is the case currently, save for a few instances where an energy expert is engaged to undertake the calculation. In addition, there exists a great opportunity for commercial banks to participate in climate change financing which will be of benefit to the environment and will go a long way in supporting the national framework on climate change.
In this regard I believe the above recommendations if applied will go an extra mile in improving the implementation rate of green and climate finance by the commercial banks in Kenya and contribute overall to the achievement of the sustainable development goals.
APPENDIX 1- LIST OF TABLES

Table 1- List of Participants

<table>
<thead>
<tr>
<th>Code Name</th>
</tr>
</thead>
</table>

Table 2-List of Independent Participants

| IS 1, IS 2, IS 3, IS 4, IS 5, IS 6 |

Table 3- Percentage Analysis in Ranking of the Drivers/Challenges

<table>
<thead>
<tr>
<th>NO.</th>
<th>Driver/challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Transition Risk</td>
<td>21.9%</td>
</tr>
<tr>
<td>2.</td>
<td>Regulatory Pressure</td>
<td>18.8%</td>
</tr>
<tr>
<td>3.</td>
<td>Ignorance</td>
<td>18.8%</td>
</tr>
<tr>
<td>4.</td>
<td>Credit Risk</td>
<td>15.6%</td>
</tr>
<tr>
<td>5.</td>
<td>Profits and Market Leadership</td>
<td>12.5%</td>
</tr>
<tr>
<td>6.</td>
<td>National Policy</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

APPENDIX 2
Part 1- Sample Interview Questions for Participant Banks

1. Some top banks still do not have policies and Procedures on Green finance. What propelled you to adopt these?

2. As Participant ****** you seem to be leading on many aspects of Green Finance but not on PPPs in Green Finance. Why are there no projects in this?

3. What are the key highlights of the policies and procedures you have implemented on green and climate finance?
4. What is your motivation for green and climate finance reporting? Is it voluntary?

5. From a financial perspective, what is the impact of the green or climate finance that your entity has adopted?

6. How do you identify and monitor green and climate finance in your bank? Like do you know which sectors are carbon intense? And possibly are there loans you have back out of because of carbon impact concerns?

7. Do you prepare a report on all the activities undertaken by your bank regarding carbon offsetting?

8. For the carbon intense sectors is your bank doing anything to change that e.g. what are some of the financial and non-financial measures you have adopted to facilitate transition?

9. The training you conduct on the staff, in your assessment, is it having an impact in the implementation of green and climate finance. It online or classroom? Are the facilitators external and why?

10. From your assessment is there an enabling legal and regulatory framework for the carbon offsetting activities? If no what is your opinion on the solution?

11. What are some of the challenges that your organization has faced while implementing green or climate finance?

12. Are there any Public Private partnerships that you Bank has participated in from a green and climate finance perspective? If yes, what are some of the benefits to the revenue and environment? If no, please elaborate why. e.g. in transportation, distribution of clean energy, affordable housing agenda.

13. From your perspective, what do you regard as the most important factor in adoption or failure to adopt GF (rank the following in order of importance):

   a. Transitions risks
   b) Credit risks
   c) Profits and leader benefits
d) Regulatory pressure

e) As part of a national policy framework

f) Ignorance

14. Have you faced any transitional risks related to Green Finance, which ones?

15. Have you faced any credit risks related to implementation of Green Finance, which ones?

16. In cases where you have adopted some Green Finance benchmarks and not others, what considerations drive what Green Finance facilities you adopt and which ones you implement later?

Part 2. Sample Questions for Triangulation

1. There are major divergences between commercial banks in Kenya on adoption of Green and Climate Finance. What do you think accounts for the motivations to adopt these aspects of green finance?

2. What challenges has your entity faced in implementation of green or climate finance?

3. What are some of the incentives that your entity is providing to encourage implementation of green or climate finance?

4. As the Capital Markets Authority I note you have been implementing the sustainability practices with listed entities that primarily focusses on environmental, social and governance. Are there plans to enhance the principles to also provide for implementation of green and climate finance by the listed commercial banks?

5. Are commercial banks in Kenya sufficiently conscious on following up on the environmental impacts of projects/ businesses that they are financing?

6. From your perspective, what do you regard as the most important factor in adoption or failure to adopt green finance (rank the following in order of importance)?

   a) Transitions risks- The risks envisioned while supporting companies to reduce their carbon emissions

   b) Credit risks
c) Profits and market leadership benefits

d) Regulatory pressure

e) As part of a national policy framework

f) Ignorance

Part 3. Sample Observation Guide

1. The type, location and size of the project.
2. External financing consideration or adoption in the implementation of the project
3. The specific adaptation or mitigation methods that have been applied to create carbon efficiency e.g. renewable energy, afforestation, agroforestry
4. The total carbon emission reduction?
5. The economic impact of the project?

APPENDIX 3

Debriefing Form for Participation in a Research Study

United States International University-Africa

Principal Investigator: Gachanjah Evelyn Wanjiru Reg No: 662512

Contact Information: +254713476116 Email : gachanjaheve@yahoo.com

Thank you for taking part in my research on: Response to Climate Change Financing by Commercial Banks in Kenya

Purpose of the Study/Objectives:
Earlier in my consent form which described the purpose of the study correctly but failed to give the specific objectives of the study. In actuality, the study is about (i) to examine the divergences in the extent of entrenchment of climate and green financing considerations by the commercial banks in Kenya. (ii) To interrogate existing impediments or drivers to the application of climate and green finance by commercial banks in Kenya. (iii) To investigate whether the green and climate finance considerations have an impact on the climate change mitigation and adaptation efforts.

I would like to let you know that I made use of videotaping during interviews. Now that you are aware that you were videotaped in the collection of the data you may opt to have your data removed from the study or not.

For purposes of ensuring that I properly test the research questions and capture the data with correctness and consistency this is why I did not provide you with prior complete details on the objectives and tools to be employed during the data collection process. This was particularly done to ensure your reactions in this study remained unprompted and were not influenced by prior knowledge about the aims of the study.

**Confidentiality:**

I wish to assure you that all the information you have shared with me will be handled with utmost confidentiality. In furtherance of this, I have ensured proper coding and assigned necessary symbols not to disclose any of your confidential information.

Now that you are aware the main objectives as to why the study was conducted you have a right to choose which part of your data you would wish to be utilized or completely removed from the research. Additionally, even if you allow your data to be used in this study or not, please remember that the integrity of this research is entirely depended on keeping some of the details from you and the other participants. Thus, it is crucial that you keep the details of this study secret until after
April 2022, when I anticipate having all data collected from other participants.

**Where applicable:** Whether you agree or do not agree to have your data used for this study, you will still receive my acknowledgement of appreciation for your participation in the research.

**If applicable also:** Please do not disclose my research procedures and/or hypotheses to anyone who might participate in this study in the future as this might affect the results of the study.

**Final report:**

If you would like to receive a copy of the final report of this study (or a summary of the findings) when it is completed, please feel free to contact me.

**Useful contact information:**

Please do not hesitate to ask any questions or raise concerns about this study, its purpose/objectives or procedures, or if you have a research-related problem, please feel free to contact the Principal Investigator: Gachanjah Evelyn Wanjiru Tel:0713- 476116.

Regards,

Gachanjah Evelyn Wanjiru
APPENDIX 4

Institutional Review Board Confidentiality Form — Principal Investigator

This confidentiality form is a legal agreement between USIU-AFRICA, IRB and the undersigned principal investigator who will have access to individually identifiable original records (electronic or paper), or any other matters regarding the research process.

IRB Research Number:

PI Name: Gachanjah Evelyn Wanjiru

Date:

Title of Research: Response to Climate Change Financing by Commercial Banks in Kenya.

In conducting this research project, I agree to the following:

1. Keep all the research information shared with me confidential by not discussing or sharing the research information in any form or format.

2. Keep all research information in any form or format securely maintained on a daily basis, during the process of conducting and writing the research.

3. At the conclusion of the research, dispose of any documents that contain identification information, such as participant names or other information that could reveal identity of the human subject.

4. Monitor all other researchers who work with me, i.e. research assistants, administrative persons, etc., to ensure their compliance to confidentiality.

5. Any violation of this agreement would constitute a serious breach of ethical standards, and I pledge not to do so.

Principal Investigator         Witness:
This informed consent is for both men and women working in commercial banks in Kenya whom I am inviting to participate in my research titled: **Response to Climate Change Financing by Commercial Banks in Kenya.**

**Name of the Principal Investigator:** Gachanjah Evelyn Wanjiru

**Name of Institution:** United States International University-Africa

**Name of Sponsor:** Dr. Elijah Munyi

I am a student at USIU- Africa pursuing a Masters in International Relations and currently undertaking the final research thesis on: **Response to Climate Change Financing by Commercial Banks in Kenya.**

I therefore invite you to freely participate in this research and in case there are areas or concepts you may not understand also feel free to ask for more information. The research is informed by the desire to know the extent in which the commercial banks in Kenya have implemented green and climate financing and the environment benefit where implemented.

As the principal investigator, I will particularly select employees of the commercial banks in Kenya who are believed to have experience and knowledge of product implementation and sustainability matters. I shall interview all the participants through semi structured interviews for them to give their views and opinions.
In this regard, participation in this research shall be purely on voluntary basis and all the information given shall be treated with utmost confidentiality. Further, the outcome of the research shall be for academic purposes only.

Regards,

Gachanjah Evelyn Wanjiru

Student ID: 662512
APPENDIX 6- Institutional Review Board Approval

TO: GACHANJAH EVELYN WANJIRU

Dear Sir/Madam

RE: RESPONSE TO CLIMATE CHANGE FINANCING BY COMMERCIAL BANKS IN KENYA.

This is to inform you that IRB has reviewed and approved your above research proposal. Your application approval number is USIU-AJIRB/011-2022. The approval period is from 14th January 2022 to 14th January 2023.

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used

ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by IRB.

iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to IRB within 72 hours of notification.

iv. Any changes, anticipated or otherwise that may increase the risk of affected safety or welfare of study participants and others or affect the integrity of the research must be reported to IRB within 72 hours.

v. Submission of a request for renewal of approval at least 50 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.

vi. Submission of an executive summary report within 90 days upon completion of the study to IRB.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

Juliana M. Namada, Ph.D.
Institutional Review Board (IRB) Chair
Email: irb@usiu.ac.ke

APPENDIX 7- Research License from Nacosti
References


Intergovernmental Panel on Climate Change (n.d.). About the IPCC. Retrieved from https://www.ipcc.ch/about/


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