T.C.
ANKARA YILDIRIM BEYAZIT UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES

THE IMPACT OF ENERGY SECURITY ON NATIONAL SECURITY: THE CASE OF ETHIOPIAN GRAND RENAISSANCE DAM (GERD)

MASTER'S THESIS

Shikur Yessf WUSSEN

DEPARTMENT OF INTERNATIONAL RELATIONS

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APPROVAL PAGE

The dissertation, titled as "The Impact of Energy security on National Security: The Case of Grand Ethiopian Renaissance Dam," and prepared by Shikur Yessf WUSSEN, was accepted by the following committee members unanimously as a dissertation for the degree of Master of International Relation in Ankara Yıldırım Beyazıt University, Graduate School of Social Science, Department of International Relation.

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DECLARATION

I, Shikur Yessf WUSSEN, hereby declare that this dissertation is my own work, and all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I do not have any unethical behavior that violates patents or copyrights at all stages from the planning to writing of the thesis. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work. /02/2022

Signature:

Shikur Yessf WUSSEN

DEDICATION

I dedicate this thesis to my Wife Semira Yimamu HAILE, my Sister Merema Yesuf HUSEN, My Father Yesuf Husen and to my Mother worksew Hasen DEMSSIE

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ABSTRACT

Ethiopia has been contributing the largest share of water to the Nile River especially during the rainy seasons. However, domestic, and regional politics for a long period of time prevented Ethiopia from exploiting the full benefits of the Nile River Basin resources. But the construction of the Grand Ethiopian Renaissance Dam (GERD) on the Nile River fundamentally to generate energy has elucidated significant protests especially from the downstream states such as Egypt and Sudan. The main aim of this study is to investigate how or to what extent that the Ethiopia's hydropower construction has shifted the geopolitical dynamics of the River Nile Basin region and the implications it has had on national security. By adoption the theory of securitization theory crafted by the Copenhagen School, the thesis argues that the construction of GERD has led to the emergence of national security discourses both within Egypt, Ethiopia, and Sudan. This national security logic is sustained partly by the relevance of the Nile Waters to the states in the region, and secondly due to the extent of public interest and specifically the ideological and identity logics attached to the Nile waters. As a consequence, the political elites have securitized the Nile River and GERD not only because it's a question of national interest and securitization enables the state to take any measures necessary to protect its interests, but also because it advances the political careers of the elites in these countries. In conclusion, the thesis identifies primary, secondary, and tertiary levels as the key links between energy security and national security. In light with the failure of the Nile River Basin to reach an agreement on the evolving crisis, the thesis provides an alternative recommendation for the dispute resolution of the Nile River Basin crisis.

Key Words: Energy, GERD, Egypt, Ethiopia, National Security

ÖZET

Etiyopya, özellikle yağışlı mevsimlerde Nil Nehri'ne en büyük su payını veriyor. Ancak, iç ve bölgesel siyaset uzun bir süre Etiyopya'nın Nil Nehri Havzası kaynaklarından tam olarak yararlanmasını engelledi. Ancak, temelde enerji üretmek için Nil Nehri üzerinde Büyük Etiyopya Rönesans Barajı'nın (GERD) inşası, özellikle Mısır ve Sudan gibi aşağı havza ülkelerinden gelen önemli protestoları aydınlattı. Bu çalışmanın temel amacı, Etiyopya'nın hidroelektrik inşaatının Nil Nehri Havzası bölgesinin jeopolitik dinamiklerini ve bunun ulusal güvenlik üzerindeki etkilerini nasıl veya ne ölçüde değiştirdiğini araştırmaktır. Tez, Kopenhag Okulu tarafından hazırlanmış güvenlikleştirme teorisini benimseyerek, GERD'nin inşasının hem Mısır, Etiyopya hem de Sudan'da ulusal güvenlik söylemlerinin ortaya çıkmasına yol açtığını savunuyor. Bu ulusal güvenlik mantığı, kısmen Nil Sularının bölgedeki devletlerle ilgisi, ikinci olarak da kamu yararının kapsamı ve özellikle Nil sularına bağlı ideolojik ve kimlik mantıkları nedeniyle sürdürülmektedir. Sonuç olarak, siyasi seçkinler Nil Nehri'ni ve GERD'yi yalnızca bir ulusal çıkar sorunu olduğu ve güvenlikleştirmenin devletin çıkarlarını korumak için gerekli önlemleri almasına olanak tanıdığı için değil, aynı zamanda seçkinlerin siyasi kariyerlerini bu alanda ilerlettiği için güvenlikleştirdi. bu ülkeler. Sonuç olarak, tez birincil, ikincil ve üçüncül seviyeleri enerji güvenliği ve ulusal güvenlik arasındaki anahtar bağlantılar olarak tanımlamaktadır. Nil Nehri Havzası'nın gelişen kriz üzerinde bir anlaşmaya varamaması ışığında, tez, Nil Nehri Havzası krizinin anlaşmazlık çözümü için alternatif bir öneri sunmaktadır.

Anahtar Kelimeler: Enerji, GERD, Mısır, Etiyopya, Milli Güvenlik

CONTENTS

ABBREVIATIONS

AU : African Union
AFCC : Armed Forces Coordinating Committee
AFDB : African Development Bank
CFA : Nile River Basin Cooperative Framework Agreement
CNOOC : China National Offshore Oil Corporation
CIWA : Cooperation in International Waters in Africa
COP : Conference of Parties
DPGCC : Diversification Plans of the Gulf Cooperation Council
EIB : European Investment Bank
EPRDF : Ethiopian People's Revolutionary Democratic Front
GERD : Grand Ethiopian Renaissance Dam
IREA : International Renewable Energy Agency
IPoE : International Panel of Experts
MENA : Middle East and North Africa
OECD : Organisation for Economic Co-operation and Development
OPEC : Oil Producing and Exporting Countries
SAP : Subsidiary Action Program
SVP : Shared Vision Program
TECCONILE : Technical Cooperation Committee of the Nile Basin
UNDP : United Nations Development Programme
UNDESA : United Nations Department of Economic and Social Affairs
UNILC : UN Convention on Non-Navigational Uses of International Watercourses
WB : World Bank
WHO : World Health Organization

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CHAPTER ONE

INTRODUCTION

1.1. Introduction

Albert Einstein made an important observation when he argued that "the measure of intelligence is the ability to change." Indeed, this is what has characterized human existence. Overtime, human beings have been able to source different forms of energy to meet their daily needs. From the earliest periods of human history, people depended on the sun for heat and light during the day; burned wood during cold nights to provide heat and cook; and, used waterpower to generate electricity through watermills. These developments that occurred in different historical phases, form an integral part of the history of humankind. But as societies have expanded and grown in complexity, human intelligence has also adapted with these new changes and today, societies are driven by complex technological inventions and innovations. It is plausible to emphatically argue that there has been no time in the history of humankind, that the need for energy resources has been greater (Barber, 2019).

Energy has become an anchor for our societies and the emergence of modern states have embedded its production and distribution in the structures of our economies, that is, energy has become one of the core pillars of bilateral and multilateral relations. But the increased human consumption of planetary resources have also been extensive, and this is increasingly witnessed on planetary climate change. Rising temperatures, destruction of natural habitats, desertification, frequent droughts, extreme flooding, and the extinction of animal and plant species have become common occurrences in various parts of the world (Mazlum, 2011). Whereas this situation can be attributed to various forms of human activities, the use of fossil fuel to meet the energy needs of countries has emerged as a prominent contributor of climate change. Fossil fuels (coal, oil, natural gas) account for over 80% of the global energy needs (Lanzafame et al., 2019; Fiorentino et al., 2019) in the form of transportation, electricity, heat, and manufacture of variety of products such as plastics. Scientific studies document that processing fossil fuels through burning, produce extensive amounts of carbon dioxide and other greenhouse gases that trap heat in the

atmosphere leading to global warming and climate change (Letcher, 2019; Tokarska & Gillett, 2018).

In light of these findings, renewable energy sources (solar, wind, geothermal, tidal, biomass, hydropower) have emerged as a new frontier to not only meet the demand for energy, but also address the problem of climate change. This is because harnessing energy from these natural sources is taunted to be technologically feasible, sustainable, and economically viable. But even more important for states, achieving self-sufficiency in energy through renewable sources is increasingly a matter of national interest. Energy dependency makes states to become vulnerable to external influences as was witnessed for instance during the 1973 Arab Oil Embargo, which led to dramatic rise in the prices of oil thereby, negatively impacting on the economic performance of states (Graf, 2012). In other words, for states, self-sufficiency in energy is also inherent to the pursuit of development and promoting the influence of states in regional and international politics.

Thus, increasing the production of renewable energy will undoubtedly have major consequences for geopolitical power dynamics. Energy sufficiency will make some states stronger, while others are likely to be affected by the reduced global consumption of non-renewable energy such as oil. For countries economically dependent on the export of fossil fuels such as Russia and the Gulf, transforming patterns in the consumption of oil can be of great concern. In 2014, former US Senator John McCain when arguing for the imposition of sanctions against Russia said, "*Russia is a gas station masquerading as a country," McCain said. "It's kleptocracy, it's corruption. It's a nation that's really only dependent upon oil and gas for their economy. And so economic sanctions are important. Get some military assistance to Ukrainians, at least so they can defend themselves. Resume the missile defense system in Poland and the Czech Republic. Look at Moldova and Georgia, both of whom are occupied by Russian troops as we speak, a path toward membership in NATO*" (Yahoo News, 16 March, 2014). These views by Senator McCain lay bare how fragile the security of a country dependent on fossil energy economy can become in the event of external interferences.

This nexus between energy, development, security, and international status thus brings us to the focus of this thesis. Ethiopia, located in the Greater Eastern Africa region hosts one of the highest populations in African and is estimated to have over 115 million people. Future projections point to an increase to 210 million by 2060. As a landlocked

country, its neighbors include countries such as Eritrea, Sudan, South Sudan, Djibouti, Somalia, and Kenya. During the last decades, all its neighboring countries with the exception of Kenya, have been struggling with violent conflicts making the region one of the most unstable regions within the African continent (Nyadera et al., 2019; Gavin and Expert, 2021; Sila, 2021)

Equally important, despite recording some of the highest economic development growth rates, the country has yet to alleviate the high rates of poverty. In a land that has witnessed historical deaths from poverty such as during the 1983 Ethiopian famine, the development of mega projects such as the Grand Ethiopian Renaissance Dam (GERD) is heralded as central to the country's development needs. It will not only generate energy to drive Ethiopia's industrialization, but also provide water for irrigation and enhance Ethiopia's food security. This means that the project is at the core of Ethiopia's national interest and given the complexities that it entails, it has also been securitized to an issue of national security (Yimer and Subaşı, 2021).

1.2. Nature and Content of The Problem

The Nile River is one the longest rivers in the world and crosses eleven countries such as Tanzania, Uganda, Rwanda, Burundi, the Democratic Republic of the Congo, Kenya, Ethiopia, Eritrea, South Sudan, Republic of Sudan, and Egypt. The White Nile and the Blue Nile which originate from lake Victoria in Burundi and Lake Tana in Ethiopia respectively are the two main tributaries of the Nile River. During the rainy season, about 86% of the Nile River water source originates from the highlands of Ethiopia (Swain, 1997). However, even though Ethiopia is providing the highest amount of water share to the Nile River, Egypt and Sudan are the main countries benefiting from this natural resource. Most of the Agreements on the Nile River such as the Nile Waters Agreement was signed in 1929 by the British on behalf of East African colonies (Kenya, Uganda, Tanzania, and Sudan) with Egypt and this Agreement gave Egypt a veto power over any construction project along the Nile and its tributaries (Tekuya, 2020). After the end of colonialism Egypt has been keen on maintaining the enforcement of this treaty. Ethiopia which was not a part of the Agreements and in extension has refused to acknowledge the Nile Waters agreements (Cascão, 2009). This is because for the colonial powers, particulalrly the British, Egypt rather than Ethiopia had the strategic relevance because of

the Suez Canal which signficantly cut the sea trading routes to the Far East.

Until the late 1950s Ethiopia had not carried out any project on the Nile River due to a variety of reasons. Among these, internal conflicts, a lack of financial resources, weak institutions, a lack of priority and strategy for the water sector, and dependence on rain-fed agriculture which reduced the need for irrigation constituted the main factors that diverted Ethiopia from constructing an infrastructure of a mega scale such as the GERD on Nile River (Abate, 1994; Shapland, 1997). But between the years from 1958 to 1963, the Ethiopian Ministry of Public Works and Communications and the US Bureau of Reclamation conducted a feasibility study on the potential for hydroelectric power generation and irrigation in the Ethiopian portion of the Blue Nile basin. The Bureau published the results in a multi-volume report in 1964 in which an investment program was recommended in the Report and it included proposals for investment in irrigation projects and large dams on the Blue Nile gorge downstream of Lake Tana (Whittington, 2004).

However, Emperor Haile Selassie's regime was overthrown by the Soviet-backed Dergue/Derg (Armed Forces Coordinating Committee)- a non-ideological committee of low-ranking officers and enlisted men in the Ethiopian Army who became the ruling military junta in 1974 before he could implement his vision of irrigation and dam projects on the Nile Rivers. This military coup was led by Mengistu Haile Mariam who was a former Lieutenant Colonel in the Ethiopian Army. Similarly, the Derg regime also conducted several feasibility studies on the Nile River with the guidance of Soviet advisors (Swain,1997).

The Derg regime was also later removed from power and replaced by the transitional regime led by the Ethiopian People's Revolutionary Democratic Front (EPRDF). The Government of Ethiopia surveyed the site from October 2009 to August 2010 and On 30 March 2011, the Grand Ethiopian Renaissance Dam was made public. The GERD under construction is located in the Benishangul-Gumuz region of Ethiopia, on the Blue Nile River, which is located about 40km east of Sudan (*See Figure 1*). It is planned to generate 6,000MW electric power from GERD (Mulat & Moges, 2014).

Egypt, one of the leading regional states in Africa with a population of over 104 million has become concerned about the potential impact of the project and has consequently been adamant about its vehement opposition to construction of the GERD on

the Abay (Blue Nile) River in Ethiopia. As a desert and downstream country, Egypt has raised concerns that any interference with the natural flow of the Nile waters threatens its survival, and as such, similar to Ethiopia, has raised the matter to the level of national security. Since the start of GERD construction, there have been several negotiations undertaken between Ethiopia, Egypt, and Sudan, a common agreement between these countries has been elusive to the extent that intimations have been made by both sides on their readiness to use force to protect what has become a question of national interest even as regional and international actors continue to seek diplomatic solutions to the dilemma (Basheer et al., 2020).

The main aim of this study is to investigate how or to what extent Ethiopia's hydroelectric power project is an issue of national security threat and how can Ethiopia resolve this national security dilemma arising from the GERD project. According to a report by Zelalem (16 March, 2020), between June 17 and 20, 2020 Egypt-based hackers carried out cyber-attack attempts on 13 public service institutions, security agencies, and private organizations website to create economic, psychological, and political pressure on Ethiopia**.**

Figure 1: Map of the Grand Ethiopian Renaissance Dam

Source: Adopted from Mordos et al., (2020)

1.3. Aims and Expected Benefits of Research

The main aim of this study is to investigate how or to what extent Ethiopian Hydroelectric energy security can be a cause of National security threat and how can Ethiopia resolve the national security threat arise from GERD. The realization of these aims will benefit the regulators and policymakers to take precaution measures to the side effects. This research will add a new narrative and broaden the scope on how the discourses on energy and security nexus are examined.

1.4. Research Methodology

The researcher intends to adopt a qualitative approach in which the study will examine secondary data from several sources that include but not limited to government reports, academic journal publications, media website information, workshop reports, online articles, African Union and United Nations reports, textbooks, and mainstream news media. This methodology offers an essential advantage to the study since it allows the researcher to gain a deeper understanding of case study by delving into the historical dimensions and issues of the subject as opposed to an empirical approach.

1.5. Literature Review

This section will examine literature on energy and national security in general and the existing studies on Ethiopia GERD. Specifically, the link between energy and national security will be evaluated, the emergence of renewable energy and its drivers as a key source of energy, the geopolitical impacts that the transition to renewable may have, and the nature of relations of between Ethiopia and Egypt- the key actors in this research.

1.5.1. Energy as a Component of National Security

According to a study by Matsui et al, (2021) the energy security is central to the security of modern states. While in the past energy security was majorly conceived within the parameters of the national interests of major industrialized powers who equally are the major consumers of hydrocarbons, developing countries have also joined the race to become energy sufficient in order to not only meet their domestic needs but also for export if deemed viable. As a result, energy has become closely associated with the economy and

this is part of the reason why energy has been elevated to the realm of national security. In an era of globalization and international competition over development opportunities states have developed ambitious energy production plans that can enhance greater production to provide some sort of relief for domestic users in terms of pricing as well as attract foreign direct investments. Thus, when the efforts to ensure energy self-sufficiency are threatened, states are willing to not only use threat but also act on their threats to coerce other countries in deviating any efforts that jeopardizes access to energy resources. Perhaps even more of a direct link between energy and security is with regard to its extraction. This is more so if energy sources are contested between two or more states. This is frequent in cases where states contests ownership of territorial boundaries, sea, or ocean boundaries, or use of water bodies such as rivers for the production of energy.

In the year 2005, a bid to acquire Unocal- a US-owned energy company by the China National Offshore Oil Corporation produced broad political contestation on the claims grounded on national security.

This opposition ultimately led to CNOOC to withdraw its bid in what was viewed as evidence for the increasingly growing concerns over the scarcity of energy resource in global politics (Klare, 2009). The expanding relevance of energy in questions about the survival of the state has therefore put it as part of the core issues of "high politics"- an arena of national security. It leaves very little doubt that this perspective is highly state-centric and as consequence, an understanding located deep within the traditional understanding of security. Thus, this perspective as argued by Nyman (2014), strongly impedes any views on energy cooperation and instead enhances energy competition between states over access to energy resources and supply. This relationship becomes reflected in an 'us' verses 'them' scenario involving states as was witnessed the case of the CNOOC (China) and Unocal (US).

1.5.2. Energy as a Cause of Conflict

Several studies (Mercille, 2010; Koubi et al., 2014; Homer-Dixon, 2010) have examined the various connections between energy, conflicts, and war either as a geopolitical, environmental, or economic issue. Although it is not the intended aim of either energy producers or consumers to pursue conflict, there are certain features of the general system of energy that can either exacerbate conflict or create a new frontier of

instability. Some studies identify this complex relationship of energy as a potential 'threat multiplier' or 'threat catalyst' mainly because its causal role does not necessarily mean that conflict will be waged, rather, they highlight the potentiality of energy to lead to the occurrence of conflict. This destabilizing role of energy can be grouped into 1) the intersection between energy and food prices that negatively affect food security; 2) continuous environmental degradation that contributes to further scarcity of renewable sources of energy; 3) the 'natural resource curse'; and 4) reduced security of supply that creates uncertainty often reflected in the form of economic instability (Mansson, 2014). Although the nature of such conflicts have been predominantly, there is an increasing likelihood that they are capable of evolving into national, regional, and international conflict in terms of their scale.

In general, the energy system provides several avenues that can be explored by either states or non-states actors to disrupt the regular access to energy, thereby, transforming energy into a tool that can be exploited for purposes of political leverage by states or non-state actors to achieve other objectives not necessarily related to energy. As an instrument of political conflict, energy can therefore be used to create short-term disruptions depending on the goals of the actor(s) involved (Manson, 2014).

1.5.3. Water and The National Security Nexus

Efforts to address water crisis and sanitation particulalrly in developing countries, has emerged as one of the biggest human development challenges of the 21st century. In 2006, the United Nations Development Programme (UNDP) released its annual Human Development Report titled, "*Beyond scarcity: power, poverty and the global water crisis*". The Report focused on global water crisis not only as a basic human right, but also, as a natural resource with implications on both national security of states and human security of individuals across different parts of the world (UNDP, 2006). The Report examined the link between water and development through the analysis of five fundamental themes. The themes included the crisis in water and sanitation; water for human consumption; the deficit in sanitation; water scarcity, risk, and vulnerability; water competition in agriculture; and the management of transboundary waters. Whereas these themes cut across a broad spectrum of issues, three (water scarcity, water competition, and the management of transboundary waters) are intimately linked to the concept of security in

terms of human security and national security (UNDP, 2006).

Traditional security issues for a long time had not been associated with issues dealing with lakes, rivers, and glaciers unless it was about a question of territorial integrity. But although largely ignored in many states, water crisis has emerged as a threat to national security. The debate today is whether water threatens national security as either a catalyst for instability and conflict, or as a threat multiplier. The management of water resources has been one of the major causes of geopolitical tensions because many rivers run through two or more states. Often, in the case of major rivers, multiple states become continuously dependent on rivers especially for industrial production of agriculture or electricity.

As a consequence, as upstream states continue to grow and acquire more demand for water, they often tend to attempt reserving water from rivers to meet their water needs. This places downstream states at a disadvantage and conflicts are prone to breakout. This sort of competition over the use and management of water resources between states increase even further in arid and semi-arid regions. In academia, some scholars have gone further to characterize the emerging global water crisis as one that can even threaten the existence of states. Such scholars have made bold claims that "next wars would be fought over water" because water from sources such as rivers not only disregard political boundaries, but also evades institutional classification and legal generalizations (Wolf, 1999; Chellaney, 2013)

Increasing demand for resources such as electricity has led to construction of massive dams on rivers, and this has raised concerns about water insecurity to downstream communities that are dependent on rivers for survival. In regions where implementation of agreements to guarantee the continued flow of water to downstream communities, then, threats to national security become even more greater. Although the Report does not holistically capture the case of the Grand Ethiopian Renaissance Dam, it remains as one of the best contemporary examples of how water security is linked to the concept of national security. Indeed, tensions have been rife between Ethiopia and Egypt with regard to the project, and efforts to de- escalate the tensions, including by third-party states are yet to produce a tripartite mutual agreement involving Egypt, Ethiopia, and Sudan (Basheer et al., 2020).

Ethiopia has often emphasized that the dam is a critical component of its development agenda for meeting its energy consumption demand, export surplus energy,

and improve the human security of its citizens. Egypt on the other hand, has argued that River Nile, in which the dam has been constructed, is the lifeblood of Egypt and any attempts to disrupt its flow in any way constitutes a national security threat to the state. As a result, under these circumstances, going to war with Ethiopia over the use of River Nile has been publicly alluded in the Egyptian political discourses.

1.5.4. Drivers for Renewable Energy

The movement towards the use of renewable sources of energy is induced. In other words, are a collection of important factors such as climate change and pollution, technological advancements, public opinion, declining costs of production, and private investments**.**

Climate change and pollution- Fossils fuels are associated with extensive pollution of air and climate change. For many cities, pollution caused by the burning of oil and coal has made breathing air so intoxicated and dangerous for breathing. In the United Kingdom, the "Great Smog of London" caused the death of 5000- 12,000 individuals who were mostly children, elderly people, and individuals with underlying respiratory health problems within a span of four days. In China, a study by (Yin et al., 2020) estimated that approximately 1.2 million deaths were caused by pollution in 2017. In India, New Delhi which is ranked as the poorest air quality in the world has concentration of poisonous particles 14 times the safe limits stipulated by the World Health Organization (WHO). On a global level scale, WHO also estimates that 7 million people die out of air pollution annually and that 9 out of 10 people breath polluted air, thereby, making air pollution the fourth largest causality of death.

With these growing trends in air pollution and climate change, unless urgent measures are taken to revolutionize the energy sector from being carbon reliant, the global community would therefore fail to actualize the commitments of the Paris Agreement to maintain the rise in global temperatures below 2°C above the pre-industrial temperatures (Höhne et al., 2021). A detailed study by International Renewable Energy Agency (2018) demonstrates that the consumption of renewable energy and better efficiency in the use of energy, offers the best and affordable path towards realizing 90% reduction in hazardous energy emissions driving climate change and which is important to achieve the vision of the Paris Agreement. Failure to meet this target is considered as an existential threat given

that it will be tantamount to irreversible damages on the climate and loss of critical ecosystems.

Public Opinion- Over the last decade, lobbying for renewable energy has extensively transformed. Decades of concerted efforts by civil society organizations, climate activists and academics is finally yielding into a global civilian movement calling for radical climate change policies. Governments all over the world have been forced to deal with several mass protests in major cities as citizens are advocating for the production of goods and services with smaller carbon footprints. Unlike in the past, climate action in the form of demonstrations have spread from major cities in Europe, Americas, Asia, Middle East, and Africa cutting across age groups, time zones, cultures, social and political status, religion, and gender.

For example, in one of the numerous climate change movements, a young teenager from Sweden called Greta Thunberg became the face behind millions of other young climate change activists in various parts of the world to lead a global campaign calling for governments to cut down on carbon emissions as a means of addressing climate change. Public opinion has not only been limited to demonstrations, but in several instances, it has led to increase in litigation cases. For instance, one of the environmental courts in the Hague ordered the government of Netherlands to ensure reduced greenhouse gases by a minimum of 25% by 2020 (Nachmany et al., 2017). Public opinion has therefore strengthened the global efforts towards transformation of global energy consumption.

Investor Influence- The involvement of corporations in the climate change agenda advocating for the reduction of carbon footprints has emerged as a critical driver for governments to support the transition towards renewable energy. For instance, during the Climate Change Conference (COP 24) convened in Poland, a coalition of 415 major global investors valued at USD 32 trillion, reiterated their unfettered support for the Paris Agreement (Scholten et al., 2020). Additionally, they called upon governments to remove fossil fuel subsidies, phase out thermal coal energy, and put a price on carbon.

Several global financial and development institutions have already taken measures that diverge from support development and investments in carbon energy. The World Bank for instance is no longer participating in providing financial or technical assistance to all projects associated with the production of energy from coal. Other international insurance

institutions such as Allianz have also announced measures to end insurance cover for certain coal projects. Apple and Microsoft, two of the most influential technology corporations already moved away from non-renewable sources of energy supply and are now fully operational on renewable sources of energy. Both companies are also calling upon its supply chains to shift to renewable sources of energy. Under these emerging corporate pressures, governments are gradually yielding to calls to introduce carbon price on the carbon fuel industry.

Targets for Renewable Energy- Renewable energy has emerged as both economically viable and sustainable (Dincer, 2000; Patlitzianas, 2006). This attribute is influencing governments to actively engage in developing new ambitious policy frameworks on renewable energy. As of 2020, approximately 57 governments have established guidelines to fully decarbonize their electricity whereas over 130 other states have committed to achieving renewable energy targets. In this regard, governments are moving away from only supporting renewable energy through subsides, to engaging in competitive auctions that ultimately lead to reduced prices for consumers.

In countries such as India, which is has often been heavily dependent on oil, are taking bold measures towards boosting their energy production through renewable sources of energy. The oil producing gulf stations established the Diversification Plans of the Gulf Cooperation Council (Ulrichsen, 2017). For example, Kuwait and Saudi Arabia which are among the leading exporters of non-renewable energy, have adopted the State Vision Kuwait 2035 and Saudi Vision 2030 diversification plans respectively.

The United Arab Emirates has also committed to cutting its carbon emissions by 70% and developing 44% of renewable energy supply for the country by 2050. In other states such as the Mexico, Spain, and the Federal government in U.S who have been hesitant to show commitment towards the development of renewable energy because of carrying reasons, local governments and municipal administrations have taken independent leads in this regard (Mi et al., 2019). This has been witnessed in cities such as Madrid, California, and Mexico City.

1.5.5. Renewable Energy and the Transformation of Geopolitical Power Dynamics

Increasingly, geopolitics has become a core subject in discussions and analyses of political discourses by academicians, strategists, journalists, and political analysts (Pascual & Zambetakis, 2010; Yergin, 2020; Conant & Gold, 1977). This is because of the changes in structure of the international system that has resulted into a multipolar global order. From a historical perspective, it is possible to discern a pattern of geopolitical power shaped around the concentration and control of oil, coal, and natural gas. Indeed, the Industrial Revolution distribution of power was premised on coal and steam energy technologies. In the 20th and 21st century, production of oil became a major determinant of geopolitical and international power relations. Similarly, the contemporary transition from non-renewable to renewable energy can transform geopolitical and global power relations.

In today's multiplex international order (Acharya, 2017), the extent of how states can influence regional and global politics is anchored on key socio-economic and political determinants such as gross domestic product, military power, geostrategic locations, access to natural resources, population, land, and soft power capabilities. Consequently, becoming energy self-sufficient in a sustainable manner will indeed enable states to safeguard critical national interests as well as leverage its influence in the international system.

How different countries will perform in the renewable energy race will likely reshape the geopolitical maps by altering the power and influence of some states. For states that are shifting from non-renewable energy to renewable energy, reduced dependency on fossil fuels (imports) will increase their leverage in international politics. On the other, those countries whose contemporary influence in international politics is built around their control of non-renewable energy resources, their leverage in international politics is likely to decline considerably because of declining demand of oil and natural gas. As an emerging sector, renewable energy has other multiplier effect such as the race for non-renewable commercial technology and this will have an impact on economic capabilities of states.

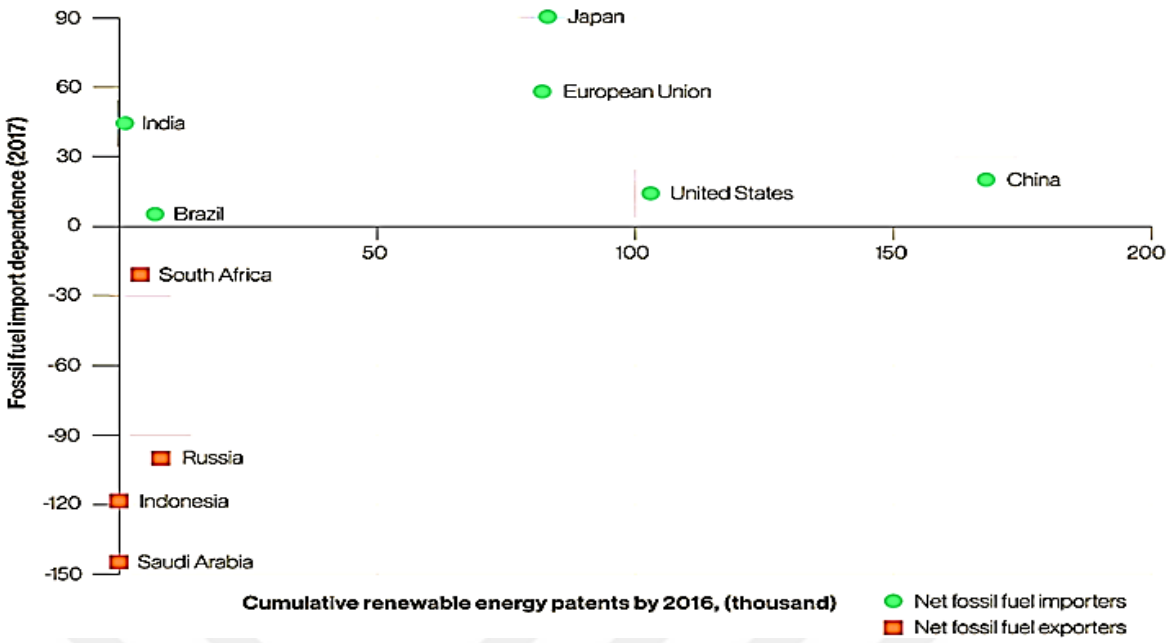


Figure 2: Sample Effect of Renewable Energy Transition

Source: International Renewable Energy Agency (IRENA, 2018)

In the figure above, the vertical Y-axis illustrates which economies are dominated by the import and export of fossil fuels in selected countries. The higher the ranking on the Y-axis, the more dependent a country is on the importation of fossil fuel and vice versa. The horizontal axis on the other hand, is illustrative of the total registered renewable energy patent technologies by 2016. In other words, it demonstrates the position of the selected countries in the race to renewable energy. The states that are leading in renewable energy patents therefore will tend to gain more influence by achieving higher energy dependency that is sustainable, cheaper and free from external vulnerabilities emerging from international politics.

The abundance of renewable energy resources and the large geographical dispersion of these resources will correlatively lead to transformation towards less oligopolistic international markets because most countries have access to either one or multiple sources of renewable energy. This is very important because it prevents dependency on foreign reserves and countries will more likely be facing decisions to either obtain cheap energy imports or obtain energy from secure domestic production. This radically shifts the traditional distinction between exporters and importers. For countries that are considered as net importers, they will likely be the biggest ‘winners’ and the current megaproducers of oil and gas will be the biggest ‘losers’ in this energy transition. Ultimately, the gross effect of this energy transition can be summarized in three aspects. States will be shift from

acquiring foreign energy resources, strategic reserves and diversification policies to make-or-buy decisions, ensuring availability (at the right time and right quantity) and control of geographically bound renewable energy resources such as geothermal hotspots.

Indeed, in the contemporary era, dependence of oil fuel has been one of the major driver of conflicts and tensions. Access to oil has created a class of the 'haves' and the 'have nots' with states unable to produce adequate quantities of gas and oil always experiencing constant struggles to access these resources. The competition for hegemony in the Persian Gulf by the United States has always been anchored on oil while Russia's influence in international politics is premised on its status as an indispensable supplier of oil and gas to Europe.

In Saudi Arabia, oil is the centre of its social contract and despite its authoritarian tendencies that have impacted international politics, its dominance as a key fossil fuel producer has often seen its actions ignored. The dependency on fossil fuels by states has led to a very gradual development of international energy governance and this has been a key problem for fossil-fuel importers. The establishment of the International Energy Agency is a direct outcome of the attempts to address the gaps in energy governance, specifically with regard to OPEC's behaviour as an energy cartel towards OECD states.

1.5.6. Geopolitical Winners and Losers in Renewable Energy

Several studies (Mecklin, 2016; De Ridder, 2013) have come to the conclusion that the renewable energy race will yield significant geopolitical restructuring characterised by new winners and losers. According to a report by OECD, in the event of a radical transitional to renewable energy, fossil fuels at risk of low demand and this may extensively have a negative impact on the economics of fossil fuel producers and consequently weaken their geopolitical power. Studies such as Van de Graaf (2015), Scholten *et al.,* (2020) and Rothkopf (2009) have demonstrated how the fossil fuel assets of petrostates may become stranded.

As an alternative, petrostates can also be able to mitigate the impact of the energy transition to renewables by ceasing early opportunities to attain industrial leadership in clean energy technology. Indeed, the race towards hegemonic status in clean energy will also to a large extent be determined by intellectual property and technology (Freeman, 2018).

The manufacture in large quantities of the appropriate renewable energy production equipment and provision of other critical support services such as storage facilities will be new frontiers for market driven economic growth. It is imperative to recognize that while the reduction of fossil fuel dependency to renewable energy may reduce opens tensions and conflicts over oil, the renewable energy transition will result in new trades wars over the export of technologies (Freeman, 2018).

Increasingly, various scholars have attempted to analyse the potential geopolitical power readjustments in terms of winners and losers (Swejis *et al.*, 2014; Overland *et al.*, 2019). These studies come to a general conclusion that leading fossil fuel exporters will be the most affected by global transition towards renewable energy.

Table 1: Potential Winners and Losers in Renewable Energy Transition

Biggest Losers	**Main Winners**
Russia	Uruguay
Brazil	Namibia
Libya	USA
Egypt	Finland
Kazakhstan	Kenya
Qatar	India
Saudi Arabia	China
Nigeria	Iceland
Venezuela	Sri Lanka
Algeria	France
Iraq	Sweden
Yemen	Turkey

Source: Swejis *et al.*, 2014; Overland *et al.*, 2019

According to the GeGaLo Index established by Swejis et al., (2014), Saudi Arabia, Venezuela, Russia, Nigeria, MENA countries and the Gulf Nations will become in Overland et al., definition, 'stranded geopolitical assets.' Other states such as US, EU member states, Japan and China will likely be winners during this transition because they will no longer be heavily dependent on imported oil. However, not all studies view Brazil or the MENA countries as net losers. The significant amount of solar radiation in the MENA region as well as the potential of Brazil's biofuel may could compensate for the loses in oil demand (Günel, 2019; Schmitt, 2019).

CHAPTER TWO

CONCEPTUAL AND THEORETICAL FRAMEWORKS

2.1. Introduction

In this section, the thesis provides the conceptual and theoretical framework that will be utilized to examine the research. According to a study by Maxwell (2012), providing a framework that is supported by a formal theory is instrumental in assisting a researcher to develop a strong study by illuminating the key aspects and arguments and analysis of the research. In other words, it facilitates the endeavor of the study to situate itself within other alternative views and demonstrate the relevance of the study within the broader field of study. Collectively, the concepts explored in this section will provide focus and delineate the boundaries of the research while the theoretical framework on the other hand, will be key in providing the answers to the "how" and "why" questions of this thesis.

2.2. Conceptual Framework

2.2.1. National Security

The concept of national security is one that has undoubtedly constituted a significant part of intellectual debate ever since the establishment of the modern state system. As a concept, it constitutes a core element of debate and analysis of state behavior both within the domestic and international levels of analysis. In one of the most famous critical contributions to this conceptual debate (over 2200 google scholar citations as of November 2021), Barry Buzan in his text *People, States, and Fear: The National Security Problem in International Relations* (1983), argued that literature on security has been dominated by the realist thinking and their focus on power as well as idealist theorists who have equally focused on peace. Another important issue to note is that the debate on the security considerations have also been overshadowed by the emphasis on its legality and morality, and territorial expansion or commercial empire (Leffler, 1990).

In its broadest traditional sense, national security constitutes the policies, decisions, and actions (considered formal or informal) which based on those institutions empowered with the mandate to exercise such power, deem vital to safeguard the core internal values of the state from external threats (Bock & Berkowitz, 1966). In international relations, the concept of national security thus becomes very relevant because it pushes analysts to not only focus on the foreign but also the domestic dynamics that shape a state's policy. Indeed, the failure of some approaches such as those adopted by the realist school that puts lesser emphasis on the domestic and more on the nature of how power is distributed in the international system has been vastly criticized by other theoretical paradigms. Realists emphasize more on essence of foreign policy behavior to respond to the dynamics of power distribution in the international system.

This dominance of the traditional realist understanding of national security is not surprising. After two world wars in which millions of lives were lost, property of unknown value destroyed, and the collapse of empires and other political units, the synonymity of concept of national security with military warfare is thus understandable. In its application, states have responded by huge investments in acquisition of military gear such as fighter jets, war ships, military tanks, recruitment of large professional armies, and the formulation of national security policy in great secrecy**.**

For a long period of time, this focus on national security in strict militaries terms deviated the attention of states from other important or rather serious threats supported by accumulating evidence to the security of states. Indeed, some of these threats have been argued to present greater danger to states than any military. Broadly categorised as 'emerging threats', states have been forced to reconsider their approaches to national security while scholars have equally been pushed to develop new analytical lenses to look at these emerging threats as part and parcel of the broadened concept of national security. This shift is captured aptly in the concept of human security- primarily associated with the works of Barry Buzan.

The idea of human security has featured in academic and policy documents as an important concept in security studies- one that has become associated and converged with the concept of national security. Hampson (2004) conducts a literature review of contemporary research on human security and the sub-concepts and definitions that underline overall conceptual thinking.

In security discourses, he argues that human security locates the individual as the main referent object of security such that the safety of the individual is considered as being central to not only national but also international security, and that when the individual becomes threatened, so is national and international security. However, Hampson posits that in analyzing human security literature, it becomes equally clear that grounding the concept of human security in a cohesive theory or methodology is extremely difficult because for instance, the subject matter of human security is so diverse that critics of this approach point to the difficulties of demarcating the extent of its subject matter.

Cognizant of the emerging variations to understanding security based on distinguishing questions such as: 1) security from what; 2) security by whom; and 3) security by which means, it is imperative that a clear distinction is made on the various analytical levels of security analysis that impacts on both the assumptions and grand strategies on security in general. This is important as it determines which security issues matter, which are not considered relevant, and what strategies and mechanisms are best suited to meet the needs of being 'secure' in terms of equipping a state's military forces, membership to alliances, compliance with international laws, or how a state may choose to engage with other states on a bilateral basis. Table 1 provides a summary of the conceptual understanding of national security and its derivative alternatives such as economic security, human security, societal security, environmental security, and critical infrastructure protection.

Table 2: National security and alternative security concepts

Origin of thought	**Focus of security**	**Distinct emphasis**		
		Target unit	**Threatened issues**	**Source of threats**
Traditional realist thinking	National	State	Sovereignty and territorial integrity	Other states and non-state actors such as terrorist organizations and armed secessionist groups
Traditional and non-traditional, realist- and liberal-based	Social	Nations, societal groups, class and economic focus, political action committees/interest groups	National unity, quality of life, wealth distribution	States themselves, nations, migrants, alien culture

Table 2: (Continue) National security and alternative security concepts

Origin of thought	Focus of security	Distinct emphasis		
		Target unit	**Threatened issues**	**Source of threats**
Non-traditional, liberal-based	Individual	Individuals, mankind, human rights, rule of law	Survival, human development, identity, and governance	State itself, globalization, natural catastrophe, and change
Non-traditional, potentially extreme	Environment	Ecosystem	Sustainability	Mankind: through resource depletion, scarcity, war, and ecological destruction

Source: Adopted from Liotta (2002: 475)

As it can be discerned from Table 1, although national security is largely associated to the threats to the state territorial and sovereign rights, there has been an improvement on this perspective. Arthur Westing in his 1989 article '*The environmental component of comprehensive security*' highlighted the interaction between national security and other levels of security as demonstrated in Figure 2. He emphasized that military security is not the only or even the best approach to guarantee and enhance the national security of a state because of the existence of deep interdependence and interactions that go beyond the traditional state-centric understanding of national security.

Level of interaction	Security aspects				
	Military	Political	Economic	Environmental	Societal/ human
Human	⊙	⊙	●	●	●
Societal/ community	⊙	⊙	●	●	●
National	●	●	●	⊙	○
International/ regional	⊙	●	●	●	⊙
Global/planetary	○	⊙	⊙	●	○

● An influence ⊙ Partial influence ○ No influence

Figure 2: Vertical and horizontal dimensions of security: aspects and levels of interaction

Source: Westing (1989)

2.2.2. Energy Security

In 2006 former US President Barrack Obama stated that "*We need a national commitment to energy security, and to emphasize that commitment, we should install a Director of Energy Security to oversee all of our efforts*." This was a statement made by when he was still a US Senator at that time (Senator Barack Obama, February 28, 2006). Yet despite the recognized relevance of energy security in several policy documents across different geographies, several scholars (Checci et al., 2009; Kruyt et al., 2009; Mitchell, 2002) have alluded to the challenges of developing a universal conceptual framework of energy security. This elusiveness of a solid concept of energy security is partly because it holds different meanings to different actors in different parts of the world. For some countries such as the US, energy security is largely seen in the context of minimizing the state's vulnerability to political extortion because of energy dependence on other states. For other states, the main objective of energy security is to safeguard the local populations (citizens) against the commodity price volatility that is attached to the supply or access to energy.

Nonetheless, this is not to say that there have not been adequate efforts to attempt a conceptualization of energy. In this thesis, three groups of scholars are identified. The first group pursue energy security as a concept within the parameters of supply continuity; the second group introduce additional severity filters, and the third group of scholars examine the scope of the impact beyond the continuity of supply and economy, to issues of safety and sustainability.

The first group of scholars or studies focus on energy security as the continuation of energy commodity supply, and this has been a central component of all other definitions of the concept of energy security. A study by the Department of Energy and Climate Change (2009) defined energy security to mean "…that the risks of interruption to energy supply are low." For this group of scholars, the idea of scarcity in the level of energy is considered as an indication of insecurity. The second group of studies conceptualize energy security by incorporating the aspect of severity in order to differentiate between insecure and secure levels of continuity (Ausfelder et al., 2017; Bahgat, 2006; Jun, 2009). The International Energy Agency defined energy security as "the physical availability of supplies to satisfy demand at a given price".

What the IEA seeks to imply is that besides supply interruption, security becomes only hampered when the scarcity leads to increase in prices beyond a certain threshold. Decrease in prices are thus considered irrelevant. A study by Mabro (2008) similarly reiterates that when supply of energy is reduced or interrupted to such a level that it leads to a sudden, sustained, and significant change in the prevailing prices, then energy security is thus impaired. In this severity criteria, the speed, size, and sustenance of the increase in prices beyond a particular threshold constitute the relevant determinants of the extent to which energy security has been impaired. It is important to take note that these severity filters can be very contentious if used as the basis of defining the concept of energy security because the continuity of supply of price levels which are considered as insecure by one state can viewed as sufficient by another state. The third category of studies broaden the scope of evaluating the measurement of the impact from price and continuity to the impacts on the economy and environment (Findlater and Nöel, 2010).

It is important to take note that the key events in the global energy system has played a key role in influencing more attention to energy security. The impact for instance, of the 1973 Arab oil embargo influenced greater attention, led by the industrialized nations to energy security as an attempt to avoid the negative consequences that resulted from the oil embargo. The experience encouraged greater cooperation on policies that sort to minimise bruising scramble for oil in order to de-weaponize oil by oil exporting countries. It is in line of this that the International Energy Agency was established to coordinate the sharing of energy supplies during a disruption and to safeguard global economy and stability (Winzer, 2012).

Whereas it is clear from the discourses on energy security that it is primarily linked the question of consistent energy supply at sustainable prices, the focus of this thesis on energy security will be on another aspect. Energy can have numerous implications on security. First, production and reliance on energy sources such as fossil fuels can lead to national vulnerabilities. Second, continuous production of fossil fuels also contributes to climate change which equally has been highlighted to have serious national security implications. Third, and which constitutes the fundamental interest of this study is the geopolitical implications of energy landscape and its impacts on national security.

Theoretical framework

2.2.3. Securitization Theory

Security is considered an inherent component of modern states, and this is witnessed in the level of debate surrounding the concept. After the end of the Cold War, this debate has led to the emergence of a variety of literature examining security beyond the state-centric perspective dominated by military warfare to other realms such as the society, environment, and the economy. As a consequence, a school of thought named the Copenhagen School emerged and developed the securitization theory to examine security processes. In many ways, their hypotheses and arguments have come to be considered as an alternative approach to the analysis of security (Buzan and Waever, 2009).

In the post-Cold War era there emerged a widely supported understanding that the traditional understanding of security was inadequate and even inappropriate as an analytical framework to meet the challenges of the new era. The Copenhagen School thus introduced the multi-dimensional approach which according to Smith (2005: 28), was "one of the most interesting developments in the contemporary study of security." It's leading theorists such as Barry Buzan, Ole Waever, and Jaap de Wilde challenged the dominance of the military superiority and the position of the state within security discourses. In their book 'Security: a new framework for analysis' they stated that "*We argue against a view that the core of security studies is war and force and that other issues are relevant only if they relate to war and force. ...Instead, we want to reconstruct a more radical view of security studies by exploring threats to referent objects and the securitization of those threats, that are non-military as well as military*" (1998: 4). The underlying concern for the authors is how security is approached in international politics and their aim was to broaden its focus to different sectors beyond the military.

At the centre of their discourse lay the question security for whom- which they argued that the answer to this question provided the referent object of security. That is, something that is threatened, and which needs to be secured, thus, the need for a security action. In this context, the military would therefore be just part of the referent object of national security alongside other referents such as the environment, political,

economic, or societal referent objects. It is this broadening of the referent objects of national security that other sectors have come to considered as part and parcel of national security concerns- a process operationalized through securitization processes.

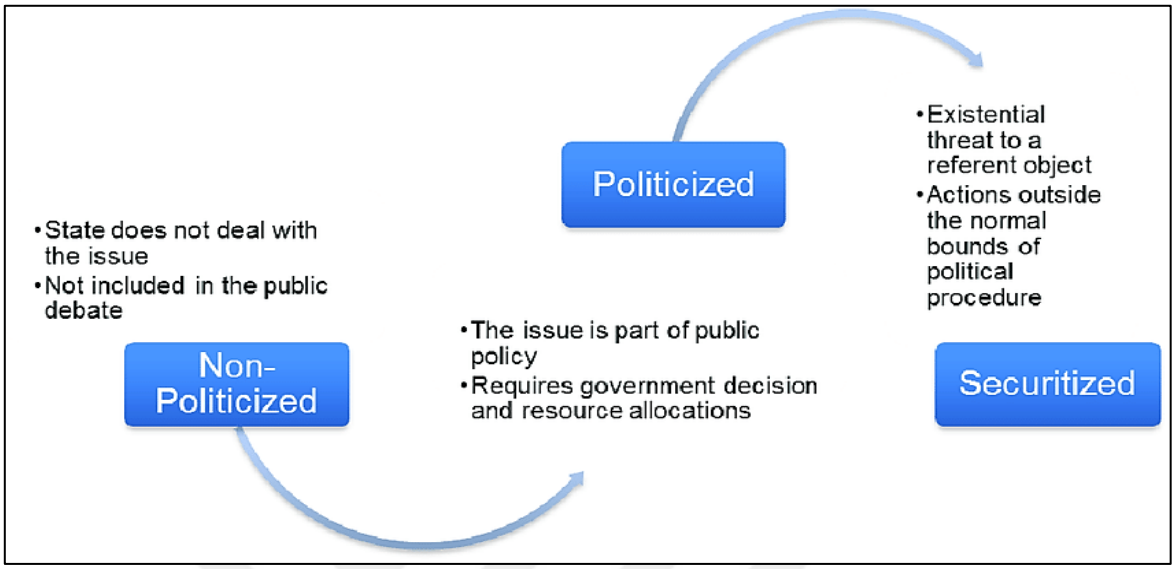


Figure 3: Securitization process

Source: Piedade (2016)

Having achieved to generate a broad consensus on the need to broaden the concept of security in the post-Cold War era, the Copenhagen School theorists embarked on developing a comprehensive security theoretical framework that is applicable to any sector by highlighting the role played by the processes of classifying threats, hence, the theory of securitization. The Copenhagen School argued that a security is any problem that presents an existential threat to the referent object that is to be determined. In this manner, a security issues is not really determined by 'what really is, rather, a security issue becomes anything made to be so through the action of securitization. The theory thus strives to develop an understanding of who partakes in the act of securitization, what issues are securitized (threats), for whom (referent object), why, with what results, and lastly under what condition, that is, what reflects that the process of securitization has been successful. Put differently, when a securitizing actor uses the rhetoric that an issue poses an existential threat, and then takes the issue from the domain of 'normal politics' then securitization is deemed to have taken place (Buzan and Waever, 2009).

Bigo (2008) argues that it is only through a constructive worldview and understanding that we can be able to comprehend how security and insecurity become an

outcome of securitization processes. Through processes of securitization, different groups compete to define what are and what are not threats to the national or international security and the necessary tools necessary to respond against such threats. Bigo makes an important argument about securitization processes by noting that it is dependent on authority of an institution or the individual making a particular claim to a specific audience. In other words, the process is attached to the symbolic and social capital acquired by an individual or their symbolic roles as representatives of a given institution. Not everyone can therefore claim that an object, person, or situation is in danger or secure. Talking about security or insecurity in **IPS** thus, is a manifestation of successful claims that resulted from competing actors.

The theory of securitization therefore provides a solid analytical framework for this thesis. Egypt which has for several years dominated the Nile River and Ethiopia's decision to construct the Grand Ethiopian Renaissance Dam (GERD) has led to a clash of interests between the two countries whose political leaders have resorted to the use of securitization rhetoric in order to provide legitimacy for their cause. As it is discussed in the next chapters, despite the Nile River existing as a transboundary natural resource that in international law is subject to the principles of reasonable and equitable use amongst riparian nations, historically Egypt has developed a unilateral and exclusive policy, an approach which has provided the country with a strong inclination towards securitization of the Nile River in order for it to acquire exclusive use of its resources.

CHAPTER THREE

GRAND ETHIOPIAN RENAISSANCE DAM

3.1. Historical Background of the Nile River

In order to develop an understanding of the hydro-politics of the Nile River, it is imperative to develop an understanding of the historical developments involving the Nile River and their implications on the contemporary issues particularly that involving Egypt, Sudan, and Ethiopia. In this section, the historical focus of this study will be on the events of 1929, 1959, and 1999**.**

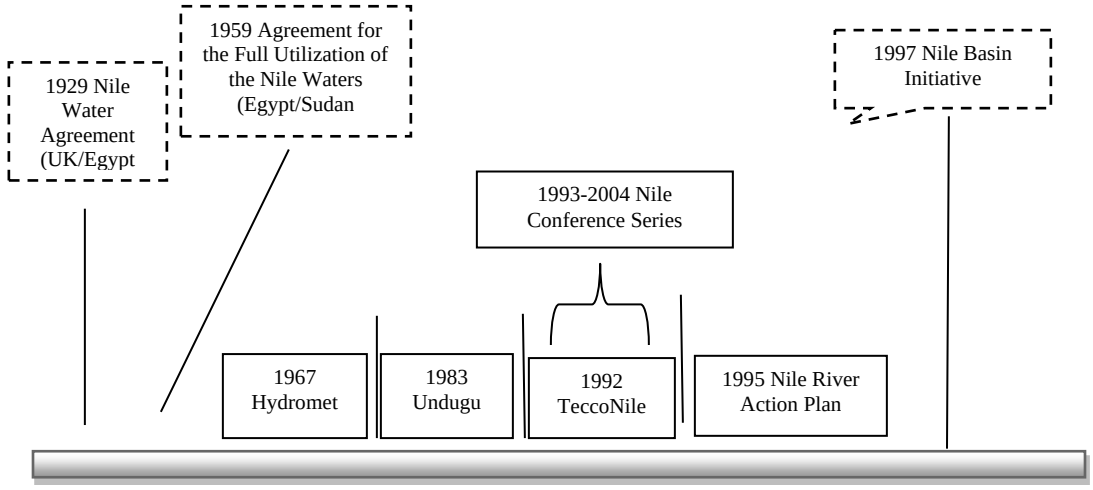
At a time when the entire African continent was still under colonial power domination, Egypt and the Great Britain acting on behalf of the Eastern African colonies of Kenya, Uganda, Tanzania, and Sudan signed the first *Nile Water Agreement*. This Agreement which amongst its provisions stipulated that Egypt was guaranteed 48 billion m^3 per year and 4 billion m^3 to Sudan per annum. As a consequence, this Agreement laid the foundation and promoted the institutionalized of the view that Egypt and Sudan had historic and natural rights over the Nile Water. But more importantly, Ethiopia having not been part of the Agreement thus claimed its right to not acknowledge or recognize the Agreement. In extension the failure to recognize it also meant that it outrightly dismissed any bounding responsibility attached to the Agreement (Odidi, 1994).

This Agreement was later replaced in 1959 by the *Agreement for the Full Utilization of the Nile Waters* in 1959. This transition into a new agreement was a response to geopolitical developments that were occurring at the time. For one, Sudan had gained its independence in 1956 and Egypt was developing plans to construct the grand High Aswan Dam. Therefore, there was a necessity that the two countries, Egypt and Sudan, renegotiate the 1929 Agreement so as to come up with new volumetric allocation of the Nile Waters. Through this Agreement, Egypt acquired increased allocations from the previous 48 billion m^3 to 55.5 billion m^3 per year. Similarly, Sudan also received increased volumetric allocation from the previous 4 billion m^3 to 18.5 billion m^3 per year. Thus, this new Agreement served to reinforce the downstream states' 'natural and historic rights' claim to the Nile River. Sentiments that were later reinforced by President Anwar Sadat's

declaration that "the only matter that could Egypt to war again is water" in 1979 (Kamari-Mbote, 2008). The exclusion of the upstream states in the negotiation of this Agreement hence drew a lot of criticism and it became the new Centre of geopolitical hydropolitical contestation where the downstream states seek to maintain the status quo while the upstream states strive to change it and replace it with an inclusive multilateral agreement anchored on the principles of equitable sharing (Waterbury, 1979).

Before the 1999 Agreement, three other Agreements namely *Hydromet* (1967), *Undugu* (1983), and *TeccoNile* (1992) were established as cooperative frameworks by the Nile riparian. However, according to a study by Yacob (2004), they did not register the expected outcomes not only because the continuously failed to include all the Nile riparian states, but also because of their main focus on technical rather than legal issues. Cognizant of these shortcomings, a new strategy was embraced during the mid-1990s that galvanized all the riparian member states to cooperate in developing a multilateral institutional framework that did not only address the technical issues, but also legal, developmental, and environmental issues. This process yielded the Nile River Basin Action Plan in 1995 as an agreed document by the Nile riparian states and it was additionally reviewed and approved by the World Bank and the United Nations Development Programme in 1997.

Table 3: Key timelines of historical Agreements in the Nile Basin before the year 2000



Source: Author compilation

This initiative was subsequently followed by the Nile Basin Initiative of 1999. The first of its kind to include all the riparian state, this cooperative institution sought to achieve social and economic development through equitable utilization of the Nile basin resource. In its structure, this Initiative was embedded by two programs namely the

Subsidiary Action Program (SAP) and the Shared Vision Program (SVP). The SAP focused on specific investment on hydropower and irrigation in the Nile equatorial lakes basin and the eastern Nile basin. On the other hand, the SVP which was donor-driven sought to build cooperation and trust amongst members in order to create an enabling environment for investment (Mohamed and Loulseged, 2008).

3.2. Asymmetrical Relations on the Nile River

The dominance of Egypt over the use of the Nile resources is based on several asymmetrical factors such as the variations in the riparian members' capacity for technical control, utilization, and allocation of water resources. The member states of the river Nile basin have demonstrated different capacities to exploit resources of the Nile River particularly based on they are hydraulic infrastructural and storage capacity. During the 19th century, Egypt began the construction of the High Aswan Dam in between 1954-1960 with American and British aid (Collins, 2002). The completion of this dam granted Egypt greater control of the Nile because its volumetric storage capacity of 169 billion m^3 per year which was adequate to provide storage of a full flood of the Nile River. Sudan also begun construction of its hydraulic infrastructure (the Sennar, Roseires, Jebel Aulia, and Khashm El-Girba) between 1956- 1965 (Trevdt, 20056). However, unlike the High Aswan Dam, these dams collectively had a storage volumetric capacity of 6.9 billion m^3 per year (Kundell, 2008).

Beside the differences in technical capacity, there have also been huge variations in terms of the use of the Nile waters. Indeed, Egypt has been the biggest consumer of the Nile waters in the entire region. The expansion of the Sahara Desert thousands of years ago, a rapidly growing population, and a continuously expanding economy have significantly increased the municipal and industrial consumption of water (Nikiel & Eltahir, 2021).

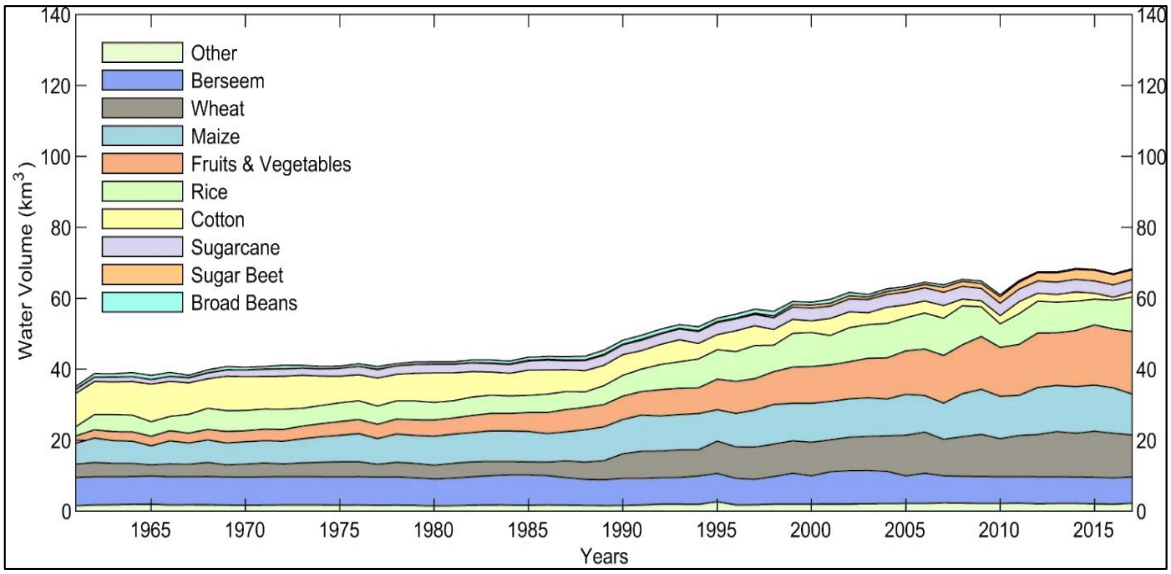


Figure 4: Historical volumetric Nile water use for crop irrigation
Source: Nikiel & Eltahir (2021).

Between 1989 to 2018, a study by the United Nations Department of Economic and Social Affairs estimate population growth rates of 2.1 percent annually (UNDESA, 2019). These dynamics have thus translated in growing dependency of the Nile Waters especially for its agricultural needs. The transition from flood fed agricultural practices after the completion of the High Aswan Dam yielded greater use of the Nile waters for irrigation of crops as demonstrated in Figure 4.

Power relations have also had a historical dimension on the utilization of the Nile River. Egypt has for decades maintained its hegemony in the region and this hegemonic has been sustained by three dimension of its power**.** In terms of *material power*, Egypt has historically been experiencing greater levels of economic development, military power, political stability, and access to direct foreign political and financial assistance including from major powers such as the United States and the United Kingdom. Whittington (2004) argued that Egypt has been able to maintain its hegemonic position on the Nile because of greater economic strength relative to its neighbours. Its economy is not only diversity, but that it has also achieved a relatively stable integration into the global economic system. Its strategic position has had an important role in this regard especially in the context of the Suez Canal sea route that has granted it closer economic ties with the US and Europe in the West and other Middle Eastern states.

The aspect of Egyptian hegemonic status is attributed to its *bargaining power* especially in the context of influencing the nature of political agenda in the region (Lukes,

2005). In the hydro-political discourse, Egypt has been able to influence the agenda both at the bilateral and multilateral dimensions by for instance, developing the so called 'red lines' of negotiations which determine what can be or can't be included in the negotiation agenda over the Nile. In this regard, it has consistently tabled the 1959 Agreement as the starting point of any negotiations involving the Nile thus limiting the capability of the other riparian states to frame their agenda.

The third dimension of the Egyptian hegemony is *ideational* dimension of power. For instance, it has been able to fully exploit the idea that as a country, it is fully dependent on the Nile River and that access to that resource is not only a natural but also a historic right. In that regard therefore, that any actor that may attempt to jeopardize the exclusive use of the Nile waters by Egypt would be endangering the survival of the states and its people. As a congratulations, for Egypt, the Nile River is projected as an issue of national security- one which, if necessary, it is willing to wage war over it.

For Egyptian national security policymakers, national security for Egypt is a question of water. This ideational dimension of Egyptian power is thus captured in its securitization of the Nile River which only serves to promote and safeguard its interests. The ideational thinking in this manner has meant that Egypt has thus been historically opposed to any other ideas such as upstream Nile River resource development by any other riparian state. This ideational dimension of power has continuously been self- reproducing in the Nile basin power relations.

It is the challenge to this Egyptian status quo on the Nile River by Ethiopia through the construction of the Grand Ethiopian Renaissance Dam that has led to the emergence of deep tensions between mainly between Ethiopia and Egypt, and the securitization discourses by both states has sparked legitimate concerns of war in the name of national security (Tsega, 2017).

3.3. The Nile Basin Cooperative Framework Agreement

The 1990s witnessed accelerated efforts to address the legal and political issues surrounding the use of the Nile River resources. Beginning in 1993, the Nile-2002 Conference series led to the organisation of several multilateral forums for consultations which were hosted in an alternating pattern by the riparian states. These forums brought

together government representatives, scholars, technical experts, legal experts, and non-governmental organizations to share or 'vent' their views on a wide range of issues touching on the Nile River ranging form political, legal, social, economic, environmental, and institutional issues (Swain, 1997). Between the years 1993 to 2002 the Technical Cooperation Committee of the Nile Basin (TECCONILE) presided over these consultations (Woldetsadik, 2017).

This Series produced outcomes that were generally viewed as progressive given that it sparked more collaboration and stimulated ideas for the institutionalization of permanent operational mechanisms anchored on an organizational structure and a regulatory framework for the equitable and reasonable utilization of the Nile waters. This progress was manifested in 1995 when the Nile River Basin Action Plan constituted of 22 projects was adopted in Arusha, Tanzania. At its core contribution, it authorized the work on the drafts of the Nile River Basin Cooperative Framework Agreement **(CFA)** as an institutional and legal platform for cooperation (Woldetsadik, 2017). However, by 2005, a final draft was yet to be agreed following unresolved issues pertaining to the issues of the pre-existing agreements on the Nile and how to resolve that problem through alternative approaches to the question of water security.

The World Bank in an effort to salvage the drafts of the CFA, proposed a conceptual middle-ground on water security. However, due to its ambiguity, Ethiopia requested for additional time to scrutinize the proposition. Article 2(a) of the CFA had indicated under its 'use of terms' that the 'Nile River Basin' was constituted of 'geographical area determined by the watershed limits of the Nile River System of waters' and that this definition was only application in discourses of development, conservation of environment, or environmental protection. Similarly, the Nile River System was adopted to mean the Nile River and both the ground and surface waters linked to the Nile River. Thus, this definition was to be used in the concept of utilization of water. It is this conceptualization that Ethiopia sought to limit in the Nile basin could be concieved in relation to the question of territorial sovereignty (Salman, 2017).

Ultimately, after a decade of diplomatic negotiations, a final draft of the CFA was signed in 2010 by Ethiopia, Kenya, Tanzania, Uganda, Burundi, and Rwanda and it stipulated fundamental principles for the conservation, use, development, and protection of the Nile basin. By outlining determinant factors on reasonable and equitable use of water in

the Nile River Basin, the framework provided for a principle of the right of each riparian state to use waters within its territory. The framework also incorporated the contribution of each riparian state to the Nile River System and the proportion and extent of the drainage area in each riparian state.

As it is evident from the above paragraph, Egypt and Sudan did not sign the final draft of the CFA even after renewed efforts to resolve the differences over the principle of equitable and reasonable use of the Nile waters by introducing the concept of 'water security'. Water security was defined as the "right of all Nile Basin States to reliable access to and use the Nile River System for health, agriculture, livelihood, production, and the environment". This Article was again reinforced by Article 14 which mandated all 10 Nile River Basin states work together to not only achieve but also sustain water security. However, these provisions did not satisfy Egypt and Sudan who still demanded additional clause that would recognize their historical rights to the Nile River as stipulated in the 1959 Agreement- something that was unanimously opposed to the other riparian states (Kasimbazi and Bamwine, 2021).

3.4. Construction of the Grand Ethiopian Renaissance Dam

Although there had been several attempts ongoing during the early 2000s to achieve a multilateral agreement involving all the 10 Nile River Basin states through the CFA negotiations, Ethiopia did not shelve its alternative strategy to engage in a unilateral construction of mega dam on the Nile. In 2005, the British Broadcasting Channel (BBC, 3 February, 2005) quoted a declaration by the Ethiopian Prime Minister Meles Zanawi that:

> "I think it is an open secret that the Egyptians have troops that are specialised in jungle warfare. Egypt is not known for its jungles. So, if these troops are trained in jungle warfare, they are probably trained to fight in the jungles of the East African countries." (Zanawi, 2005)

He further added that:

> "And from time-to-time Egyptian presidents have threatened countries with military action if they move. While I cannot completely discount the sabre-rattling, I do not think it is a feasible option. If Egypt were to plan to stop Ethiopia from utilizing the Nile waters, it would have to occupy Ethiopia and no country on earth has done that in the past." (Zanawi, 2005).

And also showed concern that:

> "The current regime cannot be sustained. It's being sustained because of the diplomatic clout of Egypt. Now there will come a time when the people of East Africa and Ethiopia will become too desperate to care about these diplomatic niceties. Then, they are going to act". (Zanawi, 2005).

While at the time Ethiopia was equally lacking the financial power to engage in such a mega infrastructure, the emergence of China as a strong ally acted as a huge boost to Ethiopia's grand plans (Mahlakeng, 2018). Indeed, the outbreak of the Arab Springs in 2011 and the political instability in Egypt provided Ethiopia with the ideal opportunity to start construction of the dam after a unanimous agreement on the CFA could not be reached.

The completion of the Grand Ethiopian Renaissance Dam heralded the first mega project done by Ethiopia on the Blue Nile. In 2011 Ethiopia announced plans to construct the dam at a total cost of USD 5 billion, just a few months before the outbreak of the Arab Springs that saw the overthrow of President Hosni Mubarak (King and Block, 2014). The scope and the size of the dam was concieved in such a manner that GERD is ranked as one of the biggest dams in the entire continent. In its design, it was constructed with a reservoir to hold more than 1.3 times the annual water flow of the Blue Nile and produce approximately 6,000 megawatts of electricity,- an amount tripling the energy generation of Ethiopia before the construction of the dam (King and Block, 2014).

Although Egypt opposed the construction of the dam citing significant impacts on its water supply, a report by an International Panel of Experts that brought along two representatives from Egypt, Ethiopia, and Sudan each and four international impact assessment experts in 2013, came to a conclusion that in fact the construction of the dam would lead to significant benefits to Egypt in terms of increase in land for irrigation, decline in the sedimentation of Lake Nasser, and reduced flooding (IPoE, 2013). The main negative impact of the dam was identified to be the potential decrease in the amount of energy produced in Lake Nasser due to reduced water levels.

Historically however, Ethiopia is on record during the 12th century for threatening to divert the waters of the Nile River away from Egypt. Emperor Amda Syon threatened to take this action in order to persuade the Egyptians against the persecution of Coptic Christians (Gebreluel, 2014). In modern day Ethiopia, the construction of the dam is a loud

statement that Ethiopia is no longer seeking to continue serving in the position of the 'silent partner' in the geopolitics of the Nile River. A growing economy and population has equally pushed Ethiopia to exploit the opportunities presented by the Nile within its territories in which it contributes over 85% of the Nile water (Odidi, 1994).

Before the construction of the GERD, Ethiopia's position as the silent partner in the Nile was attributable to several factors. These include but not limited to frequent internal conflicts, high-dependency on rain-fed agriculture, decades of weak national economy, and the absence of government priority to facilitate huge investments in the water sector in the country (Abate, 1994). However, the development of a hydropower and irrigation infrastructure on the Nile has long been an agenda of Ethiopian governments. During the 1990s, political and economic reforms that characterised the regime of Meles Zenawi improved Ethiopia's relations with Western foreign aid donors (Dejene and Cochrane, 2019; Clapham, 2018).

This provided the much-needed stability to Ethiopia and issues that had for long been set aside assumed position in the agenda of the government. The move towards implementation of a grand dam on the Nile River was accelerated by the already existed master plans crafted by international consultants such as the United States Bureau of Reclamation in 1964 which highlighted several areas that were considered as having the potential to host a grand hydroelectric dam and irrigation schemes.

However, efforts were foremost directed towards expanding the already existing hydroelectric dams outside the Nile basin on other rivers such as River Omo and River Awash (Cascao, 2009). According to a study by Abraham (20059, on the Nile basin, priority was accorded to the construction of smaller dams in the Ethiopian highlands and the Atbara basin and the development of large hydropower dam (Tekezze dam) on the Tekezze-Atbara river. These investments became possible through the financial support to the Ethiopian government following its decision to embrace neo-liberal economic reforms (Dejene and Cochrane, 2019).

3.5. Operational Status and ETHIOPIAN GOVERNMENT EXPECTATIONS FROM GERD

After decades of internal conflicts, severe episodes of drought and famine, high rates of poverty, GERD was established as a core component of the economic and political

development framework for Ethiopia. It is intended to not only provide the necessary energy supply to drive industrialisation, but also enable country to achieve greater control over the Nile to which it contributes over 85% of its waters. Once the dam becomes fully operational, it is expected that approximately 6.4 gigawatts of electricity will be produced and this will constitute the backbone of building Ethiopia's economy through adequate domestic supply as well as through exportation to neighbouring countries such as Sudan, South Sudan, and Eritrea (King and Block, 2014).

According to a studies by Abdelhady et al. (2015), Zhang et al. (2015), and Kahsay et al. (2015), both the Ethiopian government and the public have very high expectations that besides reducing the rates of poverty in the country, the dam will also be a key symbol of Ethiopia's modernization process. The mere idea that the dam is a self-funded project by the government has embedded a source of pride amongst the public for having been a 'home-grown' project (Adem, 2012). It is estimated that during its construction the dam already created more than 12,000 employment opportunities and its completion will equally assist with the control of seasonal flooding.

But since in its inception, the Ethiopian government has maintained that the dam is not only for the benefit of Ethiopia but also for the other neighbouring states especially the downstream states of Sudan and Ethiopia. Prime Minister Meles Zenawi reiterated during the launch of the dam construction that "the benefits that will accrue from the dam will by no means be restricted to Ethiopia. They will clearly extend to all neighbouring states, particularly to the downstream Nile Basin countries, to Sudan and Egypt" (Tawfik, 2016).

In addition, he reiterated that GERD provided a better opportunity to resolve the problem over how the resources of the Nile River should be utilised equitably because water levels and flow will for be increased due to the reduction of evaporation and regulation of water as well as provision of cheaper energy to the downstream countries. In fact, the decision by Ethiopia to reject the Egyptian proposal for the co-financing and management of the dam was not because of any hidden agenda on the Ethiopian side, rather than a question of state sovereignty. In many ways, Ethiopia appears to be selling the idea of 'joint-ownership' of the GERD by downstream states in theory (Abdulrahman, 2019).

With 80% of construction of the supporting infrastructure having been completed by September 2021, the focus of the debates on the dam have shifted to the question of determining how long it should take for Ethiopia to fill the dam with water. One the one hand, Ethiopia reiterated to fill the dam within a period of three years and on the other hand, Egypt made calls for the filling of the dam to spread in a period spanning 12-15 years (Abdulrahman, 2019).

With the full capacity of the dam estimated to be 75 billion m^3 and the continued absence of an agreement signed by all Nile River Basin states, Ethiopia commenced filling of the dam in July 2021 and stored 4.9 billion m^3 amidst protests by Egypt and Sudan who warned that filling the dam was a 'serious escalation' and a sign of "bad intentions…" on the part of the Ethiopians bad intentions…" on the part of the Ethiopians (BBC 8 July, 2020). In its second year of filing that was conducted in July 2021, Ethiopia additionally managed to fill 13.5 billion m^3 (Al-Monitor, 20 October, 2021).

CHAPTER FOUR

GERD AND NATIONAL SECURITY DYNAMICS

4.1. GERD as a National Security Issue

Between Egypt, Ethiopia, and Sudan, there have been deep disagreements over the status of the GERD. On the one hand, Ethiopia views the project as an important component of its development and with it, the potential alleviation of human suffering from poverty and other problems of underdevelopment. Egypt on the other hand has equally invoked strong views by arguing that the question of the Nile waters is a matter of survival for the Egyptian state and thus, anything that would interfere with the quantity and quality of the Nile waters is elevated to the realm of national security threat (Fischhendler, 2015).

Other states such as Sudan, Kenya, South Sudan, Eritrea, Rwanda, Burundi, Uganda, and DR Congo have maintained stakes ranging from very high to moderate and low stakes (Yihdego et al., 2013). Given the nature of the debate that is partly categorised as an existential issue as is the case of Egypt, there have been allegations that due to the anticipation of the dam to create negative on Egypt's food, energy, and national security, Egypt has been constantly exploring ways to undermine the GERD project ever since its construction begun in 2011 (Abtew and Dessu, 2019). This argument has been supported by the diplomatic efforts that Egypt undertook in an effort to dissuade international financial institutions such as the World Bank and other regional development banks like the African Development Bank (AfDB) and the European Investment Bank (EIB) from providing financial resources towards the project (Swain, 2011). For the three main states in the Nile waters question, linking the GERD to national security comes in two main forms, that is, as question of economic development and of 'survival'.

Ethiopia has been at the centre of high rates of poverty and food insecurity in the Horn of Africa region. One of the worst disasters to be recorded in history was the 1984-85 Ethiopian famine that came at the backdrop of recurring droughts, failed, harvests, food insecurity, forced government resettlement of population, and absence of adequate humanitarian aid due to internal conflicts. It is estimated that more half a million people

died from the famine (Dercon and Porter, 2014). The already existing environmental challenges emerging from climate change as well as the emergence of other factors such as high population growth rates, growth in agricultural practices, and urbanization are all capable to create social pressures that can lead to the outbreak of violent conflict (Fransen and Kuschminder, 2009).

The increasing concerns over climate change epitomized by a rise in global temperatures has been highlighted in studies such as Mcsweeney et al., (2010) to lead to a significant decrease in rainfall all over Africa including in Ethiopia. Consequently, concerns remain that climate change vulnerabilities will play an important role in increasing population vulnerabilities through diseases, poverty, and crime if low-income countries cannot rise and attain the status of being categorised as developed and in a position to mitigate some of these vulnerabilities.

Cognisant of these demographic and environmental factors, GERD thus occupies a central position in the guaranteeing the security and stability of Ethiopia. Energy generated and land brought under irrigation therefore constitutes the two main strategies for Ethiopia to alleviate both the contemporary and future developmental challenges by easing the socio-economic pressures. However, a much greater concern for Ethiopia is how the dam will impact on its relations Egypt and Sudan.

Already, there are existing tensions concerning the construction of the dam as well as the processes of filling up the dam. Yet these are merely short-term challenges. Perhaps if we are to speculate, what could be the impact on security should the existing problem of climate change deteriorate further to the extent that the Nile waters may not be well sufficient to meet the future needs of both Ethiopia and Egypt? Is there a likelihood for the two states to go to war?

Both states through their political leaders and representatives have issued numerous heavy worded statements with reference to the Nile. Just to sample but a few, in February 2020 when negotiations on reaching an agreement on the Nile between Ethiopia and Egypt collapsed, the Egyptian delegation are quoted to have said that: “if water means electricity for Ethiopia, it is a life-or-death matter for Egypt” (IFIMES, 25 June, 2020).

In July 2020 when the Ethiopian Foreign Minister Gedu Andragachew announced that Ethiopia will be moving forward with the plans for the stage-one filling of the dam, he

was quoted saying that: “The land is our land, the water is our water, and the money by which the Renaissance Dam is built is our money, and there is no force that can prevent us from building it” (IFIMES, 25 June, 2020). Indeed, the concerns of Ethiopia about a preemptive Egyptian attack of the GERD influenced its strategy to protect the dam using the Israeli installed advance quick reaction Spyder medium-range anti-aircraft system to offer protection of the dam (Elbarbary, 2021).

For Egypt, GERD is perceived as a national security threat on multiple fronts. The energy and food security needs for Egypt are wholesomely dependent on its ability to access adequate water, which in this case, the Nile River is its major source. The demands for these needs explain why Egypt has historically pursued a hegemonic status over the Nile (Abdalla, 1971). Similarly, to Ethiopia and indeed large parts of the African continent, Arable land has been on decline due to climate change impacts, and this has contributed to the emergence of acute shortages including demand in the energy sector (Salman, 2013). When production of the already scarce energy is threatened due to the potential decline of water to the Lake Nasser hosting the High Aswan Dam, then this can lead to a sharp rise on pressure put on the state and the general outcome is that under pressure, states become even less effective in delivering their mandate.

Thus, there are greater chances for the state to experience internal instability characterised by mass protests, increase in crime, and even fragmentation within key institutions of the state. If references can be made to the Arab springs, increase in the prices of basic goods such as bread and high cost and unreliable energy supply greatly contributed to the mobilization of mass protests against various governments in North Africa and the Middle East (Pemunta et al., 2021).

These micro-dynamics on the perceived impacts of the GERD have led to deep mistrusts between Ethiopia and Egypt and as will be discussed in the next section, they have laid the foundation of what is described as the geopolitics of hegemony along the Nile River Basin. Trust issues were evident when for instance Egypt requested the Ethiopian government permission in order to conduct its own independent assessment of the impacts, both short-term and long-term of the construction of GERD on the Nile River and its surrounding natural ecosystem.

Unsurprisingly, Ethiopia rejected the request on grounds that it was tantamount to an attempt by Egypt to undermine its sovereignty, an issue at the core of national security discourses (Waleij et al., 2016). According to a study by Kalpakian (2015), this was a representation of the deepening mistrust between the two states and a hinderance to any prospects of cooperation over GERD. Efforts by the US government to bridge this gap of trust and coerce Ethiopia into negotiations with Egypt in a 'selfless' and 'reasonable' manner are yet to bore any fruits as the dam nears completion including its filling (Gramer, 2020).

4.2. GERD in Geopolitical Perspective

4.2.1. Egypt: Seeking to Keep its Hegemony

Egypt was one of the earliest countries to experience the Arab Springs following its outbreak in Tunisia in 2011. It is plausible to argue that the sudden change in the domestic political sphere on 25 January 2011 provided an ideal window of opportunity for Ethiopia to commence its hydroelectric energy plans on the Nile River by launching the construction of the GERD. Similarly, it is the view of the author that the fragmentation of domestic political structures also provided a launching pad for the emerging Egyptian political elites after the Arab Springs to mobilise and galvanize the Egyptian public towards a national call that would provide the much need unity and legitimacy for the political class**.**

Seeking therefore to maintain domestic legitimacy and widespread public support, the question of the construction of GERD thus was elevated to the realm of national security whereby the government deployed various mechanisms both in act and in speech to maintain the historical hegemony of Egypt over the Nile River Basin. These mechanisms became reflected in heavily worded speeches by the Egyptian government on issues such as the right of Egyptians to bread, God-given rights, national security, and national duty, all of which are constitute a reference to how the Egyptians idealize the Nile River while at the same time providing a stable platform for the post-revolutionary transition (Tsega, 2017).

Immediately after the post-revolution period, the linkages between Egypt's dependency on water and food security often captured in the discourse of the 'right to

food' mobilised public opinion against the GERD project. Post-revolutionary political elites securitized the debate by elevating it to the national security platform which not only enabled them to devise the appropriate response, but also give them exclusive mandate over knowledge on the Nile water in such a manner that they could dictate the nature of national conversation, thus, also manage to draw the public attention from domestic issues (Cascao, 2009).

On the other hand, attempts by Egypt to make constant references on its diplomatic efforts to resolve the problem through negotiations, while at the same time remaining firm on what should be considered as the minimum grounds for any commencement of negotiations (based on the 1959 Agreement), were generally aimed at protecting the image of Egypt to the international community as a reasonable and cooperative regional hegemon. It is imperative to note that as Egypt acquired relatively more stability in the post-revolution period, so was the increase in the official responses of the Egyptian government on the GERD (Tsega, 2017).

When the Muslim brotherhood took over leadership in Egypt between 2012 and 2013, the question the Nile River was securitized but with a religious dimension to it. Increasingly, the use of the Nile River was defined in terms of God-given rights and radical language such as **"**water jihad" and "retribution" meant to intimidate other regional member states were increasingly adopted. In other words, the protection of the Nile waters was conceived as a central issue of Islam and therefore a duty to Muslims in the region (Nasr and Neef, 2016).

By adopting historical images of the Nile River, reinforcing the Nile in the context of Egypt's glorious historical civilization, and idealizing it as the present lifeblood of the country, Egyptian political elites strived to construct Ethiopia as being driven by ill motives meant to create instability of Egypt and endanger its national security especially by emphasizing the relations between Ethiopia and Israel which provided the air defense system for the GERD. These debates were captured in a broadcasted meeting on live television in which Egyptian political party leaders and President Morsi discussed in meddling in the internal affairs of Ethiopia including supporting armed groups such as the Oromo Liberal Front and the Ogaden National Liberation Front to challenge the government of Ethiopia (Nasr and Neef, 2016).

When President Sisi took over after the overthrow of the regime of the Muslim Brotherhood under Hosni Mubarak, some slight changes were reflected in how Egyptian government approached the Nile question before the emergence of the debate on how long it should take Ethiopia to fill the dam. The realization that Egypt had in the sense that it could no longer stop the construction of the GERD led to a change in its discourse strategy. Lesser references were made to the nationalistic rhetoric that had characterised the previous regime of Morsi. Instead, appeals for public self-restraint for the sake of the nation and endurance during difficult economic times were dominant (Chekol, 2018).

On the construction of GERD, President Sisi reiterated that the Nile River was a public good and not private property, and that Ethiopia had the right to development but within the principles reasonable and equitable use of the Nile, prior notification rule, and no harm inflicted on the downstream states. This rhetoric was however a well-designed strategy by Egypt to accrue international support and lead to the imposition of pressure on Ethiopia to halt the construction of the dam and enter into negotiations with Egypt until a unanimous decision on the Nile River Basin resources could be reached (Lossow and Roll, 2015).

4.2.2. Rise of Ethiopia in Geopolitics of Hegemony

During the last few decades, Ethiopia has significantly expanded its influence in the region mainly because of the rapid processes of state-formation. Historically, the past emperors of Ethiopia had at one point, or another been drawn into conflicts with domestic regional warlords who wielded significant political and military power (McClellan, 1989). This tendency continued way into Ethiopia's era as a communist state in 1991. As a consequence, more focus was often put in fighting internal conflicts between the empire and regional warlords and regime survival, rather than on other matters such as development.

Nonetheless, a significant shift has been experienced in the internal political processes of Ethiopia particularly with regard to the state-formation processes. Whereas in the 1980s, armed groups in Ethiopia with no alliance to the state numbered approximately 100,000 and fought against the central government, the ascendancy to power of the Ethiopian People's Revolutionary Democratic Front (EPRDF) in 1991 succeeded in address the problem of armed groups in the country. Notably, most of them were co-opted

into the state security machinery to the extent that unlike in the past, the threat of these armed groups significantly declined (Gebreluel, 2014).

I argue that with power more concentrated at the hands of the central government, more development projects were able to be rolled out across the country and this contributed to impressive economic growth rates for over a decade. Higher tax collection and the emergence of a developmental state similar to the development experiences of the South-East Asian Tigers, better organisation of the government created adequate space for the identification and conceptualization of mega development projects such as the GERD which could now be funded through domestic tax financial resources (Ricz, 2019).

On the other hand, the opening of Ethiopia following liberalisation of its economy also enabled more foreign investments to trickle in from other countries such as China, France, Qatar, Netherlands, United States, and Israel. Even though some of these states were reluctant to directly fund the GERD, the diversification of foreign investments to other sectors such as infrastructure, technology, agriculture, and mining also relieved pressure from the Ethiopian state. In other words, it was no longer an urgent issue for the government to channel its limited resources to other projects. This provided the state with one major objective of channeling domestic resources towards the construction of the dam (Bayeh, 2011).

These domestic political transformations have thus had a huge impact on Ethiopia's foreign policy. Coming out of decades of conflict with both internal and external forces such as Eritrea, and Somalia, also provided a much-needed military battle experience to its armed forces. Indeed, Ethiopia has one of the most battle-hardened military forces in the continent (Kebede, 2020). But equally important is that the emergence of Ethiopia has coincided with a significant decline in the economic and political capacity of its traditional external foes such as Egypt, Libya, Eritrea, and Somalia which has experienced state collapse and is struggling to deal with the question of breakaway regions such as Somaliland. If other factors such as its vast geography and large population are equally taken into consideration, then Ethiopia is assumed to have naturally attained a certain level of regional hegemony. Indeed, this appears to have been acknowledged by Ethiopia's government which has over the last decade played an important diplomatic role in mediating conflicts in the Horn of Africa and the Red Sea region. This was evident in its role in the South Sudan civil war negotiations, and its

partnership with Kenya in battling radical and terrorist groups like the al-Shaabab in Somalia (Klosowicz, 2015).

Thus, the emergence of Ethiopia as an important diplomatic capital in Africa has gained in more allies from countries such as Israel and the United States which considered it as an important strategic partner especially after the assumption into office of the Muslim Brotherhood regime which had on several public statements reiterated that Israel and United States were considered as enemies to Egypt (Guzman, 2016). This strategic relevance not only brought along diplomatic support but also military aid which grew the confidence of Ethiopia even further to unilaterally pursue the construction of the GERD (Gebreruel, 2014).

Even though Egypt is still by far way more superior to Ethiopia in terms of military power, the dynamics of the Nile River Basin itself acts as deterrent to any radical action such as an invasion on Ethiopia. While concern for international condemnation is surely a part of the concern, the bigger concern is the power that Ethiopia has over the Nile. As an upstream state providing over 85% of the Nile River waters, Ethiopia has the power weaponize the Nile at the expense of Egypt. I argue that Egypt first and foremost does not share any boundary with Ethiopia and it will find it rather cumbersome to get a neighboring state that would permit it to use its territory as a launching base for its military against an attack against Ethiopia, hence a surprise attack is largely impossible.

With this out question, With the construction of the dam, Ethiopia hypothetically has the capacity to flood parts of both Sudan and Egypt, thereby causing significant damage to the quality of water of the downstream states. This is largely not a surprise consideration given that there is precedence of this kind of strategy. Retribution or ‘water terrorism’ by polluting water or threatening to pollute water has been witnessed in countries such as the US, Iran, Israel, and Jordan (Gleick, 2006). Although these cases involve predominantly domestic water sources, thinking about it within an international context is not far-fetched and warrants analysis as a potential consideration.

But it is important to note that although Ethiopia is aware of its newly found geopolitical clout, it also remains prudent on how it deals with the downstream states. This is the foundation upon which it has opted not to invoke its absolute claims on territorial sovereignty over the Nile or aggressively pursue policies that would intentionally seek to

reduce access to water by Egypt which would trigger an Egyptian response by all means available. Equally, Ethiopia also takes Sudan into consideration not only because it would suffer from Ethiopian actions on the Nile and that it's an immediate neighbor capable of allying with Egypt against Ethiopia if war over the Nile is waged as a last resort, but also because Sudan has relatively remained moderate in its approach to the question of the GERD (Beyene et al., 2018**).**

Although several references are made about the GERD and its geopolitical dynamics, for Ethiopia it is primarily a symbol of national identity and the culmination of Ethiopia's grand vision to become the leading energy exporter for the region. In a speech delivered by President Meles Zenawi during the launch of the dam construction, he is quoted saying that:

> "More importantly the project takes the pride of place, representing an incomparable addition to our national plan for expanding power production. It will not only raise our own power-generating capacity and meet our domestic needs. It will also allow us to export to neighboring countries and mobilise the resources so necessary for the realization of objectives for our rapid development endeavors, efforts which are already yielding promising results" (Zenawi, 2011 Interview on Ethiopian TV).

4.2.3. Sudan: In between Ethiopia and Egypt

Before the construction of the GERD, Egypt was more concerned about the efforts of Sudan to establish several dams on the Nile River Basin. Historically, Sudan has always sided with Egypt on the question of the Nile following the historical Nile River Treaties of 1929, 1959, and 1999. As part of these historical agreements, Sudan has often supported the stance of Egypt on the Nile as a means of safeguard its own volumetric water allocation. This position continues to reflect by the decision of Sudan to stand alongside Egypt in opposing the CFA already signed by all the other upstream states. However, it's support to Egypt has less than been enthusiastic given that in the last decade, Sudan, seeking to increase its power production for domestic use and bring more land under irrigation, has been involved in the construction of new dams and expansion of old ones (Beyene et al., 2018).

For a while particularly up to the first half of the 1990s, Sudan was involved in a serious civil war involving attempts by the Southern tribes to secede and form their own independent state- now South Sudan. As a consequence, such an environment

characterized by violence, political instability, weak economy, and international isolation of the central government, less attention was given to issues of development as a whole, and water and agriculture in particular (Hamad and El-Battahani, 2005). However, since the complete secession of South Sudan and the return of political stability in Sudan, significant progress was witnessed in the political and economic realms of the state. These changes enabled the state to also shift its attention towards developing policies and strategies for utilizing the resources of the Nile River. With revenue coming in from production of oil following increased foreign investments by China, Sudan quickly emerged once more as a competitive geopolitical actor in the Nile River Basin (Large, 2007). These changes became reflected in bold decisions by Sudan to undertake unilateral construction and planning of hydropower infrastructure, expansion of irrigation schemes, and establishment of well-structured water institutions (Saleh, 2008).

These new hydro infrastructures were identified as key to meet the increasing demand for energy following growing industries use as well as urbanization throughout the country. With the help of foreign financial assistance especially from China and the Gulf states, Sudan undertook the construction of dams such as the Merowe Dam and the expansion of the Roseires Dam in 2008. It is imperative to note that neither the construction of new dams nor the expansion of existing ones increased Sudan's consumption of the Nile River waters beyond the 18.5 billion m3 that is provided for in the 1959 Agreement.

However, with the construction of the GERD, Sudan as a key actor in the Nile geopolitics equally became concerned about the impacts of the dam on its national interests and national security. Specifically, Sudan were concerned by the report released by the International Panel of Experts on the assessment of the GERD project. The panel of experts came to the conclusion that Ethiopia majorly put focus on the technical criteria of construction the dam, that is, emphasis on issues related to power production and reservoir filling. Consequently, the Report noted that adequate attention was not given to the impacts that project will have on downstream states of Sudan and Egypt (IPoE, 2013).

However, the **IPoE** (international panel of experts) Report and other studies have later highlighted that Sudan would have a comparatively better advantage from the GERD compared to Egypt. This is because the ability of the GERD to regulate water flow will provide Sudan with the ability to increase its share of irrigated agricultural land (Kahsay et

al., 2015). Secondly, GERD is expected to signficantly reduce the problem of sedimentation in Sudanese dams such as Roseires and Khasm el Girba dams which according to a study by Kahsay et al., (2015) have experienced decline in their volumetric capacities by approximately 60% and 40% respectively as a result of the impact of sedimentation. Third, Sudan will have greater benefits by accessing more energy supply at cheaper prices.

These benefits perhaps account for the differences between Sudan and Egypt's approach to the GERD. For Sudan, the ability of more land to be brough under irrigation means that it will begin to also utilize its allocated water volume of 18.5 billion m^3 which Egypt has been benefiting from using Sudan's unused water volume (Cascao, 2009). For Egypt, there is thus greater concerns over how much water it will be capable to access for its needs once Ethiopia commences power production and Sudan expands its irrigation lands and begin utilizing its complete share of water allocation from the 1959 Agreement. The potential point of contention for Sudan for not signing the CFA is that it wants to guarantee its continued access to its 18.5 billion m^3 provided for in the 1959 Agreement.

DISCUSSION AND CONCLUSION

5.1. Discussion

5.1.1. Nile River Basin: Cooperation and Competition?

In order to develop a better understanding of the security implications of GERD on the national security the Nile River Basin states, it is imperative to examine the potential forms of interactions over the Nile River Basin resources. This will paint a clear picture of the available options for the states which are situated between the extremes of either *genuine drive for cooperation* or, *entrenched competition*. In this thesis, the author embraces an open mind that the involved states act in ways that seek to maximize their interests in the Nile Basin in whichever manner each actor conceives its interest.

Assuming that part of the concern for either Sudan or Egypt is water scarcity that can be created by the full operationalization of the GERD, then intense competition in the interaction between these states and Ethiopia is expected over who should have greater control of the Nile water flows. Assuming that other states such as Ethiopia considers the Nile River to have an abundance of water, then it is likely being driven by the motivation to control the waters either for hydropower or flood management which is beneficial for irrigation purposes. Thus, regardless of the motives of states within the Nile River basin, both the weaker and stronger states find themselves faced with three options of interactions. These include the option that the control of Nile River resources can be shared (*cooperation*), *contested* (extreme competition), or *consolidated* (in favor of the stronger riparian whereby there is minimum cooperation and competition is shut down).

Table 4: Forms of state interactions on transboundary water resources

Forms of interaction	Shared control	Consolidated control	Contested control
Nature of interaction	Cooperative	Competitive but stifled	Extreme competitio
Form of hydro-hegemony	Leadership	Dominative or Leadership	Flux

This thesis emphasizes that the best outcome in the Nile River Basin would be cooperation between the member states (Ethiopia, Sudan, and Egypt). However, to achieve this cooperation and stability in which the Nile River waters are shared, then the cooperation agreement should be shaped by the strongest hegemon (in terms of control of the Nile River water resource), and it should be considered to be positive by all the other riparian, particularly Egypt and Sudan. The distribution of the volumetric water quotas will therefore have to be done in a manner consistent with the provisions of international law and the fundamental principles of equitable and reasonable use as provided for by the 1997 UN Convention on the Non-Navigational Uses of International Watercourses (UN ILC, 1997).

However, it is also possible that the stronger competitor in terms of the ownership of the water resources, may also pursue actions designed to consolidate maximum influence of the Nile Water resources through unilateral actions. Indeed, this appears to be the situation which has unfolded in the Nile River Basin. An agreement between Egypt, Ethiopia and Sudan has been elusive for over two decades. Ethiopia has proceeded with unilateral actions to not only construct the dam but also undertake the first and second phases of filling the GERD reservoir. Between the three options of interactions suggested above, *the tripartite states have found themselves in a position of contested control, and this has been the foundation upon which the various states resorted to securitization discourses* of the GERD.

But securitization of the GERD is unique. This is because unlike other sources of energy that states may compete over, the contesting states, specifically Egypt and Ethiopia have ideological and identity attachment to the Nile River and GERD. The essence of this analogy is that the contestation thus transcends to the public sphere where the public plays an important role in piling pressure on the government to ensure that it maximizes the interest of the state in any negotiations.

In revolutionary states like Egypt where the Nile is revered, a weak position taken by the government in the Nile River Basin negotiations can be a recipe for another revolution while in Ethiopia where the central government has been coming under increased pressure from regional militia groups and warlords, a weak stand on the Nile question can equally trigger another phase of severe internal conflicts. As a consequence, the political elites both in Egypt, Ethiopia, and Sudan, have therefore been forced to engage in securitization

rhetoric not only for the sake of national interests, but also to bolster the political careers of political elites and regimes.

5.1.2. Building The Energy Security and National Security Nexus

Several analysists have from time to time come to a general conclusion the states are increasingly coming into a position of being involved in ‘water wars’ although a historical analysis reveals scarcity of explicit cases in which states went to war over water (Dinar, 2007). However, this does not take away the possibility that in future there might be several wars waged over water especially if we are to take into account the increasing effects of climate change that is increasingly leading to acute water shortages in different parts of the world. States have endeavored to pursue water conflicts through diplomatic means, and this is epitomized by the more than 680 water treaties signed since 1820 (Kramer, 2013). And although several of these agreements have often been contested as being unfair, governments have often strived to come to an agreement. Even between states considered as ‘archrivals’ such as India and Pakistan, the Indus Water Treaty of 1960 has managed to live beyond three wars between the two states (Pohl et al., 2014). In cases of transboundary waters, states have equally come to robust agreements supports by institutional mechanism on water allocation, management, resolution of conflicts, and governance of water basins. In other words, water is an essential element in interstate relations.

However, in instances where states develop domestic capacity to exploit water resources but there no adequate institutional mechanisms to regulate the process properly, in addition to sudden or potential changes in the quality or quantity of water accessed by other external actors, then tensions are bound to emerge. When unilateral actions are taken to construct physical infrastructure such as dams on waterways for the purposes of hydropower energy production, then the tensions become even bigger to resolve through domestic and international mechanisms. In this regard, states therefore revert back to their capabilities to coerce other states into reversing or abandoning the course of actions. This has been demonstrated in the case of the Nile River Basin and the construction of GERD. Ethiopia’s unilateral decision to construct the dam without a comprehensive agreement with other states in the region has elevated the issue to national security discourses whereby downstream states such as Egypt have threatened to take military actions while

Ethiopia has been forced to install anti-missile system to protect the dam.

Hydropower hydro-power energy constitutes but just one form of energy. Oil is another source of energy that has been frequently located within the core of security policies of states. In this context, focus on energy security is in tandem with the question of oil supply and increasingly, its affordability. However, within the narrow dimesions of national security, then it assumes the core concern of whether a state, in this regard, oil producing state, can intentionally opt to engage in sustained reduction in the supply of energy.

The core concern in reduced energy production is the impact it creates on the economy- what is generally referred to as the oil shock effects. For states that do not have diversified sources of energy, reduced supply of oil can therefore create national security concern especially when the elements of supply chain are examined. The impact it creates on transportation in critical institutions such as the military and security agencies, or the potential chaos and disorder it may create as people struggle to get supply of energy for their cars either due to the fear of energy depletion or increase in price to exorbitant levels.

By highlighting the brief examples of hydropower and oil energy and links they have with national security, it is then possible to develop three general patterns of interaction between energy security and national security. First, there is the *primary level* of interaction in which energy plays the role in national security by supporting the existence of the state. When there is a problem of energy insecurity, governments often ensure that the military and other national security institutions are the last to be last access to adequate energy, although it is very unlikely that such levels of depletion can exist in contemporary times especially in developed states. This is because the military is often relied upon as a last resort during any given national crisis that threatens the survival of the state, thus, this reliance on military operations also necessitates that it is guaranteed continuous supply of energy.

If reference is made to history, before the emergence of mechanized transport system, military commanders were preoccupied with how to feed marching soldiers and animals that carried supplies, an example of the relevance of bioenergy to the military. However, with the invention of the steam engine, there was increased dependency on the use of steam ships and railways for the transportation of military forces and military

supplies. As a result, energy resources such as coal became of great strategic importance for the national security of states. But following the World Wars and the shift from reliance on coal energy to oil heralded a new period of military reliance on hydrocarbon energy. But given that not all states had this energy resource in abundance domestically, new relations with other states were developed and supply logistic mechanisms established, thereby, elevating energy security to the realm of national security. These concerns became globalized as militaries became more dependent on the energy supply from Saudi Arabia, East Indies, and the Caspian Sea basin.

In contemporary times, the threats to energy security to the primary level of national security associated with the continued survival of the state, the threat is less common in the developed countries. Although sharp increases in the costs of energy affect military budgets by undermining other operational needs, there is often enough supply within the civilian market that can be tapped into to fuel military operations during the times of crisis especially during those times when the national security of the state is threatened. Increasing threats to the existence of a state is often accompanied by greater prioritization of the military and its needs at the expense of civilian needs. But to achieve such a drastic level of threat to the energy security and thereby the national security of a state, there has to a complete cut-off of hydrocarbon resources.

The second distinct level of connection with national security is at the *secondary level* where energy constitutes the core "system of systems" that makes up the *critical infrastructure* of a state. Modern technology such as transportation, operationalization of oil and gas systems that also generate energy, and communication are all driven by electrical power. When there is a gap in energy security to the extent that energy production and distribution are hampered because either power facilities or the supply chain in severely interrupted then based on the extent and duration of energy interruptions, then the rippling effects can lead to emergence of disorder in the society. In this context, electricity and the supply of natural gas which require constant supply, can really have far-reaching destabilizing impacts.

If external suppliers of energy such as natural gas threaten or act on their threats and cut off supply to other states, a crisis is likely to emerge. This is because energy such as natural gas is difficult to store, and it plays an important role in generating heat and power and therefore disruptions can have medium-term but great threats. Although the provision

of natural gas may not have crucial operational functionality to the military, its predictable and constant supply is vital for the operationalization of domestic services in the economies depend on it. Thus, the prospect of experiencing power and heat outages can exacerbate from a crisis to a catastrophic phenomenon which can be a powerful tool for politics.

At the third level, the *tertiary level*, the main concern is with regard to the pricing of energy used by the public. In this context, then energy prices are expected to within 'reasonable' prices that is affordable to the public. Here it is important to note that energy for domestic consumption is gradually transitioning into an issue of basic human right for the modern society. Stable prices pf energy is thus necessary in order to avoid the impacts it can have on productivity, inflation, and restrictions on energy consumption. When energy shocks occur, it often has far-reaching impacts on consumers as it impacts on the prices of basic commodities such as foods as well as gasoline and the price of manufactured products. However, the matter of reasonable prices is very relative, and it varies from one state to the next based on a combination of local and national conditions.

5.1.3. Recommendation: An Alternative Path to Dispute Resolution

The ability of Ethiopia to construct the GERD and move ahead with its plans of filling the dam has fundamentally reshaped the balance of power on the Nile. Ethiopia and the upper Nile River Basin riparian states have demonstrated their intention not to be bounded by the 1959 Agreement. This means that the existence of these historical Agreements largely perceived as colonial can no longer guarantee Egypt any form of deterrence against restriction on how much water it can access from the Nile in the long-term. Military solution as mentioned earlier in this thesis has equally emerged as not viable given that neither Egypt nor Ethiopia share the same border, whereas Sudan has increasingly looked to approach a non-aligned positioned to either Egypt or Ethiopia and is instead being driven by its own consideration of the impacts of the GERD on its national interests.

Table 5: Summary of key actors, facts, and interests

Actors	Ethiopia	Egypt	Sudan
Facts	Ethiopia had been planning the GERD project since 1960. Construction begun in 2011 amid opposition from Egypt. Ethiopia has taken unilateral decision and proceeded with the first and second filling of the dam in 2020 and 2021 in the absence of an agreement with Egypt and Sudan. Negotiations on a new binding agreement has been ongoing since 1999 without a breakthrough.	Egypt learnt of the decision by Ethiopia to construct the GERD during its period of serious political instability in 2011 (Arab Springs). After rejecting the construction, it later began negotiations with Ethiopia and Sudan. During the first filling stage of the reservoir, Egypt did not experience decline in its water share from the Blue Nile. Egypt has pursued economic sanctions on Ethiopia and US responded by cutting its aid to Ethiopia over GERD in September 2020.	Sudan supported decision for the construction of GERD after recognizing the mutual benefits that it stood to gain. However, after the overthrow of President Omar Al Bashir, Sudan increasingly appear to align with Egypt in opposing Ethiopia and seeking a binding agreement on the dam's filling and operation Sudan is pushing for the mediation and intervention of AU and EU in the tripartite negotiations for an agreement.
Interests	Ethiopia wants to generate electricity and become the energy export hub across the continent.	Egypt sees GERD as an existential threat because it is highly dependent on the Nile water.	Aware of the benefits from the GERD, Sudan is pursuing an agreement that safeguards the concern of all actors without deep harm

Author summary

Effort to also put pressure on Ethiopia have equally not yielded any tangible results either through diplomatic mobilization done by Egypt to international institutions such as the United Nations and regional blocs like African Union and the European Union. Unilateral attempts by the United States to bring the three main states into a collective agreement have also failed. Other potential actors such as a China and the Gulf states have also appeared to keep away from meddling in the debate surrounding GERD.

For Ethiopia, particularly the government, given the extent of public involvement in the project, a compromise on the project is very unlikely. The public equally take the project in very regard given that a huge population do not have access to electricity. In other words, just as the High Aswan Dam is held in the highest regard by the Egyptians, so it the GERD to Ethiopians for whom the project is a symbolic gesture of renaissance, a means towards a hopeful future of modernization and improvement of quality of life.

In consideration of these factors, as well as cognizance on the elusive deal between Ethiopia, Sudan, Egypt, and the other Nile River Basin states, perhaps it is time that alternative approaches ought to be explored because both Egypt's concern on security of supply and Ethiopia's need for development are both central to the stability of the whole. In this regard, this thesis seeks to draw to attention the role that Europe can play in this regard. This is because Europe is equally exposed to any potential negative impacts that may emerge such as increased migration flows to Europe.

Moving forward, limiting the role of Europe to that of facilitating negotiations between Sudan, Ethiopia and Egypt can no longer be considered as adequate. This is evidenced by the failure of all the Nile River Basin states to reach a collective agreement through the CFA (collective framework agreement) which begun in 1999. While this framework agreement has partly achieved its main objective to negotiate, an agreement on the legal and technical aspect of the Nile resources have remained unresolved, with each side showing commitment to not yield any further given the stakes involved and public interest. A new approach should therefore attempt to move away from the debate on how the water volumetric quotas should be distributed to discussion on how and in what manner can Ethiopia be assisted to alleviate any severe impacts that a gradual filling of the GERD may have on its energy supply and economy.

With this in mind, perhaps developing a compensation framework between Egypt and Ethiopia would go a long way in reducing tensions in the region in the short-term and ensuring that Ethiopia fulfils its objective of filling the reservoir in the long-term. This compensation framework can be arrived at in two ways. First, the opportunity costs that Ethiopia will incur for not fully operationalizing the energy production of the GERD and secondly, the economic impacts of the same on Ethiopia. While technical data remains relatively ambiguous, this negotiation should be conducted as a political process supported by external actors such as the European Union and the African Union, which share deep bilateral relations with the three states.

During rainy seasons when the Nile River is experiencing flooding, the Ethiopia can be allowed to retain more water than the initial agreement in exchange for reduce compensation payments by Egypt. During droughts when Egypt is experiencing higher demand for water, then Ethiopia can equally release more water than originally agreed. But more importantly, the financing mechanism will have to be suggested by Egypt. But it is

also important to recognize that Egypt may not be in a position to unilaterally finance such a mechanism and that is where external actors such as the European Union can become involved by making contributions to the agreed compensation mechanism on conditions that certain reform are undertaken by Egypt in order to reorient its development agenda.

The discussions over the Nile are taking place at a time when Egypt is facing a huge jump in its water and energy demand. Building a new capital in the desert estimated worth USD 45 billion and a nuclear energy power plant estimated at USD 25 billion point to huge demand for water (Lossow et al., 2020). Thus, better water management or governance must also be pursued through better allocation of public resources to water projects such as desalination of sea water. Financial contribution of external actors to the compensation framework should therefore be attached to reforms in water governance in Egypt. A reorientation of Egyptian government public spending should thus be encouraged to move away from an authoritarian logic characterised by huge investments in the acquisition of military equipment. Ethiopia on the other hand, will equally have to commit to being flexible in circumstances of drought especially during the collectively accepted timeframe of filling the GERD. And the most important one is both countries should avoid populism.

In addition, other institutions such as the World Bank can play a key role in dispute resolution for example by using existing frameworks such as the Cooperation in International Waters in Africa (CIWA) program which focuses on providing support to riparian governments in sub-Saharan Africa. CIWA was established in 2011 to provide sustainable inclusive and climate-resilient growth through addressing the challenges to cooperative management as well as development in transboundary waters. The program was successfully implemented in the transmountain water management in the River Senegal which is the third longest river in Africa cutting across several countries such as Senegal Guinea, Mauritania, and Mali. Indeed, water is a crucial resource in this region because of frequent down drought, high rates of poverty, and dense population. According to a study by Kenny (2021) the Senegal River basin development authority established a framework to facilitate fair sharing of the infrastructure amongst the riparian countries in the region. The world bank played an important role in integrating the Senegal River Basin Development Authority into the CIWA program in order to assist in proper implementation of sustainable management of water resources and minimize poverty levels (Komara, 2014). Nonetheless, the success of such a framework in the GERD project will require that both parties, that is Ethiopia and downstream countries come to a compromise. For

example, Ethiopia has to agree to reconsider its decision to fill dumb and submit a transparent report and data regarding the impact and the safety level of GERD. Equally, Egypt as well as Sudan, will have to be ready to recognize and accept that if a new agreement is to be reached, then it will have to be different from the colonial agreements.

Another recommendation would be to use renewable sources of energy such as solar power and wind energy during dry seasons. The GERD is designed to be filled with water during the long rainy season and release water during the dry season. This has been the biggest concern for the downstream riparian countries who consider this dynamic as allocating power to Ethiopia. While this will have great repercussions not only on the environment but also on the capacity of Egypt to produce electricity through the Aswan High Dam, resorting to renewable sources of energy can provide temporary but sustainable solutions during the dry season. In Sudan and Ethiopia strong winds and adequate sunshine during the dry seasons can provide opportunities for the countries to generate electricity on the one hand while reducing the normal electricity production capacity of the GERD and allow more water to flow downstream to Egypt. Such a program can benefit from the already existing Eastern African Power Pool which was developed in 2005 to facilitate the production of clean energy systems in the region. In other words, the idea of producing energy from wind and solar resources is primarily to enable compensation for the reduced generation of power by GERD during dry seasons on the one hand and on the other hand, enable Ethiopia to release more water to Egypt and Sudan. This recommendation provides a win-win situation given that Ethiopia will still benefit from the production of electricity throughout the year while Sudan and Egypt will also be able to access adequate water throughout the year including during the dry season.

But perhaps outside the suggested technical recommendations that have been discussed herein, an alternative approach would be to examine the Nile Crisis through political lenses. That is, perhaps given the status of the dam, the countries should consider resolving the crisis through a benefit-sharing rather than a water-sharing approach. The three main countries (Ethiopia, Sudan, and Egypt) are well endowed with diverse resources which if collectively managed, can provide benefits to all the three countries as well as minimize the cost of intervention in the Nile ecosystem. For example, generating hydroelectric power in Ethiopia is comparatively cheaper and evaporation losses are significantly lower. Thus, electricity produced by GERD can be used to benefit all the three major countries. Similarly, the operation of the dam can be designed to ensure that

there is minimal changes in water flowing to Sudan and Egypt where enhanced agricultural production can be implemented to enhance regional food security. Indeed, the potential capacity for agriculture in the relatively flat lands of Sudan and Egypt is ideal for high production of agricultural products at relatively cheaper costs. Establishing such an alliance between the three countries on the basis of the collective natural resource capacity of the Nile River can evolve into a form of economic integration that is premised on the comparative advantage of the three states.

5.2. Conclusion

In this study, the thesis has illustrated how the question the Nile River Basin has transformed into a serious driver of geopolitical tensions between Egypt, Ethiopia, and Sudan because of the construction of GERD on the Blue Nile by Ethiopia in order to enhance its energy security by improving supply required to industrialize Ethiopia and improve the quality of life. The thesis has also shown that the historical Nile River agreements have been a source of contestations particularly on the question of ownership of its volumetric water quotas by Egypt which cites the role of the River in its existence and by Ethiopia that equally cites its contribution to the Nile waters and the need to develop using its resources guaranteed under its sovereign rights.

This thesis has argued that in light of the problem of climate change is contributing to the decline of resources as well as rapid population growth and urbanization in the region, the Nile River has become so essential to both upstream and downstream states and this has acted as a major deterrent to reaching a comprehensive agreement given that actors have stipulated non-negotiable minimums as is the case of Egypt and Sudan who have emphasized the 1959 Agreement as the starting point of negotiations.

This study has employed the theory of securitization to demonstrate how the construction of GERD majorly for the purposes of production of energy has been transformed from a matter of energy or development to that of national security. In this context, this thesis has utilized some examples of statements, sometimes issued as threats by Egypt, Ethiopia, and Sudan, on their willingness to use all means necessary to preserve their interests on the Nile River Basin. Egypt has securitized the GERD as an existential threat, while Ethiopia has taken further measures to install an anti-missile defence system on the GERD to act as a deterrent against any pre-emptive attack on the dam especially by

Egypt. The study has also demonstrated how the GERD has been securitized and elevated to the realm of geopolitics as a symbol of shifting dynamics of regional hegemonic politics. For Egypt, the existence and operation of the dam is a seen as a challenge to its hegemony on the Nile River Basin and the larger Horn of Africa and North African region. For Ethiopia, the dam is a symbol of renaissance, a rebirth from decades of isolation and passive role in the Nile Basin.

This study has also demonstrated the link between energy security and national security. In this regard, this study has taken note that not only the processes of securitization are the key link between energy security and national security, but also that the processes involved in energy production especially if it involves contested renewable transboundary resources as it is with the case of the Nile River Basin, then energy security gets elevated to the realm of national security. The dynamics of energy such as its inherent connection with economic development therefore means that it's a component of foreign policy located withing the arena of security policy. This is enhanced further when there are real tensons over energy resources and actor are willing to exercise military force to either protect the resource or dissuade another actor from taking certain actions deemed threatening.

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