

Hydro Politics and Regional Disputes in the Nile Basin: A Case Study of the Grand Ethiopian Renaissance Dam (GERD)

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Abstract

This research examines the nexus between water security and interstate conflict, focusing on the dispute surrounding the Grand Ethiopian Renaissance Dam (GERD) between Egypt and Ethiopia. As Ethiopia nears completion of the GERD, Egypt claims its share of the Nile River has been diluted, putting pressure on its agricultural sector. Utilizing qualitative evidence, this research argues that the lack of agreement on Nile water management exacerbates the dispute between Egypt and Ethiopia. Realism and constructivism are employed to support the hypothesis, highlighting the influence of power, security, perceptions, historical narratives, and identity in shaping the behavior of both nations. Both countries adopt individualistic approaches driven by self-preservation, resulting in a deviation from historically collaborative transboundary water resource management initiatives. By focusing solely on self-preserving policies, both nations overlook the unifying goal of resource preservation and the importance of collaborative regional policies on water resources. The study proposes the application of feminist theory as a means to prevent future water conflicts and promote a unified approach to resource preservation.

In 2020, Egypt crossed the 100 million population threshold, with over 95% of that body living alongside the Nile River.¹ Unfortunately, the hydro politics surrounding the Nile has given rise to regional disputes. Eleven countries rely on the Nile River for various purposes, making the utilization and management of its waters a source of negotiation among these riparian states. As of May 2023, 90% of the Grand Ethiopian Renaissance Dam has been completed by Ethiopia.² Egypt claims its share of the Nile River has been diluted. This puts pressure on the agricultural sector as access to water has increasingly been scarce. Both nations demanded access to the water source, resulting in an escalation of conflict. In this paper I ask the question: is water security a source of interstate conflict? To answer this question, I focus on two large regional players in the dispute surrounding the GERD: Egypt and Ethiopia. Using qualitative evidence from primary sources as well as scholarly articles and news articles, I argue that given the lack of agreement on the Nile's water management, Ethiopia and Egypt's current steps toward resolution are exacerbating the dispute between the two countries. Efforts to resolve the GERD dispute between Ethiopia and Egypt have failed, leading to further escalation. Mutual accusations and mistrust have hindered negotiations, with Egypt emphasizing historical water rights and pursuing legal measures, while Ethiopia sees the dam as a symbol of national development and asserts its sovereignty independently. The actions of both countries are driven by power, security, and national interests, while constructivism highlights the influence of perceptions, historical narratives, and identity in shaping their behavior. I use realism and constructivism to support my

¹ "3 Points of Disagreement between Egypt, Ethiopia over GRED: Spox." 2020. EgyptToday. January 12, 2020. <https://www.egypttoday.com/Article/1/79574/3-points-of-disagreement-between-Egypt-Ethiopia-over-GRED-Spox>. Tawfik, Rawia. 2022. "Alternative Policy Solutions | beyond Statistics: The Human Security Implications of the Grand Ethiopian Renaissance Dam." Aps.aucegypt.edu. March 22, 2022. <https://aps.aucegypt.edu/en/articles/773/beyond-statistics-the-human-security-implications-of-the-grand-ethiopian-renaissance-dam>.

² Holleis, Jennifer. 2023. "Ethiopia's GERD Dam: A Potential Boon for All, Experts Say – DW – 04/08/2023." Dw.com. April 8, 2023. <https://www.dw.com/en/ethiopias-gerd-dam-a-potential-boon-for-all-experts-say/a-65254058>.

hypothesis. Scholars have viewed issues of water security through several theories and case studies, but by presenting the case of GERD, I explore how the combination of these approaches can better explain why water security can lead to conflict. I find that Egypt's assertion of ownership based on identity-based ties and its elevation of the issue to an international level has hindered collaborative efforts between nations. The adoption of self-preservation practices and the construction of an existential threat and necessity by both parties have resulted in individualistic approaches that deviate from historically collaborative endeavors, such as transboundary water resource management initiatives that prioritize regional and individual development. This research examines the factors contributing to the absence of cooperation between the involved nations and analyzes the implications of these individualistic approaches on the regional dynamics and potential solutions for fostering collaboration. I also identify several policy implementations that suggest conflict is not the only outcome in disputes over water security. I propose the application of feminist theory when designing collaborative policy between Egypt and Ethiopia. Both nations have only applied self-preserving policies. Other singly unity goals such as collaborative regional policies on water resources may also prevent future water conflict and create a unifying goal of resource preservation.

I start with an overview of the dispute. Then, I provide a review of the literature on water security and political instability within the region. I follow with a section on theory and hypothesis and a qualitative analysis based on evidence from primary and secondary sources. I conclude by providing policy prescriptions as well as contributions to the field.

Context/Background

In 1929, Great Britain declared Egypt to have both historical and natural rights over the Nile.³ The declaration also granted Egypt veto power over the construction of any Nile River projects.⁴ Unfortunately, the other 10 countries to touch Nile waters were not included.⁵ Just 30 years later, Sudan claimed rights over Nile Water.⁶ An agreement was forged and both Sudan and Egypt agreed to allocate much of the resource to Egypt while still granting Sudan a lesser share. It wasn't until February of 1999, that most riparian states came to an agreement; this agreement was known as the Nile Basin Initiative (NBI).⁷ Eritrea was the only nation adjacent to the Nile to not participate in the Nile Basin Initiative.⁸ NBI is a cooperative partnership among Nile River riparian countries aimed at promoting sustainable development, managing shared water resources, and enhancing regional cooperation.⁹

In 2011, Ethiopia announced plans to build the Grand Ethiopian Renaissance Dam (GERD).¹⁰ This decision was taken without a formal agreement with any NBI member.¹¹ Since then, GERD has been declared a megaproject that has attracted significant attention and stirred regional debates, specifically between Egypt and Ethiopia. Egypt has declared the issue of water

³ Peace, The Organization for World. 2020. "Nile River Conflicts." The Organization for World Peace. October 14, 2020. https://theowp.org/crisis_index/nile-river-conflicts/.

⁴ Mbaku, John Mukum. 2020. "The Controversy over the Grand Ethiopian Renaissance Dam." Brookings. August 5, 2020. <https://www.brookings.edu/blog/africa-in-focus/2020/08/05/the-controversy-over-the-grand-ethiopian-renaissance-dam/>.

⁵ Ibid.

⁶ Ibid.

⁷ Pearce, Fred. n.d. "Does Egypt Own the Nile? A Battle over Precious Water." Yale E360. https://e360.yale.edu/features/does_egypt_own_the_nile_a_battle_over_precious_water.

⁸ Ibid.

⁹ Ibid.

¹⁰ Mbaku, John Mukum. 2020. "The Controversy over the Grand Ethiopian Renaissance Dam." Brookings. August 5, 2020. <https://www.brookings.edu/blog/africa-in-focus/2020/08/05/the-controversy-over-the-grand-ethiopian-renaissance-dam/>.

¹¹ Ibid.

security an Arab crisis.¹² This brought attention given that in 1979, Egyptian president Anwar Sadat declared that Egypt would only ever go to war again over matters of water.¹³ This statement has been tested for over a decade now as Ethiopia begins to construct the dam and fill it. Egypt has since demanded that the \$4 billion dam not be filled without a legally binding agreement.¹⁴ Ethiopia, however, has proceeded to fill the dam by refusing to sign any agreement and insisting that the proposed agreement serve simply as suggestions towards the timeline of the dam.¹⁵

The conflict has since escalated into an international matter. In order to thoroughly assess the impacts of the dam, a panel of international and local experts was tasked to examine the claims of the states involved and the actual economic and environmental impacts of the dam. The panel's report was inconclusive and required further assessment. However, Ethiopia decided to proceed with the dam's construction, citing the dire need for electricity. In response to Ethiopia's move, the United States cut over \$100 million in aid to Ethiopia after it failed to sign any agreement.¹⁶ As the international community slowly mobilized in response, China backed the project by providing much needed infrastructure and financing to Ethiopia.¹⁷ With support from the Chinese, Ethiopia has managed to accelerate the dam's development.¹⁸

¹² Mazel, Zvi. 2013. "Arab World: Is Egypt Losing the Nile?" The Jerusalem Post | JPost.com. June 13, 2013. <https://www.jpost.com/features/front-lines/arab-world-is-egypt-losing-the-nile-315765>.

¹³ Peace, The Organization for World. 2020. "Nile River Conflicts." The Organization for World Peace. October 14, 2020. https://theowp.org/crisis_index/nile-river-conflicts/.

¹⁴ Paravicini, Giulia, and Ulf Laessing. 2020. "Sudan, Egypt Say Ethiopia Will Not Fill Nile Dam without Reaching Deal." *Reuters*, June 26, 2020, sec. Emerging Markets. <https://www.reuters.com/article/us-ethiopia-dam-sudan/sudan-egypt-say-ethiopia-will-not-fill-nile-dam-without-reaching-deal-idUSKBN23X2SV>.

¹⁵ United Nations. 2021. "Egypt, Ethiopia, Sudan Should Negotiate Mutually Beneficial Agreement over Management of Nile Waters, Top Official Tells Security Council | UN Press." Press.un.org. 2021. <https://press.un.org/en/2021/sc14576.doc.htm>.

¹⁶ Zengerle, Patricia. 2020. "UPDATE 1-U.S. To Cut \$100 Million in Aid to Ethiopia over Dam Dispute." *Reuters*, September 2, 2020, sec. Industry, Materials and Utilities. <https://www.reuters.com/article/usa-ethiopia-idUKL1N2FZ1G3>.

¹⁷ Gorvett, Jonathan. 2021. "China in the Middle of Nile Mega-Dam Feud." *Asia Times*. July 31, 2021. <https://asiatimes.com/2021/07/china-in-the-middle-of-nile-mega-dam-feud/>.

¹⁸ Ibid.

In response, Egypt has urged delaying the filling of the dam, claiming that the same process over the span of 6-7 years would have less of a negative impact on the Nile than that of 2-3 years.¹⁹ In 2014, just a year after Egypt's request, a meeting was held to mitigate issues posed by the GERD.²⁰ Unfortunately, the Tripartite National Committee, comprising four members from Ethiopia, Egypt, and Sudan, was also unsuccessful with deeper studies into the GERD's impact on downstream states.²¹ Finally, on March 23, 2015, the three countries' leaders signed the Declaration of Principles on GERD, reaffirming their shared commitment to cooperation and the peaceful resolution of any disputes surrounding the dam.²²

The question posed by all actors is: will Ethiopia be willing to release enough water from the reservoir to help mitigate a drought downstream, should it occur after the dam's construction? And while all countries have agreed to define a drought, no one is sure whether Ethiopia should be held liable for assisting Egypt during drought seasons. While Egypt is entirely vulnerable and dependent on the water source, it has no physical control over the Nile River. Scholars continue to discuss Egypt's "natural historic rights" over the river. Most recently, Ethiopia rejected the signing of a draft agreement that had been previously approved by Egypt.²³ In their refusal, Ethiopia cited bias towards Cairo by the United States and the World Bank.²⁴ Ethiopia has gained support from the East by raising concerns over the involvement of external

¹⁹ "3 Points of Disagreement between Egypt, Ethiopia over GERD: Spox." 2020. EgyptToday. January 12, 2020. <https://www.egypttoday.com/Article/1/79574/3-points-of-disagreement-between-Egypt-Ethiopia-over-GERD-Spox>.

²⁰ Paravicini, Giulia, and Ulf Laessing. 2020. "Sudan, Egypt Say Ethiopia Will Not Fill Nile Dam without Reaching Deal." *Reuters*, June 26, 2020, sec. Emerging Markets. <https://www.reuters.com/article/us-ethiopia-dam-sudan/sudan-egypt-say-ethiopia-will-not-fill-nile-dam-without-reaching-deal-idUSKBN23X2SV>.

²¹ Ibid.

²² International Crisis Group. 2020. "The Grand Ethiopian Renaissance Dam: A Timeline." Crisis Group. June 17, 2020. <https://www.crisisgroup.org/africa/horn-africa/ethiopia/grand-ethiopian-renaissance-dam-timeline>.

²³ "The Nile: Between Arab and African Geopolitics." 2020. www.leidenislamblog.nl. September 17, 2020. <https://www.leidenislamblog.nl/articles/the-nile-between-arab-and-african-geopolitics>.

"UN Watercourses Convention | UNECE." 2021. unece.org. January 12, 2021. <https://unece.org/environment-policy/water/un-watercourses-convention>.

²⁴ Ibid.

entities in the negotiations surrounding the GERD by the West and other international institutions.²⁵ Lastly, foreign scholars have argued that the negative impact of the dam on Egypt has been largely exaggerated by the Egyptian government, increasing the need for international participation.²⁶

Literature Review

Hydro politics is considered an issue of regional security by many scholars. It refers to the politics and conflicts surrounding the management and control of water resources, particularly in areas where water is scarce or where rivers and basins are shared by multiple countries.²⁷ Disputes over transboundary rivers and water basins have the potential to escalate into political conflicts and even armed conflicts. Riparian states compete for access and seek to protect their own interests. The topic has been extensively studied and discussed by researchers, scholars, and experts in various fields. Upon reviewing the scholarly work on water security and conflict, I find that scholars in the field present their arguments within specific theoretical perspectives in International Relations and Political Science. Several scholars view hydro politics through realists' lenses, emphasizing states' pursuit of their own security and interests, and potential competition over water resources.²⁸ This work recognizes the importance of states as

²⁵ Gorvett, Jonathan. 2021. "China in the Middle of Nile Mega-Dam Feud." *Asia Times*. July 31, 2021. <https://asiatimes.com/2021/07/china-in-the-middle-of-nile-mega-dam-feud/>.

²⁶ "The Nile: Between Arab and African Geopolitics." 2020. *Www.leidenislamblog.nl*. September 17, 2020. <https://www.leidenislamblog.nl/articles/the-nile-between-arab-and-african-geopolitics>.

"UN Watercourses Convention | UNECE." 2021. *Unece.org*. January 12, 2021. <https://unece.org/environment-policy/water/un-watercourses-convention>.

²⁷ Mahlakeng, M. (2019). A Theoretical Analysis of Hydropolitics: Homer-Dixon's Environmental Scarcity Theory and the Regime Theory. *World Affairs: The Journal of International Issues*, 23(4), 36–57.

<https://www.jstor.org/stable/48566196>

²⁸ *Ibid.*

Oloo, Adams. 2010. "The Quest for Cooperation in the Nile Water Conflicts: The Case of Eritrea." *African Sociological Review / Revue Africaine de Sociologie* 11 (1). <https://doi.org/10.4314/asr.v11i1.51447>.

primary actors and the security dilemma that arises when one state's actions to secure water resources are perceived as threats by others. Realists view water scarcity as an existential threat, particularly in regions where water is scarce or where multiple countries rely on shared water sources.²⁹

On the other hand, neorealist and later rational choice theorists add another element to this discussion by focusing on states as rational actors. Rational Choice scholars assume that states are "rational, self-interested, and able to identify and pursue their interests,"³⁰ which it presumes are "exogenous and fixed," aimed at maximizing "their own gains or payoffs,"³¹ and not concerned with the welfare of other nations. In the context of water security states as self-interested actors, would choose conflict or cooperation based on specific calculations that would tip the scales in favor of gains rather than losses. Realism highlights the role of, self-interest, and state-centric behavior in shaping the dynamics of water-related conflicts.³²

While realist, neorealist, and to a lesser degree, rational choice theorists focus on how water security can lead to conflict, scholars who look at water security through the lenses of liberalism, suggest states can achieve mutual benefits such as sustainable water management,

²⁹ Oloo, Adams. 2010. "The Quest for Cooperation in the Nile Water Conflicts: The Case of Eritrea." *African Sociological Review / Revue Africaine de Sociologie* 11 (1). <https://doi.org/10.4314/asr.v11i1.51447>.

Mahlakeng, M. (2019). A Theoretical Analysis of Hydropolitics: Homer-Dixon's Environmental Scarcity Theory and the Regime Theory. *World Affairs: The Journal of International Issues*, 23(4), 36–57. <https://www.jstor.org/stable/48566196>

Walsh, Declan, and Somini Sengupta. 2020. "For Thousands of Years, Egypt Controlled the Nile. A New Dam Threatens That." *The New York Times*, February 9, 2020. <https://www.nytimes.com/interactive/2020/02/09/world/africa/nile-river-dam.html>.

³⁰ Dinar, Shlomi. 2002. "Water, Security, Conflict, and Cooperation." *SAIS Review (1989-2003)* 22 (2): 229–53. <https://www.jstor.org/stable/26996421>.

³¹ Ibid.

³² Warner, Jeroen, Sumit Vij, Mark Zeitoun, and Christian Brethraut. 2022. "Water Diplomacy Can Learn from Realist Ideas." *New Security Beat*. July 19, 2022. <https://www.newsecuritybeat.org/2022/07/water-diplomacy-learn-realist-ideas/>.

equitable resource allocation, and environmental conservation.³³ They often advocate for the establishment of institutions such as river basin organizations and multilateral agreements to promote cooperation, information sharing, and dispute resolution mechanisms.³⁴ It highlights the potential to foster peaceful relations and shared prosperity through the adoption of efficient irrigation techniques, and water conservation measures that benefit multiple countries.³⁵

Peaceful relations amongst states are emphasized through the role of norms, institutions, NGOs, civil society organizations, and other non-state actors in shaping water governance and promoting sustainable and equitable water management.³⁶

Several scholars are interested in the domestic factors affecting state behavior over water security. They identify with the constructivist school of thought by focusing on the role of ideas, norms, and social constructions in shaping the dynamics of water-related conflicts and cooperation.³⁷ These scholars emphasize that state behavior is shaped by their identities, beliefs, and perceptions. A state's understanding of water as a resource, historical experiences, and cultural narratives influences its actions toward water management.³⁸ Different actors may have varying interpretations of water rights, ownership, and water significance. Scholars describe the

³³ Mahlakeng M. (2019). A Theoretical Analysis of Hydropolitics: Homer-Dixon's Environmental Scarcity Theory and the Regime Theory. *World Affairs: The Journal of International Issues*, 23(4), 36–57.

<https://www.jstor.org/stable/48566196>

³⁴ United Nations. 2021. "Egypt, Ethiopia, Sudan Should Negotiate Mutually Beneficial Agreement over Management of Nile Waters, Top Official Tells Security Council | UN Press." Press.un.org. 2021. <https://press.un.org/en/2021/sc14576.doc.htm>

³⁵ Tawfik, Rawia. 2022. "Alternative Policy Solutions | beyond Statistics: The Human Security Implications of the Grand Ethiopian Renaissance Dam." Aps.aucegypt.edu. March 22, 2022. <https://aps.aucegypt.edu/en/articles/773/beyond-statistics-the-human-security-implications-of-the-grand-ethiopian-renaissance-dam>.

³⁶ Ibid.

³⁷ Walsh, Declan, and Somini Sengupta. 2020. "For Thousands of Years, Egypt Controlled the Nile. A New Dam Threatens That." *The New York Times*, February 9, 2020. <https://www.nytimes.com/interactive/2020/02/09/world/africa/nile-river-dam.html>.

³⁸ Szalkai, Kinga. 2012. "Water Issues are What States Make of Them: A Constructivist Approach to Conflict and Cooperation over Trans-boundary Waters." Central European University.

socially constructed nature of water-related conflicts and cooperation.³⁹ Fair allocation mechanisms, such as negotiated sharing arrangements or compensation mechanisms (for downstream impacts) between Ethiopia and Egypt, can help alleviate tensions and build trust among stakeholders.

Cooperation and conflict over water are also addressed by scholars who approach this topic from an economic point of view. These scholars who identify as neoliberals emphasize market-oriented approaches, privatization, and economic efficiency.⁴⁰ These perspectives commonly support the privatization of water services, arguing that market competition and profit-driven incentives can lead to improved efficiency and innovation in water infrastructure.⁴¹ Neoliberals encourage water users to bear the costs of water services.⁴² This promotes full-cost recovery of water infrastructure projects.⁴³ Scholars argue that legal frameworks which define water rights and promote water trading create a stable and predictable environment.⁴⁴ Critics argue that market-based approaches may exacerbate inequalities, undermine social and environmental considerations, and neglect the rights of marginalized communities.⁴⁵ Promoting economic cooperation and integration can be a means of reducing conflicts. Collaborative

³⁹ Ibid.

⁴⁰ Zengerle, Patricia. 2020. "UPDATE 1-U.S. To Cut \$100 Million in Aid to Ethiopia over Dam Dispute." *Reuters*, September 2, 2020, sec. Industry, Materials and Utilities. <https://www.reuters.com/article/usa-ethiopia-idUKL1N2FZ1G3>.

Sterescu, Andrei-Bogdan. 2018. "The Prisoner's Dilemma in Environmental Politics: One Model to Rule Them All?" *E-International Relations*. June 14, 2018. <https://www.e-ir.info/2018/06/14/the-prisoners-dilemma-in-environmental-politics-one-model-to-rule-them-all/>.

⁴¹ Mahlakeng, M. (2019). A Theoretical Analysis of Hydropolitics: Homer-Dixon's Environmental Scarcity Theory and the Regime Theory. *World Affairs: The Journal of International Issues*, 23(4), 36–57.

<https://www.jstor.org/stable/48566196>

⁴² Tawfik, Rawia. 2022. "Alternative Policy Solutions | beyond Statistics: The Human Security Implications of the Grand Ethiopian Renaissance Dam." *Aps.aucegypt.edu*. March 22, 2022.

<https://aps.aucegypt.edu/en/articles/773/beyond-statistics-the-human-security-implications-of-the-grand-ethiopian-renaissance-dam>.

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ Ibid.

approaches such as joint energy projects or agricultural trade agreements, can foster mutual dependencies and encourage cooperation among riparian states.⁴⁶

Lastly, more recent work has addressed other perspectives on water security. The feminist theories in IR have risen as a challenge to realist and liberalist approaches. These scholars argue that disputes over water can result in cooperation rather than conflict.⁴⁷ Adopting feminist philosophy and theories, they highlight gender dynamics, power relations, and social inequalities related to water governance.⁴⁸ It recognizes that marginalized populations, often bear the burden of water collection, impacting their time, health, and economic opportunities.⁴⁹ Other social identities such as race, class, and ethnicity are also considered. In hydro politics, feminist approaches draw attention to the role of care and relational values in water governance, challenging purely instrumental and profit-oriented approaches. Often in contrast to neoliberals. They emphasize the need to prioritize human well-being and environmental sustainability in water management.⁵⁰ This promotes more equitable and sustainable approaches to hydro-political issues.

The reviewed literature on hydro politics exhibits certain gaps that my research aims to address. One such gap is the tendency of scholars to focus predominantly on a single theoretical approach to explain water security and conflict, neglecting other relevant factors and theories. To address this limitation, my research adopts an interdisciplinary perspective that combines

⁴⁶ Szalkai, Kinga. 2012. "Water Issues are What States Make of Them: A Constructivist Approach to Conflict and Cooperation over Trans-boundary Waters." Central European University.

⁴⁷ Tawfik, Rawia. 2022. "Alternative Policy Solutions | beyond Statistics: The Human Security Implications of the Grand Ethiopian Renaissance Dam." Aps.aucegypt.edu. March 22, 2022.

<https://aps.aucegypt.edu/en/articles/773/beyond-statistics-the-human-security-implications-of-the-grand-ethiopian-renaissance-dam>.

Shrestha, Gitta, Deepa Joshi, and Floriane Clément. 2019. "Masculinities and Hydropower in India: A Feminist Political Ecology Perspective." *International Journal of the Commons* 13 (1): 130. <https://doi.org/10.18352/ijc.920>.

⁴⁸ Ibid.

⁴⁹ Shrestha, Gitta, Deepa Joshi, and Floriane Clément. 2019. "Masculinities and Hydropower in India: A Feminist Political Ecology Perspective." *International Journal of the Commons* 13 (1): 130. <https://doi.org/10.18352/ijc.920>.

⁵⁰ Ibid.

multiple approaches, recognizing the multidimensional nature of water security issues and the various layers contributing to the issue. By integrating insights from realism, liberalism, constructivism, and feminist theories, my study seeks to provide a more comprehensive understanding of the complexities involved in hydro political dynamics.

Additionally, the existing literature has often placed greater emphasis on conflict rather than cooperation. In contrast, my research endeavors to shed light on the potential for cooperation and the promotion of peaceful resolutions to water-related disputes. The policy implications section of my paper focuses on strategies and mechanisms that foster cooperation among riparian states, such as negotiated sharing arrangements, compensation mechanisms, and joint projects that create mutual dependencies. By highlighting the benefits and possibilities of collaboration, my research aims to contribute to a more balanced understanding of hydro politics and encourage cooperative approaches in water governance.

In summary, my research aims to address the gaps in existing scholarship by adopting an interdisciplinary perspective, combining multiple theoretical approaches, and placing greater emphasis on cooperation rather than conflict in the realm of hydro politics. By doing so, I seek to provide a more nuanced understanding of water security issues and offer policy recommendations that promote sustainable and cooperative management of water resources.

Theory and Hypothesis

Ethiopia and Egypt's current efforts are failing to resolve the situation and instead leading to further escalation. Mutual accusations of bad faith and disregarding concerns have hindered negotiations. Egypt has pursued legal measures and engaged international actors to seek

intervention and emphasize historical water rights.⁵¹ Ethiopia views GERD as a symbol of national development, dismisses downstream dependence, and pursues the project independently. Each country has accused the other of acting in bad faith or disregarding their concerns. This mutual suspicion has contributed to the failure of negotiations and the inability to find common ground. Egypt has taken legal measures, filing a complaint to the United Nations Security Council, and engaging international actors, such as the United Nations, African Union, and the United States, to seek intervention and pressure Ethiopia.⁵² It has also emphasized its historical water rights. Ethiopia has turned GERD into a symbolic effort towards national development and dismissed its downstream neighbor's dependence on the resource, pursuing the project independently without cooperation.

Both Egypt and Ethiopia's actions in the GERD dispute are driven by their pursuit of power, security, and national interests. Egypt sees the dam as a threat to its water security and regional influence, while Ethiopia views it as crucial for national development and asserting regional power. Constructivism highlights how Egypt and Ethiopia's actions in the GERD dispute are shaped by their perceptions, historical narratives, and identity.⁵³ Egypt's emphasis on historical water rights stems from its view of the Nile as vital to its national identity, while Ethiopia sees the dam as a symbol of sovereignty and national pride.⁵⁴ Mutual accusations and lack of trust hinder negotiations as both sides interpret each other's actions through their own

⁵¹ "The Nile: Between Arab and African Geopolitics." 2020. www.leidenislamblog.nl. September 17, 2020. <https://www.leidenislamblog.nl/articles/the-nile-between-arab-and-african-geopolitics>.

⁵² "The Nile: Between Arab and African Geopolitics." 2020. www.leidenislamblog.nl. September 17, 2020. <https://www.leidenislamblog.nl/articles/the-nile-between-arab-and-african-geopolitics>.
Gorvett, Jonathan. 2021. "China in the Middle of Nile Mega-Dam Feud." *Asia Times*. July 31, 2021. <https://asiatimes.com/2021/07/china-in-the-middle-of-nile-mega-dam-feud/>.

"3 Points of Disagreement between Egypt, Ethiopia over GRED: Spox." 2020. *Egypt Today*. January 12, 2020. <https://www.egypttoday.com/Article/1/79574/3-points-of-disagreement-between-Egypt-Ethiopia-over-GRED-Spox>.

⁵³ Szalkai, Kinga. 2012. "Water Issues are What States Make of Them: A Constructivist Approach to Conflict and Cooperation over Trans-boundary Waters." Central European University.

⁵⁴ *Ibid.*

perspectives. In summary, realism offers insights into Egypt and Ethiopia's actions driven by power, security, and national interests, while constructivism highlights the role of norms, ideas, and shared meanings in shaping their behavior and perceptions. Both perspectives contribute to understanding the complex dynamics and motivations underlying the GERD dispute between Egypt and Ethiopia.

Methodology

This analysis will primarily use a case study approach and secondary sources. Given that this topic is a current event, it is essential to analyze the situation using real-time information and contemporary sources. Focusing on this case study will allow for an in-depth examination of the GERD. In this case, a focused examination of both Egypt and Ethiopia's (two Nile Basin countries) interactions and disputes related to the hydro politics of the Nile will be conducted.

To support the case study analysis, primary sources are utilized. These include documents, reports, historical agreements, and statements from governmental and international organizations, as well as scholarly articles and news articles. This research aims to capture the firsthand perspectives, policies, and actions of the involved stakeholders, providing a comprehensive understanding of the hydro-political dynamics.

Analysis

Egypt and Ethiopia view the Nile River differently. For Egypt, the Nile is of vital importance as it heavily relies on the river for its agriculture, economy, and water supply, leading to a perception of the Nile as an existential necessity.⁵⁵ Egypt has securitized the issue of water

⁵⁵ Kamara, Ahmed, Mohamed Ahmed, and Arturo Benavides. 2022. "Environmental and Economic Impacts of the Grand Ethiopian Renaissance Dam in Africa." *Water* 14 (3): 312. <https://doi.org/10.3390/w14030312>.

resources, particularly the Nile River, by framing it as a matter of national security.⁵⁶ On the other hand, Ethiopia sees the Nile as a source of energy and a symbol of national unity, viewing its utilization as crucial for its developmental aspirations, thereby considering the Nile an opportunity for growth and progress. Ethiopia is upstream of Egypt in relation to the flow of the Nile River.⁵⁷ The Nile is formed by two main tributaries, the White Nile and the Blue Nile.⁵⁸ The Blue Nile, originating from Lake Tana in Ethiopia, is the primary source of water for the Nile.⁵⁹ As it flows northward, it passes through Sudan before reaching Egypt.⁶⁰ This upstream position gives Ethiopia the ability to control the flow and management of water resources before they reach downstream countries.⁶¹ Ethiopia does have geographic ownership over the origin of the Nile River.⁶²

The Nile's identity, whether Arab or African, has generated significant discussion and debate within hydro politics. Some scholars highlight ancient Egyptian civilization and strong ties to the Arab world.⁶³ Others note African civilizations and cultures that have also emerged and thrived along the river. Egypt has drafted a constructivist's grievances argument by claiming historical roots. In the case of Ethiopia, the focus on hydropower and energy production

⁵⁶ Oloo, Adams. 2010. "The Quest for Cooperation in the Nile Water Conflicts: The Case of Eritrea." *African Sociological Review / Revue Africaine de Sociologie* 11 (1). <https://doi.org/10.4314/asr.v11i1.51447>.

⁵⁷ Carlson, Andrew. 2013. "Who Owns the Nile? Egypt, Sudan, and Ethiopia's History-Changing Dam." *Origins*. March 2013. https://origins.osu.edu/article/who-owns-nile-egypt-sudan-and-ethiopia-s-history-changing-dam?language_content_entity=en.

⁵⁸ Walsh, Declan, and Somini Sengupta. 2020. "For Thousands of Years, Egypt Controlled the Nile. A New Dam Threatens That." *The New York Times*, February 9, 2020. <https://www.nytimes.com/interactive/2020/02/09/world/africa/nile-river-dam.html>.

⁵⁹ Carlson, Andrew. 2013. "Who Owns the Nile? Egypt, Sudan, and Ethiopia's History-Changing Dam." *Origins*. March 2013. https://origins.osu.edu/article/who-owns-nile-egypt-sudan-and-ethiopia-s-history-changing-dam?language_content_entity=en.

⁶⁰ *Ibid.*

⁶¹ *Ibid.*

⁶² *Ibid.*

⁶³ Pearce, Fred. n.d. "Does Egypt Own the Nile? A Battle over Precious Water." Yale E360. https://e360.yale.edu/features/does_egypt_own_the_nile_a_battle_over_precious_water.

represents an effort to achieve energy independence and support economic development.⁶⁴ The construction of large dams, such as the GERD, is seen as a means of harnessing water resources for hydropower generation and economic growth.⁶⁵

The incompatibility in perceptions about this issue from both countries is also evident in the way Egypt and Ethiopia identify it as an Arab issue vs. an African issue.⁶⁶ Both countries could not agree on how to fill and operate the dam, prompting mediation by the U.N. Security Council.⁶⁷ This was requested by Egypt.⁶⁸ The Ethiopian government disagreed with Egypt's action and said that the United Nations Security Council should not interfere with African issues.⁶⁹ Ethiopia argued that African organizations should handle and solve the dam dispute as it is primarily an issue for African countries to address.⁷⁰ In response to Ethiopia's call for the African Union's (AU) involvement, Egypt called for support from the Arab League (AL).⁷¹ The Arab Council for Foreign Ministers expressed their support for Egypt, emphasizing that Egypt's water security was an issue of water security for all Arab nations.⁷² They endorsed Egypt's stance of refusing to fill the reservoir until a comprehensive agreement is reached.

The Nile River has been instrumental in ensuring that Egypt has a higher per capita water availability compared to other Middle Eastern nations.⁷³ As a result, the Nile River has become

⁶⁴ Kamara, Ahmed, Mohamed Ahmed, and Arturo Benavides. 2022. "Environmental and Economic Impacts of the Grand Ethiopian Renaissance Dam in Africa." *Water* 14 (3): 312. <https://doi.org/10.3390/w14030312>.

⁶⁵ Ibid.

⁶⁶ "The Nile: Between Arab and African Geopolitics." 2020. www.leidenislamblog.nl. September 17, 2020. <https://www.leidenislamblog.nl/articles/the-nile-between-arab-and-african-geopolitics>.

⁶⁷ Ibid.

⁶⁸ Ibid.

⁶⁹ Ibid.

⁷⁰ Ibid.

⁷¹ Ibid.

⁷² Ibid.

⁷³ Pearce, Fred. n.d. "Does Egypt Own the Nile? A Battle over Precious Water." Yale E360. https://e360.yale.edu/features/does_egypt_own_the_nile_a_battle_over_precious_water.

an asset for the AL. Of the 11 riparian states, Egypt is the only Arab-identifying nation.⁷⁴ All other nations along the Nile identify as African.⁷⁵

Ethiopia, as the primary source of more than 85 percent of the Nile River's water, asserts its right to utilize its natural resources to combat poverty and enhance the well-being of its population.⁷⁶ While Ethiopia maintains that the hydroelectric GERD project will have minimal impact on the Nile's water flow, this issue has been a point of contention. Over time, Egypt has utilized its extensive diplomatic networks and the colonial-era 1929 and 1959 agreements to effectively hinder the development of significant infrastructure projects on the Nile's tributaries.⁷⁷ As a result, Ethiopia has faced limitations in harnessing the river's waters for its own purposes. Nonetheless, driven by the determination and support of Ethiopians both domestically and abroad, substantial funding was mobilized to initiate the construction of the GERD. Notably, Chinese banks played a crucial role in providing financial assistance for procuring the turbines and electrical equipment necessary for the hydroelectric plants.⁷⁸

As international actors become involved, more insight into the GERD is being revealed. The GERD can be viewed from different perspectives, including as a developmental project aimed at harnessing the Nile's waters for hydropower generation and economic development. Simultaneously, it can also be seen as a security-based project due to the potential impact on downstream countries like Egypt, which heavily rely on the Nile's waters for various purposes. The discussions and negotiations surrounding the GERD often involve balancing developmental

⁷⁴ Ibid.

⁷⁵ Ibid.

⁷⁶ Mazel, Zvi. 2013. "Arab World: Is Egypt Losing the Nile?" The Jerusalem Post | JPost.com. June 13, 2013. <https://www.jpost.com/features/front-lines/arab-world-is-egypt-losing-the-nile-315765>.

⁷⁷ Ibid.

⁷⁸ Mbaku, John Mukum. 2020. "The Controversy over the Grand Ethiopian Renaissance Dam." Brookings. August 5, 2020. <https://www.brookings.edu/blog/africa-in-focus/2020/08/05/the-controversy-over-the-grand-ethiopian-renaissance-dam/>.

aspirations with concerns about water security and geopolitical stability in the region. Wilson Center's Jeroen Warner presents the argument that Egypt internationalized the GERD dilemma to claim hegemony over the Nile; this is a first-mover advantage.⁷⁹ Warner also states that Ethiopia's construction of the dam was an establishment of national sovereignty.⁸⁰

Egypt has securitized the issue of the GERD considering it a matter of national security due to its dependence on the Nile waters for various sectors, including agriculture and population sustenance.⁸¹ On the other hand, Ethiopia has elevated the GERD to a symbol of national unity and pride, emphasizing its significance in achieving energy self-sufficiency, economic development, and asserting sovereignty over its water resources. The securitization by Egypt reflects concerns about potential water scarcity and the need to protect its vital interests, while Ethiopia's national unity narrative signifies a determination to utilize its natural resources for development and achieve energy independence.⁸² The contrasting perspectives of securitization and national unity have contributed to the complexities and challenges in negotiations, requiring a delicate balance between addressing the security concerns of downstream countries and recognizing the development aspirations of upstream countries. While one nation strives to create a national symbol out of the Nile, the other strives to claim historical rights over it by calling for international aid.

Additionally, both nations have presented economic claims which play in their security concerns and their efforts to maintain and/or advance their position in the region. Egypt has

⁷⁹ Warner, Jeroen, Sumit Vij, Mark Zeitoun, and Christian Brethraut. 2022. "Water Diplomacy Can Learn from Realist Ideas." *New Security Beat*. July 19, 2022. <https://www.newsecuritybeat.org/2022/07/water-diplomacy-learn-realist-ideas/>.

⁸⁰ Ibid.

⁸¹ Mazel, Zvi. 2013. "Arab World: Is Egypt Losing the Nile?" *The Jerusalem Post* | JPost.com. June 13, 2013. <https://www.jpost.com/features/front-lines/arab-world-is-egypt-losing-the-nile-315765>.

⁸² Dinar, Shlomi. 2002. "Water, Security, Conflict, and Cooperation." *SAIS Review (1989-2003)* 22 (2): 229–53. <https://www.jstor.org/stable/26996421>.

raised several concerns about the GERD. Firstly, Egypt argues that the GERD could worsen its existing water scarcity issues by reducing water flow downstream.⁸³ As Egypt heavily relies on the Nile River for freshwater supply and agricultural irrigation, this could have significant consequences.⁸⁴ Secondly, Egypt is worried that a substantial decrease in water flow caused by the GERD might negatively impact its agricultural sector, which is vital to the country's economy.⁸⁵ Any disruption in water supply could harm crop production and food security. Additionally, Egypt expresses concerns that the filling of the GERD's reservoir could affect the water flow to downstream dams, including the High Aswan Dam, which generates hydropower for electricity.⁸⁶

Ethiopia's perspective on the GERD emphasizes its economic significance. The country argues that the GERD is vital for its development and poverty alleviation efforts, as it will provide a stable and sustainable source of electricity necessary for industrialization and economic growth.⁸⁷ By reducing reliance on fossil fuels and increasing clean energy generation, the dam will enhance Ethiopia's energy security, meeting the growing demands of its population and supporting its economic aspirations.⁸⁸ Ethiopia also stresses its right to utilize its share of the Nile's waters for development purposes, asserting that the reservoir will be filled gradually to minimize any negative impact on downstream countries. It highlights the importance of equitable water allocation and rejects claims that the dam would cause significant harm. Moreover, Ethiopia advocates for regional cooperation and comprehensive agreements among Nile Basin

⁸³ Kamara, Ahmed, Mohamed Ahmed, and Arturo Benavides. 2022. "Environmental and Economic Impacts of the Grand Ethiopian Renaissance Dam in Africa." *Water* 14 (3): 312. <https://doi.org/10.3390/w14030312>.

⁸⁴ Ibid.

⁸⁵ Ibid.

⁸⁶ Ibid.

⁸⁷ Holleis, Jennifer. 2023. "Ethiopia's GERD Dam: A Potential Boon for All, Experts Say – DW – 04/08/2023." *Dw.com*. April 8, 2023. <https://www.dw.com/en/ethiopias-gerd-dam-a-potential-boon-for-all-experts-say/a-65254058>.

⁸⁸ Ibid.

countries to address water resource management and development projects, aiming for dialogue and negotiation to find mutually beneficial solutions that consider the interests of all parties involved, thus fostering economic growth and prosperity in the region.

According to Egypt's claim, if the filling of the GERD takes place rapidly within a span of three years, it is estimated that the Egyptian economy would suffer a loss of US \$51 billion and approximately 4.74 million jobs.⁸⁹ This would result in a 6% decrease in GDP per capita in 2024 compared to a hypothetical scenario where the GERD does not exist.⁹⁰ A team of ten esteemed Nile specialists was brought together by Oxford Martin School's team in to compose a comprehensive response addressing the scientific shortcomings of an article in the journal of *Environmental Research Letters*.⁹¹ Economic, environmental, and political escalations all indicate that current realistic approaches have increased the nature of the dispute. Identity-based arguments over water have been assumed to be incompatible and binary in the case of the GERD. Furthermore, economic benefit from the development of the GERD has also been assumed to produce one financially beneficial outcome. There has been no discussion of non-zero-sum outcomes.⁹²

Policy Implications

Using the above analysis, there is a different path that both Ethiopia and Egypt can take, towards resolution. Accusatory policy, legal measures, selfish negotiations and claim over the natural resource has been driven by constructivist and realistic theory. I propose an alternative

⁸⁹ Wheeler, Kevin. 2022. "Setting the Record Straight on the Impacts of the Grand Ethiopian...." Oxford Martin School. August 16, 2022. <https://www.oxfordmartin.ox.ac.uk/blog/setting-the-record-straight-on-the-gerd/#:~:text=It%20claimed%20that%20under%20a>.

⁹⁰ Ibid.

⁹¹ Ibid.

⁹² "Non-Zero-Sum Games." n.d. Cs.stanford.edu. <https://cs.stanford.edu/people/eroberts/courses/soco/projects/1998-99/game-theory/nonzero.html>.

approach can be found in the work of scholars who view water as a source of cooperation and development, specifically those who employ feminist theory in dispute resolution. Feminist theory argues that the issue of water scarcity between Ethiopia and Egypt is not zero-sum and can therefore lead to regional cooperation.⁹³ Feminist theory emphasizes the importance of inclusive decision-making processes that consider the perspectives and needs of all stakeholders. Moreover, promoting dialogue, participatory approaches, and gender/minority-sensitive policies, can lead to cooperation and efficient water management.⁹⁴

Feminist theory includes the use of tools such as Integrated Water Resource Management (IWRM), which promote the coordinated development and management of water, land, and related resources to reduce conflicts.⁹⁵ IWRM is a widely recognized and applied approach among scholars and practitioners to address conflicts stemming from water scarcity, including the complex dynamics between Ethiopia and Egypt.⁹⁶ It promotes the equitable and sustainable utilization of water, considering the hydrological, ecological, socio-economic, and institutional aspects of water management.

Similarly, the NBI serves as a notable example of the application of IWRM principles. The NBI, established in 1999, is a cooperative framework among the riparian countries of the Nile River, including Ethiopia and Egypt.⁹⁷ It aims to foster dialogue, cooperation, and joint decision-making on various aspects of water resource management, including the equitable

⁹³ Shrestha, Gitta, Deepa Joshi, and Floriane Clément. 2019. "Masculinities and Hydropower in India: A Feminist Political Ecology Perspective." *International Journal of the Commons* 13 (1): 130. <https://doi.org/10.18352/ijc.920>.

⁹⁴ Ibid.

⁹⁵ Environment, U. N. 2017. "What Is Integrated Water Resources Management?" UNEP - UN Environment Programme. September 22, 2017. [https://www.unep.org/explore-topics/disasters-conflicts/where-we-work/sudan/what-integrated-water-resources-management#:~:text=Integrated%20Water%20Resources%20Management%20\(IWRM](https://www.unep.org/explore-topics/disasters-conflicts/where-we-work/sudan/what-integrated-water-resources-management#:~:text=Integrated%20Water%20Resources%20Management%20(IWRM).

⁹⁶ Ibid.

⁹⁷ "https://Documents.worldbank.org/En/Publication/Documents-Reports/Documentdetail." 2010a. World Bank. June 30, 2010. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/423891468008466010/africa-region-nile-basin-initiative-shared-vision-program-svp-project>.

sharing of benefits and addressing the challenges of water scarcity.⁹⁸ The NBI's Shared Vision Program (SVP) promotes a holistic approach to water management, focusing on enhancing basin-wide cooperation, optimizing water use efficiency, protecting ecosystems, and ensuring the sustainability of water resources in the Nile Basin.⁹⁹

Within the framework of IWRM, key components such as stakeholder participation, integrated planning and decision-making, water allocation mechanisms, and adaptive management strategies are crucial.¹⁰⁰ Stakeholder participation entails involving diverse actors, including communities, civil society organizations, and governmental agencies, in decision-making processes to ensure inclusive and informed outcomes. Integrated planning and decision-making require considering multiple sectors, such as agriculture, energy, and environment, to optimize water allocation and address competing demands.¹⁰¹ By adopting IWRM principles and engaging in cooperative frameworks like the NBI, policymakers can effectively navigate the complexities of water scarcity between Ethiopia and Egypt. Through collaborative efforts, these countries can address the challenges of equitable water allocation, sustainable development, and shared benefits, fostering regional stability and resilience in the face of water-related tensions.¹⁰² These frameworks are not currently being applied. Instead, Egypt had sought international help.

Collaboration can also be achieved through diplomatic negotiations and robust water governance frameworks. For example, the United Nations Watercourses Convention, adopted in 2014, provides a legal framework for the cooperative management of transboundary water

⁹⁸ Ibid.

⁹⁹ Ibid.

¹⁰⁰ Environment, U. N. 2017. "What Is Integrated Water Resources Management?" UNEP - UN Environment Programme. September 22, 2017. [https://www.unep.org/explore-topics/disasters-conflicts/where-we-work/sudan/what-integrated-water-resources-management#:~:text=Integrated%20Water%20Resources%20Management%20\(IWRM.](https://www.unep.org/explore-topics/disasters-conflicts/where-we-work/sudan/what-integrated-water-resources-management#:~:text=Integrated%20Water%20Resources%20Management%20(IWRM.)

¹⁰¹ Ibid.

¹⁰² Ibid.

resources.¹⁰³ Additionally, quantitative data and case studies demonstrate the success of cooperation in mitigating conflicts. The Mekong River Commission (MRC) serves as a notable example, where countries such as Cambodia, Laos, Thailand, and Vietnam have cooperatively managed the river's resources through the establishment of joint committees, shared data, and coordinated decision-making.¹⁰⁴ Such examples have been proven to promote collaboration by creating a unified goal.

This collaborative approach has enabled the resolution of disputes and prevented hydro-political tensions from escalating into security threats. By implementing transparent mechanisms based on scientific analysis, such as the Water-Energy-Food (WEF) Nexus approach, countries can ensure fair and sustainable distribution of water resources.¹⁰⁵ This approach examines the interdependencies between water, energy, and food production, allowing for informed decision-making that minimizes conflicts. For instance, the establishment of water-sharing agreements and the allocation of water quotas based on hydrological data and water availability can help build trust and cooperation among riparian nations.¹⁰⁶ Moreover, quantitative analysis demonstrates that cooperation in water management yields tangible benefits.¹⁰⁷ Studies have shown that collaborative management frameworks, like the International Commission for the Protection of the Danube River, have improved water quality, facilitated sustainable development, and increased economic gains for member countries.¹⁰⁸ Collaborative water

¹⁰³ “UN Watercourses Convention | UNECE.” 2021. Unece.org. January 12, 2021. <https://unece.org/environment-policy/water/un-watercourses-convention>.

¹⁰⁴ Commission (MRC), Mekong River. n.d. “History.” www.mrcmekong.org. <https://www.mrcmekong.org/about/mrc/history/>.

¹⁰⁵ “Water-Food-Energy Nexus | Land & Water | Food and Agriculture Organization of the United Nations | Land & Water | Food and Agriculture Organization of the United Nations.” n.d. www.fao.org. <https://www.fao.org/land-water/water/watergovernance/waterfoodenergyxexus/en/>.

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ Dinar, Shlomi. 2002. “Water, Security, Conflict, and Cooperation.” *SAIS Review (1989-2003)* 22 (2): 229–53. <https://www.jstor.org/stable/26996421>.

frameworks and joint policy initiatives have been historically effective. Egypt and Ethiopia have not sought collaborative policy on dam infrastructure and instead solely focused on the GERD and water rights rather than resource policy. Even then, some scholars argue for shifting the discourse on hydro politics away from security and toward technical and environmental considerations. They stress the importance of adopting sustainable water management, environmental conservation, and the equitable distribution of resources. Furthermore, assessing hydrological and environmental impacts should become points of important consideration in the process.

Conclusion

To conclude, this research explores the relationship between water security and interstate conflict by focusing on the dispute surrounding the GERD between Egypt and Ethiopia. In my aim to address the gaps in existing scholarship, I find that the deployment of multiple theoretical approaches, and placing greater emphasis on cooperation rather than conflict can lead to a mutually beneficial outcome when relating to hydro politics. This research contributes to the field of IR by fostering a more comprehensive perspective on hydro-politics and advocate for collaborative approaches in water governance. By emphasizing the advantages and potential of cooperation, I adopt an interdisciplinary lens, incorporating various theoretical approaches, and shifting the focus towards cooperation over conflict in the realm of hydro-politics. The goal is to deepen our understanding of water security issues, provide nuanced insights, and propose policy recommendations that promote sustainable and cooperative management of water resources. Like any research, there were limitations faced during this study. Some potential limitations include the contemporary nature of the issue and complexity of the geopolitical landscape. It is

also important to acknowledge the overlap of theoretical frameworks when designing policies. No single theory can describe a single policy and oftentimes many theories overlap. Finally, to advance this research in the future, further exploration can be done by conducting comparative studies of other water-related conflicts, examining the role of non-state actors in shaping hydro-politics, and analyzing the impact of different governance mechanisms on water security and interstate relations. Others may include NGO's, international actors, and private entities. Additionally, incorporating interdisciplinary perspectives, such as environmental studies and political ecology, could provide more statistical data. This data could provide insight into the agricultural impact and hydroelectrical output of the dam, which could in turn, allow for comparison of benefits when creating policy. As a result, a future study would include environmental and developmental potential of the dam, in addition to theoretical frameworks when designing policies.

Bibliography

- “3 Points of Disagreement between Egypt, Ethiopia over GRED: Spox.” 2020. EgyptToday. January 12, 2020. <https://www.egypttoday.com/Article/1/79574/3-points-of-disagreement-between-Egypt-Ethiopia-over-GRED-Spox>.
- Ayferam, Gashaw. 2023. “The Nile Dispute: Beyond Water Security.” Carnegie Endowment for International Peace. January 19, 2023. <https://carnegieendowment.org/sada/88842>.
- Carlson, Andrew. 2013. “Who Owns the Nile? Egypt, Sudan, and Ethiopia’s History-Changing Dam.” Origins. March 2013. https://origins.osu.edu/article/who-owns-nile-egypt-sudan-and-ethiopia-s-history-changing-dam?language_content_entity=en.
- Commission (MRC), Mekong River. n.d. “History.” [Www.mrcmekong.org](http://www.mrcmekong.org). <https://www.mrcmekong.org/about/mrc/history/>.
- Dinar, Shlomi. 2002. “Water, Security, Conflict, and Cooperation.” *SAIS Review (1989-2003)* 22 (2): 229–53. <https://www.jstor.org/stable/26996421>.
- “Egypt Highlights Dangers of Work on Grand Ethiopian Renaissance Dam.” 2023. Arab News. March 9, 2023. <https://www.arabnews.com/node/2265536/middle-east>.
- Environment, U. N. 2017. “What Is Integrated Water Resources Management?” UNEP – UN Environment Programme. September 22, 2017. [https://www.unep.org/explore-topics/disasters-conflicts/where-we-work/sudan/what-integrated-water-resources-management#:~:text=Integrated%20Water%20Resources%20Management%20\(IWRM](https://www.unep.org/explore-topics/disasters-conflicts/where-we-work/sudan/what-integrated-water-resources-management#:~:text=Integrated%20Water%20Resources%20Management%20(IWRM).
- Gorvett, Jonathan. 2021. “China in the Middle of Nile Mega-Dam Feud.” Asia Times. July 31, 2021. <https://asiatimes.com/2021/07/china-in-the-middle-of-nile-mega-dam-feud/>.
- Holleis, Jennifer. 2023. “Ethiopia’s GERD Dam: A Potential Boon for All, Experts Say – DW – 04/08/2023.” Dw.com. April 8, 2023. <https://www.dw.com/en/ethiopias-gerd-dam-a-potential-boon-for-all-experts-say/a-65254058>.
- “[https://Documents.worldbank.org/En/Publication/Documents-Reports/Documentdetail](https://documents.worldbank.org/En/Publication/Documents-Reports/Documentdetail).” 2010a. World Bank. June 30, 2010. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/423891468008466010/africa-region-nile-basin-initiative-shared-vision-program-svp-project>.
- “<https://Documents.worldbank.org/En/Publication/Documents-Reports/Documentdetail>.” 2010b.

- World Bank. June 30, 2010. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/423891468008466010/africa-region-nile-basin-initiative-shared-vision-program-svp-project>.
- International Crisis Group. 2020. "The Grand Ethiopian Renaissance Dam: A Timeline." Crisis Group. June 17, 2020. <https://www.crisisgroup.org/africa/horn-africa/ethiopia/grand-ethiopian-renaissance-dam-timeline>.
- Kamara, Ahmed, Mohamed Ahmed, and Arturo Benavides. 2022. "Environmental and Economic Impacts of the Grand Ethiopian Renaissance Dam in Africa." *Water* 14 (3): 312. <https://doi.org/10.3390/w14030312>.
- Kane, Michael. 2018. "The Nile River Basin Initiative." RTI. May 23, 2018. <https://www.rti.org/impact/nile-river-basin-initiative>.
- Mazel, Zvi. 2013. "Arab World: Is Egypt Losing the Nile?" The Jerusalem Post | JPost.com. June 13, 2013. <https://www.jpost.com/features/front-lines/arab-world-is-egypt-losing-the-nile-315765>.
- Mbaku, John Mukum. 2020. "The Controversy over the Grand Ethiopian Renaissance Dam." Brookings. August 5, 2020. <https://www.brookings.edu/blog/africa-in-focus/2020/08/05/the-controversy-over-the-grand-ethiopian-renaissance-dam/>.
- "Non-Zero-Sum Games." n.d. Cs.stanford.edu. <https://cs.stanford.edu/people/eroberts/courses/soco/projects/1998-99/game-theory/nonzero.html>.
- Oloo, Adams. 2010. "The Quest for Cooperation in the Nile Water Conflicts: The Case of Eritrea." *African Sociological Review / Revue Africaine de Sociologie* 11 (1). <https://doi.org/10.4314/asr.v11i1.51447>.
- Paravicini, Giulia, and Ulf Laessing. 2020. "Sudan, Egypt Say Ethiopia Will Not Fill Nile Dam without Reaching Deal." *Reuters*, June 26, 2020, sec. Emerging Markets. <https://www.reuters.com/article/us-ethiopia-dam-sudan/sudan-egypt-say-ethiopia-will-not-fill-nile-dam-without-reaching-deal-idUSKBN23X2SV>.
- Peace, The Organization for World. 2020. "Nile River Conflicts." The Organization for World Peace. October 14, 2020. https://theowp.org/crisis_index/nile-river-conflicts/.
- Pearce, Fred. n.d. "Does Egypt Own the Nile? A Battle over Precious Water." Yale E360. https://e360.yale.edu/features/does_egypt_own_the_nile_a_battle_over_precious_water.

- Shrestha, Gitta, Deepa Joshi, and Floriane Clément. 2019. "Masculinities and Hydropower in India: A Feminist Political Ecology Perspective." *International Journal of the Commons* 13 (1): 130. <https://doi.org/10.18352/ijc.920>.
- Sterescu, Andrei-Bogdan. 2018. "The Prisoner's Dilemma in Environmental Politics: One Model to Rule Them All?" *E-International Relations*. June 14, 2018. <https://www.e-ir.info/2018/06/14/the-prisoners-dilemma-in-environmental-politics-one-model-to-rule-them-all/>.
- Szalkai, Kinga. 2012. "Water Issues are What States Make of Them: A Constructivist Approach to Conflict and Cooperation over Trans-boundary Waters." Central European University.
- Tawfik, Rawia. 2022. "Alternative Policy Solutions | beyond Statistics: The Human Security Implications of the Grand Ethiopian Renaissance Dam." *Aps.aucegypt.edu*. March 22, 2022. <https://aps.aucegypt.edu/en/articles/773/beyond-statistics-the-human-security-implications-of-the-grand-ethiopian-renaissance-dam>.
- "The Nile: Between Arab and African Geopolitics." 2020. *Www.leidenislamblog.nl*. September 17, 2020. <https://www.leidenislamblog.nl/articles/the-nile-between-arab-and-african-geopolitics>.
- "UN Watercourses Convention | UNECE." 2021. *Unece.org*. January 12, 2021. <https://unece.org/environment-policy/water/un-watercourses-convention>.
- United Nations. 2021. "Egypt, Ethiopia, Sudan Should Negotiate Mutually Beneficial Agreement over Management of Nile Waters, Top Official Tells Security Council | UN Press." *Press.un.org*. 2021. <https://press.un.org/en/2021/sc14576.doc.htm>.
- Walsh, Declan, and Somini Sengupta. 2020. "For Thousands of Years, Egypt Controlled the Nile. A New Dam Threatens That." *The New York Times*, February 9, 2020. <https://www.nytimes.com/interactive/2020/02/09/world/africa/nile-river-dam.html>.
- Warner, Jeroen, Sumit Vij, Mark Zeitoun, and Christian Brethraut. 2022. "Water Diplomacy Can Learn from Realist Ideas." *New Security Beat*. July 19, 2022. <https://www.newsecuritybeat.org/2022/07/water-diplomacy-learn-realist-ideas/>.
- "Water-Food-Energy Nexus | Land & Water | Food and Agriculture Organization of the United Nations | Land & Water | Food and Agriculture Organization of the United Nations." n.d. *Www.fao.org*. <https://www.fao.org/land-water/water/watergovernance/waterfoodenergynexus/en/>.

Wheeler, Kevin. 2022. "Setting the Record Straight on the Impacts of the Grand Ethiopian...."

Oxford Martin School. August 16, 2022. <https://www.oxfordmartin.ox.ac.uk/blog/setting-the-record-straight-on-the-gerd/#:~:text=It%20claimed%20that%20under%20a>.

Zengerle, Patricia. 2020. "UPDATE 1-U.S. To Cut \$100 Million in Aid to Ethiopia over Dam Dispute." *Reuters*, September 2, 2020, sec. Industry, Materials and Utilities.

<https://www.reuters.com/article/usa-ethiopia-idUKL1N2FZ1G3>.

