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ROLE OF INTERNATIONAL LAW IN ADDRESSING CLIMATE CHANGE IMPACTS IN SOMALIA

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LL.M THESIS

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Upon evaluating the submitted thesis titled "Role of International Law in Addressing Climate Change Impacts in Somalia" we can confidently affirm that it is an outstanding selection for a Master of International Law thesis, both in terms of it comprehensive coverage and high quality.

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Declaration

I affirm that this thesis adheres to the criteria of academic integrity and conduct set by the Institute of Graduate Studies at Near East University. This involves acquiring information, assessing it, and making a decision. After careful consideration, I am certain that I have adhered to all the standards and regulations set by the academic community to accurately reference and acknowledge any external data and material utilized in this study.

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Isnino Yahye Amir

Abstract

ROLE OF INTERNATIONAL LAW IN ADDRESSING CLIMATE CHANGE IMPACTS IN SOMALIA

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Climate change is a highly consequential environmental problem now facing the earth. The consequences of global warming are so profound that they tamper with almost all conceivable aspects of humanity, which include the world we live in and the structure that holds us as human beings together. The study investigates the intricacies of international law to effectively tackle and reduce the impacts of climate change, specifically in Somalia.

Besides many other African nations, Somalia is placed in an ironic circumstance whereby, in spite of contributing the least to the emissions of greenhouse gases worldwide as the topography of the country contributes more towards this, its impacts due to climate change rank it amongst the most affected countries. The countries contributing least to climate change often receive the hardest impacts from it, thus symbolizing a great global imbalance. Coupled with these, the scarcity of resources and adaptive capacity in these economies worsens the situation.

The IPCC repeatedly attributes the rapid rate of climate change to human activities. With the Earth's surface increasingly heating up, the global community experiences a host of impacts, among which are unusually high incidences of catastrophic weather events. On the other hand, in places like Somalia, this is in tandem with deep socioeconomic problems, fuelled to a great extent by political instability. The evidence consisted of disruptions in economic activity, forced migration, the widespread occurrence of public health disasters, and a threat to world peace and security.

In such times, international law indeed acts as a ray of optimism. International law has the capability and power to close this gap that is there between industrialized and developing nations by encouraging cooperative efforts and setting agreements that have legal enforceability and ensure responsibility. It has the potential to bring about a new era in which the most capable people take on greater responsibility and where weaker countries get the help and resources they sorely require.

In summary, although climate change is a major worry, the implementation of international law provides a means not only to mitigate its immediate consequences but also to strive for a future characterized by fairness and sustainability. This study's emphasis on Somalia draws attention to the larger ramifications for the African continent and emphasizes the pressing need for international cooperation and action.

Keywords: Somalia, climate impacts, international law.

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CHAPTER ONE

Introduction

1.1 Background of the Study

Climate change is currently the world's most fundamental environmental challenge. The magnitude of this threat, which not only affects the current generation but also future generations, is unparalleled in the history of world society. Change in the climate affects all aspects of human existence. It affects social concerns, including migration and the loss of livelihood and public health, and it may even pose a danger to world security and peace. The primary concern at the moment is how to deal with climate change's effects globally. Leading climate scientists from around the world that collaborated for the IPCC 4th evaluation report mostly concur that worldwide emissions of greenhouse gases caused by human activities have aided in the warming of Earth's surface. Weaker rising nations, particularly those located in the African continent, will suffer tremendously as a result of climate change, even though no country in the globe will be immune to its effects. People who are poor and vulnerable, who have contributed little to the problem, will be disproportionately affected by climate change. These societies are the least prepared to deal with the potential effects of climate change. Africa is one of the world's most vulnerable continents[1].

The fourth assessment report of the IPCC states that Africa is without a doubt one of the continent's most vulnerable to the effects of climate change[2].

Climate change is already having worrying effects and repercussions in many African countries. It also portends a future marked by increasingly restricted water supplies, collapsing agricultural yields, advancing deserts, and damaged coastal infrastructure. Climate unpredictability has resulted in a drop in rainfall and an increase in flooding, a loss in food production, desertification, rising temperatures, and a rise in disease,

[1]Daniel Mirisho Pallangyo, 'Climate change and Africa: the normative framework of the African Union', North-West University 2013.

[2]Rajendra K. Pachauri and Andy Reisinger, *IPCC fourth assessment report*, 2007.

especially in Sub-Saharan Africa. The potential for these repercussions to worsen Africa's pre-existing issues, such as hunger, poverty, conflict, poor governance, etc., has been added to the continent[3].

Plants suffer from various harmful consequences of global warming, especially due to sudden shifts in temperature, modified rainfall patterns, shifts in food availability or dry conditions, and increased occurrences of pests and diseasestherefore, these factors have a negative impact on crop productivity, resulting in a decrease in both the amount and quality of agricultural output. Extreme weather conditions combined with rapid population expansion raise global food demand[4].

Climate change has had a significant influence on millions of people globally since the start of the twenty-first century. The geographical area known as the Horn of the continent of Africa, in particular, has been experiencing unpredictability in the environment caused by climate change disasters. As a result, challenges such as land degradation, recurring and protracted drought seasons, desertification, and flash floods represent significant barriers to permanent or transient human migration[5].

Somalia is located in the eastern part of the continent, namely in the Horn of the Horn of Africa. The coastline of this region spans a distance of 2,720 kilometres, running in a parallel manner to both the Indian Ocean and the Gulf of Aden. The climate of Somalia is characterised as semiarid in the southern regions and slightly desert in the northern regions. Of Somalia's population, 60% are nomadic herders who raise cattle, goats, sheep and camels; the remaining 25% work as farmers. Only 15% of the total population

[3]Pallangyo (n 1).

[4]T. I. K. Munaweera and others, 'Modern plant biotechnology as a strategy in addressing climate change and attaining food security' (2022) 11 Agriculture & Food Security 1.

[5]Shazia Chaudhry and James Ouda, 'Perspectives on the Rights of Climate Migrants in the Horn of Africa: A Case Study of Somalia' (2021) 8 Journal of Somali Studies 13.

resides in cities.Due to its heavy reliance on agriculture and livestock, Somalia is highly vulnerable to the impacts of climate change[6].

Moreover, during the past thirty years, violence has disrupted Somalia's social and economic system, making it a low-lying coastal nation[7].

For centuries, the Gu' and Deyr rainy seasons have had a significant impact on farmers and pastoralists in Somalia. Except for the northeastern coast, that gets the lowest precipitation throughout the rainy period, the Gu' season commences in the latter half of March and extends until August. The Gu' season of 2019 experienced the lowest precipitation levels in three decades and was the second consecutive year of below-average rainfall for a country still grappling with the consequences of the extended famine that took place during 2016 and 2017. The second rainy season, referred to as deyr, occurs from October to November and has a shorter duration with lower levels of rainfall. The Shabelle & Juba rivers, originating from Ethiopia and forming the nation's north border, are the sole perennial rivers within the country. The Juba & Shabelle rivers, crucial for agricultural productivity, are experiencing reduced downstream water flow. The absence of streams inside Somalia, overflow on areas of flooding, diverting resulting from water supply, and lack caused by absorption and ground absorption are among the causes that contribute to this phenomenon[8].

1.1.2 Droughts, Famine and Floods

Somalia is vulnerable to prolonged drought, erratic precipitation, and disturbance of the season for monsoons. Concurrently, the country has witnessed a decrease in agricultural output, particularly in the centre and southern areas. Over time, the land's ability to withstand extreme weather threats has been compromised due to environmental

[6]UNDP, 'Climate Change Adaptation.' <https://www.adaptation-undp.org/explore/eastern-africa/somalia> accessed 2023-07-15.

[7]James Kinyangi and others, *Scoping study on vulnerability to climate change and climate variability in the greater Horn of Africa: mapping impacts and adaptive capacity*, 2009.

[8]Charles Oberg, Hopewell Hodges and Ann S. Masten, 'Risk and resilience of Somali children in the context of climate change, famine, and conflict' (2021) 12 Journal of Applied Research on Children: Informing Policy for Children at Risk 10.

deterioration, deforestation, desertification, and increasing soil dryness. Historically, drought has directly caused a reduction in food supply, leading to famine. The famine that occurred from 1992 to 1993 resulted in the deaths of 220,000 people and affected the highly fertile farming valley in Somalia, located between two rivers. In 2010-2012, approximately 260,000 people perished due to famine. According to the UN Famine Early Warning Systems Network (FEWS NET), fifty per cent of these fatalities were infants younger than five. In 2016–2017, another severe drought occurred. However, we managed to avert a catastrophe. An impending catastrophe was predicted by the United Nations (UN), Oxfam, and a number of other nongovernmental organisations (NGOs). A famine prevention strategy for humanitarian groups to implement was released in the first few months of 2017 by the Somalia Humanitarian Country Team and the United Nations Office for the Coordination of Humanitarian Affairs (OCHA)[9].

In addition, the Somali government successfully warned of a potential famine by setting up a Drought Operations Coordination Centre (DOCC) in Mogadishu. Leading experts who are concerned about famine, including Amartya Sen, the 1998 Economics Nobel Laureate, have begun to recognize that the cause of famine is not just a matter of dryness and a lack of food supplies[10].

Famine is a complex and evolving social disaster that arises from the interaction of various systems. It is not caused by a single element but rather by a multitude of causes, such as fluctuations in the prices of products and services, excessive inflation, restrictions on distribution, and disruptions in the supply chain[11].

Just as violent conflict affects the environmental and social mechanisms that ensure widespread access to healthy food, FAD has the potential to incite or exacerbate violent conflicts amongst different populations. This is highly pertinent in Somalia. The impact of the changing climate in Somalia has escalated into a matter of national security,

[9]Ibid.

[10]A. K. Sen, *Poverty and Famines Essay on Entitlement and Deprivation* (Oxford: Oxford University Press 1981).

[11]Paul Howe and Stephen Devereux, 'Famine intensity and magnitude scales: a proposal for an instrumental definition of famine' (2004) 28 Disasters 353.

intensifying political instability due to the strain it puts on under-resourced government and judicial systems. Harm, change in the environment, and land degradation are causing a decrease in the availability of cultivable land. land access issues among farmers, farmers, and tribes result in complaints and violence due to the subsequent relocation and marginalisation that occur[12].

1.1.3 Armed Conflict in Somalia

Since the late 1980s, there has been violence and armed conflict in Somalia, which has led to the dissolution of a functioning government[13].

A civil struggle erupted between the years 1990 and 1992, resulting in the collapse of customary law and the subsequent establishment of a failed state. The violence persisted due to tribal disputes around territorial claims and a lack of effective governance. The close connection among the federal authorities and the nation's six autonomous states, who all harbour resentment towards Mogadishu's attempts to consolidate power, further complicates the situation. Regrettably, despite the reality that the political disagreement originates from the sphere of adults, it unduly affects children in a predominantly negative manner[14].

As we advance in the twenty-first century, climate change is the most significant threat to the existence of humanity, and its impending repercussions necessitate a united worldwide endeavour[15].

United Nations Framework Convention on Climate Change (UNFCCC) defines this worldwide threat as "a change of climate that is attributed directly or indirectly to human

[12]Oberg, Hodges and Masten (n 8).

[13]Ken Menkhaus, 'State collapse in Somalia: Second thoughts' (2003) 30 Review of African political economy 405.

[14]Oberg, Hodges and Masten (n 8).

[15]Helen Clark and others, 'A future for the world's children? A WHO–UNICEF–Lancet Commission' (2020) 395 The Lancet 605.

activity that alters the composition of the global atmosphere in addition to natural climate variability observed over comparable periods"[16].

Adolescents and young adults are likely to be the demographic group most susceptible to the negative impacts of climate change. According to the United Nations International Children's Emergency Fund (UNICEF), climate change is likely the most significant threat to children worldwide, both currently and for future generations[17].

Climate change has a disproportionately negative effect on children because of their special physiology, metabolism, and developmental requirements[18].

Moreover, certain children are particularly susceptible to harm compared to others. This includes children who are in transit (such as immigrants, refugees, and internally relocated children), who are at risk of violence or political instability, who are already experiencing poverty, social exclusion, injustice, or previous trauma, as well as indigenous children as well as those with developmental disabilities[19].

Furthermore, populations that are particularly vulnerable to the effects of climate change often have a higher percentage of underage individuals[20].

Climate change exacerbates the frequency and severity of extreme weather events, leading to devastating storms, floods, droughts, heatwaves, cold temperatures spells,

[16]Intergovernmental Panel on Climate Change (IPCC), 'Global warming of 1.5°C.' 2018) <https://www.ipcc.ch/sr15/> accessed 2023-07-08.

[17]Oberg, Hodges and Masten (n 8).

[18]Kristie L. Ebi and Jerome A. Paulson, 'Climate change and children' (2007) 54 Pediatric Clinics of North America 213Organization World Health, *Children's health and the environment: A global perspective: A resource manual for the health sector* (World Health Organization 2005).

[19]Natalie McGill, 'Vulnerable populations at risk from effects of climate change: Public health working to find solutions' (2016) <https://www.thenationshealth.org/content/46/9/1.1> accessed 2023-07-08Lori Peek and Laura M. Stough, 'Children with disabilities in the context of disaster: A social vulnerability perspective' (2010) 81 Child development 1260.

[20]United Nations General Assembly, 'Analytical study on the relationship between climate change and the full and effective enjoyment of the rights of the child' (2017) <https://undocs.org/en/A/HRC/35/13> accessed 2023-07-08.

fires, and other disruptions to ecological systems. These changes have wide-ranging effects on the availability of clean water, nourishment, and health care, as well as the spread of illnesses, and the viability of the economy, systems of education, and political systems, among many other consequences. The affected individuals, particularly young people, are confronted with imminent dangers due to these illnesses. The absence of sufficient sustenance and potable water is a pressing issue among the 500 million of the children residing in regions prone to flooding, as well as the 160 million children inhabiting places susceptible to droughts. Diarrhoea currently ranks as the second leading cause of mortality among children below the age of five. In the event of worsening floods, the prevalence of waterborne diseases such as dysentery is expected to increase. Climate change is projected to result in an estimated 48,000 more fatalities among youngsters under the age of 15 by 2030. Additionally, there will likely be an increase of 7.5 million additional instances of severe to severe stunting among kids below the age of five[21].

Climate change also affects the variety of vectors, which results in an increase in diseases, including leptospirosis, leishmaniasis, dengue fever, and malaria. Lastly, there are numerous ways in which climate change harms children's growth and psychological health in general, offering hazards to academic performance, behaviour, language development, emotion management, cognition, learning, and behaviour[22].

Children residing in countries with low or middle incomes are at a higher risk of suffering severe psychological damage as a result of climate change. They are more likely to have greater exposure to and susceptibility towards the negative effects of

[21]World Health Organization, *Quantitative risk assessment of the effects of climate change on selected causes of death, 2030s and 2050s*, 2014.

[22]Susanta Kumar Padhy and others, 'Mental health effects of climate change' (2015) 19 Indian Journal of Occupational and Environmental Medicine 3.

climate change, leading to a rise in mental health problems including anxiety, depression, and post- Traumatic Stress Disorder (PTSD)[23].

The presence of uncontaminated water and adequate sanitation has a direct correlation with the health and nutritional status of children. The prevalence of unsanitary circumstances, along with inadequate access to healthy water sources and infrastructure, significantly contributes to the high incidence of illness in Somalia. Enhancing the availability of sanitation and clean drinking water, together with addressing hygiene standards, are crucial elements of a comprehensive approach to battle hunger and disease. Somalia exhibits one of the most unfavourable levels of maternal health worldwide. Ensuring access to potable water and adequate nutrition, together with the presence of necessary infrastructure, transit alternatives, and proximity to specialised medical assistance, are all noteworthy concerns. A significant concern with sound environmental management is the adoption and rigorous enforcement of a comprehensive set of global, regional, as well as national agreements which define the country's obligations. Even though Somalia has signed a number of essential international conventions, the majority of the country's regulatory framework needs to be revised. To address the clear necessity for a thorough overhaul of the nation's laws regarding the management of natural resources, significant dedication and collaboration from all relevant stakeholders will be required[24].

The detrimental impacts of the changing climate on Somalia's water supplies have significantly affected the health of the population. The phenomenon of climate change has led to a decrease in rainfall, extended periods of drought, and increased temperatures in Somalia, leading to a shortage of water and limited availability of clean and safe water resources. As a result, there has been a decline in agricultural food production, resulting in an environment that lacks sufficient food and suffers from

[23]Harvard T.H. Chan School of Public Health, 'Mental Health – C-CHANGE' <https://www.hsph.harvard.edu/c-change/subtopics/climate-change-and-mental-health/> accessed 2023-07-08.

[24]Anja-Christina Beier and Eva Stephansson, *Environmental and Climate Change Policy Brief Somalia* (Sidas Helpdesk for Environment and Climate Change, 2012).

malnutrition.Consequently, Somali citizens are more exposed to health risks related to water, like cholera, diarrheal diseases, and malaria. The health issues occasioned by climate change water insecurity, the main victims remain to be pregnant women, small children, and the elderly. Once again, this implies that the females in Somalia are amongst the main affected people in the country. Lack of clean water promotes the spread of vector-borne diseases such as dengue fever and malaria fever. Thus, this pattern allows for the correlation between the proliferation of vector-borne illnesses and the lack of water. The Somali government ought to formulate and implement robust adaptation strategies that give utmost importance to the welfare of its inhabitants, thereby enabling it to successfully tackle the health consequences of climate change. Consequently, there has been a decrease in agricultural food production, which could lead to an environment without sufficient food and suffering from malnutrition[25].

1.2 Statement of the Problem

Currently, weather change is a significant worldwide issue that has had a profound impact on numerous nations, particularly those that have been significantly affected, such as Somalia. Hence, in addition to the intricate nature of the nation's economic, social, and political challenges, the impacts of climate change exacerbate the existing difficulties, thereby amplifying the complexity. Despite the efforts of international institutions to tackle climate change through their legal frameworks, it has become evident that the effectiveness of these systems may require reassessment in order to meet the possible reduction of climate change consequences in Somalia. This study aims to examine the importance of international laws in addressing the effects of changing climates in Somalia. It will focus on the challenges it presents to safeguarding laws and security, as well as the extent to which current frameworks effectively safeguard the rights and general well-being of affected communities.

[25]Abdimajid Ibrahim Ali, Youssef Kassem and Hüseyin Gökçekuş, 'Examining the impact of climate change on water resources in Somalia: The role of adaptation' (2023) 2 Future Technology 45.

1.3 Objective of the Study

The primary objective of this study is to examine the role of international law in addressing climate change impacts in Somalia. In order to accomplish this, the specific objectives are as follows:

- To examine the global legal frameworks pertaining to climate change and assess their relevance to the specific conditions in Somalia.
- To investigate the environmental and socioeconomic ramifications of climate change in Somalia, as well as the ways in which these affect international legal responses.
- To analyze the legal obstacles and deficiencies in safeguarding the rights of populations in Somalia affected by climate change, with a specific emphasis on migration caused by climate-related factors.
- To put forth suggestions for enhancing the implementation of international law in addressing the impacts of climate change in Somalia.

1.4 Significance of the Study

This study significantly contributed to the existing understanding of how international law addresses the effects of climatic change in Somalia. The objective of this research is to identify the legal obstacles posed by climate change and thereafter propose ways that politicians and international organisations can employ to empower impacted communities and establish a more robust approach to addressing the phenomena.

1.5 Scope and Limitations

Scope: The study will focus on the role of international law in addressing climate change impacts in Somalia, including an analysis of the application of pertinent legal frameworks. It will also highlight the socioeconomic and environmental consequences of the climatic changes within the country.

Limitations: The availability of data and resources will limit the research, potentially covering only specific aspects of climate change in Somalia. In order to support the

study's findings, it may also be necessary to revise the time frame of the available data and the evolving nature of climate change impacts beyond the cutoff date.

1.6 Methodology

We apply the case study methodology. A design for case studies is a method of study that allows for a thorough exploration of events, occurrences, or additional observations in a real-life setting. It is used to develop and test learning tools and theories. The data collection and analysis process we employed involved analysing secondary data gathered from the public press, educational publication articles, and graduate dissertations. We then sorted and analysed the data using descriptive evaluation, analysis of documents, and thematic analysis techniques, focusing on the emerging issues identified in the study.

CHAPTER TWO

International Law And Climate Change

2.1 Definition of International Law

International law pertains to legal matters that have an impact on many states. International law is conventionally described as the legal framework that regulates the interactions between independent nations and their corresponding rights and responsibilities. Furthermore, it is crucial to take into account many other entities, such as international organisations and persons, who may possess rights and responsibilities according to international law[26].

International law fulfils the same societal function as other systems of law. It is a technique for the autonomous development of a society, particularly the worldwide society including the entire human race and the community of each individual society. Law is a system of legal connections that regulates social behaviour in order to promote the common good. The law is an outcome of societal processes that establish a society's collective interests and structure the creation and implementation of legal regulations. International constitutional law governs the global public sphere and relations among subordinate public spheres, and it encompasses every subordinate legal systems. The universal legal order comprises the legal systems of different nations, which also encompass private international law. International law is described using both a legislative form, such as treaties, and a customary form, where society organises itself based on its own experiences of self-ordering. The present state of international law is a reflection of the extent to which international society has evolved. The recognition that international legislation is the fully efficacious legal framework of a fully operational global community has become imperative and unavoidable due to recent transformations

[26]Anders Henriksen, *International law* (Oxford University Press, USA 2019).

in the international arena. Nevertheless, this acknowledgment still encounters some difficulties and barriers that necessitate solutions[27].

Climate change has become one of the most consequential concerns of our time. For almost 25 years, there have been efforts to use international law to address climate change. International law has witnessed the incremental emergence of a new field of study as a result of extensive doctrinal research and protracted international negotiations. States are obligated to tackle climate change in accordance with the principles and regulations of international law. Its objective is to safeguard not only the independent authority of each nation but also the complete and efficient implementation of the rights of humans, the concerns of future and present generations, the well-being of all mankind, and the preservation of all living forms on the planet. Attempting to change the way we manipulate the cosmos is a challenging effort. Only a superficial exploration of the subject was achieved in a few of the most challenging conversations ever held. Nevertheless, the consequences are substantial, and there is no room for failure. The destiny of humanity is heavily influenced by international climate change law[28].

2.2 International Environmental Law

International environmental law is a comprehensive and intricate system of rules at both the international and regional levels. Its purpose is to protect the various components of the planet, including living and nonliving materials, as well as ecological processes. This emerging body of legislation has arisen due to heightened public consciousness regarding the peril that humans, invasive technology, and the swift exhaustion of the Earth's resources provide to the planet. Continuously, we are discovering new issues that arise from technological progress, such as the dangers associated with genetically modified organisms, the environmental consequences of farming fish and crustaceans on an industrial scale, and the disruption of hormone systems in various species, including humans, due to the presence of unprocessed pharmaceuticals in wastewater. As a result, there is a continuous requirement to create and, if needed, modify the global and domestic legal structures in order to address these difficulties. The desire to protect the

[27]Philip Allott, 'The concept of international law' (1999) 10 European Journal of International Law 31.

[28]Benoit Mayer, *The international law on climate change* (Cambridge University Press 2018).

environment has been apparent for an extended period. The primary objective of national legislation implemented throughout the Middle Ages was to address a specific form of pollution, such as smoking, or to safeguard a particular forest or body of water. International agreements have been in effect for more than a century[29].

A new area of international law that is gaining more legal and political attention is international environmental law. IEL is a subset of public international law, which is a corpus of legislation developed by states for their use in resolving disputes between states. It focuses on efforts to manage resource depletion and contamination of the environment within the context of sustainable development. IEL covers a wide variety of topics, including marine resources, desertification, ozone depletion, toxic and hazardous materials, biodiversity, and air, land, and water quality. Furthermore, it demonstrates compatibility with interconnected disciplines of international law, such as rights for people, financial regulation, and international trade. IEL's primary goal is to identify components of the environment, including ecosystems that include humans, plants, animals, water, the atmosphere, and systems that comprise any combination of these elements. In accordance with IEL, states must regulate activities that fall under their purview in order to prevent environmental damage to areas outside of their control[30].

International environmental law is a fast growing topic of international law that focuses on environmental challenges that affect many nations or countries. The establishment and endorsement of international rules by states enables them to voluntarily relinquish a portion of its independence, which is a favourable principle of international law. Global laws can develop using several methodologies. The sources of international law include: (1) Consistent adherence to established legal standards (customary international law); (2) Legally enforceable agreements as well as other official agreements that are written (conventional international law); (3) Widely recognised general concepts included in state laws; and, to a lesser degree, (4) Expert views and judicial verdicts. The subsequent sections will present a thorough examination of every one of these sources. The

[29]Dinah Shelton, *International environmental law*, vol 4 (Brill 2021).

[30]Innocent C. S. Okogbule, Desmond O. N. Agwor and Empire Hechime Nyekwere, 'The historical development of international environmental law: A legal appraisal' (2022).

amalgamation of various standards constitutes what is commonly referred to as "international law." The world's legal system, which regulates independent nations, requires conventional legislative bodies and enforcement agencies that rely on political determination rather than command-and-control regulation. The system comprises regulations that possess different degrees of accuracy and enforceability. Nevertheless, it is crucial to refrain from ignoring or neglecting international law. If this were not the case for the overall level of compliance with International Environmental Law (IEL) rights and obligations by countries, the environment worldwide would be in a significantly deteriorated state[31].

2.3 International Climate Change Framework

Voluntary cooperation among sovereign states is necessary to incorporate the negative externalities resulting from emissions within their borders in order to address worldwide environmental challenges like climate change. This issue, which suggests that free-rider incentives create a no-cooperative equilibrium in which nations only take into account their costs and advantages and hence emit too much, is one of the terrible challenges of our day. In reality, nations attempt to reach a worldwide consensus on a global or Transboundary environmental issue[32].

International environmental law comprises a collection of accords that embody the collaborative endeavour of the global community in addressing critical environmental challenges such as mass extinction of species, ozone depletion, and climate change. The primary aim of IEL is to create a comprehensive structure for sustainable growth that protects the welfare of the next generation while also preserving the current standard of living. Consequently, the incorporation of extended-term safeguarding of the

[31]Ved Nanda and George Rock Pring, *International environmental law and policy for the 21st century*, vol 9 (Martinus Nijhoff Publishers 2012).

[32]Aart de Zeeuw, 'International environmental agreements' (2015) 7 Annu Rev Resour Econ 151.

environment and the settlement of particular environmental risks are largely dependent on international environmental legislation[33].

The United Nations Framework Convention on Climate Change (UNFCCC) was formally founded during the Earth Summit in 1992 in Rio de Janeiro. The primary objective is to attain stability in atmospheric greenhouse gas (GHG) concentrations, thereby protecting against dangerous changes to the weather system caused by human activities. In order to guarantee an efficient and appropriate global reaction to climate change, it recognised the need for maximum collaboration among all nations, in line with the principle of historic responsibility, the concept of shared but distinct accountability and the current social and economic conditions. The Convention also discussed the execution of economic systems, insurance, and the transfer of technology from developed countries to impoverished nations. The statement highlighted the importance of fairness across different generations by ensuring a "worldwide climate that benefits present as as future generations of humanity". The agreement included voluntary measures to decrease emissions (as stated in the 377 Limits of global warming accords), which the parties quickly recognised as inadequate for stabilising greenhouse gas emissions. The Kyoto Protocol, which was adopted in 1997, became effective in February 2005. The establishment of a clean development system, emissions trading scheme, and a cooperative implementation has been put in place to address greenhouse gas emissions at both international and national levels. The emission targets were set for industrialised nations with the objective of lowering emissions to the levels recorded in 1990[34].

In accordance with the framework created by the 1992 United Nations Framework Convention on Climate Change (UNFCCC), the Paris Agreement significantly advanced worldwide endeavours to address the issue of climate change. To provide the world with a genuine opportunity to prevent the most catastrophic consequences of climate change,

[33]David Hunter, 'International environmental law: international treaties and principles protect the environment and guard against climate change' (2018) 19 Insights on L & Soc'y 2.

[34]Chandra Lal Pandey, 'The limits of climate change agreements: from past to present' (2014) 6 International Journal of Climate Change Strategies and Management 376.

governments have endorsed a specific target for the global average temperature: limiting the increase to "well below" 2°C above pre-industrial levels. In addition, the Parties expressed their commitment to make active endeavours to limit the increase in temperature to 1.5 °C if necessary. Crucially, the signatories of the Paris Agreement pledged to achieve a worldwide peak in greenhouse gas (GHG) emissions as soon as possible, followed by swift reductions. The ultimate goal is to achieve an equilibrium between the amount of GHG emissions released and the amount removed from the atmosphere in the latter half of this century. This signifies a long-term transition from fossil fuels.Succession in this objective after 2050 does not inherently necessitate the eradication of fossil fuels; alternative approaches to augment GHG removals from the atmosphere exist, such as enhancing tree growth or developing efficient carbon capture technology. However, it generates a sense of urgency among markets to significantly reduce reliance on fossil fuels and offers a definitive indication for enduring financial commitments towards alternative energy sources[35].

The UNFCCC and the Paris Agreement jointly set global goals for financial assistance, emissions reduction, and adaptation[36].

In the late 1970s, experts issued a warning regarding the potential depletion of the ozone layer in the stratosphere caused by the use of some regularly used substances, which serve as protection for the Earth. In order to address this issue, countries initially engaged in discussions and reached an agreement known as the Vienna Agreement for the Protection of the Ozone Layer in 1985. This was followed by the implementation of the Protocol of Montreal on Substances That Deplete the Ozone Layer in 1986. Subsequently, states have regularly revised or modified the Montreal Protocol at intervals of two to three years, leading to the total elimination of the bulk of

[35]American Bar Association (ABA), 'International Environmental Law' (2021) <https://www.americanbar.org/groups/public_education/publications/insights-on-law-and-society/volume-19/insights-vol--19---issue-1/international-environmental-law/> accessed 2023-11-16.

[36]Jasti Swaroop Choudary, 'Planet In Peril: Unveiling The Nexus Of Climate Change, Health, And Environmental Justice Through Global Legal Perspectives' (2023) 5 Indian Journal of Law and Legal Research.

chlorofluorocarbons (CFCs) along with other substances that cause ozone depletion. Since the majority of nations have joined the Montreal Protocol, the use of substances which destroy the ozone layer has significantly diminished, leading to a steady recovery of the ozone layer. The member parties of the Montreal Agreement have recently expanded its scope to include the gradual elimination of some substances that contribute to climate change[37].

The Montreal Protocol, established in 1987, and its subsequent amendments were arguably the most fruitful accord in terms of eliminating CFC emissions, which deplete the ozone layer[38].

2.4 Role of International Law in Addressing Climate Change Impacts

A multitude of human activities and aspects of civilization contributes to the increase in the amount of greenhouse gases in the atmosphere, resulting in a wide range of repercussions on both the natural environment and human people. Multiple global legal instruments address different aspects of the issue, encompassing the environment, the loss of ozone, deforestation, energy, seas and oceans, commerce, and investment. The UNFCCC 1992 and it's Kyoto Protocol (Kyoto Protocol 1997), along with the agreements taken by the meetings of the Conference of the Parties to the UNFCCC along with the Conference of the Parties acting as Meeting of the Parties to the Protocol (COP/MOP), are the primary sources of international law regarding climate change. Because of the complex interconnections among climate change and various several other areas, there exist numerous connections among global climate change conventions and other world legal regimes. Given the huge scale of the phenomenon, it is highly probable that there will be some level of norms interaction and overlap. Indeed, it is imperative for collaborative efforts focused on reducing the release of greenhouse gases and minimising the detrimental effects of climate change[39].

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[37] American Bar Association (n 35).

[38] de Zeeuw (n 32).

[39] Harro Van Asselt, Francesco Sindico and Michael A. Mehling, 'Global climate change and the fragmentation of international law' (2008) 30 Law & Policy 423.

Climate change has been described as the central problem of our period, as well as one of the largest difficulties of our time. It is a severe and long-term concern that has the potential to impact all regions of the world. Climate change refers to not just a rise in the overall global temperature, but also a variety of climate-related phenomena that have the potential to cause significant changes in nature, society, and the economy.These alterations have the potential to jeopardise the safety of individuals, as well as the security and peace of the world, the stability of sovereign nations, and even their fundamental survival. Climate change is widely recognised as a global, and some may argue, universal, financial, political, and social problem. However, years after the UNFCCC was adopted, the international community has yet to come to an agreement that is legally binding and realistically achieves the goal of stabilizing and avoiding dangerous climate change. In its initial commitment period from 2008 to 2012, the Kyoto Protocol failed to secure the involvement and adherence of major industrialised economies that emit large amounts of greenhouse gases. It, in any case, did not impose obligations on developing nations to decrease their emissions. Any agreement on the specifics of future international collaboration and coordination under the global climate regime has so far remained elusive due to the wide variety of economic and political interests at stake. The problem of worldwide warming is complex and has a significant impact on all aspects of world law and policy. In order to effectively inform the development of the climate regime and avoid excessive fragmentation, a thorough evaluation of all aspects of international law is necessary[40].

[40]Rosemary Gail Rayfuse and Shirley V. Scott, *International law in the era of climate change* (Edward Elgar Publishing 2012).

CHAPTER THREE

Climate Change Impacts In Somalia

3.1Overview of Climate Change Impacts in Somalia

Geographically, Somalia is in the eastern part of the Horn's of Africa, having the equator passing through its southernmost point. It has the longest coastline of any African country and a climate that is both semiarid and warm desert. The headwaters of the rivers Shabelle and Juba originate in the Ethiopian highlands and meander into southern Somalia. There are four distinct seasons in Somalia: two monsoons, sporadic rain, hot, humid spells, and dry spells. The primary rainy season, Gu, lasts from April through June. The Xagaa dry season comes next, and then the Dayr rainy season, which lasts from October to December, brings more rain. The annual cycle concludes when the arid Jilaal season, which lasts from December to March, ends. The El Niño-Southern Oscillation (ENSO) cycle and variations in the Indian Ocean's sea surface temperatures affect the climate of the Horn of Africa[41].

The Horn of Africa's seasons and geographical areas are affected differently by distinct ENSO phases. Somalia is particularly vulnerable to the negative consequences of global warming and extreme weather, including protracted droughts, abrupt and severe flooding, unpredictable precipitation, disruptions in the rainy cycles, severe thunderstorms, hurricanes, sand storms and dust storms. There have been many occurrences of harsh weather in Somalia over the past 25 years. Desertification, deforestation, and land degradation have all increased significantly over the last 20 years; estimates show that between 1993 and 2014, the Lower Juba region lost 50% of its forest cover. The stress on Somalia's vegetation is so great that it often cannot recuperate, regardless of the current temperatures. Somalia is one of the countries with the highest annual mean temperatures in the world. Because of being closeness to the the Equator, the country enjoys year-round pleasant weather. The long coastline does,

[41]A. Park Williams and Chris Funk, 'A westward extension of the warm pool leads to a westward extension of the Walker circulation, drying eastern Africa' (2011) 37 Climate Dynamics 2417.

however, play a part in some of the temperature variations among the north and south. Generally, the arid and semiarid landmass is subject to hot temperatures and severe weather conditions. In Somalia, the mean daily high temperatures varied between 30 and 40 degrees Celsius (°C), with afternoon highs in Berbera, located in the northern region, surpassing 38°C on average from June to September, and Mogadishu peaked at 32°C in April. Since the beginning of the 20th century, Somalia has experienced significant fluctuations in its climate. However, since 1991, and particularly since the 1960s, in comparison to the average for the years 1901 to 2015, the nation has seen a steady and progressive rise in mean annual temperatures. According to future predictions, global temperatures will rise by 3.2°C to 4.3°C by the end of the twenty-first century[42].

3.2 Environmental Consequences

Since the 1990s, there has been a growing focus on the interaction between the environment and development, capturing the interest of both scientists and politicians. Undoubtedly, human activities are undeniably responsible for the deterioration of the global environment, posing a threat to the livelihood of billions of people across the globe. The ecological drama that is developing may acquire dimensions that are not now predictable. An possible outcome could be the exacerbation of socioeconomic disparities, particularly in the most underdeveloped nations, as a result of a rise in the population of displaced people and economic migrants from the Global South. This could further escalate racial & xenophobic tensions in the Global North. In 1992, the UNFCCC established a connection between greenhouse gas (GHG) emissions and development. This was in response to the collective commitment of countries worldwide to address the complex issue of sustainable development. There is still significant scientific uncertainty over the scope, timing, and scale of climate change. Developing nations are highly susceptible to the possible consequences of a changing global climate, and therefore, they must still effectively tackle the matter of climate change. Developing countries primarily perceive climate change as exclusively an environmental matter. The multitude and intricacy of regional social and environmental concerns obscured the

[42]Karolina Eklöw and Florian Krampe, *Climate-related security risks and peacebuilding in Somalia* (Stockholm International Peace Research Institute (SIPRI) 2019).

worldwide and progressive aspects. However, the problem is starting to come up in the context of development initiatives. In actuality, climate change connects the environmental and development issues since one presents challenges and holds promise for resolving the other[43].

A major danger to long-term global food security is climate change. Since many poor nations rely heavily on agriculture, changes in rainfall patterns and temperatures have a negative effect on crop productivity. The primary drivers of climate change are the combustion of fossil fuels as well as other non-renewable energy sources in a range of industrial processes, along with the destruction of forests. Due to the world's rapid population expansion, pressure is mounting on the forestry industry to supply the growing need for food. However, the constant increase in greenhouse gas emissions—such as carbon dioxide emissions, methane from agriculture, and environmental degradation—causes shifts in precipitation patterns, temperature increases, and negative impacts on land and water resources. Furthermore, GHG emissions have a detrimental impact on productivity in agriculture and public health[44].

At rates that are progressively exceeding their innate capacity for self-renewal, humans are depleting the planet's renewable natural resources. Pollutants are being released into the air, soil, and water at a rate that exceeds the capacity of the ecosystem to absorb, disperse, or decompose them. Carbon dioxide (CO2) is the main gas linked to climate change, while other greenhouse gases such as methane, nitrous oxide, ozone, and sulphur hexafluoride also play a role. Over the previous 200 years, carbon dioxide levels have risen by more than 40%, from 270 parts per million (ppm) to 382 ppm. Concentrations of CO are higher now than they have been over the previous 650,000 years. Compared to pre-industrial levels, methane concentrations have increased by over double. Over the past century, average temperatures have risen by 0.8°C. Fossil fuel

[43]Youba Sokona and Fatma Denton, 'Climate change impacts: can Africa cope with the challenges?' (2001) 1 Climate Policy 117.

[44]Abdimalik Ali Warsame and Abdikafi Hassan Abdi, 'Towards sustainable crop production in Somalia: Examining the role of environmental pollution and degradation' (2023) 9 Cogent Food & Agriculture 2161776.

combustion is a primary cause of these alterations. The average temperature is rising due to climate change, which also appears to be linked to a rise in the frequency of extreme weather occurrences. According to the FAO, there could be a significant rise in the number of hungry people, with sub-Saharan Africa suffering the most from the disruption of food distribution networks and associated infrastructure[45].

Somalia is experiencing severe weather patterns, such as droughts, floods, locust plagues, and land degradation. The primary cause of the nation's environmental damage is deforestation, which arises from cutting down trees to produce charcoal for export and home use. Most households in both rural and urban areas rely on conventional biomass energy sources, such as firewood and charcoal, which make up 82% of the overall energy use. As an illustration, the percentage of Somalia's overall land area occupied by forests decreased from 13% in 1990 to 9.5% by 2020. Since the collapse of its government in 1991, Somalia has exhibited limited capacity to adjust to the impacts of climate change, rendering it one of the most susceptible states globally. In order to establish sustainable methods for addressing environmental degradation and reducing emissions, it is crucial to identify the factors that contribute to pollution and environmental deterioration[46].

Climate change poses a significant and increasing threat to agricultural output and global food security. Climate change significantly affects agricultural productivity through the occurrence of increasingly frequent and intense severe weather conditions, such as elevated temperatures, alterations in rainfall patterns, dry periods, extended droughts, restricted water supply, loss of soil, and the elevation of sea levels. These variables possess the capacity to significantly destabilise global agricultural systems, resulting in a condition of food scarcity in terms of accessibility, security, access, and consumption. The occurrence of climate change has led to and will continue to cause a decrease in

[45]Henning Steinfeld and others, *Livestock's long shadow: environmental issues and options* (Food & Agriculture Org. 2006).

[46]Abdimalik Ali Warsame and others, 'Towards sustainable environment in Somalia: The role of conflicts, urbanization, and globalization on environmental degradation and emissions' (2023) 406 Journal of Cleaner Production 136856.

agricultural production and the availability of food in nations that are developing like Somalia. Somalia, which has experienced significant destruction from war in the past two decades, is one of the developing countries recovering from conflict that has also faced regular natural catastrophes and a deteriorated natural environment. Significant flooding incidents The Somali pastoral communities, whose primary source of income is rain-fed crops, frequently engage in this activity, which lowers agricultural land productivity due to soil logging, which results in the deforestation and loss of fertile topsoil. Strong winds have also intensified soil erosion, which lowers land production by removing productive topsoil. Agricultural harvests have failed due to high temperatures because of increased pest invasion and decreased water availability[47].

3.3.1 Somalia's Environmental Challenges

Somalia is a country characterised by arid and semiarid agroecological conditions, seeing annual rainfall ranging from less than 50 mm along the northern coast to around 600 mm in the southernmost regions. Potential evapotranspiration ranges from 1900 to 2500 mm. Due to the abundance of grazing pasture, more than 70% of Somalia live as nomadic pastoralists; as a result, pastoralists and agro-pastoralists are prevalent land production methods and the main source of income; as a result, these natural resources serve as the foundation for rural lifestyles in Somalia. The protracted civil war has severely damaged Somalia, particularly in the areas of forestry, education, and agriculture. Environmental issues such as soil erosion, overgrazing, deforestation, dust storms, desertification, and famine confront the country. Drinking tainted water further exacerbates health issues for people. The country is prone to periodic droughts, regular dust storms throughout the eastern plains in summer, and inundation during the rainy season. In most parts of the country, particularly in Addado and Galkaayo, forests have undergone a transformation into scrubland, resulting in the disappearance of large sections of ground vegetation. Compelling evidence of the seriousness of the problems may be seen in the reduced levels of food scarcity and agricultural production, as well as the prevalence of diminished vegetative cover. In March, the average temperature

[47]Abdimalik Ali Warsame and others, 'Assessing the effects of climate change and political instability on sorghum production: Empirical evidence from Somalia' (2022) 360 Journal of Cleaner Production 131893.

exceeds 30 degrees Celsius. June through September are the months with the lowest temperatures of the year[48].

3.3 Socioeconomic Consequences

Numerous social and environmental issues, including inadequate health care and services, underdeveloped educational systems, a lack of acceptable sanitary facilities, and a lack of other social amenities, are present throughout Sub-Saharan Africa. Individuals often reside in a polluted environment, posing difficulties for women and children in fulfilling their fundamental requirements. The escalating food insecurity situation in the region poses a significant peril to a substantial population and has the potential to result in the loss of thousands of lives. However, environmental constraints such as deforestation, climate change, and loss of biodiversity, along with their respective outcomes, have the capacity to worsen the already severe circumstances for millions of individuals residing in developing countries and render them more vulnerable to climate change. The societal expenses associated with climate change can be easily measured within the framework of these persistent stresses. Climate variations have the potential to significantly affect human well-being, present serious risks to human survival, and cause damage to the ecosystem. When considering the impact of climatic variability, there are significantly more uncertainties related to socioeconomic factors than there are related to biophysical factors. Extreme occurrences can lead to natural disasters such as heatwaves, droughts, cyclones, and floods. These situations have the potential to lead to various societal consequences, such as population displacement, inadequate nutrition, famine, and deterioration in health conditions caused by the transmission of contagious diseases through the air and water. The correlation between water scarcity and social unrest, as well as its impact on other climate-related problems like migration due to drought, has been well-recognised for a significant period[49].

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[48]Badal Ahmed Hassan and others, 'An assessment of the socioeconomic and ecological impacts of environmental changes on rural livelihood: A study across Addado, Buhodle and Northern Galkaayo of central and northern Somalia' (2014) 3 Agriculture, Forestry and Fisheries 279.

[49]Sokona and Denton (n 43).

The economies of both wealthy and developing nations are already experiencing the repercussions of climate change, and this influence will only exacerbate in the future[50].

More precisely, climate change affects the nation's economic production through a variety of mechanisms, including lower productivity in the agriculture sector, higher energy consumption, and decreased output in the labour force[51].

Climate change affects the output channel through several mechanisms, including increased temperatures, erratic rainfall patterns, droughts, shortages of water, degradation of land, floods, prolonged drought events, and rising sea levels. The aforementioned consequences might detrimentally influence worldwide agricultural systems, consequently impacting food security in relation to the availability, accessibility, stability, and consumption of food. Sub-Saharan African states exhibit heightened vulnerability to the impacts of climate change due to their lack of economic diversification and excessive dependence on the agriculture sector, even when compared to other emerging nations. Estimates indicate that the agriculture industry in Sub-Saharan Africa is responsible for generating 60% of the region's employment opportunities and provides 30% to its Gross Domestic Product (GDP). The quality of institutions and the phenomenon of climate change both exert a substantial influence on the domestic output of Somalia. An investigation of this subject in Somalia is imperative, given the country's profound devastation caused by recurrent civil conflicts, political instability, corruption, inadequate governance, and a lack of legal framework. Furthermore, Somalia encountered numerous environmental consequences resulting from climate change. Climate change events, such as droughts and floods, directly result in famine, poverty, unemployment, and overall economic decline[52] .

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[50]James A. Rising and others, 'Challenges and innovations in the economic evaluation of the risks of climate change' (2022) 197 Ecological Economics 107437.

[51]Chengfang Huang and others, 'Estimating economic impacts from future energy demand changes due to climate change and economic development in China' (2021) 311 Journal of Cleaner Production 127576.

[52]Abdimalik Ali Warsame and others, 'Assessing the long-and short-run effects of climate change and institutional quality on economic growth in Somalia' (2023) 5 Environmental Research Communications 055010.

Increasing evidence establishes a connection between climate change and various levels of dangers to natural systems, posing threats to economic, social, and environmental progress. Sub-Saharan African rural communities are more vulnerable to the effects of climate change since they rely heavily on agriculture that is dependent on rainfall. The scarcity of water has disproportionately affected the economic viability of the substantial communities in Somalia who depend on access to water and pasture for their occupations. Somalia has witnessed a rise in the occurrence and severity of droughts and floods; most notable were the catastrophic droughts that occurred in 2007 to 2008 and 2011–2012. From November 2016 to October 2017, around 943,000 residents in Somalia were compelled to evacuate their residences as a result of a severe drought, as reported by the United Nations. These findings show that concerns about climate change are forcing an increasing number of people across the nation to leave their homes.The Sendai Framework for Disaster Risk Reduction (2015–2030) recognized the need to establish climate-smart systems in order to attain sustainable development. We expect the anticipated consequences of climate change to diminish economic growth, thereby intensifying the challenge of alleviating poverty and prolonging existing poverty cycles. Climate change threats not only threaten the sustainability of fundamental livelihoods but also pose a threat to health and food security, among other socioeconomic effects. Without appropriate adaptation strategies, the predicted increase in the frequency and severity of weather and climatic extremes would endanger ecosystem safety and public health. Reinforcing Somalia's disaster response capabilities is necessary to effectively manage the prolonged droughts and floods the country continues to experience[53].

3.4 Legal Challenges

Due to the absence of an effective government, a large number of people, both domestic and foreign, have engaged in a variety of harmful and unlawful activities. There have been long-running rumours, despite many international probes, that foreign vessels are leaving dangerous contaminants on Somali beaches and in its waterways. It is also commonly believed that the unrestrained offshore fisheries and the uncontrolled traffic

[53]Linda A. Ogallo and others, 'Climate change projections and the associated potential impacts for Somalia' (2018).

in charcoal are negatively impacting the country's natural resources. Consequently, there may be restrictions on the potential for sustainable expansion and the overall recovery of the nation.Adoption and effective implementation of a number of international, regional, and national agreements that specify national obligations as well as those of the global community are crucial to good environmental management. The majority of Somalia needs a well-developed regulatory framework despite having ratified several significant international agreements. Clearly, a comprehensive revision of the nation's natural resource management legislation is required; however, achieving this objective will require considerable effort and collaboration from all relevant stakeholders, both within the country and on the international stage[54].

It is important to deal with several legal deficiencies, including the lack of a national water act and the failure to comply with the 1972 London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter. It is particularly significant as it pertains to the purported disposal of toxic and hazardous substances along the shoreline. Further prospects for enhancing natural resource management may hinge on enhanced regional collaboration and synchronization. Somalia's natural resources, such as its rich maritime fisheries and agricultural and grazing grounds, serve as a foundation for the restoration of the people's livelihoods. Controlling these resources and administering them in a way that is profitable, sustainable, and equitable will, nevertheless, continue to provide a significant obstacle for the nation's decision-makers and citizens. Therefore, in order to decrease the current levels of overexploitation, it will be necessary to seek collaboration and assistance from neighbouring nations, as well as reach a consensus among domestic stakeholders[55].

As Somalia lacks both the enforcement of a fundamental legal framework and an effective environmental policy, activities that stress vegetation are permitted. Longer and more severe droughts also contribute to the deforestation caused by humans and are causing livestock deaths and crop failures. A partial comprehension of the extent of the issue of land degradation distorts the decisions made by policymakers and pastoralists.

[54]Beier and Stephansson (n 24).

[55]Ibid.

Since the majority of Somalis are dependent on agriculture, forestry, and fishing, changes in the climate have a significant impact on daily life[56].

[56]Eklöw and Krampe (n 42).

CHAPTER FOUR

Legal Framework for Addressing Climate Change In Somalia

4.1 National Legal Framework

Somalia needs more direct legislative instruments to address climate change at present. Countries take diverse approaches to combating climate change. Official laws passed by the legislative branch or acts of parliament are the main source of authority in many countries. Executive policies, which include executive orders, decrees, strategies, and development plans, among other things, outline the frameworks for policy and the path ahead in other nations. Approximately 44% of the dataset's items are legislative actions of parliament, with executive policies making up the other 56%. The variation is a reflection of various local settings and regulatory traditions. For instance, the National Development and Reform Commission, which oversees the relevant reforms and coordinates the efforts of all involved government agencies, is the primary agency in China's development of climate policy. In contrast, the legislative branch leads the formation of policy in nations like the UK that have longstanding parliamentary traditions[57].

Somalia has been plagued by internal strife for almost two decades, which has posed substantial challenges to the country's development. Somalia's federal administration was established in October 2012 after the new provisional constitution was approved and a new parliament was inaugurated. It marked the establishment of the country's inaugural enduring central government following the commencement of the civil war. The present government is committed to tackling these concerns due to its profound understanding of the perils that climate change presents to the maintenance of peace and security, as well as the advancement of crucial development benchmarks. Somalia is now formulating a comprehensive plan to tackle the consequences of climate change, beginning with the execution of the National Adaptation Programme of Action (NAPA). The primary goal of the NAPA is to bolster the ability of the Somali people to withstand the impacts of climate change, given their heightened vulnerability due to an economy

[57]Michal Nachmany and others, *Global trends in climate change legislation and litigation*, (2017).

heavily dependent on natural resources. Naturally, the primary threats that Somalia faces now are these climate-related disasters. Severe droughts frequently follow devastating floods, leading to widespread famine and the deaths of thousands of people and animals[58] .

The nation's poor human development indices and strong reliance on natural resources are anticipated to exacerbate its vulnerability to climate change. The United Nations Development Programme (UNDP) collaborated closely with the Ministry of National Resources of the Federal Somalia Government to produce this National Adaptation Programme of Action (NAPA). The preparation process has carefully followed the meticulously studied suggestions offered by the Least Developed Countries (LDC) Expert Group (LEG) under the United Nations Framework Convention on Climate Change (UNFCCC). As per Somalia's interim constitution, every individual is entitled to a natural resource-abundant environment that does not pose a threat to their health or well-being. Additionally, individuals have the right to a share of the country's natural resources, with the condition that these resources are protected from excessive use and other detrimental activities. Somalia is already seeing significant impacts from climate change. If we fail to promptly assist the most susceptible populations, the forthcoming consequences could be considerably more terrible. Climate change is an undeniable phenomenon that the country is currently undergoing, as demonstrated by the increasing levels of sea water, surface temperatures, and precipitation patterns on both a seasonal and yearly basis. Additionally, it is causing the destruction of lives and livelihoods that depend on fragile ecosystems and natural resources[59].

4.2 Regional and International Legal Instruments

The region governed by the Intergovernmental Authority on Development (IGAD) consists of Eritrea, Ethiopia, Kenya, Djibouti, Uganda, South Sudan, Sudan, and Somalia, with a total population of over 240 million individuals. More than 60% of the area is semi-arid or desert and it is vulnerable to droughts, which frequently result in

[58]Ministry of National Resources, 'National Adaptation Programme of Action on Climate Change ' (2013) <https://unfccc.int/resource/docs/napa/som01.pdf> accessed 2023-07-15.

[59]Ibid.

disastrous famines and water competition. More than twenty million people in the region live pastoral lifestyles, with agriculture making up only eight per cent of the total area. A steady supply of water with good quality and consistent availability is essential for reducing water stress and maintaining the health of the IGAD region's inhabitants. IGAD was initially established as the Intergovernmental Authority on Drought and Development (IGADD) in 1986 to address issues related to the drought that affected the Greater Horn of Africa. On March 21, 1996, in Nairobi, the IGAD Agreement expanded the organization's scope to include more areas of regional collaboration. The organization's present objectives are to enhance cooperation among member states in order to achieve food safety and environmental preservation, promote peace and security, protect human rights, and foster financial integration and cooperation. As per Article 13(a), the treaty mandates member nations to cooperate in specific domains, including the sustainable governance and utilisation of common natural resources. Article 17 confers upon member nations the authority to establish "any essential protocols to achieve the objectives and aspirations of this Agreement"[60].

Climate change has the potential to weaken specific recognised rights for people in Africa, such as the rights to life, growth and development, health, and an environment that is clean. In its 2010 resolution 153 themed "Climate Change and Human Rights in Africa," the African Union recognised the influence of climate change on the overall fulfilment of human rights across the continent. The resolution emphasises the imperative for the African Union to adopt legal measures to protect vulnerable groups, such as women, children, the elderly, indigenous peoples, and those impacted by natural disasters. Although the 1981 African Charter on Human and People's Rights was the initial international human rights instrument to ensure the right to a favourable environment for development, Africa has not prioritised environmental protection, possibly due to its status as the world's poorest continent. However, in order for these nations to have the financial means to address climate change, economic growth is essential. African states must bolster their capacity to adapt in order to successfully

[60]Marcella Nanni, 'Water challenges in the IGAD region: Towards new legal frameworks for cooperation' (2016) 41 Water International 635.

address the impacts of climate change. Nevertheless, African nations require additional information and assets to adapt to the impacts of climate change. The next logical step in the line of reasoning is to advocate for a redistribution of resources from the wealthy to the impoverished. This is necessary to help the impoverished adapt to the effects of climate change, in line with the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR)[61].

The reason for this is that the implementation of adaptation policies and procedures incurs substantial costs which are beyond the financial means of poor countries. The Kyoto Protocol and the United Nations Framework Convention on Climate Change (UNFCCC) are the current worldwide legal and institutional framework for addressing the consequences of climate change. Parties to the Kyoto Protocol and the UNFCCC must recognise the disparities in adaptation capabilities and needs between advanced and developing nations, as well as the urgent requirement to assist the latter. According to Article 4(4) of the UNFCCC, affluent countries' Parties along with other developed Members listed in Annex II are obligated to provide financial support to Parties from developing nations that are particularly vulnerable to the negative consequences of climate change. This assistance is intended to help cover the expenses associated with adapting to these effects. The Convention also acknowledges the challenges faced by the poorest nations in adjusting to worldwide warming by requiring that "the Parties must fully consider the distinct requirements and unique circumstances of those who are least developed in their efforts related to financing and technology transfer." The Kyoto Protocol also incorporates comparable rules for nations that are developing to adjust to climate change[62].

The Paris Agreement establishes a structure for providing economic, technical, and capacity-building assistance to states that require it[63].

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[61]Pallangyo (n 1).

[62]Ibid.

[63]UNCC, 'The Paris Agreement' <https://unfccc.int/process-and-meetings/the-paris-agreement> accessed 18/11/2023.

Africa cannot adapt, making it incredibly exposed to the effects of climate change. The ramifications are severe and could lead to underdevelopment, poverty, and even hostilities. One country state needs to prepare to handle this issue. In order to address this problem in Africa at its fundamental level, states must work together and unite[64].

The UNFCCC and its Kyoto Protocol are essential components of the global legal system established to address climate change. In 1988 and 1989, the General Assembly of the UN acknowledged the issue of climate change as a subject of "universal concern" and emphasised the urgency of taking immediate measures to address it[65].

4.3 Compliance and Enforcement Mechanisms

Soft laws refer to international conventions that are not legally binding. They are operational, but they lack the same legal imperative as stringent laws. International environmental law is a prime example of soft law. Implementing insufficient legislation poses a hurdle. The rules are not capable of being effectively enforced. Soft law is a valuable alternative for settling problems when legally enforceable obligations have been ineffectual, especially in the realm of political and commercial agreements. Most environmental measures implemented to protect the environment are categorised as soft laws. These entities are not legally binding and do not consider human rights issues, even though climate change, resulting from events such as wildfires, bush burning, and hurricanes, has a substantial and profound effect on various human rights, including the right to health, food, a satisfactory standard of living, and even the right to life[66].

Due to its perceived weakness, the enforcement aspect of the international legal system is often considered the most vulnerable. Therefore, the UNFCCC/Kyoto regime is one of many facing challenges in ensuring compliance.The UNFCCC only contains two enforcement and compliance-related measures: an agreement to establish a "multilateral consultative process" to assist governments in resolving implementation challenges and a dispute resolution procedure that consists of conciliation and arbitration procedures.

[64]Pallangyo (n 1).

[65]Jasmine Neve, 'Climate Change and Forced Migration: Addressing the Gap in International Law' (2015).

[66]Oluchi Blessing Chiedo, 'The Impact Of Climate Change On Human Rights', Near East University 2021.

These provisions have not had much of an impact in practice since the enforceable obligations made by the Convention are not very explicit, and there are no consequences for non-compliance[67].

As stated in the 2001 Marrakesh Accords, the Kyoto Protocol, on the other hand, has a procedurally sound process that combines "soft" and "hard" enforcement elements in order to "facilitate, promote, and enforce compliance with the commitments under the Protocol"[68].

An "enforcement branch" is responsible for investigating and imposing penalties on instances of non-compliance, whereas a "facilitative branch" offers guidance and encourages adherence to rules and regulations. If a party fails to achieve its emission reduction goals by the conclusion of the commit period, they will incur a 30% punishment in the subsequent commitment period. The enforcement branch has the ability to utilise various sanctions, such as publicising and condemning the party's actions, imposing a temporary ban on the party's involvement in adaptability strategies such as the Clean Development Mechanism, and temporarily excluding its members from participating in other mechanisms. The literature on the Kyoto compliance mechanism demonstrates its effectiveness in enforcing the criteria for participation in flexibility mechanisms and the obligations of Annex I countries to establish national inventories and systems[69].

Having a robust procedural structure with various consequences is a notable improvement compared to most multilateral environmental accords (MEAs), which usually prioritise lenient compliance methods such as mandatory reporting. Nevertheless, the approach has some aspects that could be enhanced. The enforcement components of the Marrakesh Accords lack legal obligation, in contrast to the legally enforceable emissions reduction targets of the Kyoto Protocol. One of the criticisms of

[67]Stephanie Cousins, 'UN Security Council: playing a role in the international climate change regime?' (2013) 25 Global Change, Peace & Security 191.

[68]Sylvia I. Karlsson-Vinkhuyzen and Antto Vihma, 'Comparing the legitimacy and effectiveness of global hard and soft law: An analytical framework' (2009) 3 Regulation & Governance 400.

[69]Cousins (n 66).

the Marrakesh Accords is the absence of a clear process for addressing non-compliant parties who refuse to accept penalties imposed by the Enforcement Branch. Additionally, the "consequences" for non-compliance are considered to be too lenient. Another concern is the possibility that penalties for exceeding allocated emission units could carry over into the next commitment period or be indefinitely postponed. Furthermore, the system has enabled the occurrence of moral dangers. Canada offers as an illustration of this phenomenon: in 2011, the nation made the decision to withdraw from the Kyoto Protocol instead of paying the 30% penalty for deliberately failing to achieve its emissions objective. Furthermore, the Canada case demonstrates that the facilitating branch has not yet been able to fulfil its duty to function as an early warning system in circumstances where non-compliance is anticipated in advance[70].

[70]Ibid.

CHAPTER FIVE

Migration Issues and Climate Change in Somalia

5.1Introduction

Climate change is presently happening and is a genuine and substantial problem. The release of greenhouse gases by human activity is the direct cause of the observable and well-documented impacts of climate change. They exert impact over multiple elements of our globe, encompassing the atmosphere, cryosphere, oceans, and sea level. Climate change impacts the elements that contribute to migration, however it does not directly cause migration. Desertification, in this particular context, denotes the deterioration of the environment resulting from climate change. Presently, it is regarded as one of the most profound environmental catastrophes stemming from dryness, drought, and erosion triggered by precipitation, together with human activities. Consequently, the decline in productivity of land and ecosystem services has adverse impacts on security of food, accessibility to water, and agricultural output. It exacerbates the economic hardships faced by individuals reliant on agriculture. Moreover, the process of desertification and the phenomenon of climate change, in a broader context, stimulate migration, initiating a dangerous cycle of cause and effect that presents hazards to human populations. The term "environmental refugees" is used to describe those who are forced to relocate as a result of the influence of climate change on the circumstances that drive them to move[71].

Migration, as recorded in the annals of human history, entails the movement of individuals, typically towards a different geographical area, driven by either pull causes (such as employment opportunities and improved living conditions) or push factors (such as natural disasters, political unrest, economic hardship, and armed wars), or a combination thereof[72].

[71]Margaux Vit, 'Desertification and environmental refugees: concrete problems in the context of climate change' (2018).

[72]Idowu Ajibade, Meghan Sullivan and Melissa Haeffner, 'Why climate migration is not managed retreat: Six justifications' (2020) 65 Global Environmental Change 102187.

Climate migration refers to the movement resulting from climate-related factors. Environmental deterioration compels individuals to migrate, or they choose to relocate to achieve a significantly improved standard of living in response to environmental or climate-related challenges[73].

During the 1970s and 1980s, environmental change experts likely became the first to acknowledge the severe consequences of weather changes, particularly in the form of forced migration. It underscored the worldwide community's focus on the seriousness of the issue. The environmental repercussions of climate change are intertwined with social, political, and economic considerations. Climate change intensifies the economic pressure that forces individuals to seek employment beyond their local area or to move due to the effects of climate change. Although it is difficult to predict the precise outcomes of migration caused by climate change, it is possible to determine the number of people affected by climate change because of rising temperatures and unpredictable rainfall patterns. This can be observed through extreme weather events such as cyclones, floods, droughts, and cloudbursts. Other forces affecting people's livelihoods include sea level rise, desertification, and falling crop yield, which has forced many to migrate. Internal migration is more likely to result from climate change than international migration[74].

Climate change and the resulting activities have diverse consequences on human movement. Severe weather phenomena and gradual environmental shifts compel individuals to evacuate from impacted areas. Furthermore, while violent conflict causes the displacement of most individuals, gradual environmental changes or severe weather events are commonly known as "internally displaced persons." Regardless, these individuals are entitled to universal rights. However, developing or least-developed countries often lack the necessary resources to adequately safeguard these individuals.

[73]Haijuan Yang and others, 'Environmental outcomes of climate migration and local governance: an empirical study of Ontario' (2023) 15 International Journal of Climate Change Strategies and Management 371.

[74]S. Irudaya Rajan and Ram Babu Bhagat, *Climate change, vulnerability and migration* (Taylor & Francis 2017).

The need for more international collaboration to protect the human rights of all individuals is not a recent development, but it is growing more pressing as the impacts of climate change start to impact the most susceptible people worldwide[75].

The majority of frameworks, regardless of whether they are descriptive or analytical, start by considering climate change as a catalyst for human mobility. These frameworks also consider the people who are likely to be affected and the probable pathways of movement. The following factors expected to influence population migration: (1) an increase in the severity and occurrence of extreme weather events and disasters related to climate; (2) the depletion of land suitable for farming and living, for example, when individuals forced to leave their island residences or coastal and riverine areas due to rising sea levels; and(3) Negative impacts on ecosystems that are crucial for providing enjoyment and sustenance, such as land degradation, a decrease in fish populations, and other comparable occurrences. These climatic variations will have a wide range of consequences, affecting both short- and long-distance travel, as well as seasonal, permanent, circular, and temporary movement. Climate change is one of many factors that interact to drive migration, but it seldom happens on its own[76].

Underdeveloped countries, particularly, will confront a convergence of demographic, social, political, and economic strains, such as dense population, restricted employment opportunities, uneven allocation of resources, and armed conflicts, that will line up with climate hazards and impact migration choices. When examining migration, it is important to take into account the significant limitations on movement that many affected individuals suffer. Additionally, it is crucial to recognise that current migratory patterns are also influenced by climate change. By considering these factors, we may better understand how humans are able to adjust to environmental changes. Disadvantaged and more susceptible populations may have limited capacity to transfer to a different place in reaction to environmental calamity and decline; financial assets,

[75]Benoît Maye and François Crépeau, *Research handbook on climate change, migration and the law* (Edward Elgar Publishing 2017).

[76]Celia McMichael, 'Climate change-related migration and infectious disease' (2015) 6 Virulence 548.

social connections, and the availability of appropriate locations and means of sustenance all contribute to the ability to migrate[77].

5.2 Climate Change-Induced Migration in Somalia

We anticipate significant impacts from climate change and global warming on Somalia. More arable land will become unsuitable for crop production as temperatures rise, making grazing land significantly less productive than it is now[78].

Somalia, like many other states in Northeast Africa, is very susceptible and requires enhanced capacity to effectively adapt to the forthcoming impacts of climate change in terms of exposure and adaptation. Due to severe climate stress and resource depletion, Somalia is expected to see extensive population relocation and forced migration. Due to insufficient water storage and heightened vulnerability to sickness, thirst, and hunger, families were compelled to abandon their residences in pursuit of sustenance and hydration. Despite Somalia's ongoing recovery from the famine, it is clear that the government lacks the capability of ensuring the water and food security necessary for its inhabitants in the case of an unforeseen event across both rural and urban regions. Most of Somalia's population resides in low-lying coastal areas in proximity to the Gulf of Aden and the Indian Ocean. States such as Somalia are becoming increasingly susceptible and may need to relocate due to the anticipated increase in severe weather phenomena and natural catastrophes caused by increasing sea levels in addition to frequent changes in temperature. Due to the increasingly concerning predictions of sea level rise, a substantial segment of the Somali population may be compelled to move[79].

Additionally, there are still large spatial disparities in adaptive capacity within states. Among them, residents of rural communities need more access to the economic and academic resources of their urban counterparts. They are also less equipped to protect themselves in the event of a natural disaster. As was evident in the Somali famines of

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[77]Ibid.

[78]S. George Philander, *Encyclopedia of global warming and climate change: AE*, vol 1 (Sage 2008).

[79]E. J. Meeking, 'A Study of Climate Change Induced Migration in Somalia' (2013) E International Students.

1991–1992, as well as 2011–2012, these poorer communities were the most severely affected. They had restricted access to humanitarian relief because of their rural location and the anti-government Al-Shabaab faction's involvement. In a country where poverty is already a problem, the unequal distribution of income between rural and urban populations further restricts the population's access to quality healthcare and job prospects. Due to these constraints, many rural communities have moved to urban areas that are wealthier in an effort to find employment, housing, and healthcare. When rural migrants go to these larger regions, they encounter comparable problems, more rivalry, and conflict because many of Somalia's urban towns are still developing and cannot support the country's rapidly growing population[80].

5.3 Legal Challenges and Protection of Climate Migrants

Persons seeking refuge from the consequences of climate change receive minimal legal protection under international law when they cross international borders. The 1951 Refugee Convention offers a clear and specific definition of a refugee. According to this convention, a refugee is a person who is currently residing outside their country of origin and is unable or unwilling to return due to a well-founded and justified worry that they will be facing persecuting due to variables like ethnicity, nationality, religion, membership in a particular social group, or views on politics. Climate-related issues are not included in this definition. International human rights law prohibits the deportation of individuals who face the possibility of being subjected to arbitrary loss of life, torture, or inhumane or cruel treatment or punishment upon their return to their place of origin. This extends the responsibilities of governments beyond just protecting refugees. This obligation, also referred to as the principle of non-refoulment, may afford climate-displaced persons only a restricted degree of protection[81].

There is no specific international instrument that addresses international migration due to environmental factors like climate change. Environmental migrants have the same rights and obligations as everyone else travelling across international borders. As with

[80]Ibid.

[81]Carmen G. Gonzalez, 'Climate change, race, and migration' (2023) 1 Gonzalez, C(2020) Climate Change, Race, and Migration Journal of Law and Political Economy.

any other individual who migrates, they have the right to all human rights that are recognised by international law. The Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, and the International Covenant on Economic, Social, and Cultural Rights delineate the fundamental privileges that every individual is entitled to. These rights encompass the right to life, liberty, and security; protection against slavery or coerced labour; immunity from torture or inhumane treatment; protection towards unlawful capture or imprisonment; liberty to move around and live within a country; the right to marry and form a family; and the right to work, freely choose employment, and have equitable working conditions. There is a need to enhance the institutional responsibilities and obligations at both the international and national levels to effectively address the management of cross-border migration resulting from climate change. This includes improving the international legal frameworks. An international framework is necessary to address the issue of cross-border migration, particularly for those who are forced to relocate because of climate change. The United Nations Population Fund may have a role in this framework, specifically in the context of the refugee regime. It is not to dispute the existence of government in its entirety. Numerous international organizations are involved in various aspects of international migration[82].

Every institution plays a unique and specific role in the migratory system. Simultaneously, Global recognition acknowledges the United Nations High Commissioner for Refugees (UNHCR) as a global organisation tasked with the responsibility of offering protection and assistance to refugees. The International Organisation for Migration (IOM) is a non-UN international organisation that has the ultimate jurisdiction over migration-related issues.In 2015, the IOM's Governing Council created a Migration Governance Framework. While this framework primarily addresses environmental problems and migratory trends, its governing principles and objectives offer a feasible strategy for dealing with migration resulting from climate change. Establishing a worldwide framework to handle migration resulting from climate change would serve as a highly commendable initial step. Although the International

[82]Susan Martin, 'Climate change, migration, and governance' (2010) 16 Global Governance 397.

Organisation for Migration (IOM) is the sole intergovernmental organisation dedicated exclusively to migration, several other organisations, such as the International Labour Organisation (ILO), Department of Economic and Social Affairs (DESA), Office of the High Commissioner for Human Rights (OHCHR), and United Nations Office on Drugs and Crime (UNODC), also address migration as part of their work. With the exception of the IOM, these organisations have not demonstrated a substantial level of interest in the interrelationships involving climate change and their specific areas of responsibility[83].

5.3.1 Climate change-related movement and international human rights law

The relationship between climate change and its impact on individuals' capacity to fulfil their fundamental human rights is unquestionable. The heightened occurrence and severity of extreme weather phenomena such as tempests and cyclones, coupled with coastal degradation, inundation, aridity, and escalating ocean levels, will have adverse effects on agriculture, services, infrastructure, and the viability of certain areas. Severe circumstances have the potential to jeopardise the fundamental rights to self-determination, life, wellness, housing, culture, and means of subsistence. The economically disadvantaged regions of the world, which lack sufficient measures to protect human rights, are likely to experience the most significant consequences of climate change. Being at a disadvantage inhibits one's capacity to be responsive. For example, limited education, technical expertise, access to resources, and institutional support are all challenges in pushing for aid and adaptation[84].

International human rights legislation is crucial for the current analysis due to three primary factors. First, it establishes the minimal criteria for the level of care that nations must offer to individuals residing within their territories or subject to their authority. Furthermore, it provides a mechanism for determining the specific rights that are at risk due to climate change and the primary responsibility of national authorities in addressing

[83]Dimitra Manou and Anja Mihr, 'Climate change, migration and human rights', *Climate Change, Migration and Human Rights* (Routledge 2017).

[84]Jane McAdam, *Climate change, forced migration, and international law* (Oxford University Press 2012).

these rights. Second, Human rights laws may offer a legal foundation for seeking (and obtaining) protection in another nation if these rights are in danger (known as "complementary protection"). Thirdly, human rights law plays a crucial role in the legal status of relocated individuals, as it establishes minimum treatment standards that the host state must adhere to. Any breach of human rights could theoretically trigger a non-refoulement requirement. However, "it will be virtually impossible for a claimant to establish that immigration control was disproportionate to any violation" of a human right in the majority of situations[85].

According to the fundamental international human rights treaties, every migrant has the right to dignity, protection, and the unfettered exercise of their human rights. Apart from the nine essential human rights instruments, migrant workers are also granted particular safeguards under the 1990 Convention on the Rights of All Migrant Workers and Members of Their Families, as well as pertinent International Labour Organisation (ILO) conventions like Convention 97 on Migration for Employment, Convention 143 on Migrant Workers, and the newly ratified Convention on Domestic Workers. Furthermore, migrants are eligible for safeguarding and entitlements according to many international legal frameworks, such as transnational criminal law, nationality, labour, humanitarian, maritime, and refugee laws.Nevertheless, none of these systems provide absolute protection for individuals who traverse international borders. Out of the total number of states, only forty-eight have officially agreed to the 1990 Convention. However, it is important to note that none of these states are considered significant destinations for migrants. Additionally, none of these contracts provide any special provisions for those who move because of climate change[86].

5.4 International Cooperation and Support

To effectively combat climate change, international cooperation is necessary. The various effects of climate change require policy responses that happen simultaneously on multiple fronts over varying time horizons. Humanitarian aid is a vital short-term reaction to sudden-onset disasters; in the medium term, international efforts should

[85]Ibid.

[86]Manou and Mihr (n 82).

concentrate on enhancing resilience through adaptation. Deliberate efforts to mitigate global warming may slow down long-term climate change. The mid- and long-term tasks have advanced slowly thus far. In anticipation of further scientific discoveries, the industrialized governments must provide the most vulnerable countries with both financial and technical support for adaptation. Many of the short-term effects of climate change will resemble the long-term effects of historical human misuse of water and land resources. The same actions that protect or restore rural livelihoods and the natural resources that underpin major urban regions can also reduce susceptibility to climate change and increase resilience and adaptation[87].

In reaction to the loss of human habitat, Global cooperation could manage migration. We are unlikely to plan or carry out a large-scale mass relocation intentionally. Nonetheless, there are instances of purposeful, small-scale collaboration. In case of total inundation, New Zealand has promised to let the 12,000 inhabitants immigrate, and it has already set an annual migration quota from the island nation of Tuvalu. Following a devastating volcanic eruption in 1995, the US made an analogous, but unrelated to climate change, agreement by allowing almost all residents of the British Caribbean island of Montserrat to enter the US under humanitarian conditions temporarily. However, as it became clear that the island would not be suitable for living for a considerable period, the temporary status was deemed unsuitable, and individuals who were affected and did not have any other legal basis to remain in the United States (such as marrying a citizen or lawful permanent resident)resettled in the United Kingdom. The earthquake of 2010, on the other hand, prompted a migration response, and Haitians living in the United States were granted protection following a series of natural and political calamities in the country, including two powerful hurricanes in 2008[88].

[87]Kathleen Newland, *Climate change and migration dynamics* (Migration Policy Institute Washington, DC 2011).

[88]Ibid.

There must be international cooperation. National migration policies alone cannot achieve effective management and control of migration due to the strength of the dynamics driving international movement and the limited ability to adjust them[89].

Enhancing and establishing systems for development aid; fostering regionally consistent policies and practices for sustainable economic growth; and fostering international collaboration on climate change problems. Two additional aspects necessitate these adjustments: (1) There is already empirical proof of some consequences resulting from climate change, and (2) implementing the required changes will require a considerable amount of time to effectively incorporate the important institutional, structural, and cultural modifications. We anticipate that the profound effects of climate change will have a drastic impact on future generations, making it a substantial and urgent matter. However, it is the responsibility of the present generation to take action and make societal adjustments to address environmental changes[90].

[89]Khalid Koser, 'Introduction: international migration and global governance' (2010) Global Governance 301.

[90]Douglas K. Bardsley and Graeme J. Hugo, 'Migration and climate change: examining thresholds of change to guide effective adaptation decision-making' (2010) 32 Population and Environment 238.

CHAPTER SIX

Findings and Conclusion

6.1 Findings

The consequences of climate change on Somalia are significant and diverse, posing an intricate array of difficulties that greatly damage the country's socio-economic structure. The frequent instances of droughts, floods, and desserts are notable symptoms of these effects. Significantly, the Gu' and Deyr monsoon seasons, which are vital for agricultural endeavors, have exhibited a growing lack of predictability, with the Gu' season of 2019 being the most arid in three decades. This worsened an already unstable situation resulting from the extended drought suffered from 2016 to 2017.

The ramifications of these climatic variations are especially grave for agriculture, as the decrease in yield presents a direct peril to food security. The gravity of the crisis compels families to forsake their residences in pursuit of sustenance, resulting in a ripple effect throughout communities. Somalia's vulnerability to armed conflict exacerbates the climate-related difficulties, intensifying the complexity of the challenges experienced by its population[91] .

The enduring and unfavorable climate conditions in the Republic of Somalia, characterized by scorching temperatures and arid desert landscapes. The region began the decade dealing with severe droughts and famines, and it is expected that the situation would deteriorate. The scarcity of rainfall is making nomadic lifestyles, which are crucial for the livelihoods of around 80% of Somalis, increasingly unsustainable. The intrusion of arid, sandy, and dehydrated desert areas exacerbates the destruction experienced by the land[92].

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[91]Mohamed Fadal and Louise Wiuff Moe, *Collaboration, Conflict and Mobility: Local Responses to Climate Change in Somaliland*, (2021).

[92]Mohamed K. Hassan, 'Environmental Migrants: A Case Study Of Refugees In Dadaab Camps', University of Nairobi (2022).

Somalia is highly susceptible to the impacts of climate change, making it one of the most vulnerable countries worldwide. Somalia's heightened vulnerability is mostly due to its substantial dependence on agriculture, as well as adverse governance issues including insufficient state capacity to provide public goods, coordinate external help, depleted reserves, prolonged violence, and corruption. The convergence of these elements gives rise to a grouping of interdependent weaknesses, amplifying the detrimental impacts of climate change as outlined in the previous research. The results emphasize the immediate requirement for all-encompassing approaches to tackle the interaction between climate change, war, and governance in Somalia, in order to protect the welfare of its population and promote sustainable development[93].

Somalia exemplifies the complex interplay among armed conflict, migration, and climate change. Threat multiplicity is the effect of climate change; it exacerbates pre-existing vulnerabilities and exacerbates resource conflicts. Displacement, whether it is due to external pressures or personal choice, is a prevalent reaction to the detrimental effects of climate change. The limited availability of resources, such as water and fertile land, acts as a trigger for conflicts, resulting in the displacement of people inside a country and their relocation to urban areas. The consequences are significant, as children and other vulnerable groups are disproportionately impacted by these interconnected challenges.

The quite hostile semi-arid climate of Somalia where the land resource available presents considerable obstacles to the nomadic pastoralist Thus human and animal movement in a seasonal pattern, a characteristic most prevalent in Somali culture and economics, offers a large strategy by design to cope with the variability of local rains. The pastoralist interest is limited to make to strive during climate variations and survive. Most of the pastoralist's ways of life always move frequently, not only to move within and around environmental and social risk situations; more often than not, the necessity necessitates that moves as a result of widespread insecurity and vulnerability brought by

[93]Oliver Engels and Jessica R. Piombo, 'Climate Change and Peacebuilding: The Effects of Environmental Hazards on United Nations Missions in Mali and Somalia', Naval Postgraduate School (2023).

violent conflicts. Long term political instability and continuous fragility for a decade have influenced a country Somalia characterized by extreme poverty to remain in stage executive, interlinked complex causes including ethnic and socio-political tensions[94].

Fundamental contributions to the understanding of the factors that served for the cause of migrations and displacement, with the emphasis on how climate change might influence ecosystem services have been presented. The study reveals that vulnerability to natural hazards and the inadequate provision of ecosystem services are key determinants that impact migration patterns. Climate change hampers the availability of vital services, such as clean water and food supply, which subsequently impairs people's ability to relocate to areas with more dependable access to these services. Sea-level rise leads to soil salinization, causing a decline in agricultural land productivity and a reduction in the availability of fresh water. The ripple effect has a substantial impact on both food security and health, ultimately leading to changes in population movement[95].

The intensity will be increased with other such possibilities of high occurrences of the climate-related phenomena that include drought, famine, storms, and flooding. The study points on the notion that "climate change is something that multiplies threats, making existing vulnerabilities worse." This has evidence in the way that families cannot feed themselves, the increase in numbers of refugees and migrants, as well as the speeding up of disease transmission that may cause or exacerbate epidemics leading to death. The increased frequency of such life-threatening weather phenomena and large natural disasters is one of the primary reasons for the worsening probability and results in large-scale displacement of populace[96].

Effect of climate change on children is mostly profound due to the nature it affects children in Somalia. Waterborne, hunger just as psychological distresses are on the

[94]Lisa Thalheimer and Christian Webersik, *Climate change, conflicts and migration* (Environmental conflicts, migration and governance, Bristol University Press Bristol 2020).

[95]François Gemenne and others, 'Forced displacement related to the impacts of climate change and disasters' (2022) 9780198786467.

[96]Amar Causevic, 'Facing an unpredictable threat: is NATO ideally placed to manage climate change as a non-traditional threat multiplier?' (2017) 16 Connections 59.

upward rise. Already, the disasters are attributable to climatic changes. Droughts and floods have placed a heavy toll on the presence of clean water and the urge for need for adequate sanitation facilities long gone. Plaguing diseases have taken a new dimensional approach. Poor conditions such as poverty, children displacement, and violence have since made children's life one precarious. These elements interplay in a manner that begets an intricate network of exigencies for the most delicate members in society, inviting custom interventions to cater for the unique demands under such circumstances as implied.

Climate change has been labeled a great matter that has expanded to touch on human well-being. This paper seeks to evaluate ramifications of climate change on the children of Somalia, to have a perspective of just how dangerous the climate change phenomenon will be for the world of now and the forthcoming society[97].

In addition, children are directly exposed to severe weather and heat conditions, the dissemination of aeroallergens, and mobilized microorganisms in several perils of climate change. The situation transcends the immediate environmental consequences and involves deterioration of recreational facilities, instances of health hazards from being displaced from homes and fighting at local levels over resources, and even long-term considerations. Since the impacts of climatic changes are complex in nature, the complexities offer a lot of challenges for children, who easily fall prey to these effects[98].

susceptibility of some demographic groups, specifically young children, women, and the elderly, to the negative impacts of severe weather events such floods, strong winds, and landslides. Significantly, climate change inevitably leads to an increase in malnutrition among numerous children. The study predicts that food scarcity, caused by factors such as decreased precipitation, flooding, or other disturbances in agriculture, will have a greater impact on children who are experiencing rapid growth. This forecast emphasises

[97]Oberg, Hodges and Masten (n 8).

[98]Anthony J. McMichael, 'Climate change and children: Health risks of abatement inaction, health gains from action' (2014) 1 Children 99.

the seriousness of the outcomes and the urgent need for concentrated endeavours to address the immediate peril to the health and well-being of children[99].

After examining these findings, it is evident that climate change poses intricate and interconnected challenges for the children of Somalia. The intersection of immediate environmental impacts, socio-economic repercussions, and health risks creates a complex web of dangers that necessitates a comprehensive and inclusive approach.
The UNFCCC and other legal legislations provide little support to those compelled to move away when affected by the climatic impacts. It leaves migrants in a vulnerable situation to move away without proper legal definition to regulate migration caused by climate change or the impacts thereof. Participants raised the concern that the current legal framework in Somalia did not offer any detailed guidance on how climate-related issues would be addressed. This obviously leaves the gaps in protection open. However, the combination of climate change, armed conflict, and migration can hardly resound any clearer about the need for a combination of recognition and attempts to address unique circumstances.

the inadequate safeguards provided by international law for individuals forced to migrate across national boundaries as a result of climate change. A person who is outside their country of origin and is not willing or able to return because of specific reasons, such as being persecuted for their nationality, ethnic origin, membership in a specific social class, or political opinion, is considered a refugee under the 1951 Refugee Convention. Nonetheless, those who are compelled to relocate because of climate-related circumstances are not included in this definition. In international human rights law, the principle of non-refoulement entails obligations that go beyond safeguarding refugees. It forbids deporting those who, upon returning to their home nations, run the risk of being arbitrarily deprived of their life, subjected to torture, or subjected to cruel, brutal, or inhumane care or punishment. In spite of this, the protection afforded to those who have been displaced due to climate change is still insufficient, casting doubt on the ability of

[99]Sheridan Bartlett, 'The implications of climate change for children in lower-income countries' (2008) 18 Children Youth and Environments 71.

the legal institutions in existence to effectively handle the particular problems presented by migration brought on by climate change[100].

Political instability in the Horn of Africa has repercussions. With an emphasis on the substantial impact it has on numerous socio-economic factors. Over the past three decades, the region, Somalia in particular, has been beset by political unrest, which has been exacerbated by ineffective government institutions that impede the formulation and implementation of effective policies. Protracted political instability has resulted in widespread violence, which has had detrimental effects on the environment and human life. The intricate correlation between political instability and environmental disruptions is underscored, given that political unrest often leads to the emergence of conflicts within feeble institutions, thereby creating an environment that is conducive to confrontations among different factions. The research underscores the interdependence that exists among resource exploitation, civil conflict, and violence. It highlights the manner in which organized groups and militias exploit resources in the absence of effective governance. The intricate interplay among politics, violence, and environmental repercussions engenders substantial apprehensions concerning the imperative nature of all-encompassing strategies to address political instability and its far-reaching impacts in the Horn of Africa[101].

[100]Gonzalez (n 80).

[101]Hussein Anisa, 'The Influence of Political Instabilty on Environmental Governance at the Horn of Africa: a Case Study of Somalia', University of Nairobi (2021).

6.2 Conclusion

The research has identified that the implications of climate change in Somalia are major and continue to be, including in its critical agriculture sector. The effect has been devastating on the people's livelihoods and the economy of Somalia, with the recurrent and severe droughts, combined with unpredictable and highly destructive flooding, resulting in an estimated failure of crops annually and large losses in Livestock. It has exacerbated the increase in food insecurity, leading to a greater number of individuals falling into extreme poverty and exacerbating the existing socio-economic issues.

Moreover, the research proves that a crucial relationship exists between the environmental changes caused by conflict and migration. From this point of view, due to climate change, agricultural conditions continue to degrade; therefore, more inhabitants have been escaping from their areas, crowding in urban settings that were already overpopulated. Increasing pressure on the resources of these urban centres further fuels the conflicts that already exist, thus creating a vicious circle of environmental displacement/violence.

The same study also finds that the infrastructure in Somalia and the country's public health systems are both exposed to climatic change. Long dry seasons and excessive rain, besides other extreme climatic events, are only a source of disturbance not only concerning the availability of food but also regarding the damage to important infrastructure, unavailability of clean water, and increasing chances of waterborne diseases; hence, worsening living conditions.

The results of this study emphasize the immediate requirement for focused and efficient policies and actions. Not only should we prioritize reducing the immediate effects of climate change but also strengthening communities' ability to withstand and recover from its effects, improving infrastructure, and assisting individuals forced to relocate due to environmental reasons. Collaboration on a global scale, as well as initiatives at the local and regional levels, is essential for effectively tackling the complex challenges presented by climate change in Somalia. The country's future stability and prosperity hinge greatly on the global community's capacity to acknowledge and respond to these environmental and humanitarian emergencies.

Future Resilience Recommendations: It is advisable to do the following for the development of a resilient Somalia.

Promote further cooperation between countries in pooling together to take joint action in the mitigation of climate change, especially with a special focus on climate-vulnerable regions such as Somalia, where enhanced collaboration should be mandated.

It will also help advocate for programmers who help facilitate the transfer of technology and skills-building to strengthen Somalia's climate change resilience.

Promote the establishment of a specialized global legal framework specifically designed for migration as a result of climate change, taking into account the distinct challenges that affected communities face. Enhance the integration of climate change considerations within existing refugee and human rights frameworks.

Advocate for implementing sustainable development approaches in Somalia, especially sustainable climate-resilient agriculture, management of the water resource base, and utilization of renewable sources of energy. Encourage and mobilize international funds and support for the need to carry out all initiatives that aim at enhancing adaptive capacity and reducing adverse impacts of changes in climatic conditions.

Develop strategies for adaptation and mitigation of climate change, with due regard for the welfare and rights of the children. Devise and implement programs in education to increase knowledge and awareness about climate change and its adverse impact on children, promoting further development of resilience and mechanisms of effective coping by children.

An extensive approach will be necessary to tackle the complex challenges posed by climate change in Somalia, forming part of the legal structures linked with efforts for sustainable development and international cooperation and paying special attention to the health and welfare of children and the vulnerable.

In summary, handling the effects of climate change in Somalia will bring on board a holistic and elaborate approach that will assist the nation in dealing with the interconnected challenges. Child-centred strategies, sustainable development, and legal

innovation of its processes and procedures could enable Somalia to increase its resilience and address more effectively the challenges of climate change. Efforts from the international community are, therefore, needed in its commitment to these efforts in such a way that they are able to succeed and ensure the rights and protection of the children of Somalia from the climate emergency.

Implementing these recommendations will enable Somalia to leverage international law as a strategic tool to address the nation's critical climate change challenges, thereby fostering a more resilient and sustainable future for its citizens.

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