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FROM COLONIAL AGREEMENTS TO CONTEMPORARY CONFLICT: THE NILE WATERS TREATIES AND THE EGYPT-ETHIOPIA GERD CRISIS

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Abstract

This article examines the current and historical dynamics that underpin today's Egyptian-Ethiopian conflict over the use of the Nile River, with special emphasis on the Grand Ethiopian Renaissance Dam (GERD). It traces the genesis of the conflict to the colonial-era treaties—the 1929 Anglo-Egyptian Agreement and the 1959 Egypt-Sudan Treaty—granted Egypt de facto hegemony over the waters of the Nile and excluded upstream riparian states, notably Ethiopia. These colonial geopolitics-influenced agreements have continued to be a source of legal and political controversy in modern Nile Basin affairs. Ethiopia's construction of the GERD is an assertion of its ancient sovereign right to development, challenging the validity of traditional water apportionments. Egypt, however, sees the dam as a threat to the very survival of its state and invokes the principle of "no significant harm" in international water law. The article analyses the legal, geopolitical, and environmental factors of the crisis against global standards, regional political circumstances, and cooperative arrangements like the Nile Basin Cooperative Framework Agreement. It argues that greater reliance on old treaties shuts out conflict resolution in a sustainable manner and equitable management of water. Research concludes that it advocates for a consolidated, basin-wide legal framework founded on the rules of equity, mutual benefit, and cooperative diplomacy as the most reasonable means to lasting peace and development in the Nile Basin.

Keywords: *Egypt-Ethiopia Relations, GERD, Nile River, International Water Law, Transboundary Water Conflict.*

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1. INTRODUCTION

Transboundary water resources are usually spheres both of cooperation and contest, shaped by geography, history, regimes of law, and geopolitics. Where rivers cross state boundaries, competition for access, allocation, and control over water tends to create diplomatic tensions and sources of potential instability. Nowhere is this tension more acutely experienced than in the Nile Basin, where historical water allocation has been with some downstream states—Egypt and Sudan, respectively—by virtue of preponderating over the upstream nations, most notably Ethiopia. The basis of this unequal apportionment lies in treaties from the colonial era that established Egypt's de facto monopoly on river utilization, even though most of the Nile's water originates from the Ethiopian highlands.

The Nile River itself is over 6,650 kilometers long and flows through eleven countries: Burundi, Rwanda, the Democratic Republic of Congo, Tanzania, Kenya, Uganda, South Sudan, Sudan, Ethiopia, Eritrea, and Egypt. Two great tributaries, the White Nile and the Blue Nile, feed into the Nile River, of which the Blue Nile supplies more than 85% of the water that finally reaches Egypt (Swain, 2002). Despite this, Egypt has long wielded control over Nile water use and allocation, citing the 1929 and 1959 treaties as the basis for its right. The treaties were negotiated in colonial or post-colonial settings, inclusive or exclusive of most of the upstream riparian states, respectively. They are thus typically viewed by countries like Ethiopia as unfair and infringing on contemporary norms of international water law.

The ancient asymmetry of Nile dominance has established the foundations for geopolitical resentments over centuries in the upstream states. Ethiopia, above all others, has been the focal point of attempts to disrupt the balance. Ethiopia was never a colony and therefore never a party to the colonial treaties, but its hydrological contribution has long remained underdeveloped for geopolitical reasons. The last two decades, however, have seen Ethiopia initiate a vision of greatness for infrastructural development to harness the Blue Nile for economic and energy development. The peak of such imagination has been the construction of the Grand Ethiopian Renaissance Dam (GERD) since 2011. When complete, GERD will be Africa's largest hydroelectric plant with the capability of producing over 6,000 megawatts of power and significantly enhancing the energy security of Ethiopia.

The announcement and promotion of the GERD project have renewed long-standing tensions between Egypt and Ethiopia. Egypt views the dam as being against its survival because it will

reduce the water level downstream and damage its agriculture, water security, and overall national stability. Egypt's establishment has always been convinced of the position that any significant reduction in Nile flow will be a red line, bringing up the "historic rights" contained in the 1929 and 1959 agreements. Ethiopia, on the contrary, asserts its sovereignty as a nation and its right to develop its natural resources for its people, and it rejects categorically the applicability of the treaties to which it never signed up (Arsano, 2007).

In the past few years, there has been ample international and regional focus on the GERD dispute. Several rounds of negotiations between the African Union (AU), the United States, and the World Bank have so far failed to produce a legally binding agreement to fill and run the dam. While Ethiopia has proceeded to build and partially fill the dam, Egypt has embarked on developing diplomatic pressure to compel Ethiopia to accept a legally binding agreement. Sudan, which is wedged between these two superpowers, has been oscillating between restraint and cooperation because it is concerned about the potential impact GERD could have on its water infrastructure as well as domestic political forces.

This paper illustrates profound tensions among older and new claims, among colonial heritage and modern sovereignty, and among ecological needs and geopolitical rivalry. It also raises important questions about the architecture of international law, equitable solutions to water sharing, and regional institutions in managing transboundary water conflict. The GERD crisis explains the broader challenges facing international river basins to balance past injustices and future development interests.

This paper critically examines how colonial-era treaties have habituated and currently complicate Egypt-Ethiopia Nile negotiations. The essay explains the historical contexts of the 1929 and 1959 Nile Waters Treaties, Ethiopia's political and legal objections against those treaties, and the overall implications of GERD towards regional peace, energy cooperation, and international water law. The discussion is based on legal scholarship, historical documents, hydropolitical analysis, and recent diplomatic efforts to offer an inclusive discussion of the Nile dispute. Lastly, the essay concludes that the long-term resolution would require the abandonment of traditional legal orders and the establishment of a new, cooperative, and integrated basin-wide regime founded upon equity, mutual respect, and shared advantage.

2. THE HISTORICAL-LEGAL-GEOPOLITICAL (HLG) CONFLICT MODEL OF THE NILE WATERS DISPUTE

Overview of the Model

The model explains the Egypt-Ethiopia GERD conflict as a consequence of the interplay between colonial legal traditions, asymmetries of riparian power, and evolving geopolitical politics through time. It illustrates three key dimensions (historical, legal, and geopolitical) and links them to present expressions of conflict and cooperation on the GERD.

a. Core Components of the HLG Model

Dimension

Key Variables

Historical Legacy (H) - Colonial period treaties (1929, 1959)

i. Exclusion of the upstream state
ii. Legal Frameworks (L) - Water International Law
iii. Mutually exclusive legal principles (no harm vs. equitable use)
iv. Nation sovereignty claims
v. Geopolitical Power (G) - Historical Egyptian hydro-hegemony
vi. Rise of Ethiopia as a regional power
vii. Regional and international mediation efforts

b. Conflict Catalysts

These are the forces that activate tensions between states when historical, legal, and geopolitical arrangements conflict.

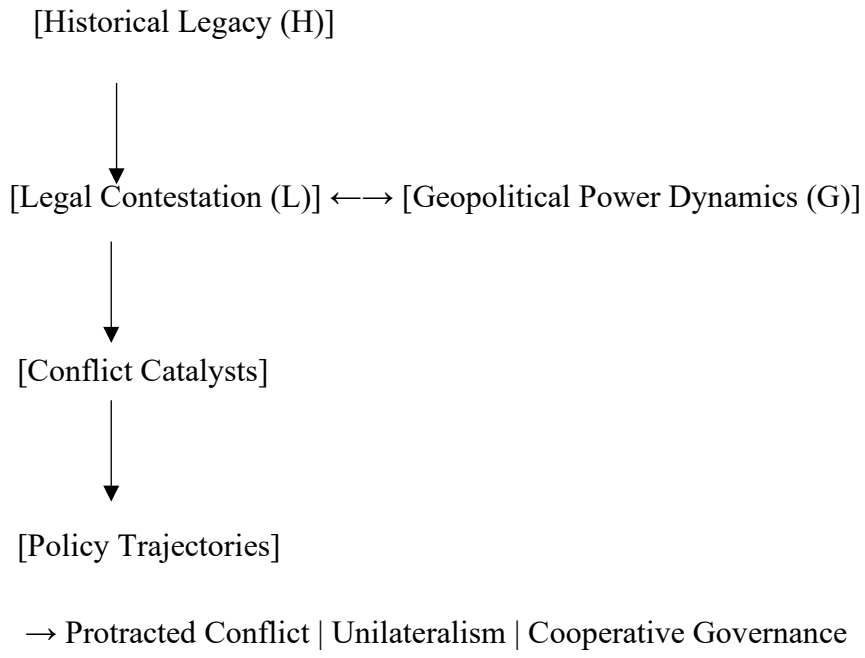
i. Assertion of national sovereignty (e.g., Ethiopia's unilateral construction of GERD)
ii. Rigidness of colonial agreements in response to present realities
iii. Felt existence threat (e.g., Egypt's dependence on uninterrupted Nile flows)
iv. Ineffective multilateral enforcement (AU and UN mechanisms without binding authority)

c. Outcomes

Based on the dynamics among the three pillars, the model predicts three possible paths:

i. Trajectory Description
ii. Protracted Conflict Continuing diplomatic stalemate, regional polarization, and danger of military or diplomatic escalation
iii. Unilateralism
iv. Repeated unilateral behavior (e.g., Ethiopia's unilateral filling of the dam), posing regional instability
v. Cooperative Governance: Establishment of inclusive legal and institutional frameworks (e.g., Nile Basin CFA), leading to sustainable, just outcomes

d. Visual Representation of the HLG Model



e. Application of the Model

i. To analyze GERD: The model allows for the analysis of how Ethiopia's rejection of colonial-era treaties, merged with its growing geopolitical agency, disrupts Egypt's legal and historical rights.

ii. To guide negotiation frameworks: By illuminating the prevailing historical and legal hurdles, the model allows for more equitable frameworks to be crafted.

iii. To forecast impending crises: The model is adaptable to other transboundary water disputes (e.g., Tigris-Euphrates, Jordan River Basin).

f. Theoretical Foundations

i. Hydro-hegemony theory (Zeitoun & Warner, 2006)

ii. International Water Law (UN Watercourses Convention, 1997)

iii. Postcolonial legal critique (Mutua, 2000)

g. Conclusion

The HLG Conflict Model offers a structured method for understanding the GERD crisis in the broader context of Nile Basin hydro politics. It emphasizes that as long as outdated colonial frameworks are not dismantled and regional cooperation with inclusivity is encouraged, there will be a trust deficit and spiraling tensions. The model also indicates an overdue imperative for a basin-wide institutional and legal reform by principles of equity, mutual benefit, and respect of sovereignty.

3. THEORETICAL FRAMEWORK

The Egypt-Ethiopia confrontation is set against historical, legal, and geopolitical contexts of the Nile waters and, in particular, around the Grand Ethiopian Renaissance Dam (GERD). To disentangle these complexities, this research deploys a multi-theoretical approach grounded in Postcolonial Theory, Hydro-Hegemony Theory, and International Water Law. Combined, these theories reveal how power asymmetries based on history, legal arguments, and shifting regional politics shape current confrontation.

i. Postcolonial Theory

Postcolonial theory is a critical discursive lens that can be applied to the foundational structures of colonial-era inequality found in the 1929 and 1959 Nile Water Treaties. The treaties were imposed or negotiated without the presence of upstream states of significant size, especially Ethiopia, and they reinforced Egypt's hegemony as a colonial beneficiary.

Key Argument: Colonial legacy continues to shape present Nile Basin relations by perpetuating outdated and unequal legal agreements that favour the interests of the downstream.

Implications to GERD: Ethiopia's unwillingness to sign on to the 1929 and 1959 treaties and its insistence on sovereignty and self-determination represent a sweeping postcolonial attempt to overturn colonial impositions on control of resources.

Academics: Edward Said (1978), Frantz Fanon (1961), and Mahmood Mamdani (1996) provide a foundational understanding of the manner in which colonial systems influence modern politics and conflict.

ii. Hydro-Hegemony Theory

Hydro-hegemony theory, advanced by Zeitoun and Warner (2006), explains how power asymmetries determine access, control, and allocation of transboundary waters. The theory identifies three types of power that affect water relations:

Material Power: Military, economic, and infrastructure power (e.g., Egypt's historical hegemony and threat of military power).

Ideational Power: Control of discourses and narrative (e.g., Egypt's demands of "historical rights").

Negotiative Power: Diplomatic clout and alliance politics (e.g., Ethiopia's appeal to pan-African institutions and regional development narratives).

Main Argument: Egypt has traditionally deployed hydro-hegemony as a set of legal, political, and military tools. Ethiopia's construction of GERD signals a shift in the regional balance of power.

Relevance to GERD: The theory explains how the dam challenges Egypt's traditional hydro-hegemony position and why Egypt would wish to remain in charge by means of international diplomacy and legal coercion.

iii. Principles of International Water Law

The system also appeals to international water law, especially as enshrined in the 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses. This legal framework centers on two significant, sometimes competing, principles:

Equitable and Reasonable Utilization: An equitable share of transboundary water resources is due to every riparian state (Article 5).

Obligation Not to Cause Significant Harm: States are obligated to avoid activities causing serious harm to co-riparians (Article 7).

Key Argument: The GERD crisis is a classic case of normative conflict between these two principles. Ethiopia invokes the principle of equitable utilization, while Egypt demands the implementation of the "no harm" principle.

Relevance to GERD: Lack of a multilateral binding treaty signed by all Nile Basin states, and Egypt's and Sudan's denial of the ratification of the Cooperative Framework Agreement (CFA), exacerbate legal uncertainty and discord.

Scholars Salman (2013), McCaffrey (2007), and Tanzi & Arcari (2001) are authorities in legal examination of the development and meaning of international water law.

Synthesis of Theoretical Insights

The integration of these three strands of theory allows for a complete analysis of the GERD dispute:

Theory Contribution to Analysis

Postcolonial Theory exposes how colonial heritages and historical injustices shape current perceptions of legitimacy and rights.

Hydro-Hegemony Theory explains how material and discursive power configure water control and resistance patterns.

International Water Law presents normative guidelines for assessing the legality, equity, and sustainability of transboundary water use.

Together, these explanations illuminate the multifaceted nature of the GERD conflict, not merely based on water shortages, but on contested narratives, legal doctrines, and shifting power structures.

This theory provides the conceptual basis for interpreting the Nile Waters dispute as more than a technical water management issue—it is a manifestation of contestatory history, legal complexity, and geopolitical transformation. In situating this GERD conflict at the intersection of postcolonial grievance, hydro-political reconfiguration, and legal indeterminacy, this research seeks to craft a richly textured account of the stalemate and potential avenues towards fair resolution.

4. THE POSITION OF ETHIOPIA AND THE ORIGIN OF GERD

4.1 Ethiopia's Exclusion in History and Sovereignty

The position of Ethiopia in the Nile conflict is based on its exclusion from colonial and postcolonial sharing agreements on water and on its persistent desire for equitable development. As it is home to roughly 85 percent of the Nile's waters—mostly through the Blue Nile, Sobat, and Atbara tributaries—Ethiopia has always considered the 1929 and 1959 Nile Waters Treaties unequal and inapplicable to its sovereign rights. These treaties, which were created without Ethiopia's involvement or consent, assigned the majority of Nile water to Egypt and Sudan, more or less locking out Ethiopia from formal basin institutions of management (Arsano, 2007; Yihdego, Rieu-Clarke, & Cascão, 2016).

The 1929 Anglo-Egyptian Treaty, which Britain negotiated with Egypt on its behalf and the behalf of its colonies, assigned Egypt 48 billion cubic meters (bcm) of Nile water annually and 4 bcm to Sudan. Most importantly, it provided Egypt with veto power on upstream development that would affect its water security (Tvedt, 2010). The resulting 1959 Egypt-Sudan agreement, signed after Sudan's independence, realigned the shares to 55.5 bcm for Egypt and 18.5 bcm for Sudan, again omitting Ethiopia and other upper riparians from any consideration (Swain, 2002). Ethiopia not only rejected such treaties but also made official protests at the time, exercising its sovereign right to utilize the Nile waters within its territory equitably and reasonably.

Ethiopia's rights are founded on principles inherent in international law, i.e., the principles of equitable and reasonable utilization, as interpreted in the 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses. Ethiopia claims that, as a sovereign riparian nation, it enjoys the right to undertake development projects—like the construction of dams—that do not cause unintended and significant harm to downstream countries (Salman, 2013). Ethiopian leaders have also claimed that no nation should be held hostage by archaic colonial compacts that disregard the ambitions and interests of over 110 million Ethiopians (Yihdego et al., 2016).

In asserting its sovereignty, Ethiopia has additionally appealed to pan-Africanism, arguing that the Nile conflict is not merely about sharing water but justice and the necessity for African countries to chart development paths of their own, unfettered by neo-colonial strictures (Cascão, 2009). Later Ethiopian governments—from Emperor Haile Selassie to the EPRDF and now the Prosperity Party—have all emphasized that the development of the Blue Nile is not only an economic necessity but also a matter of national prestige and strategic autonomy. Planning of the Grand Ethiopian Renaissance Dam (GERD) is a fulfillment of such a long-felt aspiration.

4.2 Strategic Significance of GERD

The GERD, inaugurated in April 2011, is a pioneering project in the Ethiopian national development plan and a symbol of its pan-African leadership. It lies near the border with Sudan within the Benishangul-Gumuz state and is expected to generate over 6,000 megawatts (MW) of electricity, the largest hydroelectric project in Africa and one of the largest in the world (Yihdego et al., 2016). The project is fully funded by the Ethiopian people and government through public donations and state bonds—a strategy that has served to intensify its symbolic meaning as a people's nationalist project (Verhoeven, 2013).

GERD is of strategic significance to Ethiopia for various reasons. In the first place, it is meant to provide constant electricity to over 65 million Ethiopians currently lacking access to energy, and to drive Ethiopia's general industrialization and poverty alleviation goals. Secondly, it forms the core of Ethiopia's aspiration to become a regional energy hub through the sale of electricity to neighboring countries such as Sudan, Djibouti, Kenya, and South Sudan, thus enhancing economic interdependence as well as regional integration (Tawfik, 2016).

Thirdly, and most significantly, GERD is a tangible exercise of Ethiopia's sovereign right to harness its natural resources for national development without foreign interference. The dam represents a turnaround from the long historical sidelining of Ethiopia's hydro-potential, which has remained constrained by downstream resistance and donor hesitance based on political sensitivities of the Nile Basin (Tvedt, 2010).

But while the GERD scheme is hailed at home as a triumph of self-determination, it has caused disquiet in Egypt. Cairo's elite has repeatedly painted the dam as a threat to Egypt's water security and, by extension, its very national survival. Being over 95 percent of its population situated along the Nile and receiving over 90 percent of its freshwater from the Nile, Egypt is highly vulnerable to any perceived reduction in flow (Swain, 2002). Egyptian authorities are concerned that GERD's reservoir, being full, would significantly reduce the volume and timing of water at the Aswan High Dam to affect agriculture, industry, and urban water supplies.

The strategic implications of GERD thus extend far beyond hydropower. For Ethiopia, the dam consolidates its developmental state model, regional powers status, and domestic cohesion. For Egypt, it undermines decades of hydro-political dominance and survival threats to water security. The interests are also rendered intractable by power dynamics at the regional level and the involvement of external actors, such as the African Union, the United States, and the Arab League, in mediating the standoff.

Furthermore, the rate and timing of filling GERD's reservoir are still contentious issues of debate. Ethiopia began filling the reservoir during the first filling in July 2020, with subsequent fills in 2021, 2022, and 2023 without a legally binding trilateral agreement with Egypt and Sudan. Ethiopia asserts that it has adhered to global best practice, including advance notice and information sharing, while Egypt and Sudan assert that these steps violate their rights and may cause significant harm during prolonged droughts (International Crisis Group, 2020).

In summary, GERD is more than a dam—it is a geopolitical and ideological tinderbox that embodies Ethiopia's postcolonial aspirations for liberation and development, and Egypt's anxieties about resource dependence and regional hegemony. The GERD dispute cannot be settled at the technical level alone; it is rooted in competing historical narratives, legal framings, and alternative visions of national sovereignty and security. Any sustainable resolution will therefore require more than technical adjustment—it will require the remapping of interstate relations based on mutual acceptance, equity, and regional partnership.

5. EGYPT'S INTERESTS AND REGIONAL POWER POLITICS

5.1 National Survival and Water Security

Inherent interests in water security, national survival, and regional power drive Egypt's opposition to the Grand Ethiopian Renaissance Dam (GERD). The Nile River supplies Egypt with over 90% of its freshwater. It sustains over 95% of its population, living along the riverbanks, mostly in the area within the riverine valley and Nile Delta (Swain, 2002). Having little rain and no groundwater resources, Egypt depends almost entirely on the Nile as a source of subsistence for farming, drinking water, sanitation, and electricity. Any interference with the flow of the river—be it through prolonged drought, upstream withdrawals, or one-sided development—constitutes, in Egyptian eyes, an existential threat.

Egypt traditionally has relied on the Nile not just for sustenance but as a fundamental aspect of state consolidation and legitimacy. Since the 1960s, when the Aswan High Dam was constructed, Egypt has been pursuing an aggressive hydro-political strategy for gaining maximum mastery over Nile flows. The 1929 and 1959 Nile Waters Agreements solidified Egypt's entitlement to a combined 55.5 billion cubic meters (bcm) of the river's annual outflow, with Cairo having de facto veto authority over upstream projects (Tvedt, 2010). The potential for Ethiopia to operate a dam capable of managing Blue Nile flows—without Egyptian approval—has thus set off fears of a radical shift in Nile power relations.

Its core concern is the GERD's potential effect on the quantity and timing of water that reaches Egypt. Filling the dam's 74-billion-cubic-meter reservoir in the first instance can lead to an immediate but substantial drop in water availability downstream. Egypt fears that an uncontrolled or hastened filling procedure during years of low rainfall could reduce Nile flows to levels that compromise irrigation, hydropower generation in the Aswan High Dam, and municipal water supply (Wheeler et al., 2020). The operation of the dam in the long term also signals apprehensions about long-term cumulative impacts on Egypt's agricultural productivity, food security, and general socioeconomic well-being.

Egypt's water policy has therefore increasingly been securitized. Governments over the years have framed water scarcity not only as an environmental or developmental issue but as a political sovereignty and security issue (Pinfari, 2010). Egyptian presidents—e.g., former President Hosni Mubarak and current President Abdel Fattah el-Sisi—have publicly declared that any reduction of Egypt's quota of the Nile would be a casus belli. These statements, while

likely intended as threats, have heightened regional tensions and complicated diplomatic negotiations.

Further, climate change adds another dimension of complication to Egypt's water arithmetic. With increased temperatures, increased evaporation, and more variable rainfall patterns in the Nile Basin, Egypt is bound for an era of increasing water stress independent of GERD (Sullivan & Huntingford, 2009). The dam itself is perceived as a mitigating factor that could exacerbate existing vulnerabilities if unilaterally exercised by Ethiopia.

Hence, Egypt's opposition to GERD is not just a question of existing water volumes but also control, predictability, and credibility in the absence of an adhesive legal regime. In the absence of a commonly accepted mechanism for coordination and sharing of data, Egypt views the dam as a constant destabilizing factor that undermines its historical status as the predominant riparian power.

5.2 Geopolitical Posturing and Mediation Efforts

Against Ethiopia's continuous construction and simulated filling of GERD, Egypt has embarked on a multi-dimensional diplomatic effort to internationalize the dispute and marshal regional and international support. This maneuver is not only an expression of Egypt's geopolitical shift to protect its interests but also an expression of its recognition of the changing power balance in the Nile Basin.

Egypt has approached various international and regional platforms, such as the Arab League, the African Union (AU), the United Nations Security Council (UNSC), and its bilateral allies like the United States and Gulf States, in a bid to gain diplomatic backing for its position. Egypt received an Arab League resolution in its favor regarding its "historic rights" to the Nile and against any move that would slice into its share in March 2020, even though key Nile Basin states like Sudan and Somalia were hesitant about the regional body's intervention (El-Fadil, 2021).

The AU took up mediation work in mid-2020, following a collapsed U.S.-conducted negotiation process in 2019–2020, where the World Bank was a technical observer. The U.S.-sponsored talks broke down when Ethiopia declined to endorse the Washington-drafted final deal, stating it was either not balanced in its methodology or not attentive to its core issues regarding sovereignty and development (International Crisis Group, 2020). Egypt did,

however, ratify the treaty and denounced Ethiopia's withdrawal as a display of unilateralism and bad faith.

While African Union involvement was welcomed unanimously as an African solution to an African problem, subsequent trilateral talks in Kinshasa, Khartoum, and Addis Ababa made minimal progress. Most issues, including the rate of filling, management of drought, settlement of disputes, and the legal nature of any future agreement, remained in dispute. Egypt and Sudan have insisted on a legally binding agreement, while Ethiopia has chosen non-binding guidelines (Tawfik, 2020).

In the UNSC, Egypt has argued that GERD is a potential threat to international peace and security; hence, Council action will be justified. However, both Ethiopia and some of the Security Council members have maintained that the dispute is best resolved by regional mechanisms and diplomacy and not by international adjudication. This is also a broader global reluctance to become engaged in water disputes, especially in the absence of armed conflict.

Egyptian foreign policy has also entailed bilateral relationships with global powers, the European Union, Russia, China, and Gulf nations such as Saudi Arabia and the UAE. The majority of these players have a stake in stability in the area and possess either infrastructure agreements or trade agreements with Egypt, Sudan, or Ethiopia, but have not become absolute arbiters who can close the gap between the two sides.

This geopolitics of juggling has demonstrated how Egypt's historic unchallenged hegemony in the Nile Basin has been undermined. As economically and diplomatically rising Ethiopia, so too is its ability to influence the regional GERD debate, adding to Egypt's dilemma. Still, Egypt's continued readiness of powerful allies, media access, and water diplomacy institutional memory ensures that it is a force to be reckoned with.

Overall, Egypt's geopolitical maneuvering is at once desperate and strategically calculated. In seeking to internationalize the GERD conflict, Egypt aims to exert moral and legal pressure on Ethiopia and rally third-party support. Yet this strategy has met with limited success in changing Ethiopian behavior or securing a binding legal resolution. As long as no political will to compromise exists on both sides, the negotiations are stalled, and the specter of long-term regional instability casts a shadow over the region.

6. LEGAL AND NORMATIVE CONTESTATIONS

The GERD dispute cannot be resolved using technical and geopolitical approaches only. At its core, the conflict stems from divergent perceptions of international water law and competing normative claims to sovereignty, equity, and historical rights. Ethiopia and Egypt rely on different principles in international agreements and customary international law for their respective legal arguments, leading to an impasse over what is a fair and lawful use of the Nile's transboundary waters.

6.1 Doctrines of International Water Law

The most important legal instrument governing the GERD dispute is the 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, a landmark treaty that reflects customary international norms for regulating transboundary water resources. Two general and often conflicting doctrines are the building blocks of this convention: equitable and reasonable utilization and the no-substantial-harm principle.

i. Equitable and Reasonable Utilization (ERU): Article 5 of the Convention reaffirmed that it is the right of all riparian states to utilize international watercourses equitably and reasonably, having regard to geographic, climatic, and hydrologic factors, as well as to population needs and uses made by them.

ii. No Significant Harm (NSH): Article 7 obliges states to use all reasonable efforts to avoid causing significant harm to other watercourse states. Where harm is suffered, the state must negotiate and consult in good faith to minimize the harm.

Ethiopia predominantly invokes the equitable utilization principle. It argues that, as the source of more than 85% of the Nile waters, it has been historically excluded and denied access to a fair share of the benefits of the river. The Ethiopian government holds the view that GERD is the best example of a development initiative that reconciles equitable use and sustainable management without doing too much harm (Yihdego, Rieu-Clarke, & Cascão, 2016). According to this perception, Ethiopia's entitlement to utilize its water resources—especially for non-consumptive uses such as hydropower—is central to its national development as well as regional integration agenda.

Egypt, however, invokes the no-harm principle and resorts to historic use and dependence. Cairo maintains that any modification to the flow of the Nile—particularly during the filling phase of the GERD—could cause irreparable damage to its agriculture, economy, and food security (Wheeler et al., 2020). Egypt has invoked Article 7 of the Convention repeatedly in claiming that Ethiopia needs to suspend or alter its project until there is a binding, overall agreement.

However, the two doctrines are complementary and not cumulative. International legal scholars argue that the doctrines must be read off each other in support of cooperation and to prevent claims in absolute terms (McCaffrey, 2007; Salman, 2013). In practice, states typically call on the doctrine most favorable to their strategic interests on an ad hoc basis. Ethiopia, for instance, emphasizes upstream equity, while Egypt emphasizes downstream protection.

This legal dualism is a part of the ongoing impasse in GERD negotiations. Egypt's "no harm" allusions are seen by Ethiopia as a guise for ongoing colonial-era water allocations, and Egypt views Ethiopian demands for unilateralism as a disregard for shared responsibilities. The absence of a basin-wide, legally enforceable instrument—signed by all riparians—allows each to proceed under national interpretations of international law.

6.2 The Cooperative Framework Agreement (CFA)

To address the political and legal failures of colonial-era treaties, several Nile Basin upstream states spearheaded the creation of a new legal instrument: the Cooperative Framework Agreement (CFA). Initiated under the Nile Basin Initiative (NBI), the CFA was designed to redefine Nile management by embracing contemporary legal principles of equity, sustainability, and participation.

Signed in 2010, the CFA reasserts the principle of equitable and reasonable use and seeks to establish a permanent Nile River Basin Commission, which would facilitate data-sharing, settlement of disputes, and cooperative development (Tawfik, 2016). It was signed by Ethiopia, Uganda, Kenya, Rwanda, Burundi, and Tanzania—all the upstream countries, which were dissatisfied with the colonial status quo. The CFA categorically rejects the principle of historical water rights, hence challenging Egypt and Sudan's historical rights to guaranteed water allocations under the 1959 treaty.

The CFA also contains Article 14(b)—a very contentious article that addresses the obligation not to inflict other riparians with substantial injury. Egypt and Sudan object to the language of this article, which in its current draft commits parties to "not considerably affect the water security of any other Nile Basin State." Egypt objected that "water security" be interpreted as "existing uses and rights," effectively to preserve its existing 55.5 bcm apportionment. The upstream states were opposed to this phrasing, viewing it as a recreation of unfair historical privileges (Cascão, 2009).

Egypt and Sudan, as of 2024, have declined to sign the CFA based on their "historical rights." This has brought attempts to establish a basin-wide governing authority to a standstill and undermined regional confidence. Ethiopia views the CFA as a legitimate alternative to colonial deals and a legal foundation for fair and visionary cooperation (Arsano, 2007).

The failure to achieve basin-wide consensus on the CFA reflects the broader normative gap in the Nile Basin: while upstream states are advocating for a forward-looking conception of equity and needs based on development, downstream states are committed to past entitlements and customary law. This divergence creates a governance lacuna that the GERD project has simultaneously exposed and enhanced.

Without a ratified CFA or an enforceable trilateral GERD treaty, Nile Basin states are left with ad hoc diplomatic negotiations and piecemeal legal norms. The informal mechanisms are not enforceable, inspire more distrust, and articulate a zero-sum picture of water politics.

The GERD and the Nile in general's normative and legal challenges show the limitations of international water law in highly asymmetrical and politicized circumstances. While equitable use and no significant harm principles offer a balanced conceptual perspective, their uneven application has cemented rather than resolved the dispute. Egypt and Sudan's refusal to sign the Cooperative Framework Agreement is only another instance of legal pluralism's ability to be an obstacle to cooperative management of transboundary river basins. Lastly, there must be a new legal consensus for sustainable solutions—one which looks beyond the zero-sum game of historic rights and absolute sovereignty to one of basin-wide advantage and interdependence among all riparian parties.

7. THE FUTURE IN SIGHT: HARMONY OR DISCORD?

The dispute of the Grand Ethiopian Renaissance Dam (GERD) has itself become a shorthand for the risks and promises of transboundary water management in the 21st century. While the standoff between Egypt, Ethiopia, and Sudan presents a formidable test for regional security, it also stands as a crossroads for the reformation of Nile Basin governance. The future path—cooperation or confrontation—rests in the political will of the riparian countries, the architecture of inclusive institutional arrangements, and the capabilities of regional organizations to foster meaningful debate and a legally enforceable accord.

7.1 Prospects for Regional Cooperation

Despite heightened tensions, the Nile Basin conflict need not be irreconcilable. The shared nature of the Nile River—as a precious resource for 11 countries—carries strong incentives for cooperation, particularly when imagined in terms of collective benefits such as the production of hydropower, agriculture production, conservation of the environment, and regional integration. Regional cooperation potential rests on three legs: collective management institutions, real-time data sharing, and equitable regimes of benefit-sharing (Zeitoun, Cascão, & Warner, 2020).

One possible path forward is a joint technical and legal coordination commission between Egypt, Ethiopia, and Sudan. While a mechanism for this purpose was proposed in several rounds of negotiation, it has not yet materialized as a formal binding institution. A three-way entity with equal membership can coordinate dam operation, drought preparedness planning, reservoir filling policy, and emergency procedures. This model is not novel; similar mechanisms exist in other river basins, such as the Mekong River Commission and the Senegal River Basin Development Organization (OBVS) (Tignino, 2011). These cooperation platforms have already proved that even in politically fragmented regions, collaborative water governance can yield security and economic benefits.

Data transparency and hydrological cooperation are also necessary. Ethiopia's slow filling of the GERD has been controversial, largely due to fear and suspicion of uncertainty. Egypt and Sudan have long objected to the absence of verifiable, real-time data on the water levels and output rates of the dam. Ethiopia asserts that it has provided sufficient notifications, on the other hand. Implementing mandatory data-sharing frameworks under AU or Nile Basin

Initiative (NBI) administration would improve confidence and decrease strategic uncertainty, especially during drought or unusual climatic events (Wheeler et al., 2020).

Furthermore, mutual benefits from GERD will be increasingly realized. Sudan, for example, has agreed that GERD would be able to regulate seasonal floods, boost sediment management, and enhance the efficiency of its dams, such as the Greater Roseires and Sennar Dams (Yihdego, Rieu-Clarke, & Cascão, 2016). Similarly, Egypt would benefit from power-sharing agreements under which the nation could acquire excess electricity generated by GERD at lower costs, thereby balancing related water loss with energy security.

The African Union's ongoing hosting of GERD negotiations is a testament to growing confidence in "African solutions to African problems." While the AU's record has been patchy, its normative role is significant. The continental institution offers a platform for multilateral discussion uncolored by the geopolitics associated with external mediation by the U.S., EU, or UN Security Council. The AU engagement espouses subsidiarity, solidarity, and regional integration norms in line with the vision of AfCFTA and Agenda 2063 (Tawfik, 2020).

Collectively, regional cooperation is not only possible but imperative. But this will also require a paradigm shift away from unilateralism towards basin-wide governance approaches founded on legal equality, ecological interdependence, and mutual trust.

7.2 Towards a New Nile Governance Regime

Enduring stability in the Nile Basin demands a transformation of its core legal and political structures. The current regime—founded upon the 1929 Anglo-Egyptian Treaty and the 1959 Egypt-Sudan Agreement—is an inheritance of colonial hydropolitics that manages inequity by committing the entire yearly flow of the Nile to two downstream states, while keeping out the upper countries of Ethiopia, Uganda, Kenya, and Rwanda (Tvedt, 2010). As the upstream states economically and politically grow stronger, strict compliance with these outdated treaties is no longer possible.

There must be a new Nile regime of governance that is inclusive, binding under the law, and flexible. This means renegotiating the 1929 and 1959 treaties through multilateral negotiations between all riparian nations. The regime must embrace the idea of "equitable and reasonable utilization" (as in Article 5 of the 1997 UN Watercourses Convention), but with a legal basis

for upstream states to pursue development while at the same time upholding "no significant harm" (Article 7), safeguarding downstream interests (McCaffrey, 2007).

At the forefront of this transformation is the full implementation of the Cooperative Framework Agreement (CFA). The CFA, signed by the majority of the upstream countries in 2010, provides the legal and institutional framework for water governance integration. Its implementation has been suspended by Egypt and Sudan's refusal to sign, based primarily on their differences over Article 14(b), which addresses issues of water security and historical rights (Cascão, 2009). Shattering this impasse will require diplomatic innovation and accommodation across the board. However, a reorganized CFA with enforceable provisions for resolving disputes, phase-in plans of implementation, and open water allocation formulas may serve as an exit strategy.

Furthermore, the new system of governance must take on climate resilience, human security, and ecological sustainability. The flow of the Nile River is increasingly susceptible to climate change, with future trends predicted as higher evaporation, altered regimes of rainfall, and higher inter-annual variability (Sullivan & Huntingford, 2009). A modern governance system must therefore include flexible allocation levels, drought prevention frameworks, and ecosystem protection standards so that both human and environmental interests are addressed comprehensively.

Experiences of pilot schemes in other transboundary basins demonstrate that such schemes are feasible. In Southern Africa, climate data and environmental indicators are incorporated into basin planning by the Orange-Senqu River Commission (ORASECOM). The Indus Waters Treaty between India and Pakistan, despite severe political rivalry, has endured due to sound legal and technical structures. The Nile Basin can draw from these strategies through the institutionalization of science-informed water diplomacy and reform of the law (Zeitoun et al., 2020).

Ultimately, the transition from conflict to cooperation in the Nile Basin requires more than good intentions—it requires institutional transformation, legal reevaluation, and political creativity. A new governance architecture, based on justice and shared destiny, is not only desirable but imperative for regional peace, development, and resiliency to looming hydrological shocks.

8. CONCLUSION

The Egypt-Ethiopia Grand Ethiopian Renaissance Dam (GERD) conflict shows how colonial-era treaty legacies still shape—and in most cases contort—contemporary interstate relations across shared natural resources. The issue is not hydrology or engineering alone; it is a deeply political and legal battle that has its roots in asymmetrical historical treaties, uneven power dynamics, and competing conceptions of national development and sovereignty.

Ethiopia's pursuit of GERD is a fiercely earned assertion of its independent right to develop its natural resources for national development. The dam is more than a hydropower project; it is a symbol of postcolonial self-determination and the linchpin of Ethiopia's dream of powering millions out of energy poverty, transforming the economy into an industrialized one, and making itself a regional energy hub. Conversely, Egypt's strong opposition to GERD is driven by its fundamental dependence on the Nile—supplemented by over a century of institutionalized water entitlements in virtue of the 1929 and 1959 treaties—and survival fear regarding water scarcity and economic exposure.

The test, therefore, is to balance Ethiopia's legitimate development aspirations with Egypt's indispensable water security interests within an inclusive, visionary framework that is grounded in international legal norms. Blind commitment to outdated treaties that exclude key upstream riparians only engenders more suspicion, undermines regional cooperation, and increases the risk of aggravating the crisis.

Resolution of the GERD crisis requires a courageous move towards a basin-wide governance mechanism that recognizes reasonable and equitable use, prevents significant harm, and promotes sustainable water-sharing regimes. This regime must shift away from bilateral negotiations and embrace multilateral interaction, led by African institutions such as the African Union and supported by open scientific data and guided by international best practices in managing transboundary waters.

Ultimately, the path to lasting peace and sustainable development in the Nile Basin is not one of zero-sum competition but one of shared understanding of rights, responsibilities, and mutual interdependence. Through the support of cooperative sovereignty and mutual benefit, Egypt, Ethiopia, and other riparian states can make the Nile a source of unity and a force for regional integration, prosperity, and long-term environmental sustainability.

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