Cooperation be damned

A study on water relations in The Nile River Basin

Keywords: Human Security, Water Wars, Egypt, Ethiopia, Process Tracing, GERD
Abstract

The Grand Ethiopian Renaissance Dam built on the Nile has sparked conflicts for over twelve years now since it was first announced in 2009. But in 2020 when Ethiopia finally started to fill this behemoth of a dam hostilities ramped up between Egypt and Ethiopia. Because around 95% of Egypt's freshwater comes from the Nile and this dam is positioned upstreams of Egypt's vital water source. As such, Egypt did not take lightly to Ethiopia's challenge towards their historical water hegemony and responded with threats of violence and war. To further complicate this situation Egypt is facing an acute water shortage in 2025 and climate change will throw a wrench into the whole situation as droughts and floods will become more frequent as the world grows warmer. The empirical work of this thesis used a process-tracing approach to identify that realistic fears are driving Egypt to react with aggression and seek conflicts. However, Egypt's goal is to achieve cooperation and create a water-sharing agreement with Ethiopia. The problem is that Ethiopia does not want to give up their dam control and is satisfied with the status quo, while Egypt is striving to create a situation where they both have something to gain from cooperation. Be it through threatening to invade Ethiopia and blow the dam up or through their use of international institutions to force Ethiopia into cooperation. In the end, the conflict continues as no cooperation agreement has been signed.

Abbreviations

AU  African Union
DoP  Declaration of Principles
EU  European Union
GERD  Grand Ethiopian Renaissance Dam
IPoE  International Panel of Experts
NISRG  National Independent Scientific Research Group
PT  Process Tracing
US  United States
UNSC  United Nations Security Council
WB  World Bank
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1 Introduction

Egypt – a nation of over one hundred million souls – is facing an existential threat. A grand structure of mammoth proportions has been constructed across the artery that bequeaths life to the people of Egypt … A colossal wall of iron and steel has arisen along the banks of a great and ancient river and has cast a long, dark shadow over the future and fate of the people of Egypt … With every brick and every layer of mortar … the GERD grows higher and its reservoir grows larger and it continues to constrict the lifeblood of innocent millions living downstream of this giant dam.[…] and we cautioned against the costs of seeking to establish exclusive control over a river on which our survival depends. We implored this august body to act with vigilance and vigor to avert an escalation of tensions that could prejudice the peace in a fragile region. […] And yet … within days of the previous Security Council session held on the question of the GERD … the Rubicon was crossed. Ethiopia commenced the unilateral filling of the GERD, and its foreign minister declared … with no small measure of impudence … “the river became a lake … the Nile is ours” - Sameh Shoukry Statement of Egypt's Foreign Minister before UNSC session on GERD (Daily News Egypt, 2021)

While this speech feels like it could fit into any action movie before the big fight, before the hero's facing down the existential threat. It is instead an Egyptian speech before the United Nations Security Council (UNSC) on Ethiopia's newly constructed Grand Ethiopian Renaissance Dam (GERD) and with descriptions like “A grand structure of mammoth proportions “ and “continues to constrict the lifeblood of innocent millions” one can see that Egypt's reaction to this dam is not filled with friendly encouragement. Instead, their reaction is one of fear as Ethiopia starts to constrain the water flow. This water is vital to Egypt's survival as 95% of their freshwater supply comes from the Nile, and with GERD's position upstreams, Egypt did not take an amicable stance toward it (UNSC 2020/355). Because throughout history the Nile has supplied Egypt with everything they need to survive, water to grow crops and feed their citizens, water to drink and develop their cities. It is safe to say that Egypt is a nation built around the Nile with its major cities positioned along the river. So when Ethiopia starts to construct Africa's largest hydroelectric dam on the Nile Egypt feel a threat to their very lifeblood. Because GERD is presented as a carotid artery that blocks Egypt's water and thus they react with threats and aggression to try and free up their vital waterway. But alas, after twelve long years of negotiations, sanctions, threats of war and political pressure nothing has managed to free up this pressure point between Egypt and Ethiopia. Instead, a new period of no contact has commenced between Egypt and Ethiopia as they refuse to budge from their entrenched positions. This is where this thesis comes in to understand what drives Egypt's aggressive reaction to GERD and why cooperation could not be reached over GERD. Because why has the case evolved into a conflict instead of cooperation and mutual gain? A short answer might be that the Nile is just too important for
Egypt to even back an inch on. However, this is a rather simplistic answer as it does not take into consideration how GERD is blocking the Nile and why cooperation could not create a water-sharing system. Or why they feel the need to react with aggression instead of continuing to reach a water agreement. Is their aggressive reaction solely a need to protect their vital national resources, or could the frustration of spending twelve years facilitating a cooperation agreement act as the driving force.

Before we start with the analysis one must understand the Nile. Because here we the eleven nations of Burundi, DR Congo, Egypt, Ethiopia, Eritrea, Kenya, Rwanda, South Sudan, Sudan, Tanzania, and Uganda all involved in one way or another over the Nile and want to use it for their gain. So within this competitive environment, conflicts are bound to happen. But throughout history, hot conflicts over the Nile have been rather scarce and it can be attributed to Egypt's hegemonic role throughout the region (Tekuya, 2018). But the world is changing and Ethiopia, a nation under immense development wants electricity for its population. They no longer want to live in the dark as over 50% of their population lack electricity, instead, they want their own electric plant and thus GERD was born. An immense hydroelectric dam under Ethiopian control within their borders. The only problem is its position, upstreams on Egypt's vital Nile river water and with it comes the potential of reducing or even stopping the flow of water downstream.

Then throughout history, we can see that water conflicts often emerge when one country starts to dam a river and establish control over the water flow. For example, Iraq and Syria almost went to war when Syria started to fill their Lake Assad Dam. Then the Chinese Mekong dams created tensions between China, Thailand, Laos, Cambodia and Vietnam, and there exists a dispute between Tajikistan and Uzbekistan over the Rogun dam (Climate Diplomacy, n.d2). So there exists a lot of conflicts or at least sore spots between nations which originate from dams and water controlling policies. This is why the Grand Ethiopian Renaissance Dam was elected as the case for this study. Because with the start of GERD’s construction in 2011 the relationships between Ethiopia, Egypt and Sudan took a turn for the worse due to disagreements over the Niles water and who had the rights to this resource. Furthermore from 2011 and onwards, there have been multiple meetings and summits between the involved actors and outside interests trying to facilitate a water agreement but this too has not led anywhere. Instead, hostilities and conflicts have flared up between Egypt and Ethiopia where threats of war and more are being thrown around (Reuters, 2021). The
situation became worse as Egypt is facing an acute water shortage in 2025 and will need every drop of water they can get. As they will fall below the 500 cubic meters of water per capita bottom line and be labelled by the UN as suffering from acute water shortage (UNSC 2020/355). To add further trouble to the region climate change is predicted to disrupt the Nile and worsen the already hard droughts and floods. Making it much harder to predict future weather and increasing the frequency of droughts. This will impact Egypt's reliance on water from the Nile as demand increases, controlling the supply becomes a priority (Gelete, 2019).

2 Aim & Research question

During the introduction section, we could see that the world is filled with conflicts over resources and especially in the Nile river basin where eleven nations share the same water resource. Therefore this thesis aims to understand why Egypt reacts aggressively to Ethiopia's GERD while cooperation and mutual gain seem like the better choice. Because while it can be easy to say that the conflict stems from a threat to Egypt's water hence they react aggressively, such an answer is very simplistic and rather vague. The answer lacks the depth to understand why they react in such a way and what drove them to consider violence as the only option left.

Instead, this thesis aims to employ the process-tracing method to trace the process behind this aggressive reaction and get a deeper understatement of why Egypt is reacting the way they do from a theoretical driven standpoint. That is using the realistic resource war perspectives and liberalism to derive the causal mechanisms that help us understand the driving forces behind a process. Here the process refers to the first and second water filling periods of GERD in 2020 and 2021 because it was the latest big development within this twelve-year-old conflict that signalled a shift in the relationship between Egypt and Ethiopia. As Ethiopia started to fill GERD the water levels in the Nile were lowered which Egypt did not take lightly too and increased their use of military threats and political pressure. During this period United Nations Security Council also became involved when Egypt invoked article 34 of the United Nations Charter which dictates that “The Security Council may investigate any dispute, or any situation which might lead to international friction or give rise to a dispute, in order to determine whether the continuance of the dispute or situation is likely to endanger the maintenance of international peace and security.”- (U.N. Charter art.34). As a result, this 2020 and 2021 process is of interest because it represents a key period within the process and
is of interest to investigate further with this thesis. However, while I would like to trace the process behind the whole twelve-year long conflict over GERD I, unfortunately, do not have the resources and time required to do so. As such this thesis narrows down its scope towards this smaller process of the water filling to get a more in-depth perspective and aims to serve as one puzzle piece to the whole big picture that is the GERD conflict. Then to further narrow down the scope of the process the thesis makes use of its theoretical perspective to look at the process from a security-driven nation-state centric perspective instead of focusing on the population and political leader's causal mechanism. So it leaves the causal mechanisms of domestic political tensions in Egypt, clash of leader's personalities and et cetera for future studies and instead uses realistic resource war and liberalisms perspectives as the main process perspectives focused on the interaction between two states.

This leads us to the second aim of this thesis and that is to understand why cooperation could not be reached. Because for over twelve long years, multiple meetings and the international summit has taken place where the United States, European Union, African Union and Russia all tried to mediate and facilitate a GERD cooperation agreement between Egypt and Ethiopia but non succeeded. Instead, relations between the two states are at an all-time low and they are in non-contact with each other. So while the first question wants to understand what drives Egypt, the second question wants to understand why a cooperation agreement over the water filling of GERD could not be reached based on the study of the first question. I mention based on the first study's results and that is to narrow down and base the second question on the causal process perspective. Because using a counterfactual perspective as the second research question runs the risk of evolving this thesis into a massive discussion filled with the possibilities that this thesis, unfortunately, does not have the resource and time to do. Instead, the second research question will be based on the answers and causal mechanism developed from the first research question.

- What drives Egypt's aggressive reaction to the Grand Ethiopian Renaissance Dam during its 2020 and 2021 water filling from a state-centric perspective?

- Why could cooperation not be reached over the 2020 and 2021 GERD water filling from a mutual gains perspective?
3 Backgrounds

3.1 Conflicts

To understand the GERD conflict I must first define the concept of a conflict because it varies depending on who you ask. Using Warner's (2010) perspective we get two conceptualizations of conflict, the first is that a conflict is an event where violence, sanctions or friction appears. The specific part here is the word *event* as it is a happening fixed in time where something happens, usually negative like the violence that creates friction. Then the second perspective is conflict as an *enduring process* where an ongoing dispute between two or more parties takes place over a long period instead of a short event. However, a conflict does not necessarily lead to violent acts, instead, it is more like a disagreement among parties with different objectives. So a water conflict does not have to be a war over water but might be a disagreement over changes in water availability or lower water qualities (Warner, 2010). Then the two different conflict concept is not set in stone as an enduring conflict might transcend into an event depending on its evolution. For example with this GERD case, it is an enduring conflict over Nile water but if Egypt were to blow GERD up it would transcend into an event conflict with the attack on GERD. If we narrow the concept into conflicts to water conflicts there exists a measurement system with the Water Event Intensity Scale which ranks events related to conflict and cooperation into a point scale to help understand what a conflict entitles:

**Water measurement tool**

![Water Event Intensity Scale](source: Yoffe et al, 2003)
To apply this Water Event Intensity Scale on the GERD case it would fall around -3.5 because the situation today is filled with no contact between Egypt and Ethiopia and military drills between Egypt and Sudan to pressure Ethiopia like the Guardians of the Nile military drill (Egypt Today, 2021). But the problem with this measurement system is its lack of depth, it works in large-n analysis but it oversimplifies and generalises the case which is why this thesis will make use of an in-depth process-tracing method to really understand what a -3.5 means. Because just to state that diplomatic-economic hostile actions have taken place within the GERD case works against the goal of this thesis as the goal is to get an in-depth perspective. But I will use this system to help shape the theoretical operationalization because it shows the key themes within water conflicts and how non-contact leads to verbal hostilities and military pressure.

3.2 Military power balance

Since Egypt reacted with aggression and conflict seeking threats to GERD the military power perspective is an important variable in the analysis, because if there exists an uneven military balance between the actors involved over a disputed resource the risk for warfare increases (Klare, 2001). In this case, such an uneven balance exists as Egypt has been the regional hegemony and can be seen with Egypt’s 438 500 active military personnel compared to Ethiopia’s 138 000 active military personnel (The Military Balance 2022). This is quite a big difference and if we look at respective nations' equipment the gap widens as Egypt's military is built on modern fighter jets, submarines and American M1A1 Abrams' main battle tanks, while Ethiopia is based on old soviet equipment (ibid). Furthermore, Egypt is actively rearming by procuring 30 new Rafale fighter jets from France, then 50 Mig-29M fighters and 24 Sukhoi Su-35 multi-role fighters from Russia (Bouks, 2022). All of which can be used in foreign operations like blowing up a foreign dam or establishing control over foreign territories. So Egypt possesses a much larger military than Ethiopia and is actively re-arming and increasing its military alliances (The Military Balance 2022).

3.3 Water rights

Then who owns the Niles water is one of the most contested topics between Egypt and Ethiopia and can be traced back to 1929 when Egypt under British colonial rule signed a treaty¹ with Ethiopia that gave Egypt sole ownership of the Niles water. This treaty is used by

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¹ Treaty between Great Britain and Ethiopia and between Great Britain, Italy and Ethiopia on the frontiers between Anglo-Egyptian Sudan, Ethiopia and Eritrea (1929)
Egypt today to argue that Ethiopia gave up their rights to the Nile when they signed this agreement so they have no right to build GERD. But Ethiopia counters this by arguing that they were coerced into signing this by colonial powers so it should be invalidated. Thus we have a conflict over who owns the Niles water and if an agreement signed under colonial rule still has any legal ground today when both countries are free.

Then the 1959 agreement between Egypt and Sudan added more fuel to the fire as this agreement guaranteed Egypt 55.5 billion cubic metres of the Nile water and Sudan 18.5 billion cubic metres while it completely leaves Ethiopia out. This agreement was signed right after Sudan became independent and there exists some belief that Egypt undermined the Sudanese government and supported a coup d’état. As a result, the 1959 treaty was signed in favouring Egypt and granting them the vast majority of water and rights to build the High Aswan Dam and Jonglei Canal in Sudan to increase the water flow into Egypt (UNSC, 2020/566). Both of these agreements are a source of the GERD conflict as Ethiopia feels abused and forced to ignore the vast resources the Nile offer them by the 1929 agreement and ignored and left out from the 1959 agreement. While Egypt continues to argue that these two agreements still stand today because Ethiopia signed the agreement they were not under colonial rule, instead they were an independent sovereign nation (ibid).

3.4 Water Law

Then water resource law is of interest to the thesis as who owns the Niles water and how much are they entitled to is of interest. However, water law is one especially complex legal jurisdiction because water is not a fixed resource, it flows across borders and varies depending on season and the weather. However, there exist some governing regulations on water law and one of these is the Riparian Water Rights which have its origin within English common law. Under the riparian principle, all landowners that have properties adjoining a body of water have the right to make reasonable use of it as it flows through their properties (Abrams, n.d). A problem here is the ‘reasonable use’ and how that is defined because different nations might disagree on what reasonable use entitles. The general definition is “whether it is to the injury of the other proprietors or not” - (Guerin, 2003) which means water use should not damage the other riparian nation's water supply.
The problem within the GERD case is that Ethiopia has called on the Harmon doctrine which dictates that a country has absolute sovereignty over international watercourses within its borders, basically overruling the riparian water rights and establishing their own sovereign control over the Niles water (Kimenyi, 2015). At least within the GERD case as they did not seek out the downstream riparian states when they first announced and started to construct GERD. Instead they commenced unilateral construction and keep arguing that GERD falls within Ethiopian sovereign space, thus they do not need to involve outside actors while Egypt argues that they are breaking international water law as GERD damage their water supply and thus they break the riparian water right law.

3.5 GERD Financing
Financing of GERD has been one of the many struggles with this mega project as it is almost fully financed by the Ethiopian people through private investments and private loans. Because the Ethiopian government created a system where its population could dedicate a part of their salary as an investment into GERD which has resulted in GERD being framed as a people's project. Then they continue to hold crowdfunding events and sell bonds to its population to generate funding. However, state investment is still present, it is only that the people's investments are used to help finance GERD because no international financing institutions wanted to invest in GERD based on economic considerations after some cost-benefit analysis. Although some commentators argue that the decision by the international financing institutions turn down Ethiopia's request for assistance is a result of Egypt's political pressure, there exists little evidence to support these claims (Kimenyi, 2015). In the end, the Ethiopian government had to turn to its citizenry to finance GERD. But, in 2013 the Peoples Republic of China came to the aid of Ethiopia with a 1 billion dollar loan to help build transmission links between GERD and Addis Ababa. Nevertheless, Ethiopia continues to struggle to raise funding for GERD and continues to loan money from its population (ibid). Which has created pressure on the Ethiopian state from its citizenry to start using GERD as fast as possible so they can get a return from their investments. At least these are some of the critiques Egypt is directing toward GERD and its structural soundness (UNSC, 2020/566).

4 Literature Review
The field of resource studies within International Relations is a very broad field with multiple sub-schools focusing on the conflict aspect of resources, and others on the bi and multilateral
cooperation between states over resources. Thus the works by Gleick (1993a; 1993b), Kaldor (2012) and Klare (2001) will be used as an introduction and to narrow the focus down toward the conflict school of thought within resource studies. Because while we can go back through history and find a lot of different examples of how resources influenced warfare and conflicts between ancient states it would serve little purpose to just present a historical perspective on war and resources. Instead, this section will be focused on the more recent resource conflicts and their suggested solution, cooperation.

Now, Peter H. Gleick was one of the first researchers who started to link environmental issues like climate change with security issues and in 1993 he published his book Water in Crisis: A Guide to the World's Fresh Water Resources (1993a), then his journal piece Water and Conflict: Fresh Water Resources and International Security (1993b) and both works connect water to conflicts from a historical perspective and present an overall malthusian perspective on water. Which is that water will become a point of conflict between nations as linear expansion, population growth and degradation are rapidly reducing the global access to freshwater (Gleick, 1993b). Overall Gleick stands out as he narrows down his focus on water scarcity as a security issue instead of taking the dominant approach and just states that environmental change is a security concern (ibid). However, in the end, Gleick still leaves his definition of resource conflicts as a vague concept and describes them as problems that reduce the quality of life and increases competition and tensions among sub-national and national groups as they are pitted against each other in their strive to survive on the limited resources (ibid).

If we move to more modern research about conflicts and resources Mary Kaldor builds upon Gleick's arguments with her book New Wars (2012) where she presents a new way of warfare that is focused on asymmetrical warfare over resources, instead of the classic nation vs nation over land borders. While her main arguments are centred around conflicts between state, non-state, and other private actors in militarily decentralised conflicts she still offers this thesis insight into resources' role in wars. Because she brings forth the observation that war is not always financed through the state but can be financed through other predatory means that seek to continue the conflict (Kaldor, 2012). These means can be controlled over vital resources which links Kaldor's work with this thesis's aim to understand what drives Egypt's reaction to GERD as water is a vital resource. However, neither Kaldor nor Gleick defines the resource perspective and instead focuses on the general questions regarding resources' risk of
triggering conflicts in a broad sense. Instead of going in-depth with empirical cases that illustrate case-specific resource conflicts. As such this thesis aims to continue along with their research on resource conflicts but from the empirical driven point of origin. Furthermore, while their research could be placed within the human security field of studies this field is rather vague and not very well defined as there exists a broad discussion within academia on what human security entitles. Some argue that it has become a way for activists to promote certain causes and that it does not help academia understand what security entitles. Because human security is such a broad term it can encompass every threat towards humans, such as the environmental change to inequalities and other non-state lead security issues. Alternatively, other scholars argue that the concept of human security needs this broad definition to encompass military security and other more classic security perspectives to help minimize the gap between security and human.

In the end, there exists no universal definition of human security but this thesis places itself within the school of human security but with an emphasis on the perspectives of resource security and resource conflicts. That is conflicts over limited vital resources that affect human security, be it through vital resources for human survival like air and water or more luxurious resources like diamond and gold that are still vital for humans but for reasons other than direct survival as there exists alternative to these resources, but what alternatives exists for water?

Back towards the resource war perspective, we find research by Michal T Klare that can be placed within the human security field as he has focused his research on resource wars with a specific focus on oil conflicts. However, it is his book The Race for What's Left (2009) is rather useful for this thesis as it presents a holistic perspective on potential resource conflicts. For example, he introduces more modern resource conflicts based on drastic changes like the sudden emergence of rapacious new consumers, technical and environmental limitations on exploitation, the lack of new unexplored resources and the effects of climate change (Klare, 2009). All of these factors influence what Klare calls the global scramble for the world's last resources and thus, potential conflicts over resources. One of his first examples is a conflict over deep-offshore oil and gas and especially in regions such as the Arctic. Here states are competing over unexploited oil and gas depositions in regions with non-fixed borders. That is regions where multiple states lay claim to the same territories and thus further increase the risk for conflicts. To connect this argument with this thesis both cases share a resource with
disputed ownership. In the arctic, we have America, Canada, Denmark, Norway and Russia all competing over its vast oil and gas resources, and in the Nile basin we have Egypt, Sudan, South Sudan, Eritrea, Ethiopia, Kenya, the Democratic Republic of Congo, Burundi, Rwanda, Uganda, and Tanzania all competing and laying claim on the Niles resources which help explain the sheer size of these resource competitions.

While Gleick, Kaldor and Klare all offer vital and interesting perspectives on how limited resources affect cooperation and security questions between nations they all share the broad picture. That is the general holistic perspective on resource conflicts and that is why we now will go in-depth with our case: The Grand Ethiopian Renaissance Dam and the literature surrounding its importance to the region because it has been under construction for twelve years now. However, while there exists a lot of research on GERD the focus point is often on how good the dam will be for the region if the riparian nations cooperate. For example, we have Kevin Wheelers (2016) study where he concludes that the risk of water diversions emerging from GERD can be mitigated through cooperation over annual water releases between Egypt, Ethiopia and Sudan. So if the states would cooperate the problems of reduced water flow can be overcome and the region would prosper. Then we have Zeray Yihdego (2016) who also concludes his study that GERD offers the region a great opportunity to build lasting cooperation between the involved Nile states through a joint water filling approach. However, Yihdego notes that it is only if the involved states can take advantage of the opportunity GERD presents that it will lead to mutual benefits. Otherwise, GERD might lead to conflicts. Now in hindsight, we can see that the states could not come together and agree upon a mutual approach toward filling GERD, so now we have a lot of conflicts between the involved states instead of cooperation. Thus, this thesis exists to try to understand why cooperation could not be reached and instead we got a very aggressive reaction from Egypt while the majority of previous research concluded that GERD would be beneficial to the region if only cooperation was achieved.

Now, these are just a few of many studies done about GERD but they all share the same conclusion that cooperation is vital for regional stability otherwise the region is faced with conflicts (see eg: Tawfik, 2015; Tesfa, 2013; King; 2014; Hammond, 2013). However, as the situation is now, no cooperation agreement has been reached and the relationship between Ethiopia and Egypt is almost at an all-time low with threats of war thrown around (Reuters, 2021). So I have seen a gap in the knowledge surrounding GERD because a lot or almost all
the previous studies concluded that cooperation was vital and would result in great things for the region, but it was never achieved. Thus this thesis aims to understand why cooperation could not be achieved and instead lead to an aggressive response from Egypt.

5 Theory

To build upon the resource war foundation presented within the literature review this section aims to establish the theoretical perspectives of the thesis with a focus on resource conflicts and cooperation over resources. First out will be Michael T Klare (2001) will be used to empirically ground our theoretical discussion as he brings forth the empirical case perspective of resource conflicts. Then the resource war perspective from Daron Acemogul's (2012) which combines resource conflict with an economical perspective will be used to create a framework focused on how the economic side of resources might trigger conflicts between nations. After this discussion, the focus will fall on liberalism Schmeier (2012) and Swain (2012) as they represent the counterbalance to resource war and offer this thesis an alternative explanation to the driving factors behind Egypt's militaristic reaction to GERD.

5.1 Resource War and Realism

What we saw in the literature review are that resource war and human security is a broad field and lacks a direct definition of what security is. So this chapter aims to define its perspective on resource wars and how it positions itself within the field as a whole. To start the discussion we can trace resource conflicts back to the realist school of thought because the resource war subgroup emerged from a critique of realism's fixed definition of security. Because realists generally oppose the idea to include the human perspective with the security concept as it would muddle their definition of what security is. In the end, realists opposed any form of non-military variables in their view of security relations as it would also diminish and disrupt the coherence and explanatory power of the security concept (sharp, 2007). Furthermore, they tend to view resources as a soft issue and delegate the resource perspectives as only fit for regional and international institutions to handle, which are usually disregarded within realism. So instead of seeing resources as a state-centric topic realism delegated resource questions into the soft issue category and ignored it (ibid). In the end, this disregard for resources triggered scholars such as Klare to break away from realism and establish their own resource focused perspectives.
Then if we compare the traditional realism with the modern versions of resource conflicts three significant downsides to traditional realism emerge. First, although the nation-state is the most important factor in traditional analysis, natural resources often transcend borders. Oil wells, mines, and waterways all extend across political boundaries and between shared sovereign spaces. If we attribute the mindset of a rational state to these areas of border transcending resources we see the realist argument that Hobbesian chaos will emerge as self-serving states try to maximise their own resource interest (ibid). Especially if these resources are vital national resources which would trigger the states to compete over resources at a nation-state level instead of it being a soft institutional struggle.

Second, the traditional realist model often fails to incorporate natural resources into its calculations of economic power. Especially topics on how resource scarcity influences production and might lead to long-term economic decline and social turmoil which are topics the resource wars side takes into consideration with their analysis (ibid).

Lastly the topic of how resource extraction poses a threat to the overall well being of the international community is often ignored in traditional realism. An example is how economic growth from resource extraction might trigger the degradation of shared resources such as water, soil and air. Thus it can be a factor in conflicts whereas states feel the need to protect their resources or stop the degradation of the shared resource (sharp, 2007). In the end, resource war scholars bring forth and acknowledge the role resources have in facilitating relations and breaking down cooperation between nation-states, and this is where Klare and Acemogul come in to help shed light on the causal mechanism behind Egypt's reaction to GERD from a resource perspective.

5.2 The two schools of resource war

Before we delve deeper into their respective theories the resource war theory is filled with contrasting perspectives and the two main schools of thought are the cornucopian model and the Malthusian model. The cornucopian model bases its reality on the free market as it asserts that when the resource becomes scarce and supply decreases the price will increase and prolong the time until total resource depletion. Thus, it buys time for technology to advance and avoid the crisis through a technological solution. So, the cornucopian model is built upon the idea of procrastination as its belief is based on the market evolving into a model based on waiting for the solution to emerge and thus states will avoid confrontations over resources
5.3 Resource Wars

Because resource war scholars are rather decentralised without a shared theoretical foundation Michael T Klare will serve as this thesis's main representative of resource war as he is one of the founding fathers of the modern resource war perspective as he sees more than just oil and the environment in his theory. However, while he might represent the modern perspective his main argument is still the idea that a diminishing supply of resources will become the primary motivation for wars between states. Nevertheless, he argues that resources that serve as the motivator for conflicts are not only oil but vital resources for the state, which can include air, water and even sand so long as it is represented as a vital resource (Klare, 2001). From this vital resource perspective, Klare brings forth the argument that resources will influence the policy debate more when they become scarce and thus important policy space will be dedicated to securing and establishing a resource agenda for the state. (Klare, 2001) Here securitization is often brought for as the evidence of how much a state prioritises a certain resource and we can see this in Egypt where water has become a securitised resource (Karasik, 2021). However, the question remains if it has been politically
and policy established as a vital resource for the nation as it then could further be seen as a resource which might trigger conflicts between states.

Furthermore, the foundational debate among resource scholars is centred around the idea that resource-poor and dependent states will compete versus resource-rich and independent states with an already established control over their resources. The general argument is that a resource-poor country aims to secure more resources while a resource-rich country wants to secure and protect their own assets (Klare, 2001). To measure these broad topics Klare developed different theoretical factors and one is to look at the structure of the military. Can the military do foreign operations and invasions to secure resources or is the structure focused upon a static defence which we saw in the background section that Egypt does possess aggressive military capabilities. Another measurable factor is how ecocentric the policy debate is, is the resource is framed as a vital national security concern and emphasis is placed upon the protection of the resource. Or is the policy debate situated around facilitating cooperation to secure the resource and other import focused solutions. Because the importance of a resource in the political sphere will dictate if national security considerations will prevail over negotiated settlements of a resource. Thus settlements between states over a resource could be perceived as entailing the surrender of vital national interests if the resource is portrayed within the political debate as a vital national resource (Klare, 2001). Here the discussion if resources are a legitimate function of national security emerges, in the sense that realism relegates resource to low politics and thus not important for the state. But Klare argues that resources can penetrate the political debate and become a conflict between nations if it is viewed as a legitimate function of national security. That a lack of resources can result in the critical security of a state being at stake, thus resources are placed within the high politics and realpolitik debate (Klare, 2001). From this discussion, the thesis will look at the specific factor in table 1 to determine whether or not this theory can account for the case at hand.

**Table 1 First Resource War factor**

| If a resource is framed as a national security consideration its conflict potential will be much higher than if it is only portrayed as a regular non-vital resource. |

Source: Author's construction

Another important aspect of resource war is the discussion on the division of resources between states and what is considered a fair share of the resource. That is how shared
resources are divided and the risk of conflicts emerging over uneven division. Say if a nation is perceived to over-consume and appropriate more than their allocated share of the resources it might give incentives for other states to turn towards aggression and a conflict (Klare, 2001). For example, if Ethiopia is perceived to overconsume water from the Nile other riparian states might feel that their access to water is at risk and incentives for war emerges, or at least a conflict between states will erupt. This perspective builds on the belief that overconsumption will create a situation where the other involved actors feel a threat towards their share of a resource and thus react towards this perceived threat to secure their own share (ibid). As such the following factor has been developed to measure the consumption of resources:

**Table 2 Second Resource War factor**

| If threats of war and future conflicts exist the resource controlling state will increase its rate of extraction. Which in turn increases the other states' incentives for war in an unravelling of peace. |

Source: Authors construct

**Resource Wars and the market**

Unlike Klare's broader and somewhat traditional approach towards resource wars Daron Acemoglu present a Malthusian perspective on how market factors influence conflicts over resources with his main argument that economic forces determine the incentives for fighting and competition over shared resources (Acemoglu, 2012). To measure this ecocentric perspective Acemoglu brings forth the traditional concept of elasticity of demand as if a resource has a high supply and low demand its incentives for war are rather low. But if a resource has a high demand and low supply its conflict potential increases. If we apply this idea to the GERD case it would most likely result in a low supply for Egypt as filling GERD might block water from flowing downstream. Then there exists a high water demand as Egypt is approaching the water impoverished stage. So according to Acemoglu these factors will drive up the conflict potential of water and might exist as a causal mechanism within the case. As such the following factor has been chosen to understand water elasticity.

**Table 3 Third Resource War factor**

| An uneven resource supply and demand increase its conflict potential |

Source: Authors construct

These arguments from Klare and Acemoglu all point toward the inevitability of warfare over resources but many scholars have shown that warfare is not inevitable and can be avoided
Klare gave his perspective on this argument that states can have a peaceful relationship with each other if their relationship is good and they have a history of resolving differences through peaceful negotiations (Klare, 2001). However, he does not go in-depth on what peaceful relations and historical negotiations mean, so in turn we go to a liberalism that is designed around understanding how relationships between states can facilitate cooperation and build lasting relations to see if these factors are present in our case.

5.4 Liberalism

While the Hobbesian logic of war that Acemoglu and Klare represent is focused on state self-help through isolation and independence, Lockean liberalism stresses freedom, diversity, tolerance and interdependence (Rubin, 2004). Historically the Hobbesian fear of the state's true nature came to be replaced by a Lockean fear of state despotism and through some evolutions has been turned into the more modern school of thought liberalism, or liberal institutionalism, which will be the base for this thesis understanding of liberalism (Rubin, 2004). However, just to anchor this discussion more into the historical debate is to bring forth Locks's perspective on property ownership. Because he argues that one may gain ownership over unowned natural resources through labour. To combine this perspective with the state-centric resource aim of this thesis would be to argue that a state may lay claim to water resources through labour. However, he later adds that "only if there is enough, and as good, left in common for others" (Locke, 2010 [(1690)]) which goes against the resource wars logic that states will compete over what's left. Nevertheless, this shows the liberal idea that you can lay claim to a resource, but only if it is enough for everyone.

As for liberalism's main belief, they argue that the world is not built on force but on exchange as the key relationships between actors. This puts it into direct competition with realism and resource war belief that force and power are the central themes of the world. Another important distinction between the two is that while realism is focused on states, liberalism uses actors as its definition of the important units of the international world. Here we see that realism is solely focused on states whereas liberalism acknowledges that while the state plays an important role in the international world order, it is not the sole actor active there (Baylis et al, 2020).
Then the liberal perspective is a useful tool in balancing out the realistic resource war perspective and building upon Klare's statement that cooperation over a resource can be used to avoid resource conflicts. Because chains of interdependence between actors will make war and conflict even less attractive as it would hinder economic prospects and damage future cooperation, thus peaceful competition is preferred over violent conflicts (Warner, 2011). In our case institutions would serve as these actors building chains of cooperation between Egypt and the other riparian states, however, because we have this aggressive and militaristic reaction to GERD one might wonder if these institutions worked or are active.

International river agreements
While the general arguments within liberalism are focused on creating these institutions to serve as chains of cooperation between states to increase the cost of conflicts Ashok Swain (2012) argues that just signing an agreement might be easy, the real problem is how to keep the agreement working. (Swain, 2012) Especially the compliance part poses the real challenges as it dictates how the agreement is enforced and if it can stand the test of time (ibid, 2012).

Another important water observation put forth by Swain is that the position of the riparian state influences their water-related actions as if the hegemonic state is a downstream state they are more inclined to follow through with an agreement as they cannot control the initial resource. However, if the hegemonic state is upstream they are inclined to establish water control and argue that because the initial resource stems within their borders they are entitled to it. Nevertheless, the position of the state is only second to the design of the institutions because a bad design will prohibit the institution from working properly (ibid, 2012).

What we have here is a perspective that argues that signing a cooperation agreement is easy, the true challenge is following through with the agreement and it becomes much harder if the downstream state is in a powerful position compared with the other riparian states. However, agreements do still work and in recent years many agreements have stopped conflicts and facilitated cooperation instead of hostilities. But they need well-designed compliance tools to work, and in the context of water, they need to define the amount of water each riparian state is entitled to. Otherwise, conflicts will emerge over how much water each state is appropriating (ibid, 2012). So this factor in table 1 will be used to determine whether or not this theory can account for the case at hand and how it compares to the resource war case.
Navigating cooperation
Whereas Swain is focused on institutional compliance, Schmeier (2012) offers this thesis a general framework on how to evaluate water basin institutions and determine if they are successful or not. This will be used in understanding how cooperation around the Nile’s water has been designed through an institutional perspective and to determine if it is working as intended. Because we have a conflict over the Nile’s water but not an all-out hot war.

The framework's first evaluation point is that first one must look into the membership structure to determine if all the relevant riparians are members of the institution. Because if some riparians are missing or not participating it will damage the cooperation and goal of the institutions which might lead to a faulty institution. Second, is that the scope of the institution needs to be well defined and clear to get all members working together towards a shared goal. Because if the scope is unclear and lacking the institution will not be able to function efficiently as it lacks a clear goal and plans to reach the goal. Then one needs to approach the level of institutionalisation within the riparian states. Because a state with an already high degree of institutionalisation will have an easier way to integrate and follow through with the water institutions than a state without a high degree of institutionalisation. Decision-making design is also another important evaluation point as a decision-making design that favours laggards and free riders will diminish the institution's efficiency and invite strife between the members. Thus it will ultimately fall apart because the members are more focused on fighting and determining who does the most than they are focusing on the goal of the institution. The last two evaluation point is if data and information are shared sufficiently between the members and how the institutions are funded. Because without adequate information lasting cooperation can not be achieved as it invites distrust between the members. Then if the institution lack funding it will not be able to stay active and ultimately it will fall (Schmeier, 2012). So these points have been summarised into the following factor to be applied to the GERD case to see if the existing institutions or agreements are successful.
Water sharing arrangements need to have: an information-sharing design, dispute settlement mechanisms, a well-defined scope, sustainable funding and flexibility to adjust to the uncertainties to succeed

Source: Authors construct

5.5 Final thoughts

To bring back the discussion to the research aim these theoretical points presented by Schmeier will be used to evaluate the institutions active within the Nile and determine how they might impact Egypt's reaction toward GERD. Because water diplomacy can be successful when both actors realise that non-collaboration is likely to result in worse outcomes for all involved (Baylis, 2020). However, the process is still a very aggressive one but so far no war has broken out between Egypt and Ethiopia. Which works in favour of the liberal ideas that the checks and balances that institutions put in place still work, and might have succeeded in building chains of cooperation between Egypt and Ethiopia. However, the absence of war does not mean the absence of conflict as the Water Event Intensity Scale in the backgrounds section showed.

6 Method & Research Design

The interest of this thesis is to answer the research questions of what drive Egypt's aggressive reaction to the GERD, and why could cooperation not be reached. So the research design will be based on a qualitative single case study framework and then the method of process tracing (PT) will be used in bridging the gap between the empirical material and theoretical framework. PT was selected as the main analytical method because the research design is geared toward a linear causal understanding of Egypt's reaction to GERD. PT offers a way to break down and understand the causal mechanism that drives Egypt.

6.1 Case study & Case selection

First, to get a qualitative in-depth perspective a single case study based on Bryman (2016) and Yin (2017) will be used to narrow the research scope and focus it upon a single entity fixed in time. This entity will be the Egyptian state from 2020 to 2022 and their intensified aggressive reaction towards GERD. Because instead of focusing on Egypt as a whole I have elected to focus only on the Egyptian state's reaction to GERD, to narrow the scope and cut
away excessive information. So perspectives such as private actors and the general public reaction to GERD will be left to future studies while this thesis focuses on the Egyptian state. Then while the focus is placed on Egypt, Ethiopia and Sudan are both very involved actors in the GERD situation. So to rule them out from the thesis would result in a rather biased analysis. Instead, while the analysis will be centred around the Egyptian state, Ethiopia and Sudan will be presented through the Egyptian lens. This means that Ethiopia and Sudan will be represented in this thesis, but only from the Egyptian perspective and future studies will be needed to get a detailed GERD perspective from Ethiopia and Sudan. However, they will still be in the study, only not the centrepiece.

Another big distinction is what represents the Egyptian state. Is the state an individual leader or more a whole homogenous actor? If we anchor the perspectives in our theoretical foundation we get the two distinct sides, the resource war realistic perspective is focused on the individual actor who represents the nation, and in most cases, it is the president or individual ministers that represent the country. Then on the other side of liberalism, the government is often seen as a machine or institution without the focus placed on a single leader. Instead, here the state is a homogeneous actor working together without the single strong man like realists often use. Now, as Egypt underwent a coup d'état in 2013 and installed General Abdel Fattah El-Sisi as their president and has ruled as a strong man he fits more into the realistic perspective. As such the Egyptian state will refer to Sisi and his ministers.

6.2 Process tracing

With the case study framework the question remains what method to use in analysing the empirical data that the case generates and for this the PT method has been chosen as it is aimed at linking and analysing the causal mechanism behind Egypt's aggressive reaction to GERD from a linear cause and outcome perspective.

PT emerged as a way to unbox the black box that appears between a cause and an outcome in an event. For example, take the resource war theory's general argument that oil causes war (Klare, 2001). Here we have the observation that when a country finds oil it results in conflicts. So in this case the PT method aims at unboxing the process between oil (cause) and war (outcome) and tracing what mechanisms influence and connect the cause with the
outcome (Beach and Pedersen, 2019). Another important aspect of PT is its epistemological foundation within the positivistic understanding of the world which facilitates its focus on linear causation from a deeply rooted empirical perspective which works very well with an empirical heavy qualitative case study. For this thesis, PT uses its empirical grounded focus to trace causal mechanisms from a linear perspective to connect and understand what mechanisms influenced and drove Egypt's aggressive GERD reaction in 2020 and 2021 (Checkel, 2008).

For this thesis, a theory-testing process-tracing approach will be the main analytical method as it offers the researcher an already established theoretical framework to test against the empirical material. However, some argue that it is better to use a theory generating PT because its more grounded within the empirical material and thus offers a bottom-up perspective. Here Beach and Pedersen (2019) help the researcher out because instead of forcing the choice of what version to use they argue that one should switch between the different versions to get the best analysis. So instead of forcing the deductive theory testing or inductive theory generating version they argue that switching between the two versions helps create a holistic perspective and avoids the problem of a faulty design when the theoretical framework can not understand a causal mechanism. So this thesis PT method will be an abductive one as it starts with an inductive theoretical framework but will still generate causal mechanisms from the material in a deductive way.

6.3 Causal mechanism

Moving onto the causal mechanism and what exactly it entitles Beach and Pedersen (2019) argue that causality differs from causation, and mechanisms are understood as a congruence of variables working together in producing an outcome. So the causal mechanism is when one links and understands how the interactive causal parts work together to produce an outcome. In short, the mechanism is not the cause but the process that binds the cause and outcome together (ibid). Furthermore, the concept of causality is used to break open the cause and outcome within a process to see what binds them together.

Another important aspect of a causal mechanism is the temporal dimension. That is the time and place aspect of the mechanisms as such the thesis will create a timeline driven narrative of Egypt and Ethiopia's relations surrounding GERD to show the temporal aspect and how it
might have influenced the causal mechanism within the case. Then because causal mechanics use events and timelines to illustrate and trace a process it might seem like it is a descriptive method focused only on the timeline and events. Fear not, because PT does not illustrate an event with *this actor did that and this actor did this*, instead, it is focused on the linkages between *why this influenced the process* and *how it might have triggered the next causal linkage* (Beach and Pedersen, 2019). In the end, the deductive theory generating approach of PT helps determine if any outside influences have to be in place for the process to proceed to the next link in the mechanism. Because it generates its understanding of the process from the empirical material, thus it can find if some checks and balances have to be in place before the process proceeds.

### 6.4 Theoretical operationalization

While the previous section presented the theoretical framework and divided it into the two different perspectives of resource war and liberalism. The following section will be centred around operationalising the theoretical perspectives to fit within process tracings analytical structure and that is to divide and break down the theory into the factors and then derive empirical measurements that will be used to test our theoretical factors.

Now a factor is the measurable part of a theory, the indicator of a process and an empirical measurement will serve as the empirical fingerprint that can help us measure the theoretical factor. These empirical fingerprints are described by Beach and Pedersen as the empirical traces left by the causal mechanism in the case and can be summarised as “if these activities are actually taking place, what are the fingerprints left by it?” - (Beach and Pedersen, 2019). Thus the following two-cell tables will be this thesis's theoretical factors derived from the theoretical framework and serve as our measurable units to help answer the research question and understand the causal mechanism behind Egypt's reaction and to lay the groundwork to answering why cooperation could not be reached.

#### Table 1 Resource war

<table>
<thead>
<tr>
<th>Theoretical factors</th>
<th>Empirical measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>If a resource is framed as a national security consideration its conflict potential will be much higher than if it is only portrayed as a regular non-vital resource.</td>
<td>Existence of documents where water security is portrayed as a vital resource source for the nation and portrayed as a legitimate function of national security.</td>
</tr>
</tbody>
</table>
An uneven resource supply and demand increase its conflict potential.

Data showing supply and demand of freshwater within Egypt versus Ethiopia with a focus on population growth and future consumption.

If threats of war and future conflicts exist resource controlling state will increase its rate of extraction. Which in turn increases the other states' incentives for war in an unravelling of peace.

Ethiopia's rate of water extraction and future water extraction rates.

Source: Author's construction based on Acemoglu 2012; Klare, 2001

<table>
<thead>
<tr>
<th>Theoretical factors</th>
<th>Empirical measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The existence of water cooperation structure to help facilitate cooperation over resources</td>
<td>Existence of documents showing if the riparian nations support the cooperation agreements.</td>
</tr>
<tr>
<td>Water sharing arrangements need to have: an information-sharing design, dispute settlement mechanisms, a well-defined scope, sustainable funding and flexibility to adjust to the uncertainties to succeed</td>
<td>Documents showing the existence of these vital design choices within the relevant GERD institutions or cooperation agreements.</td>
</tr>
</tbody>
</table>

Source: Author's construction based on Drieschova, 2009; Swan, 2012; Schmeier, 2012.

### 6.5 The probabilistic approach

While the empirical material can act as evidence that increases or decreases the validity of our theoretical hypothesis the important aspect is the words increase or decrease instead of focusing on supports and disproves. This distinction separates our theoretical framework from the yes/no perspective and instead uses a probable perspective on the impact our causal mechanism had on the process (Beach and Pedersen, 2019). This perspective is supported by using Bayesian reasoning in an informal way instead of focusing on quantitative values for probabilities because quantification often leads to excessive simplification and removes the focus from the very context-driven analysis to a more general broad perspective. Another important aspect is the difficulties that lie in conducting standardised tests on the probative causal mechanisms within the case because we can not prove that empirical observation within a case is the same in other cases. Especially considering that the causal mechanisms are case contextualised in a qualitative study, so even though one can create standardised tests the important contextual context will be lost in such tests and the results from those tests can
neither be used to compare cases as the context is will be lacking (ibid). Furthermore, the most useful pieces of evidence are usually those in which quantification is least likely to provide added value, as the author can explain why the evidence is highly decisive without the need to invent numbers. (ibid) To summarize the thesis will make use of an informal Bayesian perspective focused on understanding the probability of the causal mechanism's impact on the process instead of asking yes/no questions on if this causal mechanism impacted the process.

Nevertheless, the importance of constructing a generalisable theoretical framework still exists with a probabilistic approach so that future studies can test the empirical fingerprints and avoid falling into the trap of confirmation bias. This is why this thesis makes use of an abstract definition of the theoretical hypothesis through its factors approach so it can be verified if new material emerges in future studies (Beach and Pedersen, 2019). Another important distinction is the equifinality aspect when one is mapping causal mechanisms because there might be more than one path leading to the outcome. To overcome this problem the thesis is using a broad theoretical framework instead of only using one theory to derive the causal interference in a process. While this approach is not foolproof as there is no end to how many theories one can apply to a process it still helps broaden the scope and handle the angle of multiple paths influencing the process (ibid). Furthermore, the abductive approach of PT helps overcome this problem as one can switch from deductive theory testing to theory generating which helps theorise and shed light on different paths that might have influenced the process as it is not locked into one theoretical frame or the other. In the end, Beach also offers his take that a process-tracing method that if it does not end with more questions and options of what causal mechanism influenced the process is not a good process tracing. As the deeper you go into the empirical material the more causal interferences emerge thus the equifinality aspect is always active in a PT study and it is up to the researcher to bring forth the new path when it emerges and leave it to further studies to follow that path.

7 Source Material

The empirical database of this thesis will be primarily based on the United Nations Security Council (UNSC) meetings surrounding GERD in 2020 and 2021 and their respective annexes like the letters Egypt sent before the first meeting, or the speech held by Egypt's foreign minister before the second meeting. These documents will make up the backbone of the
empirical data as they represent a key juncture in the process when Egypt executed their threats of involving the UNSC in the GERD conflict. Furthermore, the first meeting in 2020 was held just before Ethiopia commenced the first water filling and the second meeting in 2021 was after the first, but before the second water filling. As such they are perfectly positioned to handle the water filling process as the first meeting documents will handle the situation before Ethiopia filled GERD while the second meeting documents are after the first filling and right before the second filling. Lastly, these letters are written by the Egyptian state and serve as Egypt's voice to the UNSC, as such they work well with this thesis goal of understanding the Egyptian state's reaction to GERD.

To further broaden the process perspectives Egyptian newspapers will be used as a supplement to the official UNSC documents as they offer an insight into Egypt's GERD perspective outside of official documents. Newspapers are quite useful in this case because the Egyptian state controls the media which works to this thesis's advantage as it aims to see GERD from the Egyptian state's perspective. So everything published in Egyptian news outlets has the approval of the Egyptian state, thus it news help show the Egyptian perspective which is the aim of this thesis. However, news articles will only be used to broaden the analysis and will not serve as the main empirical source.

8 Event description

To give some insight into the GERD process and show how convoluted the situation is the following section aims to showcase some of these meetings and summits held after 2020. Keep in mind that the process started in 2009 and there have been numerous trilateral, bilateral and multilateral summits and meetings throughout the years. But this section will start at 2020 to just give an insight into the meeting process and not overwhelm the reader.

Beginning in January 2020 after multiple previous meetings had failed or stalled out Egypt turned to the United States and the World Bank Group to mediate and bridge the gap between the three countries. However, after eleven meetings the parties were finally close to signing an agreement on how the Nile’s water should be divided. But ultimately Ethiopia rejected this agreement which left Egypt feeling betrayed because Ethiopia had signalled that they would sign the agreement but needed to run it through their government before they finally signed.
In June 2020, Sudan initiated a new process to bridge the gap that had emerged between Egypt and Ethiopia and rekindle the negotiations on GERD. However, these Khartoum talks once more failed after five of the nine planned meetings were dedicated to setting the agenda and determining who to invite instead of trying to work out a water division agreement.

Then South Africa the chair of AU with support from the US and the EU stepped in to pick up the baton after the Khartoum talks collapsed and tried to mediate between Egypt and Ethiopia after they went on a period of no contact. But once more the talks collapsed and no agreement was reached.

Now Egypt requested the United Nations Security Council (UNSC) to intervene and help facilitate an agreement before the conflict escalates as Ethiopia had announced that they would begin the first filling GERD to test its turbines which Egypt reacted very negatively to (UNSC, 2020/566). For over a year the UNSC was deliberating on GERD as the first UNSC GERD discussion was brought forth on the 29th of June 2020 and the presidential statement was issued on the 15 September 2021. During this one year UNSC negotiation period The Arab League issued multiple statements where they support Egypt and Sudan in their tireless strive for cooperation (securitycouncilreport, 2020).

Now after the UNSC started the first GERD discussion in 2020 the AU tried to intervene and lead a tripartial meeting aimed at facilitating a cooperation agreement between Egypt, Ethiopia and Sudan to alleviate the UNSC. But ultimately it concluded without any concrete outcomes (UNSC, 2020/636).

Once these talks within the AU failed Ethiopia commenced the first filling of GERD in July 2020 right after the UNSC had agreed to place GERD on their agenda which created a lot of tensions between Egypt and Ethiopia. Because they started to fill GERD without an agreement in place and right after UNSC had requested that no parties took unilateral actions while they were discussing GERD.

During these tumultuous times, Egypt argued that Ethiopia was breaching the 2015 declaration of Principles (DoP) which is a semi agreement that dictates that before Ethiopia can start to fill GERD they need to sign a GERD agreement. I call it a semi agreement because it is an agreement that dictates that the three parties need to facilitate an agreement
before GERD is taken into action. So it is only a guiding tool to help facilitate future cooperation. However, Ethiopia argued that the filling of GERD is part of the construction because they need to test the turbines. So they do not break the DoP and UNSC issued request but still, a deadlock emerged and a new period of no contact between Egypt and Ethiopia commenced.

Once more the AU tried to restart the meetings and in January 2021 a meeting between Egypt, Ethiopia and Sudan commenced. For one week the three parties tried to reach an agreement but once more it failed. In a statement from Egypt's Foreign Ministry, Sameh Shoukry said that "the six-way talks on Ethiopia's Renaissance Dam failed to make any progress, due to a disagreement on how to resume the negotiations and other procedural aspects of the negotiating process." - (State information Service, 2022).

In March 2021 the Arab league once more issued a decree where they "stressed solidarity with Egypt and Sudan regarding their water security."- State information Service, 2022. Here Saudi Arabia expressed and supported "Egypt and Sudan's efforts to protect their share of the Niles river water and stressed that their water security is part of the Arab region's security". (ibid) Then the Kingdom of Bahrain voiced "full solidarity with Egypt in preserving its national and water security, protecting the interest of its people and its legitimate right of life." (ibid) Oman, Kuwait and the United Arab Emirates also issued similar statements (ibid).

In April 2021 a new round of negotiations sponsored by the AU under the new chair of Congo commenced. It did however not achieve any progress or any commitments to relaunch the stalled negotiations. Here Egyptian foreign minister Shoukry notes "The stances adopted by Ethiopia affirm that it seeks to continue procrastination in order to impose the status quo on the two downstream countries, i.e. Egypt and Sudan," (State information Service, 2022)

Now, on the 15 of September 2021 after much deliberations and discussion, the UNSC issues a presidential statement on GERD where they state that.

"The Security Council encourages Egypt, Ethiopia, and the Sudan to resume negotiations at the invitation of the Chairperson of the African Union (AU) to finalize expeditiously the text of mutually acceptable and binding agreement on the filling and operation of the GERD, within a reasonable time frame" - UNSC S/PRST/2021/18
Then UNSC and especially India notes that "The Security Council underscores that this statement does not set out any principles or precedent in any other transboundary water disputes." - (Ibid). It is argued by several UNSC members that water disputes should be solved regionally through dialogue among the involved parties and not be referred to the UNSC. (securitycouncilreport, 2021)

However, as of now in April 2022 after multiple negotiations spanning over twelve years, the parties have once again failed to reach an agreement, and the latest development is that on 30 March 2022 Egypt received Lieutenant-General Abdel Fattah Al-Burhan the Chairman of the Sudanese Sovereignty Council in a meeting to discuss further cooperations between Egypt and Sudan. It is noted that during the meeting further security cooperation between Egypt and Ethiopia was discussed (Mahmoud, 2022; State information Service, 2022). It is now we can begin our process tracing to find what drives Egypt's reaction to GERD, is it solely a need to protect their vital national resources, or could the frustration of spending twelve years on facilitating a cooperation agreement without result act as a causal mechanism. If so what impact might it have on our process?

9 Analysis

Looking back throughout history before the process of GERD between Egypt and Ethiopia commenced one can see some early indicators of the causal mechanisms that exist and especially through the speeches and public statements from former Egyptian presidents. Because in 1978 Ethiopia presented a proposal to build dams on the Nile which was met by Egypt's president at that time Anwar Sadat’s words “We are not going to wait to die of thirst in Egypt, We’ll go to Ethiopia and die there” and in the end, no Ethiopian dams were built (Walsh & Sengupta, 2020).

Then Anwar Sadat once again stated in 1980 that “Any action that would endanger the waters of Blue Nile will be faced with a firm reaction on the part of Egypt, even if that action should lead to war”- (Kendie, 1999) and this just shows that Egypt's focus on water is not a new phenomenon. Even since the pharaohs of ancient times has Egypt been reliant on water from the Nile, and met every threat towards its water as a threat to Egypt's existence itself (Walsh & Sengupta, 2020). So perhaps it is not so surprising that when Ethiopia started to
build GERD Egypt reacted with aggression and fear for its own survival. However, this threat towards its existence is not the only causal mechanism present within our process, and even more interesting is Egypt's insistence on solving the GERD conflict through cooperation and international institutions. Because by using realism and resource war theories this insistence on reaching a cooperation agreement might seem strange and like a bad choice. But, to understand a process one must first understand the driving forces behind a process, and then one can start to see what drives Egypt’s reaction to GERD and why cooperation could not be reached over GERD. So looking at past examples of conflicts in the Nile leads us to the present and how Egypt is continuing along this line of arguments by framing the Nile as a vital resource for Egypt’s survival.

9.1 Water as a vital national resource

It comes as no surprise that Egypt is using realistic thoughts of protecting its own citizenry and their main argument against the GERD construction when Ethiopia is threatening Egypt's water supply and thus threatens its citizenry's access to water. Which we can see from previous statements from the Egyptian government “I am telling our brothers in Ethiopia, let’s not reach the point where you touch a drop of Egypt’s water because all options are open.” - Egyptian President Abdel Fattah el-Sisi (Reuters, 2021).

Now by applying this realistic argument that a state's survival is the key driving force in their actions on our process we get some interesting causal mechanisms. The key one that keeps emerging from the material is that GERD represents a threat to Egypt's survival and we see this in the letter (2020/355) that Egypt's Minister for Foreign Affairs Sameh Shoukry sent to the UNSC:

The unilateral filling and operation of the Grand Ethiopian Renaissance Dam, which is slated become the largest hydropower dam in Africa, could cause significant harm to downstream communities. This would jeopardize the water security, food security, and indeed, the very existence of over 100 million Egyptians, who are entirely dependent on the Nile River for their livelihood. The prospect of being subjected to significant harm to its riparian rights and interests would be wholly intolerable to Egypt. - (UNSC 2020/355)

And:

[...] if its (Egypts) riparian rights are jeopardized or if its survival is imperiled …… Egypt will be left with no alternative but to uphold and protect its inherent right to life that is guaranteed by the laws and customs of nations and the imperatives of nature. - Sameh Shoukry (Daily News Egypt, 2021) (paragraph added by author for clarification)

Here GERD is presented as a threat to Egypt's population and thus a threat to Egypt's survival. Another interesting bit is the ending statement of the first quote where Shoukry ends
that if Ethiopia starts to unilateral fill GERD it would be intolerable to Egypt as they would lose control over how much water is extracted from the Nile. However, we see that realism is not the only force active here with the beginning of the states where the real problem is unilateral filling and operating of GERD. Because throughout the process Egypt has expressed that its goal is to reach a mutual cooperation agreement on how GERD instead of their goal being to remove GERD completely. However, this is a thought which will be looked at later on in our analysis, as the focus here is to see if GERDs existence is presented as a threat to Egypt’s survival and the Niles is framed as a vital resource.

Within this letter, Shoukry presents exactly why the Nile is a vital resource to Egypt. At first, Egypt is a desert oasis built upon the Nile and only 4% of its 3.8 million hectares is arable land which the majority is positioned around the Nile (UNSCm 2020/355). Then Shoukry expresses that 95% of Egypt's water is coming from the Nile and Egypt is already suffering from water scarcity as the average Egyptian water share is 570 cubic meters/per capita/year. Which is further projected to drop below 500 meters/per capita/year by 2025 which will further strain Egypt's reliance on the Nile (ibid). Because if a water shortage were to hit Egypt it would be catastrophic as Shoukry argues that millions of jobs would be lost, thousands of hectares of arable land would disappear and the cost of food would skyrocket. (ibid)

Indeed, a decrease of only 1 billion cubic meters of water would lead, in the agricultural sector alone, to 290,000 people losing their incomes, a loss of 130,000 hectares of cultivated land, an increase of $150 million USD in food imports, and a loss of $430 million USD of agricultural production. As water shortages increase and continue over an extended period, the ripple-effects on every sector of Egypt’s economy and its socio-political stability are inestimable. - (UNSC 2020/355)

From this document we can really see that water from the Nile is presented as a vital resource for Egypt, and especially its population. If Egyptian access to the Nile water would drop it would be catastrophic for Egypt. However, this is only one document and only a letter sent to UNSC so to get a wider perspective we also have another letter (UNSC, 2020/566) sent by Egypt’s Minister of Foreign Affairs Sameh Shoukry to UNSC on the nineteenth of June 2020.

The opening statement follows along with the previous letter with the paragraph:

Ethiopia continues to insist on unilaterally commencing the impoundment of water in the GERD reservoir. This would be deely disconcerning politically, as it would represent an alarming attempt by Ethiopia to establish and exercise unfettered control over a vital transboundary river - (UNSC 2020/566)
Here we see that the argument is still that GERD is threatening Egypt's vital transboundary river in the Nile but once again the statement behind that Ethiopia is conducting unilateral actions and ignoring Egypt's attempts to negotiate a water-sharing agreement. To summarise this letter is to say that Egypt is continuing along with their arguments that GERD is threatening its vital water resources and condemning Ethiopia's lack of negotiations.

Now an interesting development in the process is during Sameh Shoukry speech (Daily News Egypt, 2021) before UNSC where he begins his speech with:

A threat of potentially existential proportions has emerged that could encroach the single source of livelihood of more than 100 million Egyptians, The Grand Ethiopian Renaissance Dam, a colossal project that Ethiopia has constructed across the Blue Nile, could endanger the security and very survival of an entire nation by imperilling its wellspring of sustenance. - (UNSC, 2020/636)

Here Egypt is switching their arguments to a much more direct description of how GERD is a threat to the welfare and well-being of every Egyptian. In this speech, GERD is presented as a major threat to Egypt, and Ethiopia is condemned for ignoring Egypt's multiple attempts of cooperation with words such as “Filling the Grand Ethiopian Renaissance Dam unilaterally, without an agreement with Egypt and Sudan, would jeopardize the interests of downstream communities, whose existence and survival depend on the Nile River” - (UNSC 2020/636)

One can assume that the main causal mechanism driving Egypt's reaction to GERD is the threat GERD represents to Egypt and its population's survival, as throughout these three letters and speeches Egypt's sent to the security council GERD is presented as a threat towards Egypt's survival multiple times. Especially as water is framed as a vital national resource and key to Egypt's well-being. This would place their reaction within the realistic resource war school of thought as a threat to Egypt's water resource is a threat to Egypt's survival, and the Egyptian government must protect its own interests and citizenry. This could explain why Egypt is reacting so aggressive to the GERD construction. However, while the causal mechanism of water as a vital resource is present within the case and perhaps the major driving force behind Egypt's reaction to GERD is it not the only one active here. Because another big causal mechanism that has emerged from the empirical material is the fear of the unknown.

9.2 Fear of the unknown

This fear of the unknown is present in all of the UNSC meeting letters and speeches and takes its forms within statements such as: "As a result, we have now reached a stage where the
construction of the GERD is almost complete and the commencement of the filling of its reservoir is imminent without having conducted studies on the effects of this dam." - (UNSC 2020/636). It is the closing statement of this citation that is of interest because Egypt argues that no studies on the effect of GERD have been done in Ethiopia so they can not know the socio-economic impact GERD will have. This is further built upon when Egypt presents the finding of the international panel of experts (IPoE) that was agreed between Egypt and Ethiopia to conduct a study on the impact of GERD.

The IPoE issued its report on 31 May 2013. The findings of the IPoE were deeply troubling. It expressed concerns regarding the adequacy of studies undertaken by Ethiopia on the GERD, including on the structural integrity and safety of the dam, its design features, the hydrological and geological models that were used in the construction plans, and the lack of environmental assessment reports or studies on the socio-economic impact of the dam on downstream states. Indeed, the IPoE report described the Ethiopian studies as “very basic, and not yet at a level of detail, sophistication and reliability that would befit a development of this magnitude.” The report also noted that the “potential downstream impacts result from reservoir first impoundment and actual operation strategy which have not been adequately addressed. - (UNSC, 2020/335)

After the study by IPoE not much had progressed and discussions stalled out once more so the situation today is one without adequate studies on the impact GERD could have. Some attempts have been made when the French consultancy firm BRLi was commissioned to analyse the impact of GERD, but this was met by resistance from Ethiopia as they rejected the reports because they did not agree on the inception report and BRLIs baseline scenarios (UNCS, 2020/355). Another example is the establishment of the National Independent Scientific Research Group (NISRG) which comprised five scientists from Egypt, Ethiopia and Sudan and they were tasked with developing and discussing the impact of GERD over nine meetings. Unfortunately, after five meetings the group fell apart over internal disagreements on the scenarios developed and no further efforts were made to continue their studies. (ibid) Another impact study was commissioned by Egypt and conducted by the Dutch firm Delares came to the conclusion that unilateral filling of GERD could lead to water shortage in Egypt. However, it is also argued by Egypt that Ethiopia ignored this study too (UNCS, 2020/566).

So the causal mechanism operating within the process here is the fear of the unknown, that Egypt does not know the full impact GERD will have on their situation and frustration towards Ethiopia for stalling and not taking into consideration the previously commissioned studies. To place this mechanism within realism is to argue that it is based on a state's
self-interest in gaining power and understate ment in this anarchic world. Without clear information on the impact of GERD Egypt can not guarantee its own survival and instead is forced to follow Ethiopia, a competing state which they can not trust. Because Ethiopia is another self-serving rational actor that opposes Egypt's interests and without clear information between the two actors they can not trust each other. However, one can also attribute the fear of the unknown to information power as Egypt is lacking in information on GERD, information that Ethiopia possesses. To build upon this power argument is to note that Egypt argues that Ethiopia does not allow Egypt to study GERD, and the previously commissioned studies have all stalled out by Ethiopian actions. At least according to Egypt's perspective. However, the fact remains that a lack of studies on the impact of GERD exists which now acts as a causal mechanism driving Egypt to react aggressively toward GERD.

Because if sufficient information existed for Egypt their argument that they do not know the full impact GERD will have on their survival would seize to exist, which might further cooperation between the two states. At least this is the argument presented by Egypt when they argue that Ethiopia needs to sign a bilateral cooperation agreement and share information. Especially considering Swain's (2012) and Schmeier's (2012) arguments that for an international institution to work it needs an adequate information-sharing system. Because if such a system is lacking its members can not trust each other and cooperation would fail, which is the case here as such an information-sharing system is not in use and Egypt and Ethiopia are instead arguing over what data is the right one (UNCS, 2020/566).

9.3 Hydro hegemony
Moving along within the process another big theme that emerged is Egypt's fear of losing its hydro hegemony over the Nile. This causal mechanism takes its shape as Egypt argues that with GERD Ethiopia would establish control over the Niles water and with Ethiopia's unilateral filling of GERD Egypt's fears are reinforced. Because throughout the UNSC documents Egypt keeps arguing that when Ethiopia is filling GERD they are establishing upstream control over the Niles water without letting Egypt in, thus establishing hegemony over the Niles water. This we can see from Shoukry's letter (2020/355) to the UNSC:

This is evidence that Ethiopia lacks the requisite political will to reach a fair and balanced agreement that is mutually beneficial. Instead, it demonstrates its bad faith and its desire to deploy the GERD as an instrument of a policy of hydro-hegemony that it is seeking to implement throughout the region - (UNSC, 2020/355)
And once again in another paragraph:

Ethiopia’s overall objective was, and remains, the exercise of unfettered control over the Blue Nile, including by filling and operating the GERD without taking the interests of downstream countries into consideration, and by securing an unrestrained right to undertake future projects upstream of the GERD, even if to the detriment of downstream riparian rights and Interests. - (UNSC, 2020/355)

These statements are present throughout the UNSC material and argue along the line that “Ethiopia continues to insist on unilaterally commencing the impoundment of water in the GERD reservoir. This would be deeply disconcerting politically, as it would represent an alarming attempt by Ethiopia to establish and exercise unfettered control over a vital transboundary river” - (UNSC, 2020/566). Egypt's perspective is based on when Ethiopia started to unilaterally fill GERD they are ignoring Egypt's claims to water from the Nile and instead establish their own exclusive control over the Nile. Which is an argument that has been repeatedly brought forth by Egypt throughout GERD construction and was the reason for a lot of hostilities following Ethiopia Foreign Minister Gedu Andargachew's tweet where he celebrated GERDs first water filling with the words: “the Nile River became a lake. It will no longer flow into the river. Ethiopia will have all the development it wants from it. In fact, the Nile is ours!” - (Adbelhadi, 2020) A note here is that this tweet might have been mistranslated by pasting Amharic text (which was the language Andargachew tweeted in) into Google Translate as PesaCheck argues (PesaCheck, 2020) that the real translation reads: “Abay (Blue Nile) was a river but now it’s both a river and a lake. It will continue to flow like a river and serve as a lake that helps Ethiopia achieve its development goals. Abay is now truly ours.”. However, even if the tweet was miss translated the end statement can still be interpreted as losing control over the Nile, and this is what Egypt continues to push the narrative on. This is why during Egypt's minister of foreign affairs speech (Daily News Egypt, 2021 ) before the UNSC he ends a paragraph with the strong words: “Ethiopia commenced the unilateral filling of the GERD, and its foreign minister declared … with no small measure of impudence … “the river became a lake … the Nile is ours”.”- (Daily News Egypt, 2021 ). Even though it might be a mistranslated tweet it shows that Egypt wants to protect their hydro hegemony. As historically they have had full control over the Niles water and are now facing a threat towards their main water source (Tekuya, 2018).

Another angle is the Egyptian fear that giving Ethiopia full control over GERD could lead to Ethiopia constructing more dams on the Nile. We see this in Shoukry's speech before UNSC (Daily News Egypt, 2021):
In a letter dated January 8, 2021 from H.E. Ethiopia’s Minister of Water in which he stated “Ethiopia does not have an obligation emanating from law or practice to acquire agreement from downstream countries to construct the GERD or any future water development project.” This policy was put into practice when the H.E. the Prime Minister of Ethiopia announced, on May 30, 2021, that his country plans to construct over 100 dams over the coming fiscal year, without even the slightest mention of the interests or equities of its co-riparians, as if Ethiopia holds exclusive proprietary rights over the Nile and the other rivers that it shares with its neighbors, which was especially apparent in the damage inflicted by Ethiopia on Lake Turkana in Kenya - Shoukry (Daily News Egypt, 2021)

From a theoretical standpoint the causal mechanism of losing hydro hegemony would fit right into realism and resource war as a state's goal is to gain power and its own survival through said power. In this situation, water is represented as resource power and to have hegemony over this resource would be a huge gain for a state. So when Ethiopia threatens Egypt's historic water control they feel poised to act and thus we have a conflict over the Nile water. However, the interesting part within this causal mechanism is after Egypt argues that they do not want to give Ethiopia hydro hegemony over the Nile water they are suggesting mutual cooperation. This goes against realism's arguments that states are only interested in their own well-being. But, in this process Egypt recognises Ethiopia's need for GERD to develop further:

 [...] Egypt was – and remains – committed to Ethiopia’s stability and prosperity and it also exemplifies Egypt's longstanding policy of engendering and expanding cooperation with our co-riparians throughout the Nile Basin. However, any agreement on the GERD must be equitable, reasonable, and legally binding. - Shoukry (Daily News Egypt, 2021)

And:

Indeed, as President Abdel Fattah Al Sisi declared in his statement before a joint session of the Ethiopian Parliament: “I urge us to lay the foundations for a better future for our children and grandchildren … a future where all classrooms in Ethiopia could have electricity … and where children in Egypt could drink water from the Nile as their parents and grandparents did … a future where the economies of both our countries would expand to absorb their entire labour force … with the purpose of guaranteeing a decent life to our peoples … so as to restore their standing among the family of nations given their glorious history and immense potentia”. - (UNSC 2020/636)

What we have here is that the causal mechanism is a fear of Ethiopian hydro hegemony and can be attributed to a realistic drive for power and survival, and the suggested solution to this fear is cooperation. This is one of the main arguments of liberalism to cooperate and establish mutual gain by working together instead of against each other, to establish checks and balances to prohibit conflicts and future strife. Nevertheless, the situation remains that no cooperation agreement has been established over the twelve long years of negotiations even though Egypt is advocating for it. Which is an interesting situation that will be looked at further along with the second research question because we are not done yet with establishing our causal mechanisms.
9.4 Uneven water division

One causal mechanism which does not take up as much space as the previous three in the empirical material is Egypt's argument that GERD would increase an already uneven water division between Egypt and Ethiopia. Here the focus falls on how much water GERD would stop and how much water Egypt needs as they are nearing an acute water shortage. They position themselves as the most water-impoverished nation on Earth while Ethiopia is described as endowed with divine providence because they possess plentiful water resources (UNSC, 2020/636). Egypt's population growth is also a factor as they are growing at a rate of 1 million people every 6th month so their need for water is only increasing. (ibid) The causal mechanism here is the uneven water distribution which triggers jealousy from Egypt as they argue that they are already water-impoverished and under the international threshold for water scarcity while Ethiopia possesses an abundance of water which GERD will only increase. As they now have a large artificial river surrounding GERD and a tool to dictate the flow of water towards Egypt. This is exactly such a situation built his theory on as an uneven division of resources is one of Klare's (2001) main arguments why conflicts over resources exist. Because if an uneven resource distribution exists it will create strife and conflicts between the resource-rich and the resource-poor country. A phenomenon we are already seeing in the case of Egypt's aggressive reaction to GERD and their arguments built upon a resentment towards Ethiopia's plentiful water access. However, it is not one of the main causal mechanisms because it is only featured sporadically within the material and used to build upon their argument that Ethiopia needs to sign a binding agreement over how GERD should be operated.

9.5 Supply and Demand

From the theoretical framework Acemoglu brought forth the idea of resource wars being triggered by market factors like the value of the resource vs its supply. This idea takes its form within the material when Egypt pushes the narrative that the Nile's water supply will be lowered because of GERD and that their future demand is increasing as their population grows. Which shares much of the same arguments like the fear of the unknown mechanism presented earlier so it is rather hard to differentiate these two causal mechanisms. Nevertheless, one way is to focus the mechanism on the economic impact GERD will have as with quotes like this that show how Egypt fear GERD economic impact:

An impact study, conducted by the reputable Dutch firm Deltares, found that unilateral filling of the GERD could lead to a water shortage in Egypt of more than 123 billion cubic meters,
and that in the agricultural sector alone, every 1 billion cubic meter shortage of water caused by unilateral filling or operation of the GERD, would result in forcing 290,000 people out of work, destroying more than 321,230 acres of cultivated land, an increase of $150 million in food imports, and a loss of $430 million of agricultural production. - (UNCS 2020/566).

Then the impact of GERD during times of low water supply also builds upon this supply-demand predicament:

At a time when the river grows dry … and the land gets parched under the searing sun and the livelihood of Egyptians is imperiled … Ethiopia is unwilling to release the waters of the Blue Nile to quench the thirst of the downstream valley. - Shoukry (Daily News Egypt, 2021)

Lastly:

In the absence of an agreement that regulates its filling and operation, the GERD can cause cumulative water shortages in Egypt amounting to 120 billion cubic meters …… it will diminish access to clean drinking water …… it could deprive millions of farmers of the water they use to irrigate their fields …… it will rob countless families of their income and livelihood …… it will destroy thousands of acres of arable land …… it will increase desertification and degrade the riparian eco-system …… and it will increase vulnerability to the effects of climate change. This is a situation that Egypt cannot, and will not, tolerate. - Shoukry (Daily News Egypt, 2021)

What we have here is a fear from Egypt that GERD will diminish their water supply when they need more as they are already below UNs the water scarcity line. Then using supply and demand arguments that in a situation where a resource supply is lowered (GERD in our case) and the demand increases (Egypt's population growth) its value will also increase. This is what Acemoglu (2016) based his analysis on when a resource increases in value its potential for conflicts increases. So the causal mechanism operating here is when a resource becomes more valuable and scarce in the future triggers nations to seize control or secure their resource supply. In our case Egypt's access to water. However, Acemoglu argues that said resource conflict can be avoided with the implementation of marked factors like the selling of resources, but these are lacking in our case. In the end, a causal mechanism built upon the supply and demand of water is operating within the process.

9.6 GERD’s structure

If we move towards a more security-based causal mechanism one of the biggest to emerge is the security risk GERD represents towards Egypt. Not only does it represent a threat to Egypt's water, but it could also be used in warfare by intentional flooding the downstream nations. Then if GERD were to collapse the consequences Egypt would face would be catastrophically, and this is a risk Egypt keeps presenting in the material as they believe
GERD is built too big and with Ethiopia's history of dam failures their fear is increasing. For example, the first point on the seize of GERD Egypt argues:

The technical specifications of the GERD were altered and its storage capacity was progressively increased to 74BCM. This dramatic increase in the volume of the storage reservoir of the GERD is unjustified and raises questions about the actual purpose of the dam and its projected uses, and dramatically increases its potential adverse effects on downstream uses. - (UNSC, 2020/355)

They go into more detail on the problem with the GERD size:

Indeed, technical studies have shown that retaining 19BCM in the GERD reservoir would have been a sufficient volume to generate electric power. A study by an Ethiopian expert has demonstrated that the GERD is a highly inefficient and oversized project for the purposes of power generation (Mehari Beyene, How Efficient is the Grand Ethiopian Renaissance Dam? Jul. 20, 2011). According to this study, the hydropower generated from the GERD will be equivalent to that produced by a power plant with the much lower capacity of 2872MW that operates at 60% efficiency. Therefore, the total cost of the GERD could have been reduced by at least 40-45% by building a smaller dam with a higher efficiency to generate the same amount of hydropower. - (UNSC, 2020/355)

Then they build upon the previous causal mechanism of a lack of information about GERD:

Regrettably, however, despite the fact that we contracted an international consultancy firm to conduct the studies on the effects and impacts of the dam, the process of undertaking these studies was obstructed and, as a result, they were never completed. Nor do we have unassailable guarantees regarding the safety and structural soundness of the Grand Ethiopian Renaissance Dam. This means that, in the absence of sufficient scientific data, communities downstream of this great structure appear condemned to live in the dark shadow of a great unknown. If, God forbid, the Grand Ethiopian Renaissance Dam experiences structural failures or faults, it would place the Sudanese people under unimaginable peril and would expose Egypt to unthinkable hazards. Indeed, our concerns in that regard are not unwarranted. In 2010, the headrace tunnel of the Gibe II dam, constructed across the Omo river, collapsed within days of the completion of its construction. - (UNSC, 2020/636)

At the end of this paragraph we move into the territories of previous dam failures in 2010 when Ethiopia's Gibe II dam had a structural failure and the central headrace tunnel collapsed. This would further increase Egypt's fear that GERD could collapse and they would suffer the consequences. As the theoretical discussion mentioned security questions in this thesis do not refer to the classical realistic perspective of nations versus nations over borders. Instead, it refers to human security which we find within this causal mechanism as Egypt is afraid that GERD could collapse and destroy a majority of their civilian livelihoods. Because Egypt is centred around the Nile, the majority of its citizenry and cities are built upon the Niles riverbanks. So if GERD would collapse it would be a humanitarian catastrophe. The interesting part is also that Egypt argues along with the liberal perspective that they need further information on how GERD is built to better understand the risk GERD poses. As with an information-sharing structure between the two countries, they could mitigate much of the
conflict as it is built upon a lack of information and ignorance. However, Ethiopia denies Egypt's attempts at studies on GERD. Which can be attributed to realism and resource wars' power structure. If Ethiopia invites and shares information with Egypt they lose their power advantage as Egypt would get a detailed look at GERD and knows its strengths and weaknesses. However, it might not only be an attempt to gain a power advantage over Egypt if we go back through history Egypt has a tendency to make threats of war and has almost made attempts to blow up GERD.

Back in 2013, a political meeting called by former Egyptian President Mohammed Morsiwas was accidentally broadcasted live on TV and during this meeting, Egyptian politicians debated what they could do to stop GERD. Propositions to give military aid to the local Ethiopian insurgency group Ormo Liberation Front in an effort to destabilize the Ethiopian government was one suggestion. Another suggestion was to send in a special forces unit to blow up GERD or to deploy their fighter jets to scare Ethiopia into submission (Maher, 2013). Nevertheless, this debate was never supposed to air live so Egypt publicly apologised but it showed Ethiopia the rhetoric used by Egyptian politicians and has been described as shocking Ethiopians on Egypt's aggressive nature and serves as an example on why Ethiopia might not trust Egypt (Kimenyi, 2015).

Then in October 2020 former American President, Donald Trump tweeted out that Egypt might end up “blowing up” the GERD during a phone call with Sudan's Prime Minister, which Ethiopia did not take lightly (Chothia, 2020). It was during this time The U.S started to cut their aid to Ethiopia in response to their first filing of GERD (BBC, 2020).

Lastly, the joint military drill between Egypt and Sudan named Guardians of the Nile is another example where Ethiopia might be reserved to trust and cooperate with Egypt. Because this military operation was designed to deepen Egypt and Sudan's military relations and boost their combat readiness (Egypt Today, 2021). However, it took place during a time when GERD cooperation talks had once more stalled out and with the name Guardians of the Nile one might wonder what the true purpose of this joint drill is.

With this background information, I can understand that Ethiopia does not want to share vital GERD information with Egypt as it could help further their agenda of removing GERD once and for all. But, liberalism argues that for mutual cooperation to emerge compromises are the
key, which we have not seen with either state in our case as of yet. We see this through the realistic driving forces through presenting the Nile water as a vital national resource that must be protected in combination with arguments that Ethiopia is establishing their own hydro hegemony on the Nile by unilaterally filling GERD and not sharing information on how GERD is built and operated. But one topic that has been present throughout the case is Egypt's strive for cooperation. They argue that all they want is to cooperate over GERD and how it is operated with a specific interest to sign a binding agreement over its filling and release of water (UNSC, 2020/636). Which goes against the theory of realism and resource war as they see cooperation between states as nothing binding and only a by-product that will fail when the competitive pressure exerted by international systems hits (Layne, 1994). Nevertheless reaching mutual cooperation over GERD is still one of Egypt's biggest goals, so the following section will go in deeper to understand why cooperation could not be reached.

9.7 Liberalism

Declaration of Principles

Despite the multiple negotiations attempts that all collapsed and the long periods of no contact between Egypt and Ethiopia there has been a binding agreement over GERD that both parties signed, and that is the 2015’s Declaration of Principles (DoP). But to call it a binding agreement is a stretch because, in reality, DoP is an “agreement that obliges Ethiopia to reach an agreement on the rules governing the process of the filling and operation of the GERD” - (UNSC, 2020/355). Which in reality is a document binding Ethiopia to sign an agreement with Egypt on how GERD should be operated before they start to fill GERD and generate electricity. But, it is still an agreement that was signed by both Egypt and Ethiopia and raised hope that further cooperation could be reached. However, no such agreement exists and now in 2022 hostilities over DoP have emerged instead. These hostilities are based on Ethiopia’s GERD filling which Egypt argues goes against the DoP because they agreed that for GERD to be used and filled it needs a binding agreement first. However, Ethiopia argues that the filling of GERD is necessary for its construction so they are in fact not breaking the DoP principles which Egypt did not take lightly (UNSC, 2020/355). In the end, talks have once more stalled out and hostilities emerged instead of cooperation, but the DoP still shows that cooperation is possible within GERD albeit hard.
9.8 Frustration

If we look into the process to see why cooperation failed from Egypt's perspective one of the first causal mechanism to emerge is the general frustration Egypt feels toward Ethiopia. Again and again, they bring forth how many meetings have taken place between the two states and from the event summary at the beginning of the analysis we could just see a short summary of the many meetings between the two. Over twelve years have gone by since Ethiopia announced and started to build GERD and the only agreement they have signed is a declaration that they need a binding agreement. The U.S, EU, UNSC, WB, AU and Russia all tried to act as mediators and non have managed to reach a binding agreement. Then the empirical material surrounding the Washington meeting is filled with this frustration as Ethiopia rejected the Washington agreement after twelve rounds of meetings:

Regrettably, Ethiopia decided not to attend the ministerial meeting that the U.S. administration called for on February 27th-28th, 2020 to conclude an agreement on the GERD, and refused to sign the final agreement prepared by the U.S. and the World Bank. This position is entirely consistent with Ethiopia’s longstanding posture of obstructionism and its overall desire to establish a fait accompli that enables it to exercise unfettered and unrestrained control over the Blue Nile” - (State information Service, 2022)

Later on in the speech Egypt mentions another long and tiresome negotiation period:

We engaged in a whole year of talks that were convened and facilitated by our African brethren to forge an African solution to this intractable problem. And yet, we have failed. After a year of abortive negotiations and despite the tireless efforts of the Chairpersons of the African Union and our international partners ….. we find ourselves – again – confronted by the reality of the unilateral execution of the filling of the GERD without an agreement to protect downstream communities against the dangers of this dam. - Shoukry (Daily News Egypt, 2021)

We find this general frustration in the time and resources spent on meetings throughout the empirical material:

For a whole decade … we explored every avenue and exhausted every opportunity. […] We sought an agreement through years of fruitless trilateral negotiations during which Ethiopia effectively torpedoed our efforts to undertake joint studies on the socio-economic impacts of the GERD and to assess its environmental impacts ….. and as a result of Ethiopia’s obstructionism we now have no impartial scientific record of the adverse effects of this mega-dam. - Shoukry (Daily News Egypt, 2021)

In the end this frustration is what called Egypt to turn towards United Nations Security Council and invoice Article 34:
Ethiopia’s unrelenting unilateralism … the continued failure of negotiations … and the absence – at this juncture – of a viable path towards a political settlement of this matter … have all impelled Egypt to call upon the Security Council to intercede – expeditiously and effectively – to prevent an escalation of tensions and to address this situation which could, as stated in Article 34 of the United Nations Charter, endanger the maintenance of international peace and security.” - (Shoukry (Daily News Egypt, 2021)

In the end UNSC issued the presidential statement (PRST/2021/18) which dictates that water-related questions should be solved by regional institutions and not the UNSC. However, they do encourage Egypt, Ethiopia and Sudan to continue their negotiations under AU, but after much negotiations within the security council, they decided to remove the paragraph that they should follow on how the negotiations had gone after 6 months. Instead, they leave it as an encouragement to continue negotiating (securitycouncilreport, 2021).

What remains is a UNSC statement encouraging regional institutions to solve this complex GERD question that for over 12 years has been without a solution. Egypt argued that they need the UNSC to help mediate because regional institutions continuos to fail but nevertheless UNSC referred the problem back to the AU and as of yet we still have no solution in sight.

9.9 Status Quo

The frustration did not emerge on its own but is based on Ethiopia's insistence to continue the status quo. Whereas Egypt argues that Ethiopia does not share their interest in reaching an agreement and instead remains satisfied with the continuous construction and filling of GERD without giving up control:

Ethiopia’s announcement of its intention to fill the Grand Ethiopian Renaissance Dam without an agreement is consistent with its policy of unilateralism that it has adopted since it commenced the construction of the dam in 2011 without notifying or consulting with its downstream co-riparians in violation of its obligations under international law. - (UNSC, 2020/355)

Furthermore throughout the material Egypt accuses Ethiopia of continuing with their unilateralism and not wanting to negotiate as they use obstructionism to stall out the meetings:

Egypt has engaged in intensive negotiations on the Grand Ethiopian Renaissance Dam (GERD) for almost a decade. Since Ethiopia unilaterally commenced the construction of the GERD in 2011, Egypt has negotiated in good faith and with a genuine political commitment to reach a fair and balanced agreement on the GERD. These negotiations went through several phases and were undertaken in numerous forums. Regrettably, in each and every
round of talks, Ethiopia adopted a policy of obstructionism that undermined these negotiations. - (UNSC, 2020/355)

This leads us to the crux of the problem here:

- How do you achieve cooperation when one side does not have anything to gain from cooperating?
- Why would Ethiopia want to sign a binding agreement with Egypt letting go of their GERD control and forcing them to follow said agreement?

We see these problems when Egypt accuses of Ethiopia stalling out the meetings and adopting a unilateral policy where they have the sole control of GERD. For example during the rekindled AU lead meetings Ethiopia spent the majority of time arguing over the structure of the meetings and what experts were going to be invited instead of discussing GERD and its operation. This ultimately led to nothing as multiple meetings were focused on the procedure instead of on the issue and in the end no agreement could be reached before talks stalled out (State information Service, 2022 ). Ethiopia has published a statement where they explain their stance on not signing an agreement and it is based on avoiding a binding agreement. Because from their perspective they do not have the legal obligation to sign an agreement and seek approval from Egypt before they can operate their own dam (UNSC, 2020/566). However, they have publicly stated that they could sign a non-binding agreement “We are not looking for what they call a binding agreement, we are looking for a kind of an agreement that we can review whenever the need arises,” - Ethiopians Foreign Ministry spokesperson Dina Mufti (egyptindependent, 2020). Which is a stance Egypt is not interested in as their goal is a binding agreement spanning multiple years. So what we have is a status quo benefiting Ethiopia as they can continue to operate GERD as they see fit without facing repercussions. This leads us to the causal mechanism and Egypt's aggressive reaction to GERD because if we look at it from a perspective of cooperation and power, Egypt's aggressive reactions to GERD might be a way to facilitate mutual gains through sign an agreement or face our power, only a little more subtle with words as “I am telling our brothers in Ethiopia, let’s not reach the point where you touch a drop of Egypt’s water because all options are open.” - Egyptian President Abdel Fattah el-Sisi (Reuters, 2021). Nevertheless, it can be viewed from a perspective of creating mutual gain through political, economic and military pressure. However, it has so far not succeeded as no agreement is in place and Ethiopia is gearing up to commence the third unilateral filling of GERD without an
agreement on how much water they should fill, if information should be shared or what happens if a drought hits the region.

10 Discussion

10.1 Egypt’s aggressive reaction

In the end the world is not black and white and neither are our theories on how the world works. Be it realism fixation on power relations or liberalism idealistic strive for mutual gains, however, they both offer valuable insight into the case but I can not say that one is the dominant force and the other is missing because both operate beside each other. Albeit on different wavelengths as we soon shall see.

Before we begin the discussion on the causal mechanism I need to address a problem that emerged within the study and that is to connect the causal mechanism with a timeline and create the linear causality map. Because we a lot of causal mechanisms but it has proven quite hard to narrow them down to specific time points as the whole GERD process is quite big and spans over twelve years so when this study elected to focus on the water filling process of GERD it is just one small process within a big one. I mean that the goal of this study was to look at the water filling process and see what drives Egypt's aggressive reaction to GERD but because this process operates within the large process of Egypt's reaction to GERD many of these causal mechanisms emerged before this water filling process began. For example, water was a vital national resource is there in 2009 when GERD was announced while the mechanism of fear of the unknown is much more recent as not enough studies on GERD have been done. As such it is quite hard to determine exactly when the causal mechanic emerged from a linear causality perspective, but I will create a timeline at the end of this discussion, albeit it will be rather tentative instead of empirically grounded because of these small and big process constraints. But it will still serve to show how the causal mechanism operates within the water filling process.

First, let us list the causal mechanism and address their featured rate to determine which has the biggest impacting factor on the process. While at the same time offer an insight into their probability because the bigger and widely featured factors have a much higher probability of influencing the process as they are more featured and deeply nested within the material.
Table 3 summary of causal mechanism

<table>
<thead>
<tr>
<th>Causal mechanism</th>
<th>Theoretical school</th>
<th>Inductive generated / Deductive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water framed as a vital national resource.</td>
<td>Realistic</td>
<td>Deductive</td>
</tr>
<tr>
<td>Frustration based on failed negotiations and maintaining the Status Quo.</td>
<td>Liberalism</td>
<td>Inductive</td>
</tr>
<tr>
<td>Fear of the Unknown.</td>
<td>Realistic</td>
<td>Inductive</td>
</tr>
<tr>
<td>Controlling the hydro hegemony</td>
<td>Realistic</td>
<td>Inductive</td>
</tr>
<tr>
<td>Uneven water division between the two nations</td>
<td>Realistic/ liberalism</td>
<td>Deductive</td>
</tr>
<tr>
<td>Fear of limited supply and high demand water</td>
<td>Realistic</td>
<td>Deductive</td>
</tr>
<tr>
<td>GERD’s structural soundness</td>
<td>Realistic</td>
<td>Inductive</td>
</tr>
</tbody>
</table>

Authors construction based on empirical analysis

Before we begin the timeline and discussion on these causal mechanisms one important note has to be made and that is the lack of this causal mechanism: If threats of war and future conflicts exist the resource controlling state will increase its rate of extraction. Which in turn increases the other states' incentives for war in an unravelling of peace (Acemoglu, 2012; Klare, 2001). Because throughout the material the rate of water extraction was not to be found which meant this causal mechanism does not operate within this process. However, this does not rule out the possibility of it operating within the whole twelve-year process, only that within the water filling process it is missing. As such it will not be featured within the discussion but if I were to address why it is not present here it might be based on a lack of data and information surrounding GERDs water extraction rates. Because GERD has only just begun its filling process Egypt does not have adequate data on the impact of GERD, which we see within our causal mechanism of fear of the unknown. So this causal mechanism might emerge later on in the bigger process as more data emerges on the full extent when GERD’s impact on the Nile’s water level becomes apparent. But as of now, this causal mechanism was not present within the material or at least another causal mechanism took its role because it has not bloomed into view yet.
Nevertheless, let us continue with the causal mechanism extracted from the empirical material and the biggest one of them is water as a vital national resource and the Egyptian fear of losing their vital water as it keeps emerging throughout the material. Now almost every argument within the material was based on this fear of endangering Egypt's survival. Which fits perfectly with realism's perspective that guaranteeing its survival is the key role for a state and applying the resource war perspective further grounds it as Klare brought forth the perspective that a majority of wars over resources are based on control of valuable national resources. So I can say that this ongoing conflict between Egypt and Ethiopia is driven by an Egyptian fear of losing their valuable access to water when GERD was built and reinforced when Ethiopia started to fill GERD and Egypt’s supply diminished. However, do remember that the goal of the process tracing was not to determine if said causal mechanism exists or not but to determine the probability of it operating within the case. So words such as the biggest driving force henceforth refer to the most probable and prominent causal mechanism within the material, and this is based on the amount it was featured throughout the material as it kept emerging throughout the UNSC documents.

But, the fear of losing water is not the only causal mechanism operating within the process as the second to emerge was the fear of the unknown. Second here meant it just falls short of the previous value of a resource mechanism but is still featured a lot throughout the empirical material, which is why I give it a high probability of operating within the material. This mechanism was derived inductively from the empirical material outside of the theoretical framework but still falls within the realistic school of thought and can be explained by looking at the information power concept. Here Egypt does not know what will happen once GERD is taken into use as they lack information. Arguments that not enough studies and tests have been made were thrown around by Egypt and Ethiopia did not allow Egyptian scientists to study GERD. Which helps connect the fear of the unknown concept with the theoretical concept of information power. Whereas if Ethiopia allowed Egypt to study GERD they could get exact information on how GERD will be operated and its weaknesses. However, a fault with liberalism is also present here as Schmeier (2012) and others brought forth the argument that for cooperation to succeed adequate information sharing is key. Such a structure is lacking within the case as the two actors are arguing over if and how a study even should be done instead of sharing information. If we compare this mechanism with the previous one of
water as a vital resource they both are driven by realistic concepts of fear and self-interest and operate beside each other in driving Egypt's aggressive reaction to GERD.

The next causal mechanism to emerge falls within the traditional realistic approach of a hegemonic power struggle as Egypt is afraid of losing its hydro hegemony to Ethiopia. Because throughout history Egypt has had hydro hegemony on the Nile but with GERD their control is starting to slip away. Especially as Ethiopia announced that they would build hundreds of more dams on the Nile. So Egypt reacted accordingly with threats of war to try and stop this hydro hegemony and challenge Ethiopia's claims that GERD falls within Ethiopian sovereignty and Egypt should stay out of it as it is an internal matter. But the interesting situation here is that Egypt publicly states that they understand that Ethiopia needs the GERD for its development and are positive towards it, but only if they sign a binding agreement dictating its operation. This can also be attributed to realism and resource war as Egypt wants to establish a controlling policy on GERD instead of letting Ethiopia fully control it themselves. So if they come to terms on an agreement Egypt would not lose their hydro hegemony as they could influence GERD through said agreement. Which explains a side of why they are pushing so hard to reach an agreement. Because it would lessen the threat GERD possesses on their vital national resources, it would also help to create an information-sharing scheme between the two countries and stop or at least lessen Ethiopia's threat to Egyptian hydro hegemony.

Furthermore, the sovereign perspective that emerged from the hegemonic mechanism is another interesting side of the conflict as Ethiopia argues that GERD and the Nile flow within their borders, thus it is their own sovereign resource and Egypt does not have any say in what they do with this resource. Here the resource war perspective is useful as it takes into consideration how internal politics affect international issues as the problem here is the classic sovereign interest vs sovereign interest whereas both nations face each other in establishing which interest has the priority. With both actors acting on self-interest and centred on survival and gaining power we can understand why neither side is giving grounds. If they did they would lose a very valuable resource and as Klare (2001) argues: if a state is perceived to lose a vital national resource it might face internal threats as they are perceived to lose. Then if a state is seen as signing an agreement or a compromise over vital resources it might also be perceived as surrendering the resource and admitting defeat. This further explains why neither side of the conflict can give any grounds as it might threaten internal
stability as they would be perceived to give away their vital water. Which is a vital national resource that both nations need for their survival.

Then the causal mechanisms of uneven water division and diminishing water supply are present within the process albeit to a much smaller degree than the previous three. It operates based on Egypt’s realistic fear of losing its already limited water supply and widening the water division between Egypt and Ethiopia in a situation where Ethiopia would possess a much larger share of the Niles water than Egypt. To connect this mechanism with our theoretical framework is to combine it with Acemoglu's economic perspective where the state with the most resources possesses the most power. Especially if they can secure a supply advantage versus their competitors which Egypt argues that Ethiopia is doing with GERD. Also, liberalism believes that for water cooperation to work they need to define how much water a nation is entitled to avoid further conflict explains what drives Egypt's aggressive reaction to GERD because such principles are not present within the case. Instead, both sides argue along their self-serving interest to try and maximise their own water gains and neither side is interested in giving an inch. However, the fear of the GERD structure offers an insight into GERD’s potential security risk as GERD is perceived as a threat to Egypt's survival. Not only from the resource controlling perspective but also from a direct security perspective. Because if GERD were to collapse as other Ethiopian dams have, Egypt would face a catastrophic situation when the majority of its cities are built along the Nile. This fear is also connected to the previous mechanism of fear of the unknown as we can see how they reinforce each other through Egypt’s lack of information and studies on GERD's true impact and its structural soundness. This creates a situation where Egypt fear the impact of GERD because they lack information, and here liberalism comes in as a way to overcome the fear through mutual bonds and information cooperation. Because the liberal school argues that this primal fear of survival can be bridged through mutual gain and cooperation. By exchanging information between countries bands of trust start to tie the nations together and in the end the, cost of war becomes too high, which ultimately leads to cooperation instead of warfare. However, while this idea is rather idealistic and would solve a lot of the problems it has yet to be reached. Even though Egypt continues to advocate for cooperation over GERD they have not yet managed to come to an agreement which leads us to the second research question of this thesis: Why could cooperation not be reached?
But before we begin that discussion the linear causation must be addressed and as I mentioned at the beginning it is rather hard to create a timeline based linear causation map because many of these causal mechanisms emerged before this thesis process began. But if I would place them with a rather tentative understanding it would like table 4 in the appendix.

The first causal mechanic to emerge would be water as a vital national resource. Because even before the GERD process began in 2009 water was referred to as a vital resource for Egypt with the former president's statement that no one should touch Egypt's water or else they would face Egypt's might. Now here we have a causal mechanism that triggered Egypt to protect their water supply as it is vital for their survival which leads us into the second causal mechanic of uneven water division between Egypt and Ethiopia. Here the uneven split of water triggered Egypt to want to protect their supply as water is a vital resource and they need to protect what they already have. This mechanic is tied together with the third to emerge with fear of limited water supply. Because when GERD was announced Egypt feel a fear that they would lose their water supply and the division of water between Egypt and Ethiopia would grow. So the causal mechanism of water framed as a vital resource and the existence of uneven water division reinforced Egypt's fears of losing their water supply.

However, one can make the distinction that the fear of limited water supply might have emerged before the uneven water division mechanism because the limited supply of water reinforced the already uneven supply of water. But I would argue that uneven water division came before based on geographical differences between the two countries. I mean that Ethiopia possesses more natural water supply than Egypt as they are upstream on the Nile and the Nile originates within their borders. As such, they possess more water than Egypt and force Egypt to be a resource-poor country based on geography which then triggered the third mechanic of the fear of losing their already limited supply of water.

Then the fourth causal mechanic to emerge is the fear of the unknown, that Egypt does not have enough material on GERD’s impact on the river and region. This one builds upon the previous mechanisms because Egypt sees water as a vital resource, their already limited supply of water is now threatened and they do not know the exact impact GERD will have. They only know that GERD could limit their already low access to water, but not the whole extent of this threat and Ethiopia refuses more studies and will not let Egypt in. This causal mechanism emerged later on in the process after many of the commissioned studies had
failed or been turned down so if I were to place it within the process it would be after the 2015 DoP agreement because during 2015 the atmosphere was still somewhat good between Egypt and Ethiopia and they conducted joint GERD studies. But some years later when it dawned on them that they could not reach an agreement over what studies to listen to and how they should be performed relationships soured and the fear of the unknown causal mechanism emerged. This mechanism reinforces the fifth one and that is GERD’s structural soundness as a lack of studies has caused Egypt to fear GERD structural soundness. One mechanic that is rather hard to place is controlling the hydro hegemony as it can be argued to exist at the beginning of the GERD process when Ethiopia announced that they were building a mega-dam and thus threatening Egypt's control over the Nile. Or it can be argued that this causal mechanism emerged when Ethiopia announced that they were planning to build 100 more dams along the Nile and thus threaten Egypt's hydro hegemony. I placed it within the later argument because the mechanism usually emerged within the material in connection to the argument: Ethiopia will build 100 more dams along the Nile this is why we must stop them Egypt brought forth. So either side could work and would need further studies to determine the exact date when the mechanism emerged.

Now the last causal mechanism to emerge was the second biggest from the empirical material and that is Egypt’s frustration towards Ethiopia. Here I can safely place it within the later parts of the big process and narrow it further down to somewhere after the Washington meetings failed. Because these Washington meetings are used a lot by Egypt to showcase how Ethiopia is stalling for time in a bid to keep the status quo as the agreement was close to being signed, but Ethiopia left at the eleventh hour as Egypt could call it. Now, within this thesis smaller process this frustration causal mechanism could be placed just after the first water filling commenced. As Egypt expressed an extreme frustration here when Ethiopia started to fill GERD and break the DoP and the UNSC issued request. This resulted in Egypt feeling betrayed and further triggered their growing frustration towards Ethiopia. So the following table is the timeline based on the descriptions above.

| Table 5 Causal Mechanism Timeline |
10.2 Why cooperation could not be reached

An easy answer to this research question would be to state that a failure of international institutions has led to this conflict and reinforced Egypt's opposition to Ethiopia. Because throughout the process Egypt expressed their frustration with Ethiopia's stalling tactics and their focus on maintaining the status quo instead of reaching an agreement. Especially if we look into the many meetings set up between the two parties where international institutions tried to mediate and offer solutions but were all rejected. Through the UNSC Egypt tried to put pressure on Ethiopia and as they described it for over twelve long years Egypt has tried to compromise and reach an agreement but they have all been rejected. So now they turn to the UNSC as the last step in this long process. But in the end, UNSC stated that water is a regional issue and thus should be solved regional which resulted in the status quo continuing and Egypt's frustration grows. What we have here is a fault in international institutions as they fail to solve an ongoing conflict that could escalate at any minute because they lack the proper tools to mediate an agreement and make it binding. At least if we base our understatement on Egypt’s perspective whereas they continue to make threats of war. But this is not the only answer to the research question on why cooperation could not be reached as the more interesting factor within the case is the lack of mutual gain.

The mutual gain would also help explain why Egypt continues to push toward a cooperation agreement instead of following through with its realistic driven threats. Because as liberalism argues cooperation will lead to both parties gaining instead of having to pay for a war and risk threatening their alliances. War is extortionate whilst cooperating is affordable, especially as Egypt could strike an agreement over Niles's future unpredictable water changes. Because the release of water from GERD could help alleviate a dry period. However, it could also
increase the devastating effects of a drought. Nevertheless, I would argue that within the process it is the mutual gain that is driving Egypt to continue to try and reach a cooperation agreement because they keep arguing that they see the gain GERD as to offer the region. But, only if cooperation can be reached.

However, I would like to focus on what Ethiopia has to gain from signing an agreement with Egypt and giving up some of its GERD control. Do they have anything to gain from such an agreement? An agreement would make Egypt and other international actors happy but is that really in Ethiopia's self-serving interest? Looking at the history of these many meetings I would argue that no, Ethiopia does not have anything that valuable to gain from signing such an agreement. A note here is needed that the study looked at the GERD case from Egypt's perspective so Ethiopian arguments are lacking as they are solely viewed from Egypt's angle. Thus it might be hard to argue that Ethiopia does not have anything to gain from signing an agreement and future studies will be needed to go in-depth on Ethiopia's perspective. Nevertheless, the fact remains that no GERD agreement or even a compromise has been signed which is a big indicator that there exists no mutual gain. Otherwise, we would have seen somewhat of an agreement in place already. From this perspective how can cooperation be reached when there is no mutual gain? It can not, which is the case with GERD as Ethiopia would lose more than it would gain from signing a binding GERD agreement and thus cooperation could not be reached.

This would also give an insight into Egyptian actions as their threats of war could be perceived as pressuring Ethiopia into signing a GERD agreement in the sense of sign an agreement or risk war. In such a situation, they have something to gain from signing a GERD agreement and liberalistic ideas of mutual gain emerge. But as it stands now: mutual gain can not be reached and no agreement has been signed. So the driving forces behind Egypt's aggressive water filling reaction are not realistic and resource war forces operating as a causal mechanism, but the need to create a situation where Ethiopia has something to gain from signing an agreement is present here.

Especially by looking at the background and event history of the whole GERD process. Because throughout the process we can find examples where Egypt tries to pressure Ethiopia into signing a GERD water agreement through different avenues. One instance is when the U.S stopped their development aid to Ethiopia to try and economically pressure them into
continuing the negotiations. Another is when the Arab league put political pressure on Ethiopia through public statements where they backed Egypt's tireless efforts to try and negotiate a solution to GERD. Here we have Saudi Arabia, Qatar, United Arab Emirates and Bahrain all announcing how they support Egypt negotiations. Another example is the multiple military drills and operations Egypt has had with Sudan to create military cooperation between the two nations. Operations such as The Guardians of the Nile can be interpreted as Egypt pressuring Ethiopia through military power to resume negotiations and facilitate an agreement. This military might is also present if we look at Egypt's rearment focus when they bought a lot of modern military fighter jets and submarines that can be used in foreign operations. These three power concepts in combination with the previous process analysis help illustrate Egypt's attempts to try and create a situation where Ethiopia has something to gain from signing a binding agreement over GERD. Because through economic power, political power and military power Egypt tried to influence the negotiations and create a situation where a cooperation agreement over GERD is mutually beneficial. But in the end, no such situation has emerged as Ethiopia has not signed any GERD agreements and hostilities remain.

Instead, the situation is one without an information-sharing system in place, a dispute settlement system is lacking and no organisation to facilitate cooperation exists. So using Schmeiers's (2012) framework to evaluate a river organisation does not work here because we do not have a river basin organisation surrounding GERD. Instead what we have is a Declaration of Principles that might have acted as a catalyst to future cooperation but now is used in the negotiations to pressure each other through arguments that Ethiopia is breaking international law and the previously agreed compromise when they are filling GERD. Which further widened the cliff between the two nations and a new period of no-contact emerged. In the end, Klare’s (2001) short description of cooperation is true as for cooperation to succeed in bridging the gap that resources competition creates the need for mutual trust and a history of previous cooperation is vital. In this case, there exists no rich history of friendly cooperation between Egypt and Ethiopia because for over twelve years only one semi agreement was signed. Instead what remains is a general fear of GERD and its impact it will have. Which drives Egypt to try and create a situation where mutual gain exists through realistic driven power pressure and prioritise their survival through a safe supply of water.
11 Conclusion

This thesis set out to answer its first research questions through an abductive process-tracing approach centred on unboxing the black box that emerged when Egypt's continues to react aggressively to GERD's first and second water filling in 2020 and 2021. Then the second research question is why could cooperation not be reached and to understand this question the first process-tracing approach was used as its empirical foundation.

From the first research question I could find that realistic-resource war driven fears continued to emerge throughout the process and act as the causal mechanisms driving Egypt to react aggressively. Because Egypt continued to feel fear towards GERD as they lack information on GERD's impact on their vital water resources. This in combination with GERD threatening Egypt's historical hydro hegemony over the Nile drove Egypt to try and pressure Ethiopia through their aggressive announcements. So in the end realistic fears and liberal frustrations drove Egypt to react aggressively to GERD to try and pressure Ethiopia into giving up control over GERD. However, the pressure point only merged when we start to answer the second research question, because it explains why no cooperation agreement could be reached.

Because throughout the process Egypt expressed their strive to reach a mutually beneficial cooperation agreement that would lessen Egypt's fears and help bridge the wall GERD represents between the two nations. However, Ethiopia continues to shoot down Egypt’s many attempts and we see this through the general frustration Egypt feels towards Ethiopia's unilateral GERD policy approach. So to answer the second research question I would say that cooperation failed because of a lack of mutual gain and a failure of international institutions. Because in this situation Ethiopia does not have anything to gain from signing a binding agreement dictating GERDs operations and water flow. Why would they let go of their GERD control when the Staus Quo fits them perfectly as they can continue operation GERD without any repercussions. This perspective also explains another driving force on the whole aggressive reaction to GERD from Egypt as it might be a way to create mutual gain through power politics, through sublime threats of cooperation over GERD or face our might, whereas Egypt uses their political, economical and military power to try and create a situation where Ethiopia needs to cooperate otherwise they would lose out. Be it through economic
sanctions, political pressure or military operations to force Ethiopia into cooperation, but future studies would need to address this perspective more.

12 Future studies

Throughout the study suggestions for future studies had been made this section will summarise some of them to offer future studies potential starting points. The first one is a study geared towards understanding Ethiopia and Sudan's perspectives. Because just as the method section states this study was focused on Egypt's perspective and only touched upon Ethiopia and Sudan through the lens of the Egyptian state. So future studies using this thesis theoretical framework focused on Ethiopia and Sudan are of interest. Especially since such a study could offer a contrast to this study and it could be made into a comparative case study.

Then one study geared toward the private sector's involvement in the GERD case is of interest as both sides of the conflict have contracted private consulting firms to analyse GERD. This study lacked such a perspective because it could not find the french firm BRLis analysis but if such material could be found it would be an interesting study. As the private perspective is not the focus of this study.

Another interesting study is to focus on the framing of GERD in the media and how it has influenced the policy debate. Because I would imagine that GERD is framed as a security concern in Egyptian media while it is pushed as a development project within Ethiopian media. Thus a framing comparison could be of interest. Especially if one focuses on Sudan which has been rather neutral throughout the twelve-year long conflict. But now has been shifting closer to Egypt. Thus how GERD is framed within Sudan is of interest to study.

Lastly, an environmental study would be of interest as dams tend to disrupt sediment and nutrients from flowing downstream. If GERD has this problem too Egypt's agriculture could take a huge hit as they are dependent on water from the Nile for their fields and if such water is lacking nutrients it could impact their harvests.
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Appendix

Table 4 Linear Causality

Source: Authors construction