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The Grand Ethiopian Renaissance Dam (GERD): Geopolitical Implications

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ABSTRACT

This study examined the geopolitical implications of the GERD project in light of the 'framework of benefit-sharing'. The study adopted a qualitative research approach in which data were gathered from multiple sources, such as key informant interviews, books, journal articles, policy briefs, commentary, and opinions; and documents such as declarations, agreements, letters, and statements, water policies, government communications, reports, and media sources. In light of this, the paper argues that GERD foreshadows a new emergent order based on principles of benefit-sharing capable of replacing the existing inequitable water-sharing regime. The GERD has the potential to create cooperation between the riparian countries because of its proven benefits to the region. The potential cost of non-cooperation may also push Egypt towards opting for cooperation. Furthermore, the GERD could shift the power dynamics by positioning Ethiopia as a regional anchor state, which could further enhance prospects for cooperation. The study also highlights that the conflict over the GERD extends beyond the physicality of the dam and is deeply rooted in the geopolitical rivalry between Ethiopia and Egypt. Egypt perceives the GERD as an existential threat to its existing water-sharing regime while Ethiopia regards it as a benefit-sharing project and an existential necessity. However, the study highlights the possibility that the GERD may transform the geopolitical rivalry between Ethiopia and Egypt from a water-based conflict into a power trade competition, implying that cooperation and conflict, competition and cooperation, may coexist in this complex geopolitical landscape. The study implies that understanding the geopolitical implications of the GERD is crucial for navigating the complexities of the issue and finding sustainable solutions.

Keywords: Geopolitics, GERD, Benefit-sharing, Water-sharing, Ethiopia, Egypt, Nile

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1.1. INTRODUCTION

The GERD is a hydropower project constructed on the Abbay River, which is one of the main tributaries of the Nile River, in Ethiopia. Construction of the dam began in 2011 amidst the Arab Spring and started generating 375 MW in February 2022 from one of its turbines (Ethiopian News Agency, 2014). It is expected to become fully operational shortly. The primary objective of the dam is to generate electricity to meet the growing energy demands both at home and in the region, which in turn will drive economic development, achieve self-sufficiency, and overcome poverty and underdevelopment. The project is also seen as an emblematic initiative (Dejen, 2021) symbolizing Ethiopia's national independence, pride, identity, and resilience, being built by the "blood, tears, and sweat" (Seleshi, 2021) of all Ethiopians. It is also a project reclaiming Ethiopia's past, with parallels drawn to the historic Adwa victory against the Italian invasion (Yalemzewd, 2020). Furthermore, GERD is viewed as a present-day battle against abject poverty (Yalemzewd, 2020) and a vision for projecting power in the future.

However, the development of GERD remains controversial. It has been a source of conflict and geopolitical tension between Ethiopia, Sudan, and Egypt since its inauguration in 2011 (Mbaku, 2020; De Falco and Giulia, 2022, Al-Anani, 2020; Miehe *et al.*, 2020). In addition, non-riparian countries and multilateral institutions have been involved in the GERD dispute, playing roles ranging from negotiation facilitation (Africa Union) to self-appointed mediation (U.S.) and interference (the Arab League). The tension and disputes surrounding GERD primarily stem from the differing perspectives and concerns of Ethiopia, Sudan, and Egypt. Ethiopia presented GERD as a benefit-sharing project and an existential necessity (FDRE, 2020a). In contrast, Egypt views it as an existential threat to its existing water-sharing regime, closely tied to its national security and identity (State Information Service, 2021; Embassy of Egypt Washington D.C, n.d; Al-Anani, 2022). Sudan finds itself in a hydro-political dilemma, swinging like a pendulum. It sometimes aligns with Egypt and other times with Ethiopia or remains in the middle (Otinov, 2022; BBC, 2021).

The controversy surrounding the GERD also extends beyond the three riparian states and has ignited intense academic debates. Existing literature on GERD has primarily focused on the potential downstream impacts of the dam including its benefits and costs (Basheer *et al.*, 2020; Asegdew and

Semu, 2014; He *et al.,* 2022; Abdelkader and Mohamed, 2019; Bekhit *et al.,* 2019), filling and operations (Asegdew *et al*, 2014; Abdo *et al.*, 2016; Block *et al.*, 2016), as well as the transboundary cooperation implications of the dam (Cascão *et al.*, 2019; Jeuland *et al.*, 2014; Tawfik, 2016; 2015). Studies on the GERD also utilize various international relation theories, such as realism (Kaleb, 2022), constructivism (Adam *et al.* 2021; Lindqvist, 2021), securitization (Gienanth, 2020; Frida, 2021), ontological security (Fana and Dawit, 2021; Stenberg, 2021), geopolitics (Anwar, 2017; Goitom, 2014), and critical hydro politics (Rubin, 2019; Tayie, 2018; Tawfik, 2015; 2016). These analyses have generated a variety of predictions and different perspectives regarding the potential outcomes of the dam's construction. Some scholars view GERD as a potential source of conflict and regional instability (Gonzalez, 2020; Ayenat, 2020; Colton, 2021; International Institute for Middle-East and Balkan Studies, 2020; Ibrahim, 2021). Conversely, others such as Cascão and Alan (2016) view the GERD as a potential catalyst for regional cooperation.

Tawfik (2016) also analyzed the benefits and costs of GERD labeling it a "game-changer" but from a downstream perspective. From a geopolitical point of view, Goitom (2014) studied the potential of GERD to end the oldest geopolitical rivalry between Ethiopia and Egypt. However, current situations showed the beginning of new forms of geopolitical rivalry which required thorough investigation. Rubin (2019) and Tayie (2018), allegedly asserted that the construction of the GERD signified a move towards Ethiopian hydro-hegemony.

Despite the relevance of the studies reviewed, they are not without limitations. First, they tend to focus merely on the hydro-political, conflict, and cooperation aspects of GERD, disregarding its broader geopolitical context. Second, territorial states are often assumed to be the only actors in transboundary water management, overlooking the roles of non-state actors and the complexities of transnational water governance. Finally, previous research failed to consider the long-term geopolitical consequences of GERD, including its potential effects on regional power dynamics and the rise of new actors in the region. The varying narratives surrounding GERD may suggest that the conflict is not just about the physical dam and water but involves deeper geopolitical interests. This study, therefore, intends to examine the geopolitical implications of the GERD in light of benefit-sharing framework which in turn fills the gaps in the existing literature.

The research questions to be addressed in this study include:

1. What are the key geopolitical factors that have influenced the construction and recent development of the GERD project?
2. What are the geopolitical implications of the GERD for the region, its potential impact on regional power dynamics and the emergence of new actors?
3. What type of geopolitical order and rivalry, features, and contending actors are anticipated with respect to the GERD?
4. What are the push and pull factors that could contribute to the emergence of a post-GERD geopolitical order and rivalry?

By addressing these research questions, this study aims to provide a more comprehensive understanding of the geopolitical implications of GERD and thereby contributes to the existing literature on the subject.

1.2. THEORETICAL AND METHODOLOGICAL APPROACH

In the existing literature, GERD is approached mainly from mainstream international relations theories such as realism (Kaleb, 2022), constructivism (Adam *et al.* 2021; Lindqvist, 2021), securitization (Gienanth, 2020; Frida, 2021), ontological security (Fana and Dawit, 2021; Stenberg, 2021), geopolitics (Anwar, 2017; Goitom, 2014), and critical hydro politics (Rubin, 2019; Tayie, 2018; Tawfik, 2015; 2016). However, these approaches are conceptually 'territorial traps' (Agnew, 1994), which may contravene the transboundary nature of international rivers such as the Nile, where the GERD is being under construction on one of its tributaries, Abbay. Thus, it is an imperative to search for an alternative lens that goes beyond the state-centric approach of mainstream international relation theories. These theories often overlook the interests and influence of a multitude of actors involved in transboundary water resources development.They are believed to shape and complicate the geopolitical dynamics in the region.

Thus, the researcher first believes that addressing the problem of shared water resources requires a move beyond the 'territoriality of state' assumption. Second, there is a need to apply a three-level analysis (basin, sub-basin, and regional level). Finally, a sustainable water regime cannot be realized

without the deterritorialization of transboundary water resources. Thus, all countries equitably share the benefits. Accordingly, the researcher adopted the 'benefit-sharing framework' as a viable theoretical lens to examine the broader geopolitical implications of GERD in the region. The need for a new theoretical perspective beyond state-centric international relations theories is justified due to the complex nature of water resources development projects on transboundary rivers. These projects involve multiple actors with diverse interests: local communities, downstream riparian, geopolitical actors, global environmental regimes, intergovernmental organizations, international financial institutions, and others. Traditional state-centric approaches are insufficient in capturing the intricate geopolitical dynamics surrounding the GERD issue as they fail to consider the range of actors involved and their varying interests. A benefit-sharing framework provides a more comprehensive understanding of the geopolitical implications of the GERD, considering the diverse perspectives and power dynamics involved. This approach allows for a holistic examination of the geopolitical complexities surrounding the GERD issue, going beyond the limitations of state-centric theories.

Methodologically, this study also adopted a qualitative approach. The data were gathered from multiple sources. Primary data were gathered through interviews with water experts, diplomats, and researchers. Secondary sources of data included books, journal articles, and opinions. Documents such as letters and statements, water policies, agreements, declarations, and reports were also used.

1.3. DISCUSSION

The Nile River Basin has long been a source of geopolitical rivalry among countries that the Nile River traverses, specifically between Ethiopia and Egypt (Interview with Senior Diplomat, Ministry of Foreign Affairs, November 2021). They have conflicting interests and disagreements over water-sharing and benefit-sharing. The 1929 and 1959 bilateral agreements, along with the Cooperative Framework Agreement (CFA), can be seen as a water-sharing framework (Zerihun, 2011), whereas the Nile Basin Initiative (NBI) is a benefit-sharing arrangement (Zerihun, 2011; Council of Ministers of Water Affairs of the Nile Basin States, 2001; NBI, 2009). However, there are contradictory positions on water and benefit-sharing between upstream and downstream countries. Downstream countries view water sharing as the 1959 agreement (Daily News Egypt, 2014) which exclusively allocates Nile River water to themselves. They strongly believe that any modification of their share of

the river, as defined by the 1959 treaty and the established hydro-political order, poses an existential threat to their water security, which is closely tied to national security. An informant noted that

> *the Red Sea and the Nile determine the region's power configuration and have been a source of geopolitical rivalry between Egypt and Ethiopia for centuries. Regarding the Nile, Egypt's geopolitical strategy has been to control the Nile's water resources. Egypt has made agreements with Britain and Sudan that allow the water to flow downstream without restriction, and grant veto power to downstream countries to prevent the upper riparian countries from using the water without their consent* (Interview with Senior Diplomat, Ministry of Foreign Affairs, November 2021).

Even though upstream countries are not legally bound by the treaty due to its "legal defects" (Wuhibegezer and Sheferaw, 2014; Mohammed, 2004), they face challenges in accessing finance from international financial institutions owing to the precedent set by the 1959 treaty (Anonymous Interview, Ministry of Water and Energy, August 2023).

In contrast, Ethiopia offered a benefit-sharing framework through the construction of the GERD, signaling the rebirth of a new hydro-political order from which both Nile riparian and non-Nile riparian neighbors could benefit equitably. An informant argued that the philosophy behind the GERD represents a departure from the historical trend of malign hydro hegemony in the Nile River Basin where Egypt has historically sought to control the river (interview with a hydro-politics expert, Hawassa University, January 2023). Instead, the GERD embodies a "philosophy of cooperation and mutual benefit," and it is non-consumptive water (interview with a hydro-politics expert, Hawassa University, January 2023). However, critics may doubt the claim that GERD is a benefit-sharing project (Tawfik, 2015) because it is solely owned and financed by Ethiopia, but there are strong reasons why GERD can indeed be classified as a benefit-sharing hydraulic infrastructure.

First, Ethiopia has explicitly marketed GERD as a benefit-sharing project. This was evident in the inauguration speech delivered by late Prime Minister Meles Zenawi who emphasized the regional advantages that would arise from GERD. He stated that "the benefits that will accrue from the Dam will by no means be restricted to Ethiopia. They will clearly extend to all neighboring states, and particularly to the downstream Nile basin countries, to Sudan and Egypt"(Meles, 2011). The Prime Minister even invited downstream countries to participate in the project, suggesting a cost-benefit sharing formula where 50% of the project cost would be covered by downstream countries, with 30%

and 20% covered by Egypt and Sudan respectively, for the benefits they would gain from the GERD (Meles, 2011).

Furthermore, Ethiopia has taken diplomatic steps to make GERD a real benefit-sharing project, such as delaying the ratification of the CFA (Anonymous Interview, Ministry of Water and Energy, August 2023; MoWIE, 2013) and inviting downstream countries for joint consultations on the GERD project (International Panel of Experts, 2013). These diplomatic measures came as a response to the Egyptian accusation that the GERD is a strategic-political project (Tayie, 2018) that came to reality by exploiting and "take[ing] advantage of the turmoil" (Al-Masry, 2019) amid Egypt's 2011 January revolution (Interview with Senior Diplomat, Ministry of Foreign Affairs, June 2021). The former was a concession from Ethiopia that postponed the ratification of CFA, which is more consequential to the existing Nile water regime, assuring Egypt that the GERD is a developmental rather than a political project with benefits that go beyond Ethiopia. However, it should be noted that the Ethiopian People's Revolutionary Democratic Front (EPRDF) adopted a proactive media strategy to curb the spillover effect of the Arab Spring while exploiting the opportunities presented by it (Skjerdal, 2016). For a long time, there has also been a perception among elite circles that it would not be possible to dam the Abbay River until the right time came (Interview with Senior Diplomat, Ministry of Foreign Affairs, April 2022).

Both decisions which ultimately led to trilateral negotiation were intensely criticized by many Ethiopians including those involved in the GERD on three grounds. First, critics claim that the invitation for joint consultation over a project owned and financed by Ethiopia undermines Ethiopian sovereignty (Dejen, 2021). Second, postponed CFA ratification eroded the upstream alliance as shown during the CFA negotiation (Anonymous Interview, Ministry of Water and Energy, August 2023). It is also perceived as a unilateral move that can undermine the upstream coalition and spirit. Furthermore, it has made Ethiopia's Nile policy unclear as to whether an upstream alliance and a multilateral approach to Nile water governance are tactical or strategic priorities for Ethiopia. GERD may indicate Ethiopia's preference for basin-based, bilateral, and context-specific engagement rather than a multilateral basin-wide approach. However, while a basin and context-specific approach may be strategically significant, as seen in Ethiopia's reserved position on the IGAD transboundary water resources framework (Anonymous Interview, Ministry of Water and Energy, August 2023), it risks

ceding its long-term strategic interests in the Nile River. However, from a diplomatic perspective, it is argued that the decision to postpone ratification neither eroded the upstream coalition nor negatively impacted Ethiopia's interests (Interview with Senior Diplomat, Ministry of Foreign Affairs, June 2021). One piece of evidence cited is the ratification of the CFA by four countries which took place after the commencement of GERD.

Third, trilateral negotiations have further complicated the GERD project and increased Ethiopia's vulnerability to external diplomatic pressure through Egypt's securitization policy (Dejen, 2021). Despite these critics, the measures taken by Ethiopia may show Addis Ababa's effort to make the GERD project a benefit-sharing one to the extent of losing some of its key interests.

Moreover, in addition to inviting downstream countries for dialogue on GERD, Ethiopia has taken several steps to demonstrate its commitment to making the GERD a source of regional cooperation. These steps include the establishment of the International Panel of Experts (IPoEs) responsible for reviewing the dam design documents and assessing the benefits and costs of the dam to three riparian countries (IPoEs, 2013). According to Ambassador Alemayehu Tegenu, the former Minister of Water Resources of the Federal Democratic Republic of Ethiopia, the IPoEs were established as a confidence-building measure aimed at building trust and easing Egypt's concerns stemming from a lack of information about the dam (Ministry of Water, Irrigation and Energy, 2014). Ethiopia also provided 153 documents related to the GERD project for review by the IPoEs (IPoEs, 2013). A geotechnical expert group was also established to review the geotechnical documents of the project including dam site investigation (IPoEs, 2013) to study the rock foundation of the dam, a step taken in response to accusations from Egypt regarding potential foundation issues with the dam (Anonymous Interview, Ministry of Water and Energy, August 2023). Other steps included hiring consultants to implement the recommendations of the IPoEs, signing the Declaration of Principles (DoP), establishing the Tripartite National Committee, and establishing the National Independent Scientific Research Group. These measures collectively demonstrated Ethiopia's commitment to transparency, cooperation, and addressing concerns raised by downstream countries through the involvement of independent experts.

Second, the GERD project stands in opposition to the negative historical precedents that have led to its inception. In 2007, the three Eastern Nile countries (Egypt, Ethiopia, and Sudan) jointly conducted prefeasibility study of the GERD as a multipurpose project under the Eastern Nile Subsidiary Action Program of the NBI, with an Egyptian expert leading the study (FDRE, 2020b). However, when upstream countries signed the CFA in 2010 (Agreement on the Nile River Basin Cooperative Framework, 2010) downstream countries suspended their involvement in NBI activities and projects (Tadesse, 2017), thereby creating an impasse in the development of a benefit-sharing regime. This has also disrupted the Eastern Nile Council of Ministers' (ENCOM) annual meetings for four consecutive years (2010-2014), effectively holding the Eastern Nile Technical Regional Office (ENTRO) a geopolitical hostage (ENCOM, 30 January 2014). Moreover, the rejection of Ethiopia's proposal for multilateral projects by downstream countries hindered the potential for joint ownership and financial access from international institutions (Salman, 2016; Tawfik, 2015). For instance, World Bank turned down financing the joint proposed project (interview with senior expert, ENTRO, May 2022). These factors pushed Ethiopia, the only active member of the ENTRO, to construct the GERD unilaterally. Thus, Ethiopia's unilateral decision to construct the GERD can be attributed to the failure of regional cooperation under the auspices of the NBI.

Despite the downstream ego-centric approach to the Nile Water, Ethiopia initiated the GERD as a benefit-sharing project. An informant asserted that the philosophy of GERD is cooperation and mutual benefit, which contravenes Egypt's historical malign hegemonic approach in the Nile Basin (interview with a hydro-politics expert, Hawassa University, January 2023). Thus, GERD is a project that emerges as a result of cooperation failures but serves as a catalyst for regional cooperation through the implementation of benefit-sharing frameworks.

Third, the scientific community believes that the GERD benefits the riparian countries of the Eastern Nile and the region as a whole. This is supported by the 2013 reports of the IPoEs, the Amicus Brief by the International Non-partisan Eastern Nile Working Group in 2014, as well as studies conducted by Jeuland *et al.* (2014), Belachew (2013), Basheer *et al.* (2020), Asegdew *et al.* (2014), Asegdew and Semu (2014) and Getachew *et al.* (2020).

Fourth, GERD has also introduced a new legal norm that can supersede the norms of the existing inequitable water-sharing regime. The DoP serves as a case in point. Some of the norms included in the DoP can serve as a baseline for the evolving benefit-sharing regime. One of the principle is the commitment among the three countries to engage in cooperative efforts to understand the water needs of all riparian countries (DoP, 2015). This cooperation is guided by principles rooted in international law, mutual benefit, win-win approaches, good faith, and mutual understanding (DoP, 2015). Another principle is the principle of equitable and reasonable utilization of the shared Nile Water, which guides the water use of the three signatory countries (DoP, 2015). The DoP also includes principles aimed at enhancing cooperation, such as principles to cooperate on the first filling and operation of the GERD. It also incorporates principles related to dam safety and the peaceful settlement of disputes (DoP, 2015).

In article two, for instance, the three countries recognized the purpose of GERD as hydropower generation having an indispensable role in economic development, transboundary cooperation, and regional integration (DoP, 2015). Ethiopia also agreed to give priority to downstream countries to purchase power generated from the project, thinking as a confidence-building measure. In Article 10, the three countries also agreed to resolve disputes through peaceful means such as joint requests for reconciliation, mediation, and requests to their Heads of State and governments. This is a major shift in the Nile region.

Furthermore, the DoP also introduced new legal norms, such as the principle to consider "the contribution of each Basin State to the waters of the Nile River system" (Article 4(h), DoP, 2015). This might serve as a guide to countries in realizing the principle of equitable and reasonable utilization of the Nile water within their respective territories. However, this was not included in the 1997 convention of the Law of the Non-navigational Uses of International Watercourses. Rather, it was drawn from article 4(2)h of CFA (Agreement on the Nile River Basin Cooperative Framework, 2010) which was rejected by Egypt (Anonymous Interview, Ministry of Water and Energy, August 2023). A senior expert disclosed that Article 4(2)h of the CFA was not accepted by Egypt, but Egypt signed the same idea embodied in the DoP. This signing showed Egypt's recognition of Ethiopia's rights to the Nile water for the first time, which represented a new legal environment (Interview with Senior Diplomat, Ministry of Foreign Affairs, November 2021). Noting this change, scholars asserted

that the DoP enshrined a "fairness principle" for sharing the Nile waters (Zeray, 2017) and "a new legal order" (Salman, 2016) that superseded the old order. It might also foreshadow the end of the inequitable water-sharing regime, as Egypt recognized Ethiopia's right to the Nile water, which contradicted the 1959 agreement that Egypt insisted on.

Thus, the GERD could be considered a benefit-sharing project as theorized and outlined in the benefit-sharing framework by Grey and Claudia (2002). The first benefit, according to the benefit-sharing framework, was 'benefits to the river'-ecological benefit derived from an eco-friendly sustainable water management system (Alam *et al*., 2009). These benefits would improve water quality and flow, enhance management of the watershed, reduce sediment, and preserve biodiversity (Tawfik, 2016). Accordingly, the GERD would offer scientifically verified benefits to the river. These included flood reduction, controlled and uniform flow of water, drought mitigation, increased water as a result of constant flow, reduction of water losses by infiltration and evaporation, and sedimentation control (Ethiopian National Panel of Experts, 2013; Jeuland *et al.*, 2014; Khalil *et al.*, 2017; Belachew, 2013; Basheer *et al.*, 2020).

In comparison, the evaporation loss from the operation of GERD was estimated 0.4 BCM (Belachew, 2013; Tesfaye, 2015), while the evaporation from the Aswan High Dam in Egypt and Sudan dams was reported 14.3 BCM and 4.7 BCM, respectively (Tesfaye, 2015; Belachew, 2013). Even the evaporation rate, for instance, in Jebel Aulia was higher than the storage capacity of the dam (Ibid.). Owing to its topographical leverage, the full operation of the GERD project would be expected to reduce the average annual losses of the High Aswan Dam from 10.8 BCM/year to 9.5 BCM/year (Belachew, 2013).

In addition, the GERD was projected to decrease sedimentation by 86%, which in turn might increase the generation capacity of downstream countries' hydropower plants, reduce maintenance costs, and increase crop productivity by reducing floods (Belachew, 2013). Nevertheless, it might affect soil fertility in downstream countries because of reduced sedimentation. Moreover, the GERD reservoir would provide a consistent water flow to downstream countries when it would be fully operational (Tesfaye, 2015; Asegdew *et al.*, 2014). Therefore, the construction of more reservoirs in upstream Ethiopia would save more water, thereby preserving the river ecosystem from extinction resulting

from unilateralism and competition. This was supported by He *et al.* (2022:15) who argued that "the GERD could serve as a sediment trap and water storage for Sudan and Egypt, protecting them from flooding, pollution, and sedimentation."

The second category of benefit is 'benefit from the river' denoting economic benefits from hydraulic infrastructure (Alam *et al*., 2009). As a hydraulic infrastructure, GERD has socio-economic benefits for three riparians and the region at large. An informant emphasized that among the ten major benefits of the GERD seven go to downstream countries without paying to Ethiopia (Interview with Senior Diplomat, Ministry of Foreign Affairs, November 2021). For Ethiopia, the GERD would play an essential role in the realization of the country's vision of attaining a middle-income country, universal electricity access, and a regional energy hub by 2025 (FDRE, 2019; Ministry of Water and Energy, 2013). Currently, only 44% of the country's population has access to electricity (FDRE, 2019), and the majority of the population (87%) is in abject poverty (WFP, 2020). However, the number varies. According to the energy advisor to the Minister of Water and Energy, per capita electricity of Ethiopia (130 kWh) is the least in the world and electricity access is 51 percent (an interview with senior energy advisor, Ministry of Water and Energy, July 2023). Moreover, nearly 57 million people have no access to modern energy (interview with senior energy advisor, Ministry of Water and Energy, Addis Ababa, July 2023). Since 80% of the total economic benefit of the GERD is hydropower generation (Jeuland *et al.*, 2014), the GERD is key in realizing a universal electrification access program under the motto of 'Lighting to All' (FDRE, 2019) and bringing structural transformation in economic and social sectors.

In this regard, the full operation of the GERD is expected to double the current power generation (4818.2 MW) capacity of Ethiopia (Ethiopian Electric Power, n.d). This could bring structural transformation by reducing the power shortage problem of the economic and service sectors of the country. Getachew *et al.'s (*2020) study suggested that improved access to reliable and affordable energy will, thus, boost the Ethiopian economy by 1.5%. Increased access to energy could also enhance productivity in manufacturing, industry, the service sector, and other energy-dependent sectors.

Furthermore, the completion of the GERD will dramatically increase Ethiopia's power export. An increase in power trade potentially contributes to the economic growth of the country and enhances regional integration through power and infrastructure connectivity. Currently, Ethiopia exports power (532 GWh) to Djibouti (Africa Development Bank Group, 2023). At the same time, Samuel (2022) reported that Ethiopia sells 100 MW to Sudan, and 200 MW to Kenya, creating an energy-interdependent region. Thus, Ethiopia generates more than $50 million annual revenue from power exports to Sudan and Djibouti with plans to increase it to $400 million by 2032 (Ethiopia News Agency, 2022). In the 2020/21 fiscal year, revenue from power exports brought about a significant growth of 36.2% (Ashenafi, 2022). By then, the country earned $95.4 million by exporting 1,700 GW (gigawatts) to Djibouti and Sudan (Samuel, 2020).

However, Ethiopia has not yet met the growing energy demand of its neighboring countries. Sudan, for example, has requested 1000 MW (Africa Business Networking, 2021) while Djibouti, which relies on imports for over 80% of its total power, will request 314 MW by 2037 (Red Sea Power, n.d.). An informant noted that Sudan has high electricity demand of 500 kV interconnection line currently under construction to increase exports to 3000 MW, financed by the World Bank (interview with senior expert, Planning and Investment Department, Ethiopian Electric Power, May 2022). In Djibouti, the second Ethio-Djibouti power connectivity infrastructure construction is underway, financed by Africa Development Bank (interview with senior expert, Planning and Investment Department, Ethiopian Electric Power, May 2022). This will increase power export to Djibouti by 30% (Africa Development Bank Group, 2023). Moreover, Ethiopian Electric Power plans to expand power exports to eight destinations following the completion of GERD. Memorandums of Understanding have been signed for power purchase agreements, including a deal with Tanzania to export 400 MW (Tesfa-Alem, 2016). Moreover, agreements have been reached with South Sudan to initially supply 100 MW, with plans to increase it to 400 MW (Ethiopia News Agency, 2022), as well as with Yemen (100 MW) (Tigrai Onlne, 2014). Ethio-South Sudan interconnection project feasibility study is at the preparation stage (interview with senior expert, Planning and Investment Department, Ethiopian Electric Power, May 2022). Somalia and Somaliland have also requested power purchase from Ethiopia (interview with senior expert, Research and Development Department, Ethiopian Electric Power, May 2022). In the former case, a feasibility study of 500MW Ethio-

Somalia interconnection line is currently undertaken, financed by the World Bank (interview with senior expert, Planning and Investment Department, Ethiopian Electric Power, May 2022). An informant from Ethiopia Electric Power has stated that a project is underway to extend the Ethio-Kenya transmission line to Tanzania and South Africa, including Burundi and Rwanda (interview with senior expert, Planning and Investment Department, Ethiopian Electric Power, May 2022). The Ethio-Eritrea interconnection is also being discussed at a higher level (interview with senior expert, Planning and Investment Department, Ethiopian Electric Power, May 2022). These power export plans are expected to be implemented once the GERD is fully operational, positioning Ethiopia as an emerging hydropower state and a regional energy hub. The GERD not only increases Ethiopia's power exports and foreign currency earnings but also supports the region's transition to energy economy free from carbon. Furthermore, power exports may contribute to the creation of an interdependent grid community around the GERD.

The remaining 20% of the benefits resulting from GERD encompass various aspects like fishery development (5,000 to 10,000 tons of fish annually), mitigation of CO2 emissions, tourism, job creation, investment, and knowledge transfer (Office of National Council, 2017a: 8; 2017c: 2; Interview with an expert at Office of National Council for the Coordination of Public Participation on the Construction of GERD, April 2022). During the construction phase, approximately 15,000 Ethiopians were employed, and further job opportunities would be expected upon the project's completion (Ethiopian Electric Power Corporation, as quoted in Tawfik, 2016).

Beyond its economic benefits, the GERD project has also political and symbolic significance. An informant recalled that the GERD is an emancipatory project as it has transformed the spirit of "impossible" into the spirit of "possible," both in idealistic and practical terms (interview with a researcher at the Institute of Foreign Affairs, November 2021). It is also seen as a symbol of revivalism, self-reliance, and self-esteem, and a sign of modernity (Yalemzewd, 2020; Khalil *et al.*, 2017; Zeray, 2017). It has revived the spirit and values of the Battle of Adwa (Interview with Senior Transboundary Resources Affairs expert at the Ministry of Water and Energy, July 2023), a historic event that transcended provincialism, ethnicity, gender, religion, and other social classes (Maimire, 2005). The dam has connected all sections of the society as inseparable and revived the values of the

victory of Adwa such as fraternity, togetherness, oneness, courage, magnanimity, victoriousness, and heroism (Maimire, 2005). Like Adwa, the GERD is framed as a fight against injustice in the utilization of Nile Water, rooted in the colonial legacy.

Next to Ethiopia, Sudan is indeed an immediate beneficiary of the GERD project. However, Sudan's position on the GERD project lacks clarity, consistency, and persistence (BBC, 2021), as it has been swinging like a pendulum. There are instances where Sudan aligns with Egypt to the extent of being an instrument for the latter, as seen in the AU-led negotiation under the Chairmanship of Félix Tshisekedi (EIU, 2021). In the 2021 Kinshasa Tripartite Negotiation, Sudan has presented a proposal that undermines the AU-led negotiation, which is in the best interest of Egypt (Interview with Senior Diplomat, Ministry of Foreign Affairs, November 2021). Supporting this assertion, an informant strongly argued that,

> *Sudan is an unfinished state and a political marketplace with the involvement of several regional actors, including Egypt. Egypt has consistently maintained a close watch on Sudan's internal political developments, sometimes utilizing it as a tool against Ethiopia in their dispute over the GERD* (interview with a researcher at the Institute of Foreign Affairs, November 2021).

However, on other occasions, Sudan supports Ethiopia. Sometimes, Sudan has also played a bridging role between Ethiopia and Egypt (Otinov, 2022; Al Masry, 2017). Despite this, Sudan's occasional support for the GERD does not appear to be driven by political or geopolitical motives. An informant also noted that

> *Sudan recognizes the benefits of hydropower dams in Ethiopia, as they have experienced the advantages of the Tekeze Dam. They acknowledge that for every dollar Ethiopia earns from the dams, Sudan gains three dollars. However, the challenge they face is external pressure that affects their stance on the issue. Since its independence, Sudan has been marked by a series of crises and coups. Historically, the security sector in Sudan has maintained strong ties with Egypt, indicating that they are not entirely free from Egyptian influence* (Interview with Senior Diplomat, Ministry of Foreign Affairs, November 2021).

Instead, Sudan's support to the GERD stems from the recognition and acknowledgment of the benefits that the GERD can bring to Sudan. Sudan has not yet fully utilized its hydropower and irrigation potential owing to seasonal fluctuations in the Nile Water, the absence of mega-water storage infrastructure, and the devastating impact of seasonal floods and sedimentation (Basheer *et*

al., 2020). For instance, the Sennar and Roseires dams have experienced a reduction of 71% and 36% respectively in their initial capacity because of sediment deposited in the reservoir (Belachew, 2013). This sedimentation has decreased the lifespan, water storage capacity, and hydropower generation capabilities of these dams while also increasing maintenance and sediment removal costs (Belachew, 2013). The GERD, however, offers an opportunity for Sudan to overcome these challenges and realize its potential.

Some of the benefits to Sudan include an increase in hydropower generation capacity for its seasonal storage dams, reduction of damages caused by seasonal flood, enhanced potential for irrigated agriculture, water conservation, reduced evaporation, sediment control, navigation opportunities, and the option to purchase power from the GERD project (Office of National Council, 2017a:9; Jeuland *et al.*, 2014; Khalil *et al.*, 2017; Belachew, 2013; Basheer *et al*., 2020; He *et al*., 2022; Getachew *et al.*, 2020).

Empirical studies show that the GERD has the potential to reduce alluvial sediment in Sudan by 100 million cubic meters, reduce approximately 40 km of flooding, and irrigate 500,000 ha of new agricultural land (Khalil *et al.*, 2015). This can enhance the energy production capacity of the Roseires, Sennar, and Merowe hydropower plants (Jeuland *et al.*, 2014). In addition, it can increase agricultural production by providing regulated clean water throughout the year, reduce harvest losses caused by floods and water shortages. However, the decrease in flood may have long-term negative impact on soil fertility. Alongside these benefits, Sudan can also save the cost it allocates for sediment removal, dam maintenance, and settlement of flood-induced migrants. According to Belachew (2013:10), "Sudan alone could save approximately USD 50 million per year by reducing costs associated with canal dredging". Hence, the benefits that the GERD offers to Sudan in terms of energy, food, and navigation has a positive impact on the Sudanese economy. Studies reveal that the associated benefits of GERD will contribute US$ 27-29 billion to Sudan's GDP between 2020 and 2060 (Basheer *et al.*, 2020). Getachew *et al.* (2020) reported that Sudan is the second largest beneficiary of the GERD. Thus, Sudan can be considered fortunate as an immediate downstream riparian because it receives these benefits without having to share the associated costs, which goes against the principle of equitable benefit-sharing.

The benefits of the GERD to Egypt are "an increase in irrigated area, a decrease in sedimentation in Lake Nasser, and a reduction in flooding" (IPoE, 2013:41), reduction of evaporation loss to 9.5 BCM/year from 10.8 BCM/year at High Aswan Dam (Belachew, 2013:10). Furthermore, the GERD extends the life of High Aswan Dam, enhances navigation as a result of regulated and increased water flows, and mitigates drought (Ethiopian National Panel of Expert, 2013). Getachew *et al*. (2020) argue that Egypt will gain 0.17 billion in additional real GDP each year starting in 2024 once the GERD becomes operational, compared to Egypt's GDP in 2020.

The third benefit is 'the reduction of costs because of the river', which refers to the mitigation of political tensions arising from competition over water resources (Grey and Claudia, 2002; Alam *et al.*, 2009). In this regard, the GERD has revealed the coexistence of conflict and cooperation, and competition and cooperation. Despite Egypt's and Ethiopia's securitizing of the GERD as an existential threat (State Information Service, 2021; Embassy of Egypt Washington D.C, n.d; Al-Anani, 2022) and necessity (FDRE, 2020a) respectively, the absence of overt conflict contradicts prediction of a water war (The International Institute for Middle-East and Balkan Studies, 2020; Ibrahim, 2021). Instead, conflict and cooperation over GERD occur simultaneously.

In terms of cooperation, there are evolving norms emerging from the trilateral negotiation that have significant implications to the existing inequitable treaty regime. The DoP is an illustrative example. First, the DoP incorporates principles of international water law enshrined in the CFA. Second, the DoP recognizes the issue of property rights associated with the Nile by recognizing the GERD as a hydropower generation project with a role in economic development, hydro cooperation, and regional integration (DoP, 2015). Third, an agreement has been reached to prioritize power purchases and promote energy-based integration as a confidence-building measure for downstream countries (DoP, 2015). Thus, the signing of the DoP can serve as a foundation and cornerstone for future cooperation. Salman (2016:14) reports that the GERD shows the changing power relations and emergence of a "new legal order" so as to replace the 1902 and 1959 agreements.

In addition, three factors may stimulate cooperation in the Nile region. First, the GERD creates an opportunity to foster cooperation based on a benefit-sharing framework. Second, the costs of non-cooperation may push Egypt towards opting for cooperation. Third, the GERD could potentially

change the power dynamics of the region by positioning Ethiopia as a regional anchor state. As discussed earlier, the GERD has the potential to reconfigure the regional power balance. It may strengthen Ethiopia's material power (economic power) as well as non-material power, specifically bargaining and ideational power. In terms of the latter, various water-based institutions have emerged because of the GERD. These includes the National Panel of Experts, Water, Hydro-Diplomacy and Communication Forum; Hydro Politics and Diplomacy Desk within the Ministry of Water and Energy's Transboundary Resources Affairs Directorate, and Public Diplomacy Centers at universities and research institutes. This demonstrates how the physical dam is evolving into an intellectual GERD, potentially increasing Ethiopia's ideational power and breeding a water-conscious society. In addition, the project may serve as an emancipatory force for Ethiopia and other African countries by emphasizing the feasibility of constructing large-scale hydraulic infrastructure for development without having to rely on external financial sources (Interview with Senior Researcher at the Institute of Foreign Affairs, November 2021). The success of the GERD may inspire other countries to pursue similar projects, leading to a shift in the regional dynamics of power and development. Thus, the GERD may inspire self-reliance and catalyzes regional transformation and empowerment toward justice and equitable order. These developments could have long-term implications for the geopolitics of the Nile Region and may make Egypt accept cooperation.

Contrary to Goitom's (2014) claim, the GERD may not end the geopolitical rivalry between Ethiopia and Egypt but it rather may change the playing field from water to power trade. Both countries are now engaged in a power trade rivalry. Ethiopia aims to become a clean energy hub in the region, which will fundamentally alter the regional balance of power while Egypt seeks to block Ethiopia's power agreements (Mikhail, 2021). Egypt's opposition to the GERD is to maintain its geopolitical superiority by portraying Ethiopia as a rising hydropower state. Thus, the future may entail a coexistence of conflict and cooperation, and competition and cooperation within the power trade field.

The last category is 'benefits beyond the river'. This may suggest cooperation in regional integration, trade agreements, labor movements, hydropower interconnections, and investments. In this respect, the realization of cooperation makes the GERD a catalyst to draw extra benefits 'beyond the river'

(Cascão *et al.*, 2016). Such benefits include market integration, trade agreement, power trade and interconnectivity, and investment. Nevertheless, an inclusive agreement among the three countries is a prerequisite to realize such benefits.

1.4. CONCLUSION

This paper has examined the broader geopolitical implications of the GERD in light of the benefit-sharing framework and the conflict between Ethiopia and Egypt. It is evident that the conflict over the GERD extends beyond the physicality of the dam and is deeply rooted in the geopolitical rivalry between the two countries. Egypt perceives the GERD as an existential threat to its existing water-sharing regime while Ethiopia markets it as a benefit-sharing project and an existential necessity.

The conflict surrounding the GERD is not solely about competing water regimes, but rather about the potential geopolitical implications it holds. The GERD has the power to reposition Ethiopia as a rising clean energy hub, leveraging its economic, ideational, and bargaining power in the region. This reconfiguration of power has the potential to redraw the existing geopolitical map and alter the regional balance of power in favor of a benefit-sharing regime, which Egypt sees as a threat to its water-sharing regime.

Furthermore, the GERD has the potential to induce cooperation between riparian countries for several reasons. First, it offers proven benefits to the region, serving as an incentive for cooperation. Second, the cost of non-cooperation may push countries to engage in dialogue. Third, the GERD can enhance Ethiopia's power matrix by repositioning it as a rising clean energy hub, increasing its economic, ideational, and bargaining power.

However, the study also highlights the possibility that the GERD may also transform the geopolitical rivalry between Ethiopia and Egypt from a water-based conflict into a power trade competition. This implies that cooperation and conflict, competition and cooperation may coexist in this complex geopolitical landscape. Understanding these geopolitical implications is thus crucial for navigating the complexities of the issue and finding sustainable solutions.

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