UNIVERSITY OF GHANA
COLLEGE OF HUMANITIES

INTERNATIONAL REGIMES AND DOMESTIC POLICIES: THE IMPLEMENTATION OF CLIMATE CHANGE MANAGEMENT POLICY IN GHANA.

BY
RACHEL NAA ADJELEY RAPHASON
(10412542)

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DECLARATION

I, RAPHASON RACHEL NAA ADJELEY, declare that this thesis is a research produced from my own hard work under the supervision of Dr Nene-Lomotey Kuditchar and Dr Isaac Owusu-Mensah towards the award of Master of Philosophy in Political Science. I do also declare that this thesis has not been presented by me or anyone for any academic award in this or any other university.

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RAPHASON RACHEL NAA ADJELEY Date

(Candidate)

.................................................. ..................................................

Dr. NENE-LOMOTEY KUDITCHAR Date

Principal Supervisor

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Dr. ISAAC OWUSU MENSAH Date

Co-Supervisor
ABSTRACT

Climate change has turned out to be one of the most destructing problems facing the world today that needs to be addressed. The causes and impacts are not limited to one part of the world or the other but are differentiated in light of the financial structure of a country as well as the ability to adapt. Ghana like many African countries had and continues to experience its fair share of the impacts of climate change manifested in extreme temperatures and unpredictable rainfall patterns. Therefore, Ghana joined the comity of nations to initiate efforts to collectively deal with it on a global scale through the United Nations Convention Framework on Climate Change. The success of the Convention to combat climate change in Ghana will be determined by how far the country has domesticated it. Using a qualitative approach, the study assessed how far Ghana has domesticated the framework Convention on climate change, the challenges and opportunities as well as recommendations for successful implementation. The results show that to a large extent, Ghana has domesticated the UNFCCC. This is evidenced by the ratification of the Convention, developing the National Climate Change Policy and Nationally Determined Contributions, mainstreaming the policies into national and district planning, setting up institutions to coordinate the activities of actors and reporting back to the UNFCCC. The main challenge that runs through all the institutions interviewed was inadequate financing for the projects they undertake. With enough funding and technical expertise, the country will go a long way to achieving low emission and a climate resilient society.
DEDICATION

I dedicate this work to the Almighty God who saw me through when I was at my lowest ebb and thought that all hope was gone. I do dedicate it also to my father, Nee Raphael Mensah, for always being there for me. For loving me and showing me how a good father is. I love you too, mom. You know we are sisters, right?
ACKNOWLEDGEMENT

My gratitude overflows like the river Mississippi. And this is fueled by the act and actions of some angels who appeared to me in the form of flesh and blood. First and foremost, I am most grateful to God for making this project possible and blessing me with family and friends that encouraged me every step of the way.

My daddy, mommy, small sister, Sharon Raphason and big sissy Ruth Kommey will always occupy that space in my heart that have their names inscribed on the doors. To all family members whose names I couldn’t mention, I am grateful. Bro Emma and Nii, I really am grateful.

To Dr. Isaac Owusu Mensah, my school father, one day when I grow up, I want to have a heart like yours. God richly bless you for the love and help. Thank you so much Mr. Steve Ahiawordor, without you too, a lot of things would have gone wrong in my life.

Dr. Daniel Benefoh, even in my next life, I will never forget your deep words of encouragement to me and your invaluable help for my work. To Konrad Adenauer Stiftung, I am grateful for the support.

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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>CA</td>
<td>Copenhagen Accord</td>
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<tr>
<td>CBD</td>
<td>Convention on Biological Diversity</td>
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<td>CO2</td>
<td>Carbon Dioxide</td>
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<td>COP</td>
<td>Conference of Parties</td>
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<td>CDM</td>
<td>Clean Development Mechanism</td>
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<td>EC</td>
<td>Energy Commission</td>
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<td>ENSO</td>
<td>El Niño/Southern Oscillation</td>
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<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
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<td>FC</td>
<td>Forestry Commission</td>
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<tr>
<td>FLEG</td>
<td>Forest Law Enforcement and Governance</td>
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<tr>
<td>GCF</td>
<td>Green Climate Fund</td>
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<tr>
<td>GIZ</td>
<td>German Society for International Cooperation</td>
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<tr>
<td>GMeT</td>
<td>Ghana Meteorological Agency</td>
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<tr>
<td>IFAD</td>
<td>International Fund for Agricultural Development</td>
</tr>
<tr>
<td>IPCC</td>
<td>International Panel on Climate Change</td>
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<tr>
<td>KP</td>
<td>Kyoto Protocol</td>
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<tr>
<td>MESTI</td>
<td>Ministry of Environment Science Technology and Innovation</td>
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<tr>
<td>MoF</td>
<td>Ministry of Finance</td>
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<td>MoFA</td>
<td>Ministry of Food and Agriculture</td>
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<td>NAO</td>
<td>North Atlantic Oscillation</td>
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<td>NCCC</td>
<td>National Committee on Climate Change</td>
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<td>Acronym</td>
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<td>NCCP</td>
<td>National Climate Change Policy</td>
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<td>NDC</td>
<td>Nationally Determined Contributions</td>
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<td>NDPC</td>
<td>National Development Planning Committee</td>
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<td>NPO</td>
<td>North Pacific Oscillation</td>
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<tr>
<td>PA</td>
<td>Paris Agreement</td>
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<td>PDO</td>
<td>Pacific Decadal Oscillation</td>
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<tr>
<td>REDD+</td>
<td>Reducing Emissions from Deforestation and Forest Degradation</td>
</tr>
<tr>
<td>SBSTA</td>
<td>Subsidiary Body for Scientific and Technological Advice</td>
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<tr>
<td>SDG</td>
<td>Sustainable Development Goal</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<td>UNCCD</td>
<td>United Nations Convention to Combat Desertification</td>
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<td>UNCED</td>
<td>United Nations Conference on Environment and Development</td>
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<td>WMO</td>
<td>World Meteorological Organization</td>
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CHAPTER ONE – INTRODUCTION

PRESSURES OF CLIMATE CHANGE AND NATIONAL RESPONSE IMPERATIVES

1.1 Background of Study

In recent times, much attention has been paid to climate change in global discussion discourse. This can partly be attributed to the adverse effects it has across countries. The Paris Agreement and Sustainable Development Goal (SDG) 13, therefore, seek to mobilize collective climate action to help address this problem. The impacts of climate change present an imminent threat to most African countries because their economies are susceptible to the changing global climate. Already, Ghana is confronted with many developmental challenges such as poverty, HIV, corruption, unemployment, environmental pollution, rising population, etc. and the repercussions of climate change can compound the severity of the challenges the country is bedevilled with. Moreover, Ghana is particularly in a vulnerable position because its economy is highly dependent on climate-sensitive areas such as agriculture, water, energy, and infrastructure as well as natural-resource dependent livelihoods. The livelihoods of the citizens rely heavily on these natural resources and if they get depleted about 60% of the active population will be without jobs and lose their sources of income (NDPC, 2010).

According to Asante and Amuakwa-Mensah (2015:79), African countries are the least responsible for climate change because their national contributions to the greenhouse gas emissions are less significant in terms of total emissions into the atmosphere. The Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) indicates that if emissions keep rising at the
present levels, calamity as biodiversity misfortune and high recurrence of outrageous weather patterns awaits the earth (IPCC, 2014).

Ghana’s recorded total national greenhouse gas emissions were 42.2 MtCO$_2$e (million tonnes of carbon dioxide equivalent) in 2016 (EPA, 2015: 80). The 2016 emissions are 66.4%, 53% and 7.1% more than the previously reported net emission levels for 1990, 2000 and 2012 respectively. (Figure 1).

![Figure 1: Total emissions in Ghana over the years (source: adapted and modified from Ghana’s Fourth National Greenhouse Gas Inventory Report)](image)

The manifestations of these emissions in the air include unpredictable rainfall, increase in sea level and extreme weather events (NCCP, 2014:2). The impacts of these manifestations affect several different sectors of the economy. The high-temperature phenomenon can induce a decline in water levels in hydroelectric dams in the country. Similarly, in the agricultural sector, the statistics from
the EPA (2015) shows that more than 5 million smallholder farmers who rely heavily on rainfall are likely to be affected. This is because the farmers are no longer able to adequately plan when to plant in the midst of an erratic rainfall pattern.

Hence, decisive, immediate and effective action must be taken to safeguard Ghana’s long-term developmental aspirations. The country’s current plan for medium-term, “An Agenda for Jobs: Creating Prosperity and Equal Opportunity for All” (2018-2021) addresses climate change as a developmental challenge. This is a resolve to mainstream climate change into national, sectoral, regional and local level planning processes (Antwi-Agyei, 2018). Beside the Agenda for Jobs, the National Climate Change Policy (NCCP) and the Nationally Determined Contributions (NDCs) are key documents guiding the implementation of climate change interventions in Ghana. The ability to achieve the policy targets depend on the extent of implementation of the identified programmes and access to funding, capable institutions, and appropriate technology.

The NCCP was formulated by Government to spell out Ghana’s integrated response to climate change and its development is in accordance with Article 4 of the United Nations Framework on Climate Change (hereafter “the Convention”) (NCCP, 2014). Article 4 of the ‘’Convention’’ stipulates that Parties must develop national policies to mitigate against climate change by addressing emissions form human activities. The Cabinet of Ghana officially agreed to the NCCP in 2013 and it was officially launched in 2014. The NCCP aims at ensuring “a climate-resilient and climate compatible economy while achieving sustainable development through equitable low carbon economic growth for Ghana” (NCCP, 2014). The NCCP identified ten policy focus areas for achieving the policy vision. The policy focus areas are:
Figure 2: The ten policy focus areas of the NCCP Adopted and modified from (Source: NCCP, 2014).

The Government of Ghana has also produced its Nationally Determined Contributions (NDCs) to the Paris Agreement in 2015. The contribution includes 31 climate change measures involving 20 mitigation and 11 adaptation actions with a ten-year implementation timeframe. The NDCs was prepared in response to the Paris Agreement which asked countries that are willing to do so to outline their national commitments and to periodically provide a progress report and state the support required to achieve them (Crumpler & Stefano, 2017). These policies have been developed with inspiration from the “international regimes” (Adu-Boateng, 2015).

The term international regime was originally used to describe formal agreements between states, but the concept has since evolved (Hopkins and Meiches, 2012:1). The exact definition of a regime is debated but it is most commonly referred to as a set of “principles, norms, rules and decision-making procedures around which actors’ expectations converge in a given area of international relations” (Krasner, 1982: 186). A regime creates a standard of behaviour expected from individual states and cultivates a general sense of obligation for these states. Krasner (1982)
characterized international regimes as certain or express standards, guidelines and basic leadership strategies around which on-screen characters' desires merge in a given region of global relations. The adoption of the United Nations Framework on Climate Change is to combat the effects of climate change across the globe and national policies from the individual states resonate well with the international regime (Krasner, 1982:186).

The United Nations Framework Convention on Climate Change which is the international regime on climate change was adopted on 9th May 1992. It was entered into force on 21st March 1994 (UNFCCC, 2006). Ghana became a party to the UNFCCC after ratification in September 1995. The Kyoto Protocol and the Paris Agreement originated from the Convention. Ghana ratified the Kyoto Protocol in 2005 and the Paris Agreement on 4th August 2016. Currently, there are 198 parties to the Convention. The ultimate objective of the Convention is to stabilize greenhouse gas concentrations "at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system." (UNFCCC, 2019:4)

To achieve this ultimate objective of the Convention in the individual states, governments must domesticate the framework convention to suit its local needs. National climate change policies developed must reflect the objective of the Convention but be localized so the ordinary citizen can relate to it and be positively affected by its implementation. The study then comes in to assess whether the country’s policies do reflect the UNFCCC and whether they have been domesticated to address the needs of the Ghanaian citizen.
1.2 Problem Statement

The purpose of the international climate change regime is to ensure that there is a coordinated global policy and action to combat the problem of climate change. With all countries acting in concert and national policies aligned with the international goals, the chances of success are enormous. According to Raustiala (1995) domestication of international climate change agreements must lead to the implementation of national policies that must trickle down to the very people that are severely affected by the change in the climate. But many African countries are often not able to meet up with the obligations that come with international agreements and do not fully domesticate them because of lack of political will, the inability to bring on board key actors, inadequate financial and technological support and the competing demands of other developmental problems the continent is faced with. Notwithstanding, African countries are always quick to sign and ratify these multilateral environmental agreements.

As a Party to the UNFCCC, Ghana is enjoined in Article 4 of the Convention to take steps to implement domestic measures for the realization of its ultimate objectives and regularly report progress according to Article 12. After 24 years of becoming a Party to the Convention, it is not clear how the country’s involvement with the international regime has contributed to Ghana’s effort to deal with climate change. It has attracted very little academic interest, making it extremely rare to find empirical studies into the compliance of Ghana’s national policies with international regimes. Thus, independent evidence-based answers to the lingering questions of whether there is the domestication of the framework convention or not are not known. Neither have the reasons or otherwise been advanced. This study will address this problem by assessing how the UNFCCC has come in to help tackle the issue of climate change policy implementation, how far Ghana has domesticated or localized the UNFCCC to her own benefit and the challenges involved. Using a
qualitative approach, it will unravel to what extent national policy formulation and implementation have been aligned with the UNFCCC and how that has helped in climate change mitigation. In what ways do governments adopt international regimes to suit local needs?

1.3 Objectives of the Study

The overall objective of this study is to assess the extent to which the UNFCCC has been domesticated and the implementation challenges and opportunities for improvements. The specific objectives are as follows:

- Assess the steps that Ghana has taken to implement the Convention since 1995.
- Identify the key challenges and opportunities for taking steps to implement the convention
  Evaluate the options for improvement in the implementation of the convention.
- Propose recommendations for future research

1.4 Significance of the Study

This study will help ascertain the level of convergence between the interest of the state and the international regime. In doing this, it fills a major gap in empirical research and independent evidence-based assessment of Ghana’s participation in the international climate change regime.

The study will also serve a good resource for informing the academic discourse on the challenges in the formulation and implementation of climate change policies. This is essential given the increasing importance of climate change to national development policy discussions among civil society players, government functionaries and international development partners.

The study will further provide a good basis for comparative studies on related policies in other countries. And finally, the study will contribute to the literature on climate change in Ghana.
1.5 Scope of the Study

The scope of this study will mainly focus on state actors and how they have contributed to shaping climate change management policy in Ghana. The policies include the National Climate Change Policy and the Nationally Determined Contributions. Hence, ten government institutions involved in climate change policymaking were assessed to understand their role and interventions from 1995 when Ghana ratified the United Nations Framework Convention on Climate Change.

1.6 Organization of Study

The study is organized into six chapters. Chapter one is the introductory chapter that focuses on the general background of the study, statement of the problem, research objectives, scope and significance of the study, the chapter organization of the research and the chapter summary.

The next chapter concentrates on the review of the relevant literature on climate change issues in Ghana.

Chapter three contains the theoretical framework in which the research is situated.

Chapter four deals with the research methodology. This includes the methodological approaches, research design, the population of the study, sampling techniques, data collection instrument, sources of data and data management, validity and reliability, ethical considerations and limitations.

The penultimate chapter deals with the presentation of the research findings and discussions.

Finally, chapter six concludes, summarizes and makes recommendations for future studies.
1.7 Chapter Summary

The chapter looked at climate change in Ghana. It discussed the policies the government of Ghana has put in place to combat climate change; thus, the NCCP and the NDCs. It briefly discussed international regimes on climate change, specifically, the framework Convention on Climate Change. It also included the research problem, the research objectives, and the scope of the study, the significance and organization of the study.
CHAPTER TWO – LITERATURE REVIEW

PERSPECTIVES ON THE INTERNATIONAL REGIME AND DOMESTIC POLICY INTERFACE

2.1 Introduction

This chapter contains a review of relevant literature on the study. The review covered the concept of the Anthropocene, the evolution of international climate change regime, climate change in Africa and Ghana, institutional arrangement of climate change activities in Ghana, the role of the state actors involved in the implementation of climate change policy in Ghana, the Nationally Determined Contributions and the National Climate Change Policy.

2.2 The Anthropocene

According to Zalasiewicz et al. (2011: 836), “Human activity has caused great changes to the earth and geologists think we have entered a new geological epoch called the Anthropocene”. “The Anthropocene refers to the Earth's most recent time period which is anthropogenic, based on overwhelming global evidence that atmospheric, geologic, hydrologic, biospheric and other earth system processes are now altered by humans” (Encyclopedia of the Earth, 2018). According to Crutzen (2006) who widely popularized the term Anthropocene in the 2000s, anthropogenic activities are increasingly and adversely affecting the earth in many ways which are not naturally produced. These incorporate the production of harmful substance mixes, for example, chlorofluorocarbons which are in charge of the “ozone hole”. Indiscriminate cutting down of trees by humans which destroy the forest’s ability to absorb CO₂ in the climate as well as polluting water bodies.
The beginning of the industrial age in the 20th century saw the exploitation of fossil fuels for energy (Ritchie and Roser, 2017). The emission of these large quantities of greenhouse gases such as chlorofluorocarbons and nitroxides ruined the energy balance at the Earth’s surface. In the Anthropocene, climate change is one of the occurrences and it is trending because of its fast-rising devastating nature across the globe. Climate change is not country-specific and therefore demands a global effort to ensure a marked decline in ozone harming substance outflows by human activities which cause changes in the climate.

2.3 Definitions and Concepts

2.3.1 Climate Change
Coined in 1913 by Swedish scientist and Nobel Laureate, Svante Arrhenius, Climate Change is a term used in reference to the increase of the earth’s average surface temperature, largely caused by an expansion of chlorofluorocarbons in the earth’s atmosphere (Aniagyei, 2015). Svante concluded that “human-caused carbon dioxide (CO$_2$) discharges from fossil-fuel burning and other combustion procedures greatly cause global warming” (Arrhenius, 1897). The United Nations Framework Convention on Climate Change (UNFCCC) defines Climate Change as a “change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods” (UNFCCC, 2011). The International Panel on Climate Change (IPCC) also defined Climate Change “as a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer” (IPCC, 2015). This definition by IPCC is more technical in nature and does not mention the human aspect that leads to a change in the climate. Climate change can, therefore, be explained as the changes in the climate.
caused by human activities or natural processes, but they exist for a long period of time and have devastating effects on the lives and livelihoods; such as loss of biodiversity, food scarcity, population migration, conflict, diseases and even death.

2.3.2 Climate Variability

There is a school of thought that ‘‘human activity is not the cause of climate change, that it is just variations in the atmosphere that brings about the change in climate’’ (Tsonis et al, 2007). The North Pacific Oscillation (NPO), the El Nin˜o/Southern Oscillation (ENSO), the North Atlantic Oscillation (NAO), and The Pacific Decadal Oscillation (PDO) which represent the four major climatic indices are the interactions of these indices and the dominant modes of climate variability are enough to account for all climate change, Tsonis et al (2007) further expounded. According to Lindzen (2007), the natural changes do not need the help of man to get better as nature has always had a way of repairing itself. Fred Singer and Dennis Avery, other opposers of the Anthropocene argument believe that the world has reached the warming phase of a sun-spot variation cycle momentarily (Singer and Avery, 2007). Pearce (2007) also asserts “that the climate has undergone all sorts of changes in the past, long before human beings populated the world and well before the industrial production started so it necessarily must not be that humans caused the change”. Thus, variability is associated with natural occurrences in the atmosphere and not human activities.

The American Meteorological Society in their bulletin, “Explaining extreme events of 2016 from a climate perspective pronounced that the influence of human-caused climate change is greatly pushing extreme weather events beyond the boundaries that natural variability allows” (Herring et al, 2018). “Proponents of the anthropogenic climate theory believe that man’s activity is the direct cause of climate change, that is the fossil fuel burning, deforestation releases high carbon dioxide concentration in the atmosphere which traps heat and makes the environment warmer” (Silver,
1990). This extremely warm environment has disastrous consequences on the earth's flora and fauna because of their vulnerability to it.

2.3.3 Climate Vulnerability

Vulnerability to climate change and variability has been defined as the extent to which a system or society is disposed, or at risk to, and unable to deal with the negative effects of climate change and variability (FAO, 2006; IPCC, 2007; Schneider et al., 2007; FAO, 2008; UNEP, 2009). Vulnerability according to Yarnal (2017) is “the degree to which individuals or the things they value are at mercy of antagonistic effects of environmental change. Consequently, this helplessness determines how extreme the effects may be on the people”. Yarnal (2017) explained that “there are three dimensions of vulnerability to climate change. And these are exposure, sensitivity, and adaptive capacity”. Exposure is the degree to which individuals and the things they are worth could be presented to atmospheric change; sensitivity is how much they could be harmed by that exposure, and adaptive capacity is the degree to which they would undertake some mitigation to reduce the harm. So, “the vulnerability of humans and the things they cherish to climate change depends highly on how exposed and sensitive they are and the measures they put in place to adapt to these changes” (Molnar, 2010).

According to the Intergovernmental Panel on Climate Change (2007), “Africa is one of the most vulnerable continents to climate change”. This is since Africa is exposed to harming atmospheric dangers including outrageous dry spells, flooding and tempests however the mainland has low adaptive capacity making it especially defenseless. This is exacerbated by high poverty rate, heavy reliance on downpour nourished agriculture just as financial and technological constraints. Ghana has a high vulnerability to climate change. Smallholder farmers feel the impact of climate change the more (Morton, 2007). “In Ghana, 92% of households in rural savannah own farm or rear
livestock” (Ghana Statistical Service, 2008). These people who are exposed to climate consequences feel the impact of low yields.

There are models developed to measure the variability or vulnerability to climate change. This is done by the use of the Climate Vulnerability Index. A research study was undertaken by Etwire, Al-Hassan, Kuwornu, and Osei-Owusu (2013) revealed that the Northern Region of Ghana is the most vulnerable and exposed region in Ghana. This they said is due to the lack of information about pending natural disasters, changes in temperature, illiteracy, large family sizes and inadequate access to medical care which makes them more prone to extreme climatic events.

2.3.4 Climate Adaptability

“Two main policies have been developed to combat climate change: mitigation and adaptation” (Tompkins and Adger, 2005). According to The Guardian (2012), “mitigation tackles the root causes, by decreasing and avoiding emission of greenhouse gases”. Adaptation, on the other hand seeks to lessen the risks posed by the consequences of climate change. Climate adaptability means envisioning the unfavorable impacts of environmental change and making fitting move to counteract or limit the harm they can cause, or exploiting openings that may emerge. And when adaptation measures are adopted early enough and are well planned, lives and money are saved. Examples of adaptation measures include: using scarce water resources more efficiently; adapting building codes to future climate conditions and extreme weather events; building flood defenses and raising the levels of dykes; developing drought-tolerant crops; choosing tree species and forestry practices less vulnerable to storms and fires; and setting aside land corridors to help species migrate (Cooper and Pile, 2014). Ghana in a bid to strengthen its adaptive capacity and the resilience of its ecosystems creates awareness through the various ministries. The National Development Planning Commission has “mainstream climate change into the current national
development plan with a view to highlighting the need to reduce climate change risks and also by encouraging the youth to be technologically innovative”.

Figure 3: Vulnerability and Socioeconomic processes.

The diagram above displays vulnerability to the hazards and the variability and risks involved in climate change and the socioeconomic pathways, adaptation and mitigation actions and good governance for climate resilience. Due to the certainty that the effects of environmental change will be experienced worldwide, a global effort is required in order to adapt to these changes. Fig 3 illustrates that for the risks of climate change to be minimized there is a need for good governance.
2.4 Evolution of International Climate Regime

International regimes are put in place as states come together to address global issues. “International regimes are implicit or explicit principles, norms, rules and decision-making procedures around which actors’ expectations converge in a given area of international relations” (Krasner, 1982: 186). They establish standards of behaviour and cultivate a general sense of obligation of states to the general objectives and principles that spring up after the convergence. Due to the universal nature of most environmental issues, there are global efforts to effectively deal with them. The United Nations (UN) provides the platform to deal with the global context of some of these environmental problems. Examples of some global efforts are the Rio Convention and the Stockholm convention. There have been several interventions in the past to solve global environmental problems. “These include the Marpol International Convention for the Prevention of Pollution by Ships in 1973, the Vienna Convention for the Protection of the Ozone Layer in 1985 and the Montreal Protocol on Substances that Deplete the Ozone Layer in 1987” (Sands and Peel, 2012).

“The International Panel on Climate Change (IPCC) was instituted in 1988 by the World Meteorological Organization and the United Nations Environment Programme (UNEP) to examine, evaluate, and synthesize scientific climate change information from around the globe” (IPCC, 2006). The panel provides the government with scientific information that aids in developing national policies. This information also imparts international climate change negotiations. The information comes in the form of periodic assessment reports. “The IPCC is divided into three Working Groups and a Task Force. Working Group I deals with The Physical Science Basis of Climate Change, Working Group II with Climate Change Impacts, Adaptation and Vulnerability and Working Group III on Mitigation of Climate Change. The main objective
of the Task Force on National Greenhouse Gas Inventories is to develop and refine a methodology for the calculation and reporting of national greenhouse gas emissions and removals” (IPCC, 2019).

Figure 4: IPCC assessment over the years

Based on the assessment reports from the IPCC, in 1992, a regime to tackle climate change issues was instituted. This is “the United Nations Framework Convention on Climate Change”. This was the first-ever regime solely for climate change.

2.4.1 United Nations Framework Convention on Climate Change

In 1992, a framework convention on climate change was adopted in Rio de Janeiro. This was in response to the call of the Member States of the United Nations to collaborate to solve the problem
of climate change. The meeting was called the Earth Summit or the United Nations Conference on Environment and Development (UNCED). According to UNFCCC (2019) the Earth Summit led to the adoption of three major conventions and these are the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change”. Out of the three Rio Conventions, the United Nations Framework Convention on Climate Change is the focus of this study.

The UNFCCC was adopted on 9 May 1992. It then entered into force on 21 March 1994 (UNFCCC, 2019). There are 197 countries that have ratified the UNFCCC and these are called Parties to the Convention (UNFCCC, 2019). UNFCCC Parties convene twice every year to deliberate on the implementation of the Convention and negotiation of new climate change policies. The inter-sessions are technical meetings that focus on issues discussed by the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI). Then they meet in the Conference of Parties (COPs) in November/December (UNFCCC, 2019).

The COP session brings together all country Parties to negotiate new issues of concern for the adoption as a decision or treaties of legal effects (accord, agreement, protocol etc). The Kyoto Protocol (KP), Copenhagen Accord (CA) and the recent Paris Agreement (PA) are the major policy milestones since the coming to force of the UNFCCC (Schüssler and Wittneben, 2014)

2.4.2 The Kyoto Protocol

The Kyoto Protocol was put into action on 16 February 2005. It sets legally binding targets for industrialized countries who are high contributors to greenhouse gases in the atmosphere to take positive steps to curb these emissions (Grubb and Brack, 2018). The Protocol is based on Article
3.1 of the UNFCCC that stresses the principles of equity and of “common but differentiated” responsibilities: thus, it acknowledges that member countries can tackle climate change at different levels due to their national economic development, and therefore “puts the obligation to reduce current emissions on developed countries who are also historically responsible for the current levels of greenhouse gases in the atmosphere” (Harris, 1999). Not only was the differentiation principle equitable and fair but it was also considered cost effective. “It is based on the premise that increasing societal development is accompanied by increased pollution” (Gupta and Wong, 2014). The developed countries must, therefore, give money and specialized help to the nations that produce less. The main responsibility time frame began in 2008 and finished in 2012.

In December, 2013 the Green Climate Fund (GCF) was establishment. This was necessitated by negotiations from the Conference of Parties (COP) – 16 in Cancun, Mexico to design a fund that can be accessed by low- and middle-income states to aid in their adaptation to climate change. The fund was to create a pool of money raised from annual commitments from developed countries to an amount of $100 billion by 2020 (UNFCCC, 2019). Developed countries have pledged to provide this assistance to developing countries to help them achieve their own emissions reduction targets. “The GCF opened its headquarters in Songdo, South Korea” (Kim, 2016). The Green Climate Fund was developed from the Kyoto Protocol on the basis of the common but differentiated principle. All parties of the Kyoto Protocol have designated national authorities for the Green Climate Fund in their individual states. In Ghana, the Ministry of Finance is the designated authority that oversees the development of funding proposals to access financial aid from the GCF.

The Kyoto Protocol likewise set up a Clean Development Mechanism (CDM), which brought down the expense for gatherings that took on restricting responsibilities to meet their objectives.
while encouraging feasible improvement in developing nations. The CDM allows Parties to implement a project that reduces greenhouse gas emissions. The subsequent affirmed outflow decreases, known as CERs, would then be able to be utilized to help meet its discharge decrease target. Industrialized countries can buy and sell and use Certified Emission Reductions to meet some of their emissions reduction targets (UNFCCC, 2019).

In 2012, the 18th Conference of the Parties in Doha (Qatar) agreed on an amendment to the Kyoto Protocol. “This was called the 'Doha Amendment' and it establishes a second commitment period from 2013 to 2020 to allow for more time to fulfil the requirements of the Kyoto Protocol’” (Erbach, 2015). The amendment adds new emission reduction targets for participating countries that will last till 2020.

However, due to the unwillingness of the two major carbon dioxide-emitting countries – the United States and China – to participate, the Kyoto protocol agreement was believed to have failed (Britannica, 2019). This led to a new treaty to be signed called the Paris Agreement.

2.4.3 The Paris Agreement

In 2015, the Paris Agreement was adopted and it is to commence from 2020-2030 (UNFCCC, 2019). The central aim of the Paris Agreement is ‘’to strengthen the global response to the threat of climate change by keeping a global temperature rise this century below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius” (UNFCCC, 2006). Also, the understanding intends to engage nations particularly developing nations to manage the effects of environmental change. This will be done by the developed countries providing funding, technology and capacity building to developing countries.
which are more susceptible to the effects of climate change but are even the least contributors of greenhouse gases” (Samson et al., 2011).

The Paris Agreement requires signatories to develop their Nationally Determined Contributions (NDCs) in fulfilment of Article 4 of the Convention. After which states must report the progress of the implementation of the NDCs as requested in Article 13 clause 7 of the Paris Agreement. In the NDCs of France, French Environment Minister, Nicholas Hulot in July 2017 pronounced their scheme to put a stop to automobiles that use petrol and diesel by the year 2040. Norway and Netherland started to do the same in the NDCs by the year 2025 and 2030 respectively. Wind energy is being used to power the electric trains running on the entire Dutch national rail network (The Guardian, 2017)

Ghana submitted her nationally determined commitments to the UNFCCC. They were 31 contributions in all; 20 mitigation actions and 11 adaptation measures. One of the mitigation activities is to advance clean provincial family units. They intend to do this by increasing sun based light substitution in rustic non-jolted families to 2 million. An amount of 300 million dollars is needed to be invested in this venture.

Ghana has been reporting her progress in her national communications and biennial update report to the UNFCCC. The NDCs are the contributions individual nations pledge to undertake to achieve emission reduction in their countries (UNFCCC, 2019). They help to translate the global structures into national policies that are domestically implementable.

2.5 Climate Change in Africa

Climate change is a major threat to the steady growth in Africa (Addaney & Cobbinah, 2019). It can impede the efforts of African countries in achieving their sustainable development goals.
According to Asante & Amuakwa-Mensah (2015), Africa’s contribution to climate change is far less yet it is most vulnerable to the impacts of climate change. According to him, this vulnerability is due to heavy dependence on rainfall for agriculture, worsened by poverty and poor capacity. The IPCC (2007) report stated “that Africa is one of the most vulnerable continents to climate change because of situations aggravated by the interaction of "multiple stresses," occurring at various levels, and low adaptive capacity” (IPCC, 2007).

The evidence of the reality of climate change in Africa abound. ‘‘In Eastern Africa, there are prolonged and excessive droughts, unprecedented floods in Western Africa, and an increase in ocean acidity around Africa’s southern coast” (Lisk, 2009). In mid-March, 2019, a devastating cyclone tore through Mozambique, Zimbabwe, Malawi killing thousands of people and displacing thousands more (Bond, 2019; Reuters, 2019). The massive flooding destroyed properties amounting to millions of dollars.

The consequences of climate change impact changes climate and atmosphere limits and compromises agricultural development and nourishment security, wellbeing, water and vitality security in Africa and this undermines Africa's capacity to create. “The negative impacts of climate change can threaten human security and induce forced migration” (Lisk, 2009). It can also lead to rivalry among networks and countries for fundamental needs and assets, which can lead to conflict and political instability.

According to Denton et. al (2015), “Africa bears the greatest share of the global climate risk burden and must, therefore, seek a more decisive global response to climate change”. African countries must be willing to do more sensitization in their countries. They must also ensure that the national policies they put in place are enforced to meet the needed targets. Africa has the challenge of mostly designing beautiful documents without proper implementation. According to Schipper and
Pelling (2006) stated that Africa is faced with developmental challenges such as hunger, poverty, unemployment and the impact of climate change can worsen the situation. But to tackle the problem of climate change, employment can be created, and infrastructure developed to salvage these developmental problems. For instance, there must be manpower to handle the drive for a climate-resilient economy and this will call for more capacity building and technology advancement which will solve the menace of unemployment, provide income and generate revenue for the government.

2.6 Climate Change in Ghana

Ghana has clear signs of coastal erosion, low agricultural yields, extremely warm temperatures and increased frequency of flood events. “This affects national economic outputs and livelihoods and stresses Ghana’s long-term development prospects” (NCCP, 2014). The nation is especially defenseless against environmental change and fluctuation because of dependence on segments that are touchy to environmental change, for example, agribusiness, ranger service and vitality.

There have been several studies on climate change in Ghana. The focus of most of these studies is in the area of the impact of climate change on livelihoods, mitigation and adaptation measures of climate change and climate financing. Boon & Ahenkan (2012) wrote on “the assessment of climate change impacts on ecosystem services and livelihoods in Ghana”. Boon & Ahenkan elaborated on the vulnerability to climate change and the non-climatic factors, including endemic poverty, the low adaptive capacity which exacerbates this phenomenon. But they did not look at how environmental change approach can be executed to address the issue. Likewise, Fosu-Mensah, Vlek and MacCarthy (2012) additionally composed on ranchers' discernment and adjustment to environmental change. They discussed “the impacts of climate change on rural farmers whose
livelihoods depend largely on rainfall”. Their investigation inspects how ranchers of Sekyedumase region of the Ashanti district of Ghana see climate change and dissects ranchers’ adjustment reactions to climate change. The study also did not take into consideration the policies that must be implemented so the farmer can easily adapt to the changes in climate.

Antwi-Agyei, Dougill & Stringer (2013) studied “the barriers to climate change adaptation in sub-Saharan Africa”. He talked about the worldwide significance of environmental change adjustment and communicated that there is an absence of comprehension of the key obstructions that hinder the compelling usage of adjustment methodologies by families crosswise over sub-Saharan Africa. This work looks at the Sub Saharan stand for adaptation but does not narrow it down to Ghana’s climate policy implementation.

Hence, there is little literature found on the domestication of international agreements in Ghana. Subsequently, this investigation tries to investigate the localization of the international regime’s framework Convention in Ghana. For Ghana to implement these international objectives in a way that addresses her national issues and fits in her national priorities, Tutu & Ackom (2016) identified that there must be an institutional arrangement to coordinate the activities of the state actors involved in climate change policymaking. This will ensure the smooth coordination of activities among the actors’ thereby increasing the government’s chances of winning the fight against climate change.

2.7 Institutional Arrangement of Climate Change Activities in Ghana

In Ghana, the Ministry of Environment, Science, Technology and Innovation (MESTI) is the lead institution for climate change. They coordinate all climate change activities in the country. To successfully achieve this, they have agencies such as the Environmental Protection Agency.
MESTI has set up committees and working groups to support them on their mandate to coordinate climate change activities in the country. To do this, MESTI host the National Climate Change Committee (NCCC). The committee has the mandate to review policies and programs that will help the government to reduce greenhouse gas emissions and carbon sinks sequestration to address climate change in the country (NCCP, 2014).

The actors that make up the NCCC are “the Ministry of Finance (MoF), National Development Planning Committee (NDPC), Ministry of Lands and Natural Resources (MLNR), Ministry of Food and Agriculture (MoFA), Ministry of Energy (MoEn), Energy Commission (EC), Ministry of Health (MoH), Environmental Protection Agency (EPA), Ministry of Foreign Affairs (MFA), Parliament of Ghana (PoGH), Ministry of the Interior (MoI), Ministry of Energy, Ghana Meteorological Agency (GMeT), Forestry Commission (FC), Private Sector—Ecobank, Ghana, Research and Academia—ISSER, University of Ghana and Civil Society Organizations”
The figure below shows the actors involved in the National Climate Change Committee.

![Figure 5: (Tutu Benefoh and Ackom, 2016)](image)

2.8 State Actors and their Roles

To successfully achieve the national policies on climate change, there must be capable institutions to help implement the policies. These institutions are mandated by law to operate in the interest of
the government. The following state actors and their roles in climate change issues have been identified.

2.8.1 Ministry of Environment, Science, Technology and Innovations

The MESTI was established by the government of Ghana to accelerate sustainable development through a strong scientific and technological base. “The mandate of MESTI is to protect the environment through policy formulation and economic, scientific, technological interventions and to set standards and regulations for the application of science and technology in managing the environment” (Ghanaian Ministry of Environment, n.d.). Also, MESTI is the Designated National Authority (DNA) for the Clean Development Mechanism (CDM). “The CDM allows emission-reduction projects in developing countries to earn certified emission reduction credits, each equivalent to one tonne of CO₂. The CERs can be traded and sold, and used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol” (UNFCCC, 2019)

2.8.2 Environmental Protection Agency

The Environmental Protection Agency is an Agency under the MESTI. It was established by the EPA Act 490 in 1994. The Agency is dedicated to protecting and enhancing the country’s environment in particular and broadly seeking common solutions to global environmental problems. It oversees the implementation of the National Environment Policy which seeks to redirect development towards more environmentally sustainable practices. The EPA coordinates the technical activities on climate change. They are the main country implementation institution that oversees climate change study teams in developing climate change projects, reports and communique. The EPA researches and reports on climate change issues in Ghana. They produced Ghana’s first, second and third national Communications on climate change that was submitted to

University of Ghana http://ugspace.ug.edu.gh
the UNFCCC of which they are currently working on the fourth national communication. They played a key role in the development of the national climate change policy. Moreover, they represent Ghana at the international level and advises the government on issues on climate change.

### 2.8.3 Ministry of Finance

The core mandate of the Ministry of Finance (MoF) is to formulate and implement sound economic policies, mobilize the efficient allocation of resources and undertake prudent public financial management. But because the implementation of climate change policies deals with funding and financing climate change projects, the Ministry of Finance plays a key role in this department also. The Ministry of Finance is the focal point for the Green Climate Fund. Hence, there is a unit created under the Ministry of Finance to oversee, coordinate and manage the financial aspect of climate change activities in Ghana called the Natural Resources, Environment and Climate Change Unit (NREC)’’. The unit developed national climate change budgeting guidelines to facilitate mainstreaming of climate change in national plans; they offer financial advice to issues related to green economy; they act as an interface between the green climate fund and the nation; they issue no objection letter for projects to the green climate fund and they assisted in reviewing the implementation plan of the Ghana Nationally Determined Contributions (Gh NDCs). Also, they coordinate all forms of support be it domestic or international to climate change in Ghana.

### 2.8.4 Ministry of Education

The Ministry of Education plays a pivotal role climate change education, research and knowledge building. The universities have introduced courses in the area of climate change. For instance, the Geography department of the University of Ghana, the Business School of the University of Ghana, and the Political Science Department all have developed climate change courses to introduce students to the science, art and finance of the climate change phenomenon. Furthermore,
there is a new Centre instituted on the campus of the University of Ghana called the Centre for Climate Studies for further studies in climate issues. These facilities enable research studies to be undertaken to aid policymakers in the area of climate change. The tertiary institutions liaise with state and non-state actors by providing sound research projects on climate change. They also embark on public awareness to sensitize the general public on climate change. Climate change has been incorporated into the basic school curriculum. Primary school pupils in the country are to learn more about climate change and its effects on the environment, which has been made part of the curriculum to be studied at the primary level from the beginning of the academic year in September this year.

2.8.5 National Development Planning Commission

“The NDPC working in close collaboration with the Environmental Protection Agency, Ministry of Environment Science and Technology and Ministry of Finance has ensured the reflection of climate change issues in the current Medium-Term Development Policy Framework” (NDPC, 2010). As a component of its order, the NDPC has made an interpretation of environmental change issues into arranging rules and in this manner prepared all the MMDAs on the most proficient method to standard climate change issues into development plans. On the observing side, the NDPC as a team with all divisions guarantees the improvement pointers (counting environmental change) are mainstreamed into the national Monitoring and Evaluation Plan to manage the execution of the segment and locale.

2.8.6 Ministry of Food and Agriculture

The Ministry of Food and Agriculture (MoFA) is the leading public organization for the development of the food and agriculture sector. They develop policies and implementation measures to ensure the development of the agricultural sector and advancement of the food base
of the nation (MoFA, 2019). When it comes to climate change, the ministry of food and agriculture lead the development of the component of agriculture in the Nationally Determined Contributions and the National Climate Change Policy; they also developed the Climate Smart and food security action plan to put the policy into action; they lead in the estimation of greenhouse gas in the agricultural sector; they collaborate with research and academic institutions to discuss research findings from field activities; and also sensitize sub-national level actors on climate change. Ahead of the possible signing of an ERPA in late 2017, implementation of the GCFRP and its focus on transitioning to a climate-smart cocoa production landscape will begin in three Hotspot Intervention Areas with support from the FIP, Touton and SNV, and NCRC and partners taking the lead in different HIAs.

2.8.7 Energy Commission

The Energy Commission is an agency under the Ministry of Energy. It was set up by an Act of Parliament, the Energy Commission Act (541) in 1997. Its mandate is to regulate energy resources in Ghana. As a state actor in climate change, the energy commission promotes the use of green energy; that is the use of solar, hydro and wind. They also advocate the use of clean fuel and renewable energy. They are involved in data collection and analysis to estimate energy sector emissions to support planning and climate change policy formulation, modeling and impact analysis of climate change mitigation measures. Sustainable power source Master Plan has been created with the objective to give a venture centered structure to the advancement and improvement of the nation's rich sustainable power source assets for manageable monetary development, add to improved public activity and lessen unfavorable environmental change impacts.
2.8.8 Ghana Meteorological Services

“The primary function of GMet is to provide efficient weather services through the collection, processing, storage and dissemination of meteorological data to end-users” (Ghana Meteorological Center, 2019). Beneficiaries of data from the GMet incorporate the Ministry of Agriculture, Lands and Survey Department, NADMO, Universities, explore establishments, aircrafts, sea activities, banks, cocoa ranchers and makers of different yields. GMet observes the weather, gather the data, and generate climate analysis to understand the changes in climate. This helps to generate early warning system: daily weather forecast, seasonal weather forecast to the agricultural sectors, aviation sectors and the Volta River Authority. GMet provides researchers with climatic data to aid in their research.

2.8.9 Parliament

As a lawmaking institution, parliament is responsible for its law amendment. As an oversight body, parliament is in charge of holding the government accountable for its law execution, policies and provision of funding. As a representational institution, parliament needs to channel the views and concerns of the populace to the relevant government actors. With the Paris Agreement, parliament worked on the ratification process and sent the ratification instrument in 2015.

2.8.10 Forestry Commission

The Forestry Commission is an office under the Ministry of Lands and Natural Resources. They are in charge of directing the utilization of woodland and untamed life assets, the protection and the board of those assets and the coordination of policies identified with them (Forestry Commission of Ghana, 2019). Forests fill in as carbon sinks with the end goal that when demolished, either by consuming the corruption of natural issue emits carbon dioxide (CO2) into the environment. CO2 is one of the strongest ozone harming substances and the essential part of
anthropogenic outflows. The conversion of forests to other land uses is in charge of around 10% of net worldwide carbon discharges. Hence, taking care of the issue of deforestation is an essential response to climate change. The Climate Change Unit of the Forestry Commission fills in as the REDD+ secretariat of the National REDD+ Technical Working Group. The REDD+ program gives budgetary motivating forces to poor nations to secure their national forests. Moreover, “the Forestry Commission is involved in negotiations with the United Nations Framework Convention on Climate Change and is actively involved in the National Forest Law Enforcement and Governance (FLEG), and Natural Resources Environmental and Governance (NREG) programmes” (Forestry Commission of Ghana, 2019).

2.9 Climate Change Policy; NCCP and NDCs

2.9.1 National Climate Change Policy

The National Climate Change Policy was created from the National Climate Change Policy Framework (NCCPF): Ghana Goes for Green Growth (G4) exchange report in 2010. The "Ghana Goes for Green Growth: National Engagement on Climate Change" discourse prompted the appropriation of the National Climate Change Policy Framework in 2011, and the National Climate Change Policy (NCCP) in 2013. This was done after approval by the Cabinet of Ghana. “The National Climate Change Policy provides strategic direction and coordinates issues of climate change in Ghana. The three objectives of the Policy are an effective adaptation, social development and mitigation” (NCCP, 2014).

The national climate change policy document is structured in three parts. Part 1 outlines the policies and analysis of the current climate situation in Ghana. It also contains the vision and
objectives of the policy. Part 2 sets out the initiatives and action programmes to be implemented and part 3 has the timelines for the implementation of the policies and action programmes and the cost involved (MESTI, 2015). The NCCP addresses four noteworthy regions of concern identified with environmental change and atmosphere inconstancy in Ghana; they are expanding ozone harming substance outflows and loss of carbon sinks; expanding temperatures; rainfall fluctuation prompting outrageous and flighty occasions; and ocean level ascent. The ten approach areas are

- Develop climate-resilient agriculture and food security systems;
- Build climate-resilient infrastructure;
- Increase resilience of vulnerable communities to climate-related risks;
- Increase carbon sinks;
- Improve management and resilience of terrestrial, aquatic and marine ecosystems;
- Address the impact of climate change on human health;
- Minimize the impact of climate change on access to water and sanitation;
- Address gender issues in climate change;
- Address climate change and migration; and Minimize greenhouse gas emissions.

2.9.2 Nationally Determined Contributions

Northrop et. al (2016) explains that, the Paris Agreement enabled countries, which are parties to it to present their climate change contributions based on their particular national circumstances to the UNFCCC. These contributions are individual commitments or pledges the countries are to implement to reduce greenhouse gas emissions. “In accordance with Article 4 of the Paris Agreement, NDCs communicated by Parties shall be recorded in a public registry maintained by the secretariat” (UNFCCC, NDC Registry, 2019). Though countries who are unable to implement
their commitments will not be reprimanded, there is a name and shame clause to encourage countries to deliver on their promises to avoid being shamed.

Ghana’s nationally determined contributions are the climate programmes of action the country has determined as her own commitment to combat the issue of climate change. These actions include 20 mitigation and 11 adaptation measures. The slated period of implementation is 2020-2030 with the likelihood of a mid-term audit in 2025. The NDCs identified seven priority sectors (EPA, 2017). These are:

- sustainable land use including food security;
- climate-proof infrastructure;
- equitable social development;
- sustainable mass transportation;
- sustainable energy security;
- sustainable forest management;
- and alternative urban waste.

2.10 Ghana’s Contribution to International Climate Change Process

Ghana takes part in “international climate change negotiations at the UNFCCC, regional and sub-regional levels”. Ghana took part in developing mechanisms that will help facilitate the implementation of the framework Convention. Ghana leads the discussion in the Africa group in the Africa group level. They advance the common African position (Dzebo and Stripple, 2015). Ghana also serves on several boards. “Example the Adaptation Fund Board (ADF), Consultative Group of Experts on National Communications from Parties not included in Annex I to the
Convention (CGE) and the Intergovernmental Panel on Climate Change. Ghanaian scientists are working in Working Group II (WG II) and Working Group (WB III) Example IPCC Special Report on Renewable Energy Resources and Climate Mitigation” (UNFCCC, 2019).
CHAPTER THREE – THEORETICAL FRAMEWORK

AMBITIONS OF STATES AND INTERNATIONAL REGIMES

3.1 Introduction

The research is situated in the international regime’s theory. A case for adopting this theory is based on a number of reasons that suites the objectives of the study. One of these reasons is that the international regimes theory which suggests cooperation among nations to address global concerns is synonymous with the work of “the United Nations Framework Convention on Climate Change (UNFCCC)” which aims to synergize to reduce global emissions. The use of this theory will help us understand how regimes shape the actions of states and how states have the authority to domesticate these policies to fit their national priorities.

3.2 International Regime Theory

According to Hopkins and Meiches (2018), “the term ‘international regime’ was originally used to describe formal agreements between states, but the concept has since evolved”. “Nevertheless, the concept of international regime offers a unique opportunity to better understand international relationships by underlining the value States contribute to the international good” (Hopkins and Meiches, 2012). Krasner (1982:186) defined international regimes as “implicit or explicit principles, norms, rules and decision-making procedures around which actors' expectations converge in a given area of international relations”. Keohane (1993: 23) also defined international regime theory as “a theory for explaining and understanding the international cooperation intending the coordination and harmonization of interest among nations”
3.3 Assumptions of the International Regime Theory

“One major assumption of the international regime theory is that it regards states as principal actors in world politics” (Wendt, 1994). States are assumed to be rational, unitary actors who seek to maximize their national self-interest. This rationality leads states to pursue climate change policies that maximize their individual utility. Also, international regime theory acknowledges that “regimes are significant in facilitating co-operation among states”. Their presence minimizes anarchy “that would otherwise jeopardize cordial international relations”. Finally, regime theory emphasizes that States’ interests are not necessarily conflictual. States often have common interests with other States and engage in cooperation with one another to pursue joint gains. Also, regimes encourage collaboration by giving states information or by diminishing their data costs (Keohane 1984:97, 245).

3.4 Criticisms of the International Regimes Theory

Realists maintain that the idea of political agitation in the global system makes states essentially worried about relative additions, for example their position versus different states in the regime. Accordingly, “states will be hesitant to go into any understanding that leaves them in a more awful position in respect to other people, regardless of whether because of the distributional outcomes or because of the expenses of keeping up the regime”. Notwithstanding, the potential dangers of going into agreeable game plans, realists need to hypothetically represent the way that systems are moderately normal. Comprehensively, realists have looked to do as such in three different ways. Since states are excited about security, their affectability to relative misfortunes fluctuates after some time and crosswise over issue region. Subsequently, participation will be more probable in monetary regions than in military ones. Neoliberals begin from indistinguishable suspicions from
realists with regards to the anarchic idea of the worldwide framework. Nonetheless, as opposed to realists, states are concerned essentially with supreme increases. Accordingly, when choosing whether to coordinate, states will assess how this might benefit them, as opposed to how they will turn out in respect to other people. Thus, the principal worry for states is whether they are getting the most ideal arrangement. “Early work on systems from a neoliberal point of view contended that systems were made to comprehend Prisoner's Dilemma circumstances where states have a typical enthusiasm for cooperation” (Axelrod and Keohane. 1993).

3.5 Importance of the International Regime Theory

To Krasner (1982) a regime creates a convergence of expectations, establishes standards of behaviour and cultivates a general sense of obligation. This he continued to state will mitigate against “anarchy that would otherwise prevail in international relations and rather facilitate cooperation among states”. Cooperation is essential on the international stage to help address issues that cut across nations. Since climate change is a global issue, the adoption of the international regime theory will help us understand how the states come together to solve this universal problem. Furthermore, because being a part of the international regime demands the participation of states in “an effort to reduce greenhouse gas emissions, states will feel a sense of belonging to the United Nations Framework Convention” and this will evoke high cooperation from them.

Furthermore, “regime theory helps to explain the rise of a complex interaction between states, organizations, corporations, and other institutions as well as the potential for ideas to shape the international system” (Dai et al, 2010). The interaction of states on the United Nations Framework Convention on climate change will help bring out ideas that will shape national policies as the
international principles are domesticated. These interactions will generate a series of new conversations or trajectories for exploring the issue of climate change.

Keohane (1984:94, 104-106) asserts that global regime helps to survey others’ notorieties by giving guidelines of conduct against which execution can be estimated, by connecting these measures to explicit issues, and by giving gatherings, frequently through universal associations, in which these assessments can be made. Hence, systems help shape the notorieties of individuals, raising the expenses related with resistance.
CHAPTER FOUR - METHOD

DECODING REALITY THE QUALITATIVE WAY

4.1. Introduction

In the social sciences, research methodology is a scientific procedure employed for the purpose of investigating a social phenomenon. It is dictated by the nature of data and the problem of the study (Leedy, 1993: 6). An appropriate methodology according to Crotty (1998) serves as a strategy, design, process or plan of action underlying the choice of particular methods by way of linking the choice of method to the expected outcome. Hence, the methodology directs the researcher to select a method that will achieve the stated research objectives. This chapter discusses the research approach, research design and the sampling technique used for the research. It further outlines the sources of data used, the procedure for data collection, ethical considerations and the reliability and validity of the study.

4.2. Research Approach

There are three types of research approaches; that is qualitative, quantitative and mixed method. However, the study adopted the qualitative approach based on the stated objectives which seek to dig deeper into the processes, relationships, challenges and opportunities of climate change policy implementation in Ghana. Qualitative research, broadly defined, means "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Strauss and Corbin, 1990: 17). Rather, “this research produces findings from real-world settings where the phenomenon of interest unfold naturally” (Patton, 2001: 39). This approach is highly patronized in the social sciences to explore social interactions, systems and processes.
The qualitative approach provides a platform to generate valid information from experts and policy makers thereby gathering data that is rich and deep. And because the researcher and experts discuss the topics in a fluid but guided manner, it allows for more responsiveness to emerging themes. In this study, as the area of climate change is still unfolding and new agreements are discussed yearly at the COP sessions, a qualitative study will help in identifying these new developments on the international scene and how they are affecting national policies on climate change.

Furthermore, through the use of the qualitative approach, researchers are able to provide a detailed assessment of people’s perception, gestures, emotions, beliefs, experiences and behaviours (Cresswell, 2014). The face to face interview which is a technique under the qualitative study will enable the researcher to pick some information from the respondent’s behavior and gestures when he or she is reluctant to give out some information.

Also, “the qualitative approach gives a social representation rather than a mere statistical data and this provides multiple contexts for understanding the phenomenon under study” (Webb & Auriacombe, 2006). To understand why people think, feel, react and behave in the way that they do, the qualitative approach comes in handy because most often these responses are unquantifiable.

Cresswell (2014:34) posits that “qualitative approach uses strategies of inquiry such as narratives, phenomenology, ethnography, grounded theory studies, or case studies”. The adoption of the qualitative approach will help in providing a deeper understanding of the politics of climate change and express the underlying challenges actors involved in climate change issues face.

Grix (2004), “It may also develop theories that lay emphasis on tracing process and sequence of events in specific settings”.

4.3. Research Design

Research design according to Yin (2009; 26) “is the frame that guides a researcher in the process of data collection, analysis and interpretation of findings”. In order to achieve the purpose of investigating climate change policy implementation in Ghana taking into consideration, the international regime, an exploratory design was employed. “An exploratory design is defined as the preliminary research into a hypothetical or theoretical idea” (Kowalczyk, 2015). “This is where a researcher has an idea or has observed something and seeks to understand more about it. Most often, exploratory research lays the initial groundwork for future research” (Kowalczyk, 2015). According to Baxter & Jack (2008) “qualitative approach to research facilitates the exploration of a phenomenon within its context using a variety of data sources”. This guarantees the issue isn't investigated through one viewpoint, yet rather an assortment of focal points which takes into account various features of the marvel to be uncovered and comprehended. This design will be useful in traversing across the varied climate change institutions in Ghana to understand what is happening on the grounds.

4.4. Sampling Technique

The study adopted a purposive sampling which is a type of non-random sampling. Sampling design depicts the approach, methodology and process adopted in choosing respondents for the attainment of the study objectives. The three main sampling designs postulated by Kumar et al. (1999) are the random sampling, non-random sampling and the mixed sampling techniques. The random sampling can adopt a simple sampling, systematic sampling, stratified or cluster sampling method. Under the non-random sampling, there are convenience, quota, purposive or snowballing sampling methods. The mixed method fuses the two; the random and non-random techniques.
According to Boateng (2014:137) purposeful sampling techniques are ‘information rich’ and illuminative as it offers useful manifestations of the phenomenon of interest. The purposive sampling is also known as judgmental sampling because it helps to select the sample based on the researchers’ judgment about some appropriate characteristics required of the sample (Neuman, 2011 and Zikmund, 2003). Pertaining to the high-level information required for the study, respondents were purposefully selected for the research by virtue of their expertise in the field of climate change. They are state actors who are involved directly or indirectly in climate change policymaking over the years. They demonstrated a high level of knowledge in the area and were willing to participate in the study.

4.5. Data Collection

The reliability of a research is dependent on the instruments employed. Therefore, this study adopted a one on one interview to actively engage respondents to generate detailed data. A semi-structured interview guide was used to conduct the in-depth interviews personally by the researcher. Babie (2013) has asserted that in-depth interview is ideal for researchers to avoid lead on situations because respondents are not limited to the researcher’s options only. They can freely and extensively express their views and avoid answering questions they feel are lead-on questions. Moreover, the researchers are able to ask follow-up questions to probe deeper into the discussions to get a better understanding of the issues and in this case, to know the current climate change situation in Ghana. The adoption of the in-depth interviews helped to gather rich information on whether there is a relationship between the national climate change policies in Ghana and the international regime. This was done by voice recording of discussions, taking notes as well as drawing meanings from gestures and behaviors of respondents. The face to face interview allows
a direct contact with the experts and by this direct observation the researcher can witness and put down vital information respondents may find difficult to put across verbally.

4.6. Sources of Data

The sources of data for this study consisted of a thorough desk-based review of existing climate change data, information and relevant national policies complemented with expert interviews from ten state institutions involved with climate change issues. Hence, both primary and secondary sources of data were adopted in order to achieve the objectives of the study. The primary data were gathered from the heads of climate change units at the Ministry of Environment, Science and Technology; Ministry of Finance; National Development Planning Commission; Ministry of Food and Agriculture; Forestry Commission; Energy Commission; Parliament; Environmental Protection Agency; Ghana Meteorological Agency and the University of Ghana. A systematic review of the secondary data was undertaken prior to conducting the primary research providing a useful background and key questions to be addressed by the research. The source of the secondary data was from key documents on the NCCP and the NDCs. Journal articles, annual reports, magazines, periodicals and other books on climate change and previous researches were reviewed for deeper. The Balme library, the Political Science Department library, the Centre for Climate Change Studies library and the Environmental Protection Agency library served as good repositories. Finally, the internet was a great tool to access invaluable information.

4.7. Data Analysis

Data analysis in a research consists of ‘three concurrent flow of activity: data reduction, data display and conclusion drawings or verifications” (Miles and Huberman, 1994: 11). In other words, the section focused on the entire management of the data through the analysis stage to the
presentation of the major conclusions of the study. Qualitative analysis involves sorting and sifting of data, identifying types, classes, sequences, patterns with the goal to put together data that is meaningful and understandable (Jorgensen, 1992). Content investigation was utilized to break down the meeting transcripts. “Content analysis is a technique that is used to organize transcribed material by coding interview data into chunks representing a common theme or new themes that emerge from the interviewee quotes” (Russell, 1993). Deductive reasoning was also employed to arrive at conclusions in the final analysis. Data collected through in-depth interviews were transcribed, sorted out and presented in themes such that it clearly addresses the objectives and questions of the study.

4.8. Validity and Reliability

Babie (2013) asserts validity and reliability in research as pertinent elements of every research since they highlight the strengths of data in order to draw final conclusions. Legitimacy decides if the exploration genuinely measures what it was planned to gauge. In research, legitimacy has two fundamental parts: inside and outside. Inside legitimacy involves whether the consequences of the examination are real a direct result of the manner in which the gatherings were chosen, information was recorded or investigation performed. Two main methods were used to ensure internal validity. First, through the use of more than one source of data. The analysis of existing documentation together with in-depth interviews made it possible for new information gathered to be cross-checked against existing information and inferences to be drawn. Second, the experts were questioned on similar issues and their responses compared to determine convergence and consistency. External validity is also known as “generalizability”, assesses if results given by the study can be transferred to another population of interest.
Joppe (2000) defines reliability “as the extent to which results are consistent over time and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable”. Yin (1993) explains that, “This can be achieved by clearly defining and using established research protocols and the documentation of the methods employed in the study to help ensure that if the same protocols and methods were followed later, similar findings would be obtained”. To guarantee unwavering quality, the hypothetical ideas have been obviously clarified. The measures/pointers have additionally been painstakingly picked and well documented to enable retracing to be done.

4.9 Ethical Consideration

It has been prescribed by Fraenkel and Wallen (2000) “that researchers should give assurance of highest confidentiality for data provided by respondents for any study. Respondents in the research were duly asked for their informed consent before they were interviewed”. The purpose of the study was explained to the respondents who were also assured of confidentiality. The data was treated as aggregates hence personal identities were not revealed. The assurance is believed to make respondents as open and honest as possible. The names of respondents were not recorded and no third parties were involved to ensure total confidentiality.

4.10. Limitations in Data Collection

There was the challenge of getting the experts to be interviewed as most of them were very busy people and had very tight schedules at work. The researcher had to travel frequently to get the work done. However, the quality of the total work was not affected and data was properly gathered and analyzed.
4.11. Conclusion

This chapter has sufficiently discussed the methodology used for the study. It presented details of how the research was undertaken. Furthermore, it discussed the research approach, research design, sampling techniques, sources of data, data collection instruments, and data analysis. The chapter indicated that the study adopted a qualitative method.
CHAPTER FIVE – PRESENTATION AND DISCUSSION OF FINDINGS

PATTERNS OF UNFCCC ‘DOMESTICATION’ IN GHANA

5.1 Introduction

This chapter presents detailed findings based on the expert interviews and document reviews that the study used to collect data on the domestication of international climate change agreements in Ghana. Based on the study objectives, the chapter discusses the extent of domestication since Ghana ratified the framework convention in 1995, the institutional role of state actors, the alignment of international agreement to national policies and the capacity and support for climate change activities in Ghana. Furthermore, the chapter presents and discusses the challenges as well as opportunities in implementing the principles of the framework convention.

5.2 Extent of Domestication

Domestication according to Kal (1995) refers “to the process by which formal international commitments become legally binding on the relevant domestic actors; typically, through codification in national or municipal law”. Domestication as defined by Kariungi Betty Wangari in her project thesis may also mean the process of translating international conventions into country legislations and implementing programs that will lead to the realization of the aspirations of the conventions. In the working paper of the International Institute for Applied Systems Analysis (IIASA), Kal Raustila under the topic, “’The Domestication of International Commitments’” mentioned that “all international environmental commitments must be domesticated, i.e., transformed into domestic rules before they can affect individuals, firms and organizations which international environmental agreements ultimately aim to influence”. In
Raustiala’s (1995) opinion, “without the process of domestication, international commitments will lack force or even meaning at the national level where implementation actually takes place”.

The study revealed that domestication is country specific. Every state has indicators that mark their domestication. The way international agreements are domesticated in developing countries may differ from developed countries. Within developing countries, states have certain indicators they look out for to determine whether the international agreements have been domesticated or not. On the extent of domestication of international agreements on climate change in Ghana, the study revealed that Ghana has gone a long way to domesticate these international agreements. The ten state institutions engaged in climate change policy implementation interviewed, stated that the UNFCCC is domesticated in Ghana. And this is evidenced by the following indicators, thus; Ghana has ratified the Framework Convention and deposited the ratification instrument to the UNFCCC in 1995 to qualify as a Party to the Convention. Furthermore, Ghana has gone ahead to develop national climate change policy as requested by the Convention and also developed its Nationally Determined Contributions under the Paris Agreement in fulfilment of Article 12 of the Convention.

They further stated that these policies have been implemented by mainstreaming them into national, district and sectoral planning processes of government. For instance, climate change has “been captured in the Ghana Shared Growth and Development Agenda (GSGDA)”. Ghana has also successfully launched a “National Climate Change Adaptation Strategy (NCCAS), National Climate Change Policy Framework (NCCPF), as well as a National Climate Change Master Plan”. The mainstreaming of climate change in developmental planning is justified under Article 3.4 of the Convention which states that: “Policies and measures to protect the climate system …should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change”.

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According to (UNDP, UNCDF and UNEP, 2010), the building of institutional structures is a requirement for effective mainstreaming at the local level. Institutions have therefore been set up to purposely deal with the issue of climate change. Existing institutions had to take on new roles to incorporate climate policy implementation in their sectors. Example the Forestry Commission became the REDD+ secretariat to help reduce emissions from deforestation and destruction of forest reserves.

Moreover, there is capacity building to bring on board more hands to help. This may be inadequate because the state institutions in the face of these capacity trainings are still in need of more experts in climate science and policy. According to the Ghana Meteorological Services, the World Meteorological Organization (WMO) provides training for its workers annually. WMO’s Education and Training Fellowships assist WMO’s member countries to educate and train personnel from their National Meteorological and Hydrological Services. Staff of GMet are sponsored to learn new technology and advanced tracking system of recording weather data. The Food and Agriculture Organization of the United Nations also sponsors workers from the Ministry of Food and Agriculture to study on extension services, new seedlings resilient to droughts and floods and smart irrigation methods. There are capacity and technical training sessions in China.

In the area of funding, there is support for state institution from the budget of the government and other donor partnerships. The World Bank, Netherlands Development Bank, Africa Development Bank, UNESCO, UNEP, UNDP, GEF supports the implementation of the UNFCCC through funds. The Green Climate Fund is a great source of finance for climate change activities also. On the other hand, the country reports to the UNFCCC on progress made and requests for support when necessary. So far, the country has sent its first, second and third national
communications to the UNFCCC. This is also in response to Article 12 of the convention which requires states to report progress made to the UNFCCC.

With the above-mentioned indicators, the state institutions stated that Ghana has to a large extent domesticated the UNFCCC. But of what benefit is the domestication to the country? The head of the climate change unit in the Environmental Protection Agency, EPA Ghana stated that

“the terrain on the international level is a little different and therefore when they sign on to the treatises, government must ensure that they are localized so the average Ghanaian will feel included in the policy developed. Especially as the issue of climate change affects the people on the ground the more, the farmers, palm wine tappers and hunters”.

According to Flora Alohan Onomrerhinor, a Lecturer at the Department of Jurisprudence and International Law, University of Benin, when sovereign states come together to negotiate and agree to an international agreement, it is implied that the states parties accept the obligation and responsibility arising therefrom. And it is therefore an evidence of bad faith to claim inability to do so due to lack of domestication. Because to be able to accept the responsibility of the obligation, you must domesticate the treaty. This bears significant implications for national law, national institutions and the nationals of states (Onomrerhinor, 2016). Hence, domestication of international agreements is very vital to the overall success of policy implementation.

The study revealed that majority of the state institutions believe that Ghana has domesticated the international agreement on climate change because it has ratified the agreement, set state institutions or incorporated climate change in already existing state institutions, built capacity in the area of climate change, developed national policies thus NCCP and NDCs, mainstreamed these policies into national, district and sectoral planning processes, evaluated the responses and
reported the progress to the UNFCCC and also created public awareness on it. To a majority of the state actors interviewed, the findings revealed that the UNFCCC is domesticated just that the extent cannot be quantified. For example, the director of the Ministry of Environment, Science, Technology and Innovation stated this,

‘It will take a lot of billions to get to examine the actual extent of domestication. For now, the country has done a lot in implementation but more can be done. So, from where I am sitting, I cannot say the extent of domestication in figures maybe to say a 70% or 80% but I believe we are passed an average mark. When there is more resources and funding, we can do far better’.

5.3 Institutional Roles of State Actors in Climate Change

For climate change policies to be fully implemented, there must be capable institutions with requisite knowledge and technology. Samuel P. Huntington defined institutions as "stable, valued, recurring patterns of behavior" (Huntington, 2006). “But according to Geoffrey M. Hodgson, it is misleading to say that an institution is a form of behavior, rather institutions are integrated systems of rules that structure social interactions” (Hodgson 2015: 501). Institutions mentioned in this study are formal structures put up by the government to perform specific functions for which they were created. The ten institutions chosen are involved in climate change policy making in Ghana. These are the Ministry of Environment, Science and Technology; Ministry of Finance; National Development Planning Commission; Ministry of Food and Agriculture; Forestry Commission; Energy Commission; Parliament; Environmental Protection Agency; Ghana Meteorological Agency and the University of Ghana.
Results from the ten institutions revealed that all the state institutions have roles they are mandated by the laws of Ghana to operate by. But at the inception of climate change issues, these institutions had to accept extra roles to ensure climate change is addressed. Some of the institutions purposely created climate change units to help address the issue of climate change. Example the Ministry of Finance created the Natural Resources, Environment and Climate Change (NREC) Unit to provide financial guidelines to climate change actors, stakeholders and workers. The Forestry Commission also created the REDD+ Unit as the focal point for the UNFCCC REDD+ (Forest Commission, 2016). The Ministry of Environment, Science and Technology created the climate change unit to solely deal with issues of the climate.

With the role the state institutions play in climate change policy making, the Ministry of Environment organizes the National Climate Change Committee which is made up of all stakeholders in climate change who come together to research and formulate policies. The Environmental Protection Agency which is the focal point of climate change activities had to undertake climate change research and awareness creation. The Energy Sector developed an inventory to promote green energy (solar, hydro, wind). They promoted clean fuels and energy efficiency. The Ministry of Food and Agriculture developed the Climate Smart and food security action plan, the Forestry Commission became the REDD+ secretariat in Ghana. The Ghana Meteorological Agency observe the weather, analyze the changes in climate and generate climate information for varied sectors, The Ministry of Finance offers financial advice on issues related to green economy and it is the host secretariat of the Green Climate Fund (GCF). The National Development Planning Commission is tasked with the mainstreaming of climate change in the planning and budgeting processes of the country. The Parliament of Ghana considers the
ratification processes on climate change issues and academia (University of Ghana) undertakes research in climate change and provides capacity building and skills to researchers.

These roles they play faithfully to help address the issue of climate change. From the interactions from the interview, it was revealed that some of the institutions though feel they have the main duty to discuss climate change issues. From the Ministry of Finance, Natural Resources, Environment and Climate Change (NREC) Unit, some of the state actors feel they should focus on their finance and leave the climate change issues to the ministry in charge of environment. However, the deputy director of NREC disagreed;

“the actions of some state actors involved in climate change makes it look like the Ministry of Finance wants to take over their roles by delving into climate issues. What they do not know is that though we are looking at climate change, we are more interested in the finance part of it and not necessarily the science. The reports from the scientists will help us draft good financial guidelines so we need all the other state actors on board”.

Aside the challenge the state actors are faced with regards to funding, all of them believe for them to achieve high effectiveness, there must be policy coherence among state actors. Policy Coherence is characterized by the Organization for Economic Cooperation and Development (OECD) as the efficient advancement of commonly fortifying approach activities crosswise over government offices and offices making collaborations towards accomplishing the concurred goals. When policy on climate change is coherent among the state actors, there is a smooth flow of coordination that aids quick results. Therefore, state actors must make sure their policies are consistent and there is interaction among them regularly.
5.4 Alignment of International Agreement to National Policies

Alignment according to Snyder (1997: 6) represents “a pattern of assumptions and behaviours in which two or more states perceive common interests, commit to a significant level of policy coordination and build a cooperative relationship which is both broadly based and institutionalized”. Dazé, Terton and Maass (2018) also defined alignment as a process of identifying synergies among policy processes with common objective to increase coherence and effectiveness for improved outcome. Terton further mentioned on the National Adaptation Policy (NAP) Global Network that for states to align international agreements to their national policies, there must be a strong political will, power dynamics, available resources and technology, government capacity and a legal standing (Terton, 2018).

Therefore, on the field, the state actors were asked if Ghana has aligned the UNFCCC to its national policies and the results revealed that the international agreements on climate change has been aligned to Ghana’s national policies. This they claimed has led to the creation of a national climate change policy which spells out how the nation will address its climate change conditions. Also, although government has the drive for a climate safe environment there still is lack of adequate resources to back the drive. It seemed what most of the state institutions were interested in was a lot of funds. So, I asked what they have done so far with the little resources they claim to have in aligning the international agreement to the national policies. The head of the climate change unit of the Energy Commission stated that;

“they are increasing the share of Renewables in the Energy supply mix to 10% by 2030, they have created an enabling environment for private sector investment in renewables through a Renewable Energy Law (Act 832, 2011), they have supported and sustained a
comprehensive public education and awareness creation campaign on the methods and benefits of energy conservation, thermal power fuel switch from crude oil to gas, converting single cycle power plants to combined cycle plants to improve efficiency. There is a policy in energy and non-renewable resources that they have developed to ensure that the international agreements are aligned to the national policies”.

Policies define the clear green development direction, set the agenda and create an enabling environment through which climate change can be mainstreamed into planning and the developmental process. The alignment of these agreements ensures that policies facilitate the identification of climate change related programme, actions and projects for implementation. About 80% of the respondents stated that to a large extent, the international agreements have been aligned to our national policies. The other 20% believes that though Ghana is in the process of aligning the international agreement to its national policies, there is a long way to go.

5.5 Capacity and Support

The study revealed that state actors got financial support from donor agencies, government funds, multilateral and bilateral support, German Society for International Cooperation (GIZ), International Fund for Agricultural Development (IFAD), World Bank, United Nations Development Programme (UNDP), Netherlands Development Bank, Africa Development Bank. The World Meteorological Services provides training for staff at the Ghana Meteorological Agency. UNDP provides training services for staff at the Ministry of Environment, Environmental Protection Agency and Ministry of Food and Agriculture.

The Natural Resources, Environment and Climate Change Unit of the Ministry of Finance mentioned that they get a lot of Capacity training from the International Training Center of the
International Labour Organization ITC ILO in Italy, they also get training from the UNDP, UNEP and monetary support from World Resource Institute (WRI). WRI supported the climate change unit with finance to develop manuals and technical working group. As the unit for Green Climate Fund, they are liable to financial access from the developed countries. But the challenge with it is the Co-financing: where the government of Ghana must raise the needed finance to leverage or show commitment to the international world that they can help. Mostly, the country cannot raise these huge sums of money. So, they end up not being able to get help or support from the donor partners.

The Green Climate Fund which is a major source of support for the country is quite difficult to access. The head of NREC mentioned that till now, Ghana has not made much strides though they have accessed some few funds for projects they wrote proposals for. The reason the director indicated maybe because the country also asks for huge sums of monies. Botswana, he claimed always get the money when they take the step because they ask for ‘’small monies’’. This strategy the country intends to adopt in their forthcoming proposals.

The Green Climate Fund (GCF) is a fund instituted within the framework of the UNFCCC as a financial tool to assist developing countries in climate change adaptation and mitigation. The GCF is based in Incheon, South Korea. A board membership of 24 and a secretary oversee the day to day activities of the fund. The objective of the Green Climate Fund is to "support projects, programmes, policies and other activities in developing country (Bird, Brown, and Schalatek, 2011). The goal is to raise $100 billion a year by 2020 from developed countries that emit more dangerous gases into the atmosphere. These monies will be made accessible to the developing countries. The study further revealed that though these agencies augment government’s support, the assistance is not enough and this hinders implementation.
5.6 Key Challenges

5.6.1 Challenges State Actors Face in Performing their Roles

The study revealed the following challenges; In the area of state actors performing their role in climate change policy implementation, there were the challenges of inadequate funding for effective implementation of policies and programme actions, deficient monitoring and evaluation models, unavailability of up-to-date data for policy formulation, limited resources, lack of proper law enforcement, inadequate staff with in-depth knowledge on climate change, and inadequate budgetary allocation to training and climate awareness.

The state actors mentioned deficient monitoring and evaluation models as a challenge to their performance as state actors involved in climate change policy implementation. The policies formulated they claimed lacked proper legal status and therefore makes implementation difficult. If government of Ghana can make climate change laws, it will go a long way to solve climate-related problems. Because up till now, there is no law on climate change in Ghana. Kenya has been able to draw up one so Ghana must emulate them.

Moreover, most of the state institutions they claimed are understaffed. There are not many experts in climate change policy implementation in the various state organizations and this makes the work a little tedious for the small number of experts available. One huge challenge the Forestry Commission mentioned as a difficulty they face all the time when they go to the villages to collect data and teach the farmers is that the farmers and people are always asking for money from them. Finally, the state actors expressed lack of budgetary allocation for their activities as a major setback.
5.6.2 Challenges with Coordination among State Actors

The challenges with coordinating climate change activities in the country include inadequate institutional collaboration and engagements among state actors, poor information dissemination and data sharing, complexity of joint action since individual institutions have their priorities, they intend to achieve but resources are limited.

With the challenges experienced in the coordination of activities, the state actors mentioned inadequate institutional collaborations and engagements. This means that state actors do not get to work on projects most often and this is a challenge. That some of the institutions even pull back from giving information or data that can help in research work. This makes coordination tiresome but when there are more collaborations, the synergy between actors is strengthened. Also because of the complexity of joint action, individual actors do not coordinate among themselves so much. This may be due to state organizations setting targets they want to achieve which may not be on the priority list of the other state organization.

5.6.3. Challenges with Aligning International Agreement to National Policies

The challenges with aligning international agreements on climate change to national policies involved a lot of knowledge gap, finding a middle ground between international agreements and national policies, financial burden of creating more offices to handle climate change issues, expensive retraining of workers on new developments on international agreements, new developments from international agreements are quite expensive. For example, using solar is very expensive though it is a better option to charcoal.
5.6.4. Challenges with Capacity and Support

In the area of mobilizing technical and financial support to implement climate change actions, there is the challenge of inadequate capacity in the development of bankable climate change mitigation projects, complex and cumbersome application process of climate finance. There is not much from internal generation and the problem of co-financing; that is government raising the needed finance to leverage or show commitment to the international world that they can help makes it difficult to access certain grants. There is also no technical support for MPs to build their capacities in the area of climate change knowledge since most Members of Parliament have to almost no knowledge on climate issues. Without any knowledge on climate change, they will be unable to make laws to deal with it as suggested by some of the state actors. In the 3rd International Parliamentary Conference on Climate Change, Rt Hon. Sir Alan Haselhurst, MP Chairman, for the Commonwealth Parliamentary Association, United Kingdom’s Executive Committee requested that ‘Never before have we faced an environmental issue of such a global nature as climate change and therefore the policy makers who are the parliamentarians must be equipped with a toolkit on climate change’

5.7 Opportunities

The study revealed the following opportunities in climate change; Availability of climate finance for green project implementation, increase in the share of renewable energy in national energy supply mix, private sector participation and investments in green technologies and projects, job creation and sustained livelihoods in climate change adaptation, promotion of sustainable development, infrastructural development, market opportunities, new seed varieties, animal varieties and new technology and new areas for people to specialize, technological innovation,
Diversity: growing what the weather supports, development of the economy, capacity building, humanity to design a new paradigm of development, Green jobs.
CHAPTER SIX – SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

CLIMATE CHANGE PRESSURES IN GHANA: THINKING GLOBAL AND ACTING LOCAL

6.1 Introduction

The final chapter presents a summary of findings, the conclusion of the study as well as key recommendations.

6.2 Summary of Findings

The purpose of this study was to explore some germane questions on the domestication of international agreements on climate change in Ghana. How the United Nations Framework Convention on Climate Change (UNFCCC) has been localized to support national priorities and the challenges and opportunities involved. The study was triggered by current global discussions on climate change and the preparation of the Nationally Determined Contributions (NDCs) of Ghana to suggest ways she intends to curb the issue of climate change. Furthermore, knowing how most African countries are quick to ratify international agreements but find difficulty in implementing them, I was intrigued to examine if Ghana has been able to domesticate the UNFCCC after becoming a signatory to it in 1995. In an attempt to throw light on the issue, the study sought to answer the following questions:

- What are the steps taken to implement the convention in Ghana since 1995?
- What are the institutional roles of state actors in climate change policy implementation?
- What key challenges and opportunities do state institutions face in their attempt to implement the convention? And what opportunities are there in the implementation of the convention?

- What recommendations can be given for successful implementation?

From the findings, it emerged that although Ghana has domesticated the framework Convention to a large extent there are numerous challenges that hinder the successful implementation of the international agreements. For the extent of domestication, the following steps characterizes what Ghana has done so far. Ghana has gone through the ratification process, developed her national climate change policy as requested by the framework Convention and developed its Nationally Determined Contributions under the Paris Agreement. Moreover, the National Development Planning Committee (NDPC) has mainstreamed climate change policy into national, district and sectoral planning processes of government and institutions have been set up to purposely deal with the issue of climate change.

On the challenges, the interactions with the state actors and the reviews of national documents on climate change confirmed that these are mainly financial constraints. Despite support from donor agencies like WHO, UNEP, World Bank, and the government, there still remains a big room for more donations and funding. This the experts claimed is because climate change issue affects deeply rural folks and getting the knowledge and advanced technology to these farmers is expensive. Interestingly, all ten institutions mentioned that they do get support from donor partners and government but more resources are needed for more job to be done.

They also mentioned other factors such as irregular flow of information or data sharing among state organizations. Limited stakeholder engagements and training for staffers in the state institutions and less education for the public on climate change as some challenges the country is
facing. Education they claimed is a major factor because most of the actions that limit the state in achieving a viable climate is lack of behavioral change. The populace they asserted must be educated on not choking their gutters when it rains and rather, practice clean sanitation measures.

6.3 Conclusion

This study sought to examine the extent to which international agreements on climate change are domesticated in Ghana. It was revealed that the international agreements to a large extent have been domesticated. Firstly, with reference to the first objective, it was revealed that the country has taken the needed steps to domesticate the agreements. There was a significant association between the international regime and domestic policy on climate change in Ghana. Secondly, in line with the second objective, it was found that there are key challenges facing the state in the successful implementation of the agreement. However, the study further revealed that though there are challenges there are also some opportunities in climate change. Thirdly, some recommendations were made to ensure the successful implementation of these international agreements.

The study explored the extent of domestication of climate change agreement in Ghana. Analyses of the responses from the ten state institutions selected for this study shed light on how far Ghana has come in localizing the framework convention, the general challenges faced by state actors and the opportunities involved. The study established that the framework convention has been domesticated but there exist challenges that are militating against the success of implementation. And these challenges can be addressed with the provision of monetary resources, expert training, and education and stakeholder engagements. Also, the state actors interviewed demonstrated fair
knowledge of climate issues and were concerned about how citizens are apathetic about their climate and this is due to lack of education.

6.4 Recommendations

6.4.1 Recommendation for policy

Based on the findings and subsequent conclusion, this study makes the following recommendations on the effective climate policy formulation and policy alignment:

- There is the need for improvement of institutional capacity building, training, coordination and information sharing, this is in line with article 6 of the convention,

- There must also be law enforcement,

- There must be education on the lifestyle of people,

- Government should ensure that key institutions are given the requisite equipment in order to effectively discharge their mandates.

- There is the need to see climate change as a development issue with its economic, social, environmental and governance ramifications

- Climate change must be integrated into the culture, economy, architectural designs and consumer behavior

- There must be information/data sharing, stakeholder engagements/training, clear definition of roles/responsibilities, sensitization for every stakeholder to know what climate change is and what it is not, strengthen the synergy between the state actors, and policy coherence.

On access to finance and capacity to implement climate change actions, the following recommendations should be taken into consideration:

- State actors must develop more cordial partnerships with donor sponsors,
- Budget must be allocated for institutions involved in climate change, and
- More effort must be put in place to allow for easy access from the Green Climate Fund.
- The budgetary allocation for climate change can be increased.

On the suggested recommendations for stakeholder engagements in Ghana. The following were mentioned.

- Engagement of non-state actors, education and sensitization, stakeholder engagements and involvement in national climate change programmes and activities,
- Media must be educated so they can educate the public on climate change
- There must be continuous engagement between state actors. It should not be a one-off thing when there is a project, they are working on but rather they must be in touch with each other to know new innovations they are embarking on.
- State actors must forge innovative partnerships with non-state actors too
- There must be intensified education for the public to be more engaged in climate change issues so they can understand what climate change is and what it is not.

6.5 Recommendations for further research

This study looked at state actors involved in climate change in Ghana. A further research can be done in the area of non-state actors like civil society organizations, financial institutions, and other non-state actors because they also play a critical role in climate change policy implementation in Ghana. Up to this point, the significant job of common society associations in the arranging, checking and assessment of national projects has not been sufficiently perceived by Government. Be that as it may, in the usage of the Adaptation procedure, their jobs will be perceived in the
accompanying regions; To prepare, quicken, sharpen, make mindfulness and instruct the individuals on the National Adaptation Strategy. Liaise with the District Assemblies and the Communities to accomplish proficiency and viability, to be a valve for confirm based research, checking, conveying data and limit building
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APPENDIX

INTERVIEW GUIDE

1. Assessing the extent of domestication

1.1 Institutional roles and coordination

- What is the core mandate of your institution?
- What roles do your institution play in climate change in Ghana?
- What are the climate change interventions your institution is involved in?
- What is your view on the current state of climate change coordination in the country?

1.2 Alignment of international agreements to national policies

- What climate change policies are you implementing?
- To what extent do the policies address climate change and the nationally determined contributions?

1.3 Assessing capacity level, available support and needs

- What is the main source of support for climate change activities in your institution?
- What is the main capacity and financial support requirement to implement the climate change policies in your institution?
2. Assessing challenges and opportunities

2.1 What are the key challenges you are faced with in your institution regarding the following?

- performing your role as a state actor in climate change?
- coordinating climate change activities in the country
- aligning international agreements on climate change to your policies
- mobilizing technical and financial support to implement climate change actions?

2.2 What are the opportunities in the area of climate change?

3. Possible areas for effective domestication of climate change agreements

3.1 What recommendations would you give for effective implementation of climate change interventions in the country in relation to?

- Effective climate policy formulation and alignment
- Institutional coordination
- Access to finance and capacity to implement climate change actions
- Engagement of non-state actors