International Journal of Social and Development Concerns

ISSN 2524-1478 (Online)

Vol. 19 | Post COVID-19 Recovery and Sustainable development
Vol. 19 Article 7 | July 2024

(An International Publisher for Academic and Scientific Resources)

# The Role of Environmental Diplomacy on Climate Change Adaptation in Kenya

**Authors:** [1]Wario Kuduba Guyo, [2]Kizito Sabala and [3]Gladys Rotich
[1]National Defence University - Kenya
[2]University of Nairobi
[3]Jomo Kenyatta University of Agriculture and Technology
**Corresponding author:** Wario Kuduba Guyo. **Email:** guyowario484@gmail.com

**Cite as:** *Guyo, W. K., Sabala, K., & Rotich, G. (2024). The Role of Environmental Diplomacy on Climate Change Adaptation in Kenya. International Journal of Social and Development Concerns, 19(7), 91–107. https://doi.org/10.5281/zenodo.12788611*



**Abstract:** *Environmental diplomacy is critical for climate change adaptation in Kenya because it promotes international collaboration and addresses environmental issues. Despite making very little contribution to alleviate global warming, Kenya is actively participating in international efforts to mitigate climate change in African climate diplomacy. This paper uses Kenya as a case study to examine how environmental diplomacy advances mitigation and adaptation to climate change in the context of the global, regional, and local landscape. The Green theory in international relations was used as the anchor theory to guide this study. The study discusses and details Kenya's climate policies, diplomatic initiatives, and international partnerships in an effort to support the current conversation and cooperative efforts to address climate change on a regional and global scale. The specific objectives in this paper included first to assess Kenya's level of compliance with global environmental treaty obligations. Second, to determine the role of environmental diplomacy in climate change adaptation in Kenya. Third, to ascertain the challenges and opportunities in leveraging Kenya's diplomatic efforts for Climate Change adaptation. Purposive sampling was employed in the study's descriptive research approach in order to select respondents. The target population was one-hundred and fifteen with the sample size being eighty-nine participants. Semi-structured questionnaires and interview guides were useful tools for gathering data. For the quantitative data, regression analysis was employed, and for the qualitative data, theme analysis was appropriate. The findings indicate that environmental diplomacy can reconcile the constant spread of ecological damage worldwide and the sluggish speed of implementing environmental conservation strategies. Kenya's environmental diplomacy is essential to the country's ability to adapt to climate change since it pushes for funding, draws in investments, modifying policies, and encourages global collaboration to solve climate issues and advance sustainable development. The study recommends that environmental diplomacy should examine and enhance other aspects relating to the implementation of adaptation strategies, such as capacity building, financial resource mobilization, technology innovation solutions, risk assessment, monitoring and evaluation as well as stakeholder engagement.*

***Key Words:*** *Adaptation, Climate Change, Environmental Diplomacy, Kenya, Mitigation*

## 1.1 Introduction

Climate change has emerged as one of the most important global issues of the twenty-first century, having far-reaching implications for both human and environmental systems. There is a greater need than ever for efficient climate change adaptation measures as the effects of a warmer environment become more obvious. In this regard, environmental diplomacy, the application of diplomatic techniques and dialogue to tackle environmental concerns has emerged as a vital component in supporting global efforts to adapt to climate change.

Kenya, a nation that is extremely susceptible to the consequences of climate change, offers a crucial case study for analysing how environmental diplomacy helps with climate adaptation. Kenya has a lot of adaptation needs because of its diverse natural environment, economy that is highly dependent on climate-sensitive industries like agriculture, and communities that are especially vulnerable to dangers associated with climate change. Kenya has also taken a leading role in international environmental diplomacy, participating in talks and accords that seek to mobilise resources and action on a global scale to combat climate change. This study looked at the relationship, within the Kenyan context, between environmental diplomacy and climate change adaptation. The study examined the diplomatic tactics used, the resources and assistance obtained, and the real effects in terms of enhancing adaptability and resilience on the ground.

The paper provides the literature review that entails, theoretical review, conceptual and empirical literature review sections. Further, the research concept, study area, sample designs, data collection procedures, and research instruments—such as focus groups, questionnaires, qualitative interviews, and document analysis—are all described in the study's methodology. The data analysis approach is also provided in this section, together with instructions on how to manage, examine, and interpret the data. Along with discussing ethical concerns, the validity and reliability of the study instruments are also evaluated. Then the results section and ultimately the conclusion and recommendations.

## 1.2 Background and Context

The global effort to achieve sustainable development is seriously threatened by climate change (WHO, 2023). In this case, the likelihood of a sustainable future is jeopardised by the negative effects of a changing climate on human society and the environment, which are now well under way and are predicted to worsen. Especially, the problems caused by climate change have an international impact and need for immediate attention as well as group effort (Masson-Delmote et al., 2019; Tsega, 2016).

Environmental diplomacy, both in Kenya and around the world, is critical to climate change mitigation and adaptation because it fosters international collaboration, advocates for financial support, pushes for legislative reforms, and promotes sustainable development projects (Naidoo & Gulati, 2022). Kenya has become a more prominent leader in environmental diplomacy in recent years by taking an active part in international climate change debates and accords. For instance, by highlighting the link between security and environmental deterioration. Additionally, Kenya's foreign policy prioritises the environment and seeks to advance international agendas for sustainable development. It focuses on encouraging research to lessen negative environmental impacts and ensuring that multilateral environmental agreements are implemented effectively. For instance, it first focused on showcasing its Pan-Africanist credentials and hosting UNEP. The Nairobi Declaration, consented by African Heads of State and Government at the

first Africa Climate Summit in September 2023, symbolises African leaders' common view on climate change and climate policy. By establishing a strong voice for Africa in the global climate discourse, the Declaration hopes to make the needs and viewpoints of the continent known. The statement demands that wealthy countries take immediate steps to reform international financial institutions and cut carbon emissions. In order to restructure Africa's debt and release crucial cash for the climate, African leaders have proposed a new financial framework. The Declaration calls for the imposition of a number of international levies to finance climate action, such as a worldwide financial transaction tax in addition to a carbon tax on the trade in fossil fuels, maritime transportation, and aviation.

As an example of how environmental diplomacy can influence policy changes, Kenya has revised its climate change legislation. In this case, the Climate Change Amendment Act 2023 has made revisions to Kenya's Climate Change Act, which was first passed in 2016. For instance, the 2016 Act provided a legislative framework for a more robust response to climate change, concentrating on processes and actions to achieve low-carbon climatic development. It required that the National Climate Change Action Plan include measures for reviewing GHG emission levels and that the National Climate Change Council set targets for regulating GHG emissions. The Act also offered financial support for programmes that promoted the use of renewable energy sources and attempted to stop climate change. The 2023 Amendment Act fills up the gaps left by the 2016 legislation and provides a comprehensive solution to the growing climate problem. It places a strong emphasis on equality, intergenerational responsibility, and the protection of disadvantaged populations while harmonising national climate policy with international commitments, most notably the Paris Agreement. One of the most significant changes is the enlargement of the Climate Change Council's authority to give the federal and local governments explicit direction on carbon markets and non-market solutions. A percentage of the proceeds from carbon trading projects must now be allocated to the local community as part of the legislation's annual social contributions requirement for community development agreements. In order to maintain market integrity, it also adds regulatory methods like open regulation, community involvement, and third-party verification procedures.

Kenya, like many African nations face unique challenges in dealing with climate change, including vulnerability to extreme weather events, food insecurity and limited access to resources for adaptation. The country has witnessed significant shifts in weather patterns, with changing climate conditions affecting the frequency and intensity of extreme weather events. For instance, drought cycles have transitioned from occurring every 20 years to becoming an annual occurrence in recent years, notably impacting arid and semi-arid lands (ASALs), which cover over 80% of Kenya's landmass (Mateche, 2011; Odhiambo, 2013). As a country that heavily relies on climate-sensitive sectors like agriculture, tourism, and natural resources, these climate-induced changes have led to severe economic losses, estimated at 3-4 percent of the Gross Domestic Product (GDP), hindering development efforts (GoK, 2020).

### 1.3 Discourses on the Role of Environmental Diplomacy on Climate Change Adaptation

This section reviews theories concepts and studies on environmental diplomacy and climate change mitigation and adaptation measures. The section is divided into theoretical review, conceptual review and empirical review.

### 1.3.1 Theoretical review

***Green Theory in International Relations***

This theory was propounded by Dryzek, Robyn Eckersley, Val Plumwood and Andrew Dobson in the 1970s. By focusing on three key concepts-decentralization of power, limits to growth, and ecocentric ethics-green theory helps us better comprehend global politics and environmental challenges. These characteristics recreate global politics while maintaining an environmental perspective. The green theory aims to create a harmonious coexistence between people and nature, particularly as long as people are still dependent on the environment for their survival. Thus, it anticipates that in order for the planet and its inhabitants to experience a safe future, the relationship between man and the environment needs to be radically reformed (Adesina, 2011). This is particularly relevant because, according to Horsfall and Spiff (2013), human meddling in the natural environment is currently endangering the survival of both humans and other species. After World War II, when global economies were expanding and new technology started to necessitate higher energy use, the argument gained acceptance as pollution levels increased. The environmental issues become more complex and challenging to solve as technology advanced and man's desire for a stress-free life increased (Graham, 2012; Horsfall & Spiff, 2013).

Green Theory in International Relations was used as the anchor theory for this study. The green theory helps in better comprehension of global politics and environmental challenges. Green theory contributes to a better understanding of global politics and environmental problems by presenting a holistic, conventional, and critical perspective that emphasises interdependence, alternate approaches, and ethical considerations when addressing issues of complexity at the convergence of politics and environment. For example, the theory provides a comprehensive method that combines political analysis with ecological issues. It acknowledges how social, economic, and political institutions are linked to environmental challenges and offers a thorough grasp of the complexity involved. The theory also highlights the role of industrial development, state-centered methods, and the capitalist system in ecological disasters and global inequality.

The paper is ideally suited to green theory since it articulates the political orientation towards climate change in terms of agency and value (Goodin, 1992 cited in Malnes, 1993), such as what should be valued, by whom, and how to obtain it. Insofar as environmental challenges raise concerns about our relationships with others in the context of community and group decision-making, green theory is a part of the critical theory tradition. The green theory aims to create a harmonious coexistence between people and nature, particularly as long as people are still dependent on the environment for their survival.

Notably, the green school of thought rejects both liberalism and socialism, ideologies that support unrestricted industrialization at the expense of humankind's ecological and social well-being (Malnes, 1993). Thus, the notion suggests interacting and working together with the environment to lessen the current environmental disaster. According to the theory, this is achievable if humans prioritize environmental health over unsustainable environmental practices, such as the industrial revolution's surge, the population's growing concentration in cities, and the rapid use of technology. All of these continue to undermine the environmental health required for coexistence between man and the environment. However, one of the weaknesses of green theory is that as opposed to conventionally

narrow human interests, the theory prioritises long-term ecological goals. Therefore, according to green theory, various aspects of human organization in daily life must be fundamentally changed from those that promote environmental health and the oppression or marginalization of certain social goals to those that promote environmental health and the unjustifiable exploitation of the natural world. In this paper, green theory made it easier to comprehend adaptation of climate change in terms of long-term ecological values as opposed to immediate human needs.

***Tragedy of the Commons Theory***

British author William Forster Lloyd originally put forth the economic theory in 1833 (Ostrom, 2008). The notion states that individuals or groups working in their own self-interest will eventually deplete a shared resource. The broad theory and its ideas were largely disregarded until American ecologist and philosopher Garrett Hardin highlighted them in a 1968 issue of "Science" magazine. It is important to understand that, within the theory's framework, any naturally occurring resources that are open to the public's use and consumption are called the "commons." No single person or company owns all of the resources. The core idea of the tragedy of the commons is that individuals are logical, self-serving beings who are solely concerned with themselves, always looking for ways to enhance their own interests, and never taking into account the concerns of others (Ostrom, 2008).

The tragedy of the commons centres on the mismanagement and exploitation of natural resources, even while doing so is essential for civilizations to flourish and forge international connections (MacLellan, 2016). Others may feel entitled to exploit the resources in question excessively if one individual or group does. The tragedy is in the way resource exploitation gets out of hand and expands, with the potential to eventually become a worldwide problem. One could argue that the greatest illustration of the tragedy of the commons is the phenomenon known as global warming. People have been using chemicals, operating industries, and operating cars for millennia on this planet, all of which have had a negative effect on the ozone layer in the atmosphere. Therefore, the theory was used to support the study since the theory highlights the challenge of ensuring equitable access as well as distribution of shared resources. In the context of climate adaptation, environmental diplomacy aims to address the equity dimension by advocating for fair burden-sharing among nations.

### 1.3.2 Empirical literature

***Climate Change Adaptation***

A study by Berry et al. (2015) focused on the cross-sectoral linkages between adaptation and mitigation measures focusing on Europe. A number of adaptation strategies are listed, and their cross-sectoral linkages and mitigating effects are examined. However, there aren't many steps on the list, and there's no discussion of possible synergies. The study discovered that, frequently, conflicts and synergies related to adaptation and mitigation were not specifically addressed within a sector, much less across sectors. The majority of initiatives, however, were discovered to have an impact on a different sector, leading to interactions within and between sectors that were neutral, positive (synergies), or negative (conflicts). Water and biodiversity were key components of many fruitful cross-sectoral interactions; as such, they can serve as excellent places to start when implementing integrated, cross-sectoral initiatives. This analysis discovered numerous local scale initiatives that could help integrate adaptation and mitigation. While prior research suggests that adaptation and mitigation are carried out on distinct time and

geographical scales, this study revealed otherwise. If mitigation and adaptation strategies are to be incorporated into policy, it is imperative that the cross-sectoral interaction between them be acknowledged openly in order to maximise beneficial outcomes and prevent unexpected consequences.

Study conducted by Nyiwul (2017), examines the factors that have influenced the growth and use of renewable energy in Sub-Saharan African nations between 1980 and 2011. The findings show that wealth contributes to the development in renewable energy use in the anticipated beneficial, albeit statistically insignificant, way. Contrary to actual data in other emerging economies, this suggests that the region's recent growth in GDP has not been matched by increased development and consumption of renewable energy. A summary of the potential causes of this discrepancy is provided. Additionally, there is a correlation between rising concerns about climate change brought on by pollutants like carbon dioxide and greater use of renewable energy.

Study by Francis et al. (2016) found that the perception of the effect of climate change was significantly correlated with the gender of the household head, the number of livestock owned, and the herd size in Turkana County, one of Kenya's counties that has been severely affected by climate change and experiences protracted periods of cyclical droughts. Consequently, the study recommended that in order to have a long-term dedication to the environmental durability of the household, initiatives and regulations should aim to improve these attributes. They believed that taking into account communities' susceptibility, coherent and effective climate change governance was necessary to address the risks and costs of climate change. Such a strategy links to the current study as a robust adaptation measure towards climate change mitigation.

Parry's (2016) on analysis of Kenya's ongoing and future adaption plans made note of the efforts taken to create a comprehensive policy framework to direct and address climate change. In addition, it was discovered that Kenya is taking adaptation measures to lessen the vulnerability of its agriculture, livestock, and water sectors, particularly in ASALs (arid and semi-arid regions). Parry (2016) suggests stepping up efforts to draw attention to climate change through improved county government capability and knowledge building across professional communities. Universities have a big role to play in knowledge creation, but the national policy framework does not place as much emphasis on their efforts and objectives. The current study will incorporate the place of such institutions as key participants on climate policy creations that ultimately contribute to climate change mitigation.

***The Role of Environmental Diplomacy in Climate Change Adaptation***

Khan & Hou (2021) utilized US data from 1980 to 2015 and the Environment Kuznets Curve (EKC) paradigm to examine the causal connection involving carbon dioxide (CO2) releases and global ecological diplomatic efforts in the context of wealth formation, use of green energy, and prosperity. The study used robust least secure (ROBUSTLS) and generalized linear models (GLMs). The findings showed that while the use of renewable energy sources enhances environmental quality over time, environmental diplomacy, capital accumulation, and economic expansion ultimately worsen it. These findings validate the EKC hypothesis for the US and imply that, initially, more environmental diplomacy raises $CO_2$ emissions to a certain degree, after which $CO_2$ emissions begin to decrease with additional increases in international commitments and solid diplomatic ties between nations.

A study conducted by Pickson & Boateng (2022) focused on climate diplomacy and global warming in Africa. This study offered fresh proof of how climate change affects food security in Africa. Sen's slope estimator and the Mann-Kendall test were used in the study to assess trends in climate change. In addition, the Dumitrescu-Hurlin panel causality test and the pooled mean group technique were employed to examine the impact of climate change on food security in fifteen African nations from 1970 to 2016. Examining the data more widely, the results showed that rainfall is a major factor in Africa's food security and that there is no significant long-term effect of temperature on food security. Then, in Africa, there is a bidirectional causal relationship between temperature and food security, with the exception of rainfall. In this instance, in order to increase food production, African nations must reduce their reliance on rain-fed agriculture.

Marigi (2017) established the ineffectiveness of Kenyan policies and capabilities in addressing the vulnerabilities of climate change hazards through the use of both a desk review of the journals, articles, case studies, projects, and programs undertaken in the nation, including policy and regulatory documents, and online interviews with 47 County directors of meteorology and County heads for environment in Kenya. The northern regions and the southernmost tip of the coastal strip were judged to be the most vulnerable in the author's analysis of the vulnerability of the entire nation. Marigi thus advocated for improving human capacity to track climate factors and the frequency of natural disasters at both the technical and community levels. Intriguingly, a study conducted jointly by Bielefeld University, FIAN Germany, Kenya Youth Foundation, and CEMIRIDE in Tana Delta, Kenya, revealed detrimental effects of climate change policy on local residents' basic human rights. The study found that evictions were common in line with the agro-fuel production practices that used reforestation, depriving the local population of essential resources for its livelihood and jeopardizing human security.

***Challenges and Opportunities in Leveraging Diplomatic Efforts for Climate Change***

Li, et al. (2020) in their study, noted that the progress in combating climate change has been sluggish despite the numerous laws and measures that nations and organizations have put into place. This is as a result of many difficulties and restrictions. The authors noted that the absence of political will and the economic interests of a nation present two major obstacles. Notably, owing to their reliance on fossil fuels for their economy, developing countries frequently encounter obstacles when trying to implement climate policies and measures. Additionally, worries about economic competitiveness and the possibility of employment losses may prevent industrialized nations from taking meaningful action on climate change. The lack of financing and resources for addressing climate change is another drawback. Many developing nations lack the technical know-how and financial means to put into place efficient climate policies and plans. Moreover, a global reaction is necessary to address the complexity of climate change, although this can be difficult to do. The United Nations Framework Convention on Climate Change (UNFCCC, 2023) negotiations can be drawn out and acrimonious, and the absence of a legally binding agreement may compromise the efficacy of global efforts.

Apollo & Mbah (2021) in their research study on the need to address climate change identify a chance to help the area undergo the necessary economic transformation. They contend that climate-resilient, low-carbon development may promote inclusive growth, close the energy gap, and lessen poverty and food insecurity. In this instance, the urgency of sound, growth-promoting policies that can survive the climate threat is increased by climate change. Energy-poor nations could skip decades of ineffective

spending on polluting energy sources and jump right to clean energy, which is one critical area where the climate change imperative presents an opportunity for Africa. This is significant because, over the past 15 years, Africa's disproportionate access to electricity has exacerbated larger disparities related to gender, poverty, and the rural-urban split. Rebuilding energy systems also creates the conditions for subsidy reform and carbon pricing alone to increase government income, sustain growth, improve health, eradicate poverty, and create low-carbon jobs (GCEC, 2018). Policies centered on utilizing science and digital technologies also hold the greatest promise to address food security concerns, as climate change threatens the means of production and the nourishment of the continent's population.

Summerlin et al. (2020) in their study note that there is still a gap in implementation when it comes to local efforts to integrate adaptation into CIPDs, despite the benefits of integrating climate adaptation into development. The authors noted a mismatch between the development plans and sectoral policies on paper and actual community practice. Three lessons can be learned from Kenya's mainstreaming of climate adaptation into development, according to Summerlin et al. (2020): i) incentivised mainstreaming encourages action; ii) local leadership fosters support for adaptation; and iii) stakeholders' inclusiveness addresses local vulnerabilities. The authors stress the crucial roles that capacity building, strong stakeholder involvement, and access to funding have in furthering the implementation of programs for climate-resilient, sustainable development.

### 1.3.3 Conceptual Framework

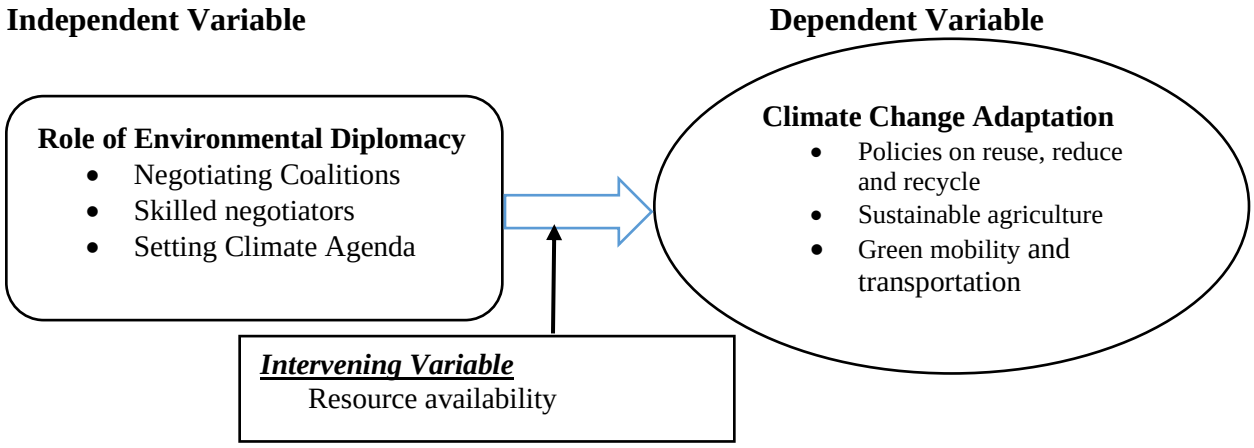


*Figure 1: Conceptual Framework*

## Conceptual review

### *Climate Change*

Climate change concept is used in this study to refer to the gradual alterations in several climate parameters over an extended duration (Raihan, 2023). Variations in temperature, precipitation, wind, storms are used to measure this concept. Climate change is also measured using additional significant The United Nations Framework Convention on Climate Change (UNFCCC, 2007), characterizes climate change as "any shift in the climate over an extended period, presumably resulting from mankind's actions or natural volatility" with indicators, such as sea level rise such as precipitation, temperature, and wind

patterns. This indicates that changes in climate are brought about by either natural or man-made factors (United Nations, 2023). Natural events also contribute to climate change, even though human activity is frequently highlighted as the primary cause. According to Schnegg et al. (2021), ecological issues caused by humans are to blame for climate change, which results in global warming. When the demand for fossil fuels rises worldwide, there is an increase in Earth's temperature and an increase in Green House Gas (GHG) emissions into the atmosphere, resulting into global warming.

As noted by Rüttinger et al. (2015), climate change can be viewed as the ultimate 'threat multiplier' for developing countries, exacerbating existing vulnerabilities and potentially contributing to social upheaval and conflict. Consequently, in regions affected by fragility and conflict, individuals face formidable barriers to achieving effective adaptation (Rüttinger et al., 2015). These countries could leverage environmental diplomacy to access crucial support including climate finance, technology transfer, capacity and knowledge (Georgieva, Gaspar, & Pazarbasioglu, 2022). As a global issue that impacts all countries, climate change demands global governance in a world that is becoming more interconnected on a number of levels. Although Africa's increased Green House Gas (GHG) emission is only a small part of the continent's overall contribution to climate change, it nonetheless poses a problem for the continent (Tsega, 2016).

***Climate Change Adaptation***

Adaptation aims to lessen the negative effects of climate change (Abbas et al., 2022). There are significant variations between M&A in practise, including the sizes of the departments and the research engaged, despite the fact that they have the same end goal, which is the sustainable growth of human civilization. According to Schoenefeld et al. (2022) adaptation is the use of regulatory methods in the face of existing or anticipated climatic stimulation; the goal is to lessen the effects of climate change and increase adaptive capability. Adaptive measures that are implemented well could lessen area risk while also opening up possible growth prospects. Compared to mitigation, adaptation has garnered less attention. As a result, research on adaptation is still in its infancy and frequently falls short, particularly in developing nations. When compared to mitigating measures, adaptation entails greater complexity, constraints, and challenges.

The study's application of the mitigation concept focuses on Lu (2013) perspective that centres on lowering the rate of increase and the magnitude of changes in greenhouse gases (GHG). However, Rezvani et al. (2023) explains that adaptation concept seeks to focus on the increase of defence and resilience, which lessens the impact of climate change in a passive manner. In order to achieve the goal of slowing down the rate of climate change and decreasing the incidence of catastrophic events, mitigation activity decreases the GHG accumulation by cutting GHG emissions and increasing carbon sinks (Lu, 2013). The majority of mitigation efforts are carried out on a national and regional level. Globalisation will result from the beneficiaries of mitigation spreading to outer regions, making the net advantages of mitigation greater on a global than regional scale. Although adaptation actions have multifaceted implications and expenses, the overall advantages at regional scales outweigh those at a global scale: the adaptation action is more appealing when the benefits are smaller in space (van Vuuren et al., 2011).

***Resource Availability***

The role of environmental diplomacy in facilitating climate change adaptation is significantly influenced by the availability of resources (Schnegg et al., 2021). Significant financial and technological resources are needed for climate change adaptation, but these resources are frequently deficient in developing nations that are most susceptible to the effects of the climate. In order to facilitate adaptation efforts in these nations, environmental diplomacy can aid in securing financial and support from other governments. The creation of consensus positions and plans, however, has been impeded by conflicts among African negotiators on matters such as the role of fossil fuels in the energy transition, so postponing much-needed adaptation help. The efficacy of climate change adaptation can also be hampered by a lack of resources and environmental damage, such as deforestation. By mediating disputes over natural resources and encouraging sustainable management techniques, environmental diplomacy can assist in addressing these underlying problems (Schnegg et al., 2021). Thus, a key element influencing the function and results of environmental diplomacy in promoting climate change adaptation, particularly in developing nations, is the accessibility of resources—financial, technological, and natural.

## 1.4 Methodology

For this article, a descriptive research method was used since it enables a thorough examination of the impact of environmental diplomacy on the process of climate change adaptation (Creswell & Creswell, 2017). The approach, which offered a thorough and in-depth explanation of the phenomenon, was in line with the paper's goal on comprehending how environmental diplomacy helps climate change adaptation in Kenya. Besides secondary data was obtained from peer reviewed scholarly articles, online sources including government publications.

Responses from local environmental NGOs, Environmental researchers from local environmental institutions, government representatives, and environmental ambassadors actively engaged in climate change-related matters in Kenya were the intended audience for this research. In this instance, one hundred and fifteen officials were chosen in total for the study as the target population. The estimated population size of one hundred and fifteen (115) people was determined by making reasonable assumptions and using available data to approximate the total number of people in the target demographic (Lesko et al., 2022). The sample size distribution across these categories was done by use of proportionate sampling technique, where each category had twenty-two respondents. In this approach, the sample size of each stratum corresponded directly to the population size of the overall stratum population. Therefore, each strata sample had an identical sampling percentage. The sample size distribution across the categories was ascertained by applying the stratified random sampling technique. Purposive sampling was used to select the respondents. This involves the selection of participants based on specific qualities, areas of competence, and relevance to the research topic (Creswell & Creswell, 2017).

The respondents for qualitative data were recruited through phone calls, and their contact information was provided by their respective organizations. The first recruited respondent provided multiple referrals during sampling. In this case, each referral was explored until sufficient primary data was obtained. This began with the identification of initial contacts with a view to identifying and establishing contact with

the key informants/respondents. Initially, five interviews were conducted as part of this inquiry. However, saturation of the data was detected after ten interviews.

Analysis of quantitative data was done by use of descriptive statistics. Factor analysis was used for the quantitative data, while theme analysis was used for the qualitative data. Inferential statistics were also used in the study to discuss the future prospect in leveraging Kenya's diplomatic efforts for Climate Change adaptation. Thematic analysis, which uses data reduction and analysis strategy was used to analyse qualitative data.

## 1.5 Findings and Discussions

This section presents the results alongside discussions from the primary data on the role of environmental diplomacy on climate change adaptation in Kenya. The first section provides the results followed by the discussion.

### *Kenya's level of compliance with global environmental treaty obligations*

A significant percentage of participants (43.6%) agreed with the study's findings, which show that Kenya actively participates in global environmental discussions. This shows that when it comes to international partnerships and campaigns addressing environmental diplomacy and climate change, the Kenyan government has been proactive. This entails collaborating with organisations such as the United Nations Environment Programme (UNEP) and taking part in global gatherings and conversations around climate change. Nonetheless, the findings also suggest that opinions differ about Kenya's contribution to energising negotiation groups and promoting international climate action platforms. There may be considerable doubt about Kenya's capacity to successfully coordinate international efforts on climate change, as indicated by the majority of participants (55.2%) who disagreed with this statement.

Furthermore, a considerable percentage of participants (46.1%) disagreed with the statement that professional negotiators are used in international forums, according to the data. This shows that Kenya might not have the necessary specialised knowledge and skills to effectively represent its interests and further its objectives in environmental diplomacy and climate change negotiations.
Overall, the findings imply that although Kenya is actively participating in multilateral environmental discussions, there might be certain restrictions and difficulties in its capacity to successfully negotiate and represent its interests internationally.

The results showed that a significant proportion of participants need more confidence in the ability or reliability of the government's designated negotiators to tackle environmental diplomacy and climate change-related matters effectively. This conflict may arise from reservations about their qualifications, conflicts of interest, or appointment bias. The discord may also reflect respondents' belief that previous attempts by the negotiators to reach acceptable results were unsuccessful. They might think that talks need to be more bureaucratic, too slow, or sensitive enough to the pressing issues that climate change presents.

Further, 49.4% expressed inadequate collaboration between environmental organizations and County and national governments. Responses saying a lack of cooperation could indicate an assumption that County and national governments need to listen more adequately to environmental groups' concerns.

Experiences with limited involvement could influence this impression, ignored policies, or inadequate support from the government. Moreover, more than half of the respondents, 51.7%, agreed that environmental diplomacy is crucial in setting climate change agendas in Kenya. This implies that international accords and negotiations, such as the United Nations Framework Convention on Climate Change (UNFCCC), greatly influence Kenya's climate change objectives. They perceive these diplomatic initiatives as crucial in influencing national policy decisions and initiatives.

**Table 1: Responses on Roles of Environmental Diplomacy on Climate Change Adaptation**

| Measures | SD % | D % | N % | A % | SA |
|---|---|---|---|---|---|
| Kenya plays an active role in the multilateral environmental negotiations | 2.3 | 17.2 | 36.8 | 24.1 | 19.5 |
| Kenya has effectively galvanized negotiating coalitions like Africa Group in advancing climate action at global negotiation forum | 25.3 | 29.9 | 29.9 | 11.5 | 3.4 |
| Kenya deploys skilled and seasoned negotiators at the global multilateral negotiation forum | 17.2 | 29.9 | 27.6 | 14.9 | 10.3 |
| Environmental organizations in Kenya directly collaborate with National and County governments to address environmental concerns | 26.4 | 23.0 | 4.6 | 10.3 | 35.6 |
| Environmental diplomacy plays a key role when it comes to setting climate change agendas in Kenya | 16.1 | 23.0 | 9.2 | 16.1 | 35.6 |

***Source: Field data, 2024***

***The role of environmental diplomacy in climate change adaptation in Kenya***

The role of environmental diplomacy (RLE) and climate change adaptation (ADM) in Kenya were found to be statistically significantly correlated, according to a correlational analysis utilising the Spearman correlation analysis. The findings show a statistically significant positive correlation between the two variables, indicating that variations in the role of environmental diplomacy are correlated with variations in efforts to adapt to climate change. A moderately positive correlation (ρ) between RLE and ADM is indicated by the correlation coefficient of 0.118. This implies that efforts to adapt to climate change tend to increase in tandem with the growing importance of environmental diplomacy. On the other hand, attempts to adapt to climate change also tend to decline as environmental diplomacy becomes less important.

The correlation's statistical significance ($p<.05$) provides additional evidence for the results, suggesting that the association between RLE and ADM is not likely to be the result of random chance. This implies that there is a real relationship between the two variables and that oscillations in data are not the cause. The study's conclusions have significant ramifications for practice and policy. They contend that efforts to adapt to climate change should be intimately linked to the role of environmental diplomacy and that it is essential to Kenya's efforts to adapt to climate change. This emphasises how important it is for practitioners and politicians to take environmental diplomacy into account while addressing climate change.

The study's findings underscore the significance of environmental diplomacy in facilitating the execution of adaption strategies against climate change. The model's substantial positive predictor of the role of environmental diplomacy (RLE) indicates that there is a predicted rise of 0.059 in the implementation of climate change adaptation measures for every unit increase in environmental diplomacy activities. This study suggests that effective performance in the process of adapting to climate change is more likely to be ensured by competent management of numerous opportunities and difficulties. In other words, by encouraging sustainable development, fostering cooperation, and fostering trust, successful environmental diplomacy can result in improved outcomes for climate change adaptation.

The impact of environmental diplomacy on the adoption of climate change adaptation measures is moderate, as indicated by the magnitude of the effect size (0.059). This implies that in developing and putting into practice methods for adapting to climate change, environmental diplomacy should be considered.

The findings from NEEMA further showed that government policy documents encourage organizations to reduce their emissions, but the encouragement is primarily advisory rather than mandatory (NEEMA Report, 2020). Further, the interview findings, especially from NGO and government officials, revealed that the government's actions in Kenya primarily focused on adaptation rather than mitigation. Such finding is consistent with previous research (Berry et al., 2015) that reports climate change actions in different parts of the world primarily focus on adaptation or mitigation actions. However, some recent studies strongly suggest that the government, including local NGOs, should include and integrate both climate change adaptation and mitigation works (IPCC, 2022). This approach was strongly supported by some of the UNEP and NGO officials interviewed.

On the role of environmental diplomacy as pertains to collaboration between Environmental organizations and the government, The Global Environment Facility (GEF) and the United Nations Environment Programme (UNEP) are assisting the National Environment Management Authority (NEMA) in putting into practice The Enhanced Regulatory and Information Management Systems for Integrated Implementation of Multilateral Environment Agreements. The project's principal aim is to augment the nation's capacity to tackle worldwide environmental concerns pertaining to land degradation, climate change, biodiversity preservation, and chemical management by means of efficient, synchronised, and comprehensive execution of corresponding multilateral environmental accords. By creating and implementing an integrated multi-convention information and reporting system, the initiative seeks to increase efficiency and effectiveness in fulfilling the duties and responsibilities of closely associated MEAs.

Notably, because the goals and duties change at different levels of administration, Kenyan government policies cannot be applied universally to local organizations. This outcome is consistent with earlier studies conducted by Lesnikowski et al. (2021). According to this study, local NGOs carry out the real work on climate change mitigation while national governments create high-level policies and make vows to address the issue. High-level policy directives are currently provided by the government, while local and international NGOs are in charge of a number of crucial tasks related to adapting to climate change, such as disaster preparedness and oversight, facilities asset administration and planning, and the development of land use plans and oversight. Similar to this, because the effects of climate change are

frequently context-specific, governments are the main actors in climate change adaptation, according to a research by Marigi (2017) that evaluated the literature. Usually, how we respond to these effects needs to come at the local level (Mfitumukiza et al., 2020).

Although some professionals from the research institute perceived that studies on the obstacles to global warming adaptation indicates that grassroots efforts are anticipated to be more effective than centralized approaches, which implies that state agencies should take the lead in addressing climate change (Aguiar et al., 2018). Some studies criticize this strategy, despite the fact that the participants stated that county governments are believed to be in an advantageous position to lead the process of adaptation since they are viewed as being closer to their populations. This is due to their incapacity to rule and make choices on their own. Their operations are frequently limited by complexity in the areas of finance, rules and laws, and institutional frameworks (Nalau et al., 2015).

Regarding environmental law, opinions on how well international environmental accords are being implemented varied. Since the results lack this systematic empirical examination reveals outcomes throughout the entire membership of MEAs and provides similar criteria across the numerous conventions. They also lack a uniform definition for measuring standards. Treaties differ in their understanding of what constitutes appropriate state party behaviour, even when it comes to the same environmental challenges. For instance, within the contamination cluster, signatories to the Stockholm Convention are expected to focus on more complex aspects of controlling the existence of Persistent Organic Pollutants, whereas Basel Convention responsibilities are based on reforms at the parliamentary and regulatory level. The obligations within the environment cluster also vary (Pickering et al., 2020).

Determining the extent to which nations are meeting their duties and incorporating them into national policy is made more difficult by issues with the ambiguity of legal requirements and national reporting requirements. Key concepts for evaluating the efficacy of the actions done and their influence on the status of the environment are absent, and there is a clear lack of consensus regarding nomenclature. Moreover, data now available indicates that states occasionally behave in ways that defy expectations and fail to implement these adjustments. Academic studies undertaken in a particular country, like those by Nukusheva et al., (2021), as well as issue-based research, regulatory reports, and assessments performed by the conventions, like the Global Wetlands Outlook, provide proof that responsibilities are not being carried effectively to the full extent that the accords intend.

### 1.6 Conclusions and Recommendations

The paper concludes that opportunities such as ratification of treaties and protocols play a significant role in setting pace for the implementation of mitigation and adaptation strategies on climate change. Through environmental diplomacy, the persistent expansion of ecological deterioration worldwide and the sluggish speed of environmental conservation strategy implementation can be reconciled. Furthermore, environmental diplomacy involves devising methods, modifying measures, and changing attitudes to guarantee that agreed-upon environmental conservation and ecosystem preservation are implemented quickly. Conflict between human demands and the natural forests is perpetuated by both environmental and non-environmental actions. The study concluded that a comprehensive climate change adaptation strategy is necessary, which are capable of putting into consideration a holistic

collaborative approach, however, financial gap and political will provide major impediments towards the climate change adaptation processes.

Kenya, a nation susceptible to the effects of climate change, stands to gain a great deal from pursuing environmental diplomacy to strengthen its adaptation efforts. Kenya can obtain the financial resources, technologies, and knowledge required for successful adaptation by working with other countries, international organisations, and regional agencies. Notably, environmental diplomacy can assist Kenya in advocating for its adaptation preferences and bolstering its position in the global climate negotiations. Kenya may better handle its unique requirements and difficulties by actively engaging in international climate forums and influencing the creation of international climate policies, frameworks, and funding mechanisms. Kenya acknowledges the interconnection of social, environmental, and economic concerns in its strategy to combating climate change. Its policy on climate change emphasises how important equality and climate justice are to the shift to a sustainable future. The goal of this policy is to guarantee an unbiased and inclusive national response to climate change. Kenya's Climate Change Amendment Act 2023 is evidence of the nation's determination to strike a balance between development that is environmentally responsible and climate justice. The Act makes sure that the cost of addressing climate change is not distributed unfairly by emphasising intergenerational responsibility and the protection of disadvantaged people.

Kenya's legal system demonstrates the country's commitment to climate justice. For instance, the Owino Uhuru community received compensation from the Land and Environment Court in Mombasa for their experience with lead poisoning due to a nearby smelter. This decision kept the government and businesses responsible while defending the community's right to a safe environment. Kenya's inclusive approach is also reflected in its grassroots organisations and environmental justice initiatives. Groups that have historically been excluded from decision-making processes, like the Sengwer and Ogiek, are becoming more and more acknowledged as important players in environmental governance. In order to defend these communities' rights and hold responsibility bearers accountable, civil society organisations such as the Centre for Justice, Governance, and Environmental Action are essential.

The study's conclusions have important ramifications for practice and policy. They emphasise how important it is for practitioners and politicians to give environmental diplomacy top priority when addressing climate change. By doing this, they can increase the efficacy of climate change adaption and mitigation strategies by utilising the advantages of environmental diplomacy.

On the basis of these results, future studies could investigate the precise pathways by which environmental diplomacy affects adaptation to climate change. For instance, scientists could look into the effects of environmental diplomacy on the creation of policies related to climate change, the distribution of funding for adaptation to climate change, or the involvement of stakeholders in such initiatives.

Further, Kenya and other countries should ensure that local communities are included in environmental diplomacy initiatives. In this case, countries should ensure that local people, particularly those most at risk from the effects of climate change, are actively involved in the planning, execution, and oversight of adaptation programmes and have a say in decision-making processes. Particularly, Kenya should also

incorporate environmental diplomacy principles into its national climate change adaptation initiatives, plans, and strategies. This makes sure that diplomatic initiatives are successfully mainstreamed into national development frameworks and correspond with domestic interests.

**References**

Aguiar, F. C., et. al. (2018). Adaptation to Climate Change at Local Level in Europe: An Overview. *Environmental Science & Policy*, 86, 38-63.

Apollo, A., & Mbah, M. F. (2021). Challenges and Opportunities for Climate Change Education (Cce) in East Africa: A Critical Review. *Climate*, *9*(6), 93.

Berry, P. M., Brown, S., Chen, M., Kontogianni, A., Rowlands, O., Simpson, G., & Skourtos, M. (2015). Cross-sectoral Interactions of Adaptation and Mitigation Measures. *Climatic Change*, *128*, 381-393.

GoK. (2020). *Submission of Kenya's Updated Nationally Determined Contribution.* Nairobi: Government of Kenya

Lesko, C. R., Fox, M. P., & Edwards, J. K. (2022). A Framework for Descriptive Epidemiology. *American journal of epidemiology*, *191*(12), 2063-2070.

Lesnikowski, A., Biesbroek, R., Ford, J. D., & Berrang-Ford, L. (2021). Policy Implementation Styles and Local Governments: the Case of Climate Change Adaptation. *Environmental Politics*, 30(5), 753-790.

Malnes, R. (1993). Robert E. Goodin: *Green Political Theory*. Cambridge: Polity Press, 1992, 240 pp. Scandinavian Political Studies.

Masson-Delmote , V. P., Zhai, H. O., Portner, D., RobertsJ, Skea, P. R., Shukla, A., Waterfields, T. (2019). *IPCC, 2018: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and.* In Press.

Mateche, D. E. (2011, January 18). *he Cycle of Drought in Kenya a Looming Humanitarian Crisis*. Retrieved from Institute for Security Studies: https://issafrica.org/iss-today/the-cycle-of-drought-in-kenya-a-looming-humanitarian-crisis#:~:text=The%20cycle%20has%20reduced%20over,cope%20with%20in%20earlier%20years.

Mbengue, M.M., & Cima, E. (2022). 12. Environmental Diplomacy: "The Elements". *Research Handbook on Law and Diplomacy*, *209*, p.209.

Mfitumukiza, D., Mwesigwa, G. Y., Kayendeke, E. J., & Muwanika, V. B. (2024). Local Context Capacity Building Needs for Climate Change Adaptation among Smallholder Farmers in Uganda: Policy and Practice Implications. *Climate*, 12(1), 10.

Naidoo, D., & Gulati, M. (2022). Africa's Positioning in Global Climate Change Negotiations. *ISS Africa. Accessed*, *24*(11), 2022.

Nukusheva, A., et al. (2021). Global Warming Problem Faced by the International Community: International Legal Aspect. *International Environmental Agreements: Politics, Law and Economics*, *21*, 219-233.

NEEMA Report. (2020). *Factories Closed, Owners Arrested for Polluting the Environment*. Retrieved from https://www.nema.go.ke/index.php?option=com_content&view=article&id=298:factories-closed-owners-arrested-for-polluting-environment&catid=10:news-and-events&Itemid=454/

Odhiambo, M. O. (2013). The ASAL Policy of Kenya: Releasing the Full Potential of Arid and Semi-Arid Lands- Analytical Review. *Nomadic PeopleVol. 17, No. 1, Special Issue: Securing the Land and Resource Rights of Pastoral Peoples in East Africa (2013),*, 158-165.

Pickering, J., Bäckstrand, K., & Schlosberg, D. (2020). Between environmental and ecological democracy: Theory and practice at the democracy-environment nexus. *Journal of Environmental Policy & Planning*, *22*(1), 1-15.

Tsega, A. H. (2016). Africa in Global Climate Change Governance: Analyzing its Position and Challenges. *International Journal of African Development*, *4*(1), 3.

UNFCCC. (2007, May UNTC). *United Nations Framework Convention on Climate Change.* Retrieved from UNTC: https://treaties.un.org/doc/Publication/UNTS/Volume%201771/v1771.pdf

UNFCCC. (2023). *The Paris Agreement. What is the Paris Agreement?* Retrieved from unfccc.int.

United Nations. (2012). *Sustainable Development 20 Years on From The Earth Summit: Progress, Gaps and Strategic Guidelines for Latin America and the Caribbean.* Retrieved from https://www.un.org/en/climatechange#:~:text=Copy%20link-,Climate%20change,United%20Nations

United Nations. (2023). *What Is Climate Change?* Retrieved from https://www.un.org/en/climatechange#:~:text=Copy%20link-,Climate%20change,United%20Nations

WHO. (2023). *Climate Change*. Retrieved from World Health Organization: https://www.who.int/health-topics/climate-change#tab=tab_1