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Damming the international order: the GERD and Ilisu dams as challenges to international water law and regional security

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Transboundary water disputes in the MENA region are increasingly shaped by climate-driven scarcity, large-scale dams, and contested regional orders. Comparing the Grand Ethiopian Renaissance Dam (GERD) and Turkey's Ilısu dam, this article explains how outcomes stem from international water law (IWL), hydrological vulnerability, and asymmetric power. Informed by hydro-hegemony theory, the paper shows IWL functions primarily as legitimizing language rather than an automatic constraint. The cases are structurally asymmetric. Ilısu reflects upstream hydro-hehegemonic consolidation, intensifying downstream vulnerability in a weakly institutionalized basin. Conversely, GERD reflects a counter-hegemonic challenge to a historically downstream-favored Nile order, producing securitized contestation. This is exemplified by a volatile diplomatic discourse—where Ethiopian officials oscillate between asserting a sovereign right to commodify "surplus" water and immediately retracting such claims—underscoring the friction between Ethiopia's pursuit of hydro-autonomy and downstream legal expectations. Finally, the findings suggest third-party facilitation requires perceived impartiality and credibility. The inability of the African Union and the UN Security Council (UNSC) to resolve the GERD dispute in 2020 and 2021 highlights severe institutional limitations. Mirroring broader UN failures to resolve explicit threats to global security, such as the Gaza war, this exposes the current ineffectiveness of international organizations in restoring peace. Consequently, the paper cautions against reflexive securitization: UNSC engagement cannot substitute for functional basin governance or serve as a reliable default Chapter VII pathway.

KEYWORDS
GERD, hydro-hegemony, Ilısu dam, international water law, Nile Basin, regional security, Tigris-Euphrates basin, transboundary water conflicts

1 Introduction: water scarcity and the architecture of conflict, the GERD, Ilisu dam, and transboundary rivers

Water is simultaneously a source of life and a catalyst for conflict. In an era of accelerating climate change, population growth, and intensifying resource competition, transboundary water resources have emerged as critical flashpoints in international relations. More than 40% of the world's population lives in river basins shared by two or more countries, creating complex interdependencies that can foster either cooperation or confrontation (Wolf et al., 1999;

Zeitoun and Warner, 2006). Nowhere is this tension more acute than in the MENA, a region defined by extreme water scarcity, rapid demographic expansion, political fragmentation, and a legacy of colonial-era allocation arrangements that continue to shape contemporary disputes. Renewable freshwater resources per capita have declined sharply across many MENA states over recent decades, heightening the political salience of every cubic metre of shared flow (World Bank, 2018).

Against this backdrop, major transboundary river systems, including the Nile, Tigris and Euphrates, have become arenas of intense geopolitical contestation. Increasingly, the focal point of these disputes is not merely water volume, but the strategic control embedded in large hydraulic infrastructure. Mega-dam projects represent more than engineering achievements: they redistribute power by enabling upstream states to regulate timing, seasonality, and certainty of downstream flows. Two emblematic cases illustrate these dynamics. Ethiopia's GERD on the Blue Nile and Turkey's Ilısu dam on the Tigris have become defining tests of whether existing international norms can manage rising hydro-political tensions in a rapidly warming and water-stressed region. These projects do not only challenge basin-level relations; they also strain the wider international legal order governing shared watercourses (Khwaileh, 2025b).

1.1 The central puzzle: water wars or water peace?

A longstanding debate in the literature asks whether growing water scarcity will trigger intensified inter-state conflict—the "water wars" hypothesis—or whether shared dependence will compel cooperation and produce "water peace" (Wolf, 1998; Dinar, 2009). "Water wars" proponents argue that climate impacts and demographic pressure will push states toward zero-sum water security strategies, elevating the risk of militarized disputes (Homer-Dixon, 1999; Klare, 2001). By contrast, "water peace" advocates contend that water's existential importance creates strong incentives to cooperate, since no riparian can sustain prolonged disruption of shared supplies and coordinated management can generate mutual gains (Dinar et al., 2007).

The empirical record is more complicated than either thesis suggests. Large-scale interstate wars fought *solely* over water have been historically rare, yet water has repeatedly driven tension, coercive diplomacy, and low-intensity conflict (Gleick, 2014; Petersen-Perlman et al., 2017). Moreover, the absence of "water wars" may not necessarily reflect cooperative success; it may instead reflect the capacity of more powerful riparian to impose preferred allocation regimes on weaker states—what hydro-politics scholarship identifies as hydro-hegemony (Zeitoun and Warner, 2006; Cascão, 2008). This shifts the analytical focus from scarcity alone to the role of power asymmetries in determining whether law is operationalized as a cooperative framework or instrumentalized as a tool of strategic advantage.

1.2 Research argument

This paper argues that while IWL provides an important normative framework for cooperation, its implementation is ultimately shaped by political power asymmetries and the strategic calculus of upstream and downstream states. The GERD and Ilısu cases demonstrate that the core legal tension between "equitable and reasonable utilization" and the obligation to cause "no significant harm" is not merely a technical interpretive problem; it is a manifestation of deeper struggles over authority, legitimacy, and control in shared basins. Without robust third-party mediation, or a significant shift in the perceived costs and benefits faced by basin hegemons, unresolved disputes risk escalating into broader regional insecurity. In the most acute scenarios, the securitization of transboundary water may reach a threshold where international intervention mechanisms, including potential UN Security Council engagement under Chapter VII of the UN Charter, must be considered as instruments of conflict prevention.

This normative preference for de-escalation, however, faces significant empirical challenges regarding institutional efficacy. The Security Council's inability to resolve the GERD dispute in 2020 and 2021, subsequently deferring the matter to an equally stalled African Union process, illustrates a growing gap between the Council's mandate and its functional output. When viewed alongside the failure to mitigate explicit threats to global security, such as the Gaza war, the effectiveness of UN organizations in restoring peace is increasingly called into question. These instances suggest that without a shift from symbolic engagement to binding enforcement, international interventions risk entrenching the status quo rather than providing a definitive resolution to hydro-political or territorial crises.

1.3 Research method

To assess the core arguments, this paper adopts a qualitative, comparative case study methodology, examining the GERD and the Ilısu dam through the dual lenses of IWL and hydro-hegemony theory. It analyzes the 1997 UN Watercourses Convention in parallel with empirical evidence on basin hydrology, historical allocation trajectories, and diplomatic negotiation patterns. By doing so, the study evaluates how power asymmetries shape the interpretation and practical application of legal norms, specifically investigating the escalating tension between "equitable and reasonable utilization" and the "obligation not to cause significant harm" in the context of unilateral dam construction.

The analysis relies primarily on secondary sources, a necessity in a field where riparian states frequently exercise "data secrecy" to strategically restrict access to information regarding actual flow rates, reservoir operations, and dam-filling schedules. While these constraints inherently affect the precision with which downstream impacts and compliance claims can be assessed, the findings remain grounded in the specific hydro-political landscape of the MENA region. Furthermore, the conceptual framework utilized here offers broader relevance for understanding conflict risk and legal contestation in other water-scarce transboundary basins facing similar combinations of climate stress and asymmetric power relations.

The central aim of this methodological approach is to determine whether current legal frameworks are sufficient to mitigate regional conflict, or whether the structural nature of these disputes points toward an evolving role for security-oriented international mechanisms, including potential involvement by the UN Security Council (Khwaileh and Mohammad, 2026).

1.4 Research gap and contribution

While existing scholarship has extensively documented the individual hydro-political tensions within the Nile and Tigris-Euphrates basins, there remains a notable research gap in comparative analyses that bridge the theoretical framework of hydro-hegemony with the procedural application of IWL. This research addresses this gap by

investigating how power asymmetries dictate the selective mobilization of legal norms, moving the discourse beyond the simplistic 'water wars vs. water peace' dichotomy. The paper's primary contribution lies in its comparative synthesis, which offers a scalable framework for understanding conflict risk in other transboundary basins where climate-driven scarcity intersects with unilateral infrastructure development. To this end, the manuscript is structured to first establish the theoretical pillars of hydro-hegemony, followed by a granular analysis of the GERD and Ilısu disputes, before concluding with a comparative assessment of its impact on regional security.

1.5 Contribution to the literature

The contribution of this research is twofold. First, it bridges legal scholarship and security studies by treating transboundary water not as a purely administrative, technical, or environmental matter, but as an existential security issue capable of destabilizing already fragile regional orders. Second, it provides a contemporary analysis of how "climate-justified" infrastructure projects—framed as development, energy security, and climate adaptation—can nonetheless disrupt established expectations and challenge the legitimacy and enforceability of the prevailing international water governance architecture.

2 Literature review

The protracted contestation over the Grand Ethiopian Renaissance Dam (GERD) is deeply rooted in complex technical drivers regarding hydrological impacts, reservoir operation, and data transparency. A substantial body of literature emphasizes the critical need for coordinated operational rules to mitigate potential downstream risks. For instance, Abdelazim et al. (2020) and Abtew and Dessu (2019) extensively analyze the operational parameters of the GERD, highlighting the intricate balance required between Ethiopia's rapid filling targets and the necessity of mitigating severe flow reductions for downstream riparians during drought cycles. The absence of a binding data-sharing agreement has further exacerbated technical distrust. Consequently, researchers have increasingly turned to remote sensing and independent modeling to bypass the lack of official data. Hassan et al. (2023) demonstrate how satellite data and hydrological models can be utilized to independently monitor dam operations, specifically evaluating the interrelated dynamics between the GERD and Sudan's Roseires dam. This technical opacity, combined with divergent hydrological models regarding long-term flow scenarios, remains a primary technical barrier to achieving a sustainable, finalized agreement.

Beyond technical modeling, the dispute is fundamentally driven by entrenched legal contestations over historical treaties, sovereignty, and the interpretation of international water law. The legal deadlock is perhaps best exemplified by the "long shadow" of the 1959 Nile Waters Agreement, which Whittington (2024) argues continues to constrain contemporary negotiations by institutionalizing downstream historical rights that upstream states inherently reject. This fundamental clash is evident in the formal legal posturing of the riparians at the international level. As documented in their respective letters to the UN Security Council (2021) and Sudan Letter (2020) have consistently argued that unilateral filling constitutes a breach of international obligations and threatens downstream security, while Ethiopia Letter (2020) asserts its sovereign right to equitable utilization and development. Furthermore, legal scholars like Krentz (2024) have argued that the unilateral progression of such cross-border mega-projects challenges established treaty obligations and potentially violates the inherent rights of neighboring populations. Consequently, the riparians remain deadlocked between downstream demands for a legally binding treaty with strict dispute resolution mechanisms and upstream insistence on flexible, non-binding guidelines that preserve sovereign autonomy.

Finally, the failure to reach an agreement is heavily influenced by political and governance drivers, reflecting shifting hydropolitics and broader regional security dilemmas. The evolving political alignment of Sudan has been a critical variable; Cascao and Nicol (2016) identify Sudan as the strategic "kingmaker" in the new Nile hydropolitics, whose vacillating positions between Egypt and Ethiopia have repeatedly altered the balance of negotiating power. The dispute has also transcended basin-level water management to become a central issue of regional security governance in the Horn of Africa, as analyzed by Krampe et al. (2020). Attempts to politically resolve the deadlock have increasingly relied on regional institutions, particularly the African Union (AU). The AU's African Union (2020a, 2020b) has issued multiple communiques emphasizing an "African solutions to African problems" approach, attempting to facilitate tripartite negotiations. However, the inability of AU mediation to compel a binding agreement underscores the limitations of regional institutional thickness when confronted with the vital national interests and domestic political pressures of the involved states, leaving the political resolution of the GERD—and similarly contested dams like Ilisu—in a sustained state of impasse.

3 Theoretical framework: power, law, hydrology, and third-party influence in transboundary river basins

Transboundary water disputes are rarely explained by hydrology alone. They emerge at the intersection of material and ideational power, legal norms and institutional design, and the technical reality of flow alteration and uncertainty. This section therefore develops an integrated framework that connects (i) hydro-hegemony and shifting power relations, (ii) IWL as both constraint and political resource, (iii) the operational hydrological meaning of "harm" under damming, and (iv) the conditions under which third-party facilitation, rather than automatically producing cooperation—can either reduce or intensify contention. The goal is to provide a coherent toolkit for analysing why the GERD and Ilısu disputes persist, how legal arguments are mobilised, and why bargaining trajectories differ across basins.

3.1 Hydro-hegemony and the politics of control

Hydro-hegemony theory conceptualises transboundary water outcomes as the product of asymmetric power among riparians and the strategies through which dominant actors secure preferred arrangements. Developed by Zeitoun and Warner (2006) and advanced by later scholarship (Zeitoun et al., 2011; Warner et al., 2017;

Hayat et al., 2022), the framework argues that a hydro-hegemon maintains control through a mix of:

- Material power (economic strength, coercive capacity, infrastructure and finance),
- Bargaining power (riparian position, agenda-setting, negotiating fora, leverage through linkages),
- Ideational power (authority over narratives, legitimacy claims, knowledge production, and "technical" expertise).

Hydro-hegemony is therefore not synonymous with brute coercion: it can be exercised through diplomacy, discourse, expert authority, and institutional design. Critically, the framework also accommodates counter-hegemonic moves, when historically constrained riparian mobilize new capabilities (financial autonomy, infrastructure, alliances, or legitimacy frames such as development and energy security) to challenge an inherited status quo. Contemporary refinements further emphasize that hegemony can operate through varying degrees of pressure and vulnerability production, including forms of hydro-coercion that deepen downstream precarity even in the absence of overt conflict (Khwaileh, 2025a; Albatayneh and Khwaileh, 2026).

3.2 Beyond "water wars" vs. "water peace": the transboundary water interaction nexus (TWINS) lens

The TWINS framework (Zeitoun and Mirumachi, 2008) is helpful here because it treats "transboundary water interaction" as a dynamic space in which bargaining can simultaneously include cooperative practices (data exchange, meetings, joint studies) and conflictive practices (threats, unilateral filling, agenda control). Rather than asking whether basins are "at war" or "at peace," TWINS encourages analysis of where interactions fall along intersecting axes of conflict and cooperation and how power shapes movement within that space. This lens aligns with hydro-hegemony by clarifying that apparent "cooperation" can be hegemonically structured, while also recognizing that persistent negotiation itself can be a meaningful, if insufficient—form of interaction (Khwaileh and Mohammad, 2026).

3.3 International water law: normative framework, interpretive space, and legal precision

IWL supplies the key normative vocabulary of transboundary disputes, most comprehensively codified in the 1997 UN Watercourses Convention (in force since 2014), alongside customary principles and basin practice. Your original framing emphasized "equitable and reasonable utilization" and "no significant harm" as the two central principles.

This paper treats them as conceptually complementary even if they become politically contested in application.

- Equitable and reasonable utilisation (UWC art. 5–6) is generally understood as the cornerstone: all riparian have rights to use shared waters in a manner that is equitable given relevant factors (social needs, existing uses, alternatives, climate variability, etc.).
- No significant harm (UWC art. 7) operates as a due-diligence obligation closely linked to cooperation and reasonableness: it requires prevention, mitigation, and consultation where significant harm is credibly expected or occurs.

The practical tension is therefore less a strict doctrinal contradiction and more an interpretive and distributive dispute over what counts as "equitable," what level of risk constitutes "significant," which baseline (historic use vs. developmental need) is privileged, and how uncertainty is managed. IWL also emphasizes procedural duties, cooperation, data exchange, and prior notification/consultation (UWC arts. 8–19).

Most IWL doctrines require notification and consultation, not "approval." Therefore, unilateral construction is not necessarily unlawful *because it lacks consent*; it becomes legally problematic when it is paired with inadequate notification, refusal to cooperate in good faith, or filling/operation choices that fail due diligence and risk significant harm.

Finally, the binding force of IWL is uneven: key states may not be parties to the Convention, enforcement is limited, and dispute resolution often depends on consent to adjudication. As a result, law frequently functions as both constraint and strategic resource, a repertoire of arguments that actors selectively emphasise depending on power, interests, and audience costs.

3.4 Hydrology and the operational meaning of "harm" under upstream damming

Recent scholarship has increasingly clarified that "harm" in dam disputes is not abstract: it is measurable in altered seasonality, reduced median flows during critical months, heightened salinity, ecosystem collapse, and increased exposure to drought shocks. Al-Faraj and Scholz (2015), analysing the Diyala River (a Tigris tributary shared by Iraq and Iran), show that upstream regulation and withdrawals can produce dramatic downstream reductions, with median reduction rates reaching 66.4% in dry months (June–October), a scale of change that directly threatens downstream agricultural and ecological viability. They conceptualize a "transboundary three-scalar" governance problem in which short-term national optimization upstream undermines basin-scale sustainability downstream.

Building on this technical grounding, Al-Faraj and Scholz (2019) propose a Technical Support Framework (TSF) to address the combined pressures of upstream human-induced impairment and climate change. The TSF emphasizes integrated measures, cross-sector tradeoffs, efficiency improvements, and joint technical planning, as prerequisites for sustainability in water-scarce transboundary basins. For this paper, the key implication is theoretical: technical findings clarify why downstream states elevate "no significant harm" as a survival claim, and they show how hydrological impacts interact with power by creating asymmetric vulnerability (especially where downstream adaptive capacity is low).

Hydrology also intersects with ideational power through data politics. "Data secrecy" over flow records, filling schedules, and operating rules can become a bargaining tool: controlling uncertainty can shape negotiation baselines, limit independent verification, and harden distrust. Thus, technical opacity is not merely a methodological limitation; it is part of basin politics. Technical opacity functions as a strategic instrument of hydro-politics, where the withholding of hydrological data directly compromises the

physical and operational safety of downstream communities. As demonstrated by Hassan et al. (2023) in the case of the Blue Nile, the lack of transparent, real-time data-sharing regarding the GERD forces downstream riparian, specifically Sudan, to rely on satellite imagery and independent hydrological modeling to manage their own infrastructure, such as the Roseires Dam. This data gap is not an accidental byproduct of technical difficulty but a political choice that shifts the burden of risk onto downstream populations, who face increased vulnerability to uncoordinated flow variations, sudden flood surges, and structural emergencies. By framing information as a sovereign asset rather than a shared public good, upstream states utilize technical opacity to maintain asymmetric control over the river's narrative, effectively turning the fundamental safety of downstream communities into a leveraged bargaining chip within broader basin power dynamics.

3.5 Institutions, bargaining design, and third-party mediation: not a panacea

The argument that third-party involvement is a necessary catalyst for resolution should be refined: third parties do not automatically produce cooperation, and poorly designed mediation can entrench positions or generate backlash. Insights from negotiation research suggest that outcomes depend on at least four intervening conditions, each illustrated by the divergent trajectories of the Nile and Tigris basins:

- Impartiality and Perceived Bias

The legitimacy of a mediation process is contingent upon the perceived neutrality of the facilitator. If a party perceives the mediator as aligned with an opponent, the process often collapses. This was most evident in the 2020 US-led mediation of the GERD, involving the US Treasury and the World Bank. Ethiopia ultimately withdrew, perceiving the drafted agreement as a "pro-downstream" instrument that prioritized historical water allocations over equitable utilization. As noted by Mohamed and Abdalla, this collapse of trust shifted the venue to the African Union (AU), yet the legacy of perceived bias continues to haunt subsequent efforts, as the shadow of external interference often triggers defensive sovereign posturing.

- Credibility and Technical Authority

Effective mediation requires that parties believe the facilitator can deliver accurate fact-finding and support technical outcomes. In the GERD dispute, the AU's "African solutions to African problems" mantra provided political legitimacy but initially struggled with technical authority, as it lacked the robust independent hydrological monitoring capacity of larger international financial institutions. Conversely, the Ilısu dam dispute illustrates the consequences of a total vacuum in technical authority; Turkey has historically resisted high-level third-party mediation on the Tigris, viewing the river as a "national water" and thus avoiding international technical audits that might constrain its unilateral GAP project (Southeast Anatolia Project).

- Riparian Trust and Domestic Audience Costs

Bargaining design must account for "water nationalism," where leaders may reject viable technical compromises if they appear as political capitulations at home. In both the Nile and Tigris basins, water is inextricably linked to national identity and food security. For Ethiopia and Turkey, the construction of mega-dams represents a sovereign right to development; for Egypt and Iraq, any perceived reduction in flow is framed as an existential threat. Tawfik (2023) highlights that institutional fragility in transboundary basins is often a reflection of these domestic costs, where leaders prioritize symbolic "victories" or the maintenance of the status quo over the long-term benefits of a binding, albeit restrictive, treaty.

- Advantages and Incentives

Without meaningful financial, diplomatic, or security-related—facilitation often produces repetition rather than resolution. The UN Security Council's (UNSC) involvement in the GERD in 2020 and 2021 was largely symbolic, lacking an enforcement mechanism or a "carrot" to break the deadlock, ultimately deferring the issue back to the AU. In contrast, emerging "incentive-based" mediation, such as the UAE's interest in the Nile basin, offers a different model. By linking water cooperation to large-scale agricultural and energy investments, the UAE acts as a facilitator that might shift the bargaining calculus from zero-sum water sharing to positive-sum benefit sharing. In the Tigris basin, the absence of such external incentives or significant costs for Turkey's non-cooperation allows for continued unilateralism.

This analysis confirms that while neoliberal institutionalism remains a useful lens, its efficacy is conditional. Institutions can reduce transaction costs and enable monitoring, yet their effect depends on whether powerful actors accept constraint and whether technical cooperation is insulated from politicized vetoes. This paper therefore treats institutions and mediation as intervening variables whose success is contingent on power and trust, rather than as guaranteed solutions to the structural pitfalls of hydro-political contestation.

3.6 Securitization as strategy and risk: from water governance to "existential threat"

Securitization, the framing of an issue as an existential threat requiring extraordinary measures, helps explain how water disputes move from technical negotiation to national security rhetoric. In highly water-dependent states, leaders may securitize dam projects to mobilize domestic support, strengthen bargaining positions, and justify hardline diplomacy. Yet securitization can also backfire by narrowing compromise space, escalating rhetoric beyond what technical solutions require, and making "back-down" politically costly. This matter is for the paper's later policy discussion: even where international engagement is warranted, security-centric framing can complicate governance by adding coercive logic to already complex technical and legal issues.

Accordingly, international involvement should be conceptualized as a graduated ladder, from joint technical fact-finding and basin-level facilitation to mediation with credible guarantees, to only exceptional escalation into high-politics forums where the risk of hardening positions is greatest.

3.7 Analytical expectations

Bringing these strands together yields a set of expectations, framed as probabilistic tendencies rather than deterministic laws:

E1 (Power and legal selectivity): Where power asymmetry is high, dominant riparian are more likely to shape outcomes through agenda control and selective legal invocation, while weaker riparian will emphasize procedural breaches and harm-based claims.

E2 (Power shifts and interaction patterns): Where counter-hegemonic capacity rises (financial autonomy, infrastructural fait accompli, shifting alliances), interaction tends to move into TWINS "high cooperation–high conflict" space: frequent negotiations may coexist with unilateral actions and escalatory rhetoric.

E3 (Hydrology as vulnerability amplifier): The greater the seasonal/median flow disruption and the lower the downstream adaptive capacity, the more likely "harm" claims become securitized and tied to existential narratives, regardless of whether the upstream project is nominally non-consumptive.

E4 (Mediation conditionality): Third-party involvement increases the likelihood of agreement only when perceived as sufficiently impartial, technically credible, and backed by incentives/guarantees; otherwise it risks process collapse and deeper distrust.

E5 (Domestic politics and narrative lock-in): Historical grievances, identity narratives, and domestic legitimacy pressures interact with power to lock in bargaining positions, shaping whether legal principles are treated as shared standards or as rhetorical weapons.

The following sections apply this integrated framework to the GERD and Ilısu cases, using it to interpret negotiation trajectories, legal arguments, hydrological risk claims, and the conditions under which external facilitation has either helped or hindered conflict management.

E6 (Benefit-Sharing as a Cooperative Catalyst): Transitioning from zero-sum "water-sharing" (volumetric allocations) to "benefit-sharing" (distributing the value derived from the water) increases the likelihood of institutional resilience. However, as seen in the Nile Basin Initiative (NBI) experience, the success of this transition is contingent upon riparians perceiving the distribution of those benefits, such as regional energy trade or flood regulation, as outweighing the perceived loss of absolute sovereign control over the flow.

Including benefit-sharing as a formal expectation is analytically vital because it represents the primary "workaround" for the limitations of traditional International Water Law (IWL).

While IWL often becomes stuck in the "No-Harm vs. Equitable Use" deadlock, the benefit-sharing principle (popularized by the NBI's Shared Vision Program) shifts the focus to the Water-Energy-Food Nexus. In the context of the GERD, this expectation suggests that cooperation is most likely to persist if the dispute is re-framed: moving from a fight over "Egyptian water shares" to a cooperative model where Ethiopia provides cheap hydroelectricity in exchange for downstream agricultural stability and regional investment.

However, E6 also carries a cautionary note: benefit-sharing is not a vacuum-sealed technical solution. Its effectiveness is filtered through E1 (Power) and E5 (Domestic Politics). If the "benefits" are perceived as being asymmetrically captured by the upstream hegemon, or if the domestic narrative views "trading water for electricity" as a surrender of sovereignty, the principle may fail to break the bargaining stalemate. Thus, E6 expects that while benefit-sharing opens a path for de-securitization, it remains a "conditional" tool whose success depends on the broader power configuration of the basin.

4 The Nile Basin and the grand Ethiopian renaissance dam: a tripartite struggle for water security

The Nile Basin dispute over the GERD illustrates how transboundary water conflicts are shaped not only by hydrology and engineering, but also by historical allocation legacies, competing legal narratives, and shifting configurations of power. While the GERD was launched in 2011, it has moved from a "future risk" to a present operational reality: Ethiopia officially inaugurated the dam on 9 September 2025, and reporting indicates its output reached 5,150 MW, with an expected annual output of about 15,700 gigawatt hours (International Water Power News, 2025). Yet the legal and political dispute has persisted despite repeated negotiation cycles.

This section proceeds in six steps. It first traces the colonial-era foundations of downstream hegemony (3.1), then explains the GERD's strategic significance in light of its now-operational status (3.2). It next reframes the legal disagreement as a contest over substantive principles and procedural duties rather than a simple "either/or" legal clash (3.3). The section then analyses negotiation phases and the limits of third-party mediation (3.4), applies hydro-hegemony theory to explain how law is mobilized under shifting power balances (3.5), and finally assesses regional security implications—while also reflecting on the risks of securitizing water governance through international security institutions (3.6).

4.1 Historical context: colonial legacies and downstream hegemony

The contemporary Nile dispute cannot be understood without the "treaty trap" of colonial-era allocation frameworks that entrenched downstream advantage. A critical distinction must be made between the 1902 Frontier Treaty and subsequent exclusionary arrangements. The 1902 treaty was signed between sovereign equals, Emperor Menelik II of Ethiopia and King Edward VII of Great Britain—yet its interpretation remains a primary point of contention; Ethiopia maintains that the Amharic version prohibits only the total "arresting" of the flow, rather than the equitable "utilization" of the water for development (Krentz, 2024).

In contrast, the 1929 Anglo-Egyptian Treaty and the 1959 Agreement for the Full Utilization of the Nile Waters institutionalized a downstream-favored order by allocating the vast majority of the river's flow to Egypt (55.5 BCM) and Sudan (18.5 BCM) out of an assumed 84 BCM annual flow (Waterbury, 2002; Whittington et al., 2014). Ethiopia, despite contributing roughly 86% of the Nile's waters, was excluded from these negotiations. From a contemporary legal perspective, Ethiopia is a "legal stranger" to these bilateral accords; under the principle of *pacta tertiis nec nocent nec prosunt*, these

treaties do not bind non-signatories (Tawfik, 2023). Furthermore, by invoking the Nyerere Doctrine, Ethiopia asserts that colonial-era frameworks cannot infringe upon its sovereign right to equitable and reasonable utilization (Mekonnen, 2010).

For much of the twentieth century, Egypt maintained this order through diplomatic pressure and securitized signaling, exemplified by President Sadat's framing of the Nile as a potential casus bello (Zeitoun and Warner, 2006). However, the GERD announcement in 2011 signaled a decisive counter-hegemonic shift, moving from a political assertion to a present operational reality. The dam was officially inaugurated on September 9, 2025, with reporting indicating its output reached 5,150 MW, marking the end of the era where upstream developmental claims were subordinated to inherited downstream allocations (Endeshaw, 2025).

4.2 The GERD project: technical specifications and strategic significance

The GERD is located on the Blue Nile close to the Sudanese border and has long been framed as Africa's largest hydroelectric project. Earlier scholarship commonly described the dam in forward-looking terms—projecting a reservoir of 74 BCM and installed capacity figures often cited around 5,150 MW (Yihdego et al., 2016; Wheeler et al., 2016). What has changed is that the dam has moved into an operational phase: Ethiopia has inaugurated the GERD (September 2025) and reporting indicates maximum output of 5,150 MW at inauguration, with generation beginning in 2022 and increasing gradually.

Strategically, the project's significance remains consistent with earlier analyses. For Ethiopia, the GERD has been framed as national pride, developmental urgency, and a sovereignty claim against colonial-era constraints (Tawfik, 2016; Verhoeven, 2011). The dam is expected to support domestic electrification and regional export ambitions (Wheeler et al., 2016). For Egypt, dependence on the Nile remains acute—often described as providing about 90% of freshwater resources—so variability in flows during droughts and disputes over operating rules are perceived through an "existential security" lens (Whittington et al., 2014; Heggy et al., 2021). Sudan's position continues to reflect a mix of potential gains (regulated flows, electricity) and vulnerabilities (dam safety, coordination with Sudanese infrastructure), producing shifting alignment over time. As illustrated in Figure 1, the GERD is situated on the Blue Nile near the border with Sudan, placing it in a dominant upstream position relative to downstream agricultural hubs.

This map highlights the geographical and political layout of the Nile Basin, illustrating the strategic location of the GERD on the Blue Nile and its proximity to downstream infrastructure in Sudan and Egypt.

4.3 Legal arguments and competing narratives: substantive principles and procedural duties

The GERD dispute is frequently narrated as a clash between equitable and reasonable utilization and no significant harm. However, framing the legal landscape as a strict contradiction risks oversimplifying how these principles operate in practice and how they are embedded in history, bargaining, and procedural expectations (Salman, 2016). In many legal interpretations, these principles are meant to be read together: equitable utilization is assessed with attention to downstream dependence and alternatives, while harm-avoidance requires due diligence and mitigation rather than a permanent "veto" for existing users.

Ethiopia's legal narrative emphasizes developmental equity and historical exclusion: it invokes equitable utilization and argues that colonial-era treaties are not binding on Ethiopia (Yihdego et al., 2016; Mekonnen, 2010). Ethiopia also argues that the GERD is primarily hydropower (non-consumptive) and that, once operational rules stabilize, releases for generation should largely track inflows—meaning impacts are concentrated in the filling/operation rules during drought

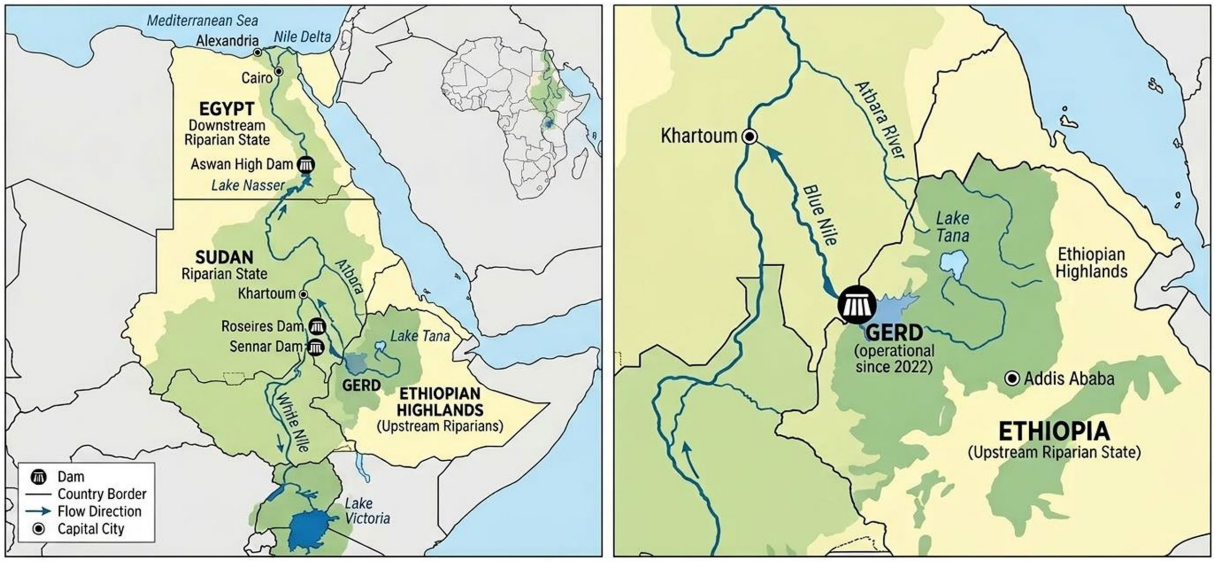

FIGURE 1
Geographic distribution of the Eastern Nile Basin, illustrating the upstream position of the GERD relative to highly water-dependent downstream infrastructure in Sudan and Egypt. Source: Nile Basin Initiative (NBI) (2016). Image generated with the assistance of Google Gemini AI tools.

rather than in a permanent net loss of water (Yihdego et al., 2016; Wheeler et al., 2016; Block and Strzepek, 2010).

Egypt's legal narrative foregrounds protection of existing uses, the risk of significant harm (especially during drought), and the need for prior notification and meaningful consultation (Tawfik, 2016). Egypt also maintains that historical agreements embody "acquired rights" requiring respect, even if upstream states contest treaty abidingness (Waterbury, 2002). Crucially, and for legal precision, IWL debates typically emphasise consultation and notification, not downstream "approval" as a formal requirement. Therefore, the core legal question is better framed as whether Ethiopia proceeded without a binding tripartite operational arrangement and without procedures sufficient to meet consultation, data-sharing, and harm-mitigation expectations, rather than whether Ethiopia failed to obtain Egyptian "permission" (Yihdego et al., 2016; Salman, 2016). Sudan's position, meanwhile, has largely stressed technical coordination, dam safety, and clear operational protocols—often converging with Egypt on the need for a binding instrument without rejecting Ethiopia's right to development.

4.4 Negotiation dynamics: repeated deadlocks, third-party mediation, and the TWINS logic

The GERD talks demonstrate that conflict and cooperation can coexist over long periods: technical meetings, joint statements, and mediated processes have continued even as public rhetoric and legal positions harden. This is consistent with the insight that transboundary basins often sit in an unstable middle ground rather than fitting a "war vs peace" binary (Wheeler et al., 2016; Petersen-Perlman et al., 2017). A TWINS-style reading is helpful here because it treats negotiation as simultaneously conflictual and cooperative rather than categorizing basins as one or the other.

Phase 1 (2011–2015): Following the GERD announcement, Egypt's alarm, sometimes including discussion of military options, was shaped by domestic political upheaval and uncertainty after 2011 (Tawfik, 2016). The International Panel of Experts and the 2015 Declaration of Principles (DoP) created a cooperation vocabulary—equitable utilization, no significant harm, cooperation, dispute settlement, yet left key operational issues unresolved, allowing ambiguity to persist (Yihdego et al., 2016). That ambiguity became a feature rather than a bug: it enabled agreement on paper while postponing agreement in practice.

Phase 2 (2019–2020): As Ethiopia moved toward reservoir filling, talks intensified and external actors became involved. The U. S. and the World Bank participated in the Washington process, which produced draft language but ended with Ethiopia declining to sign. Ethiopia's objections have often been described in terms of perceived bias and sovereignty concerns (Yihdego, 2020). Yet a fuller account must also recognize process dynamics: compressed timelines, sequencing disputes (filling vs. long-term drought rules), and strategic concerns that a rigid text could lock Ethiopia into downstream-preferred constraints. Technical uncertainty and climate variability also amplified the stakes of committing to detailed drought rules ex ante (Heggy et al., 2021; Block and Strzepek, 2010). In this sense, the Washington talks highlight a broader point: third-party presence is not automatically peace producing, mediation outcomes depend on perceived impartiality, credibility, and riparian trust, and can fail when parties view the forum as shifting bargaining power rather than enabling mutual gain.

Phase 3 (2020–present): After Washington, the African Union (AU) became the central mediator, framed as "African solutions" (Mekonnen, 2020). AU-led talks have continued while Ethiopia proceeded with phased filling and operation, prompting recurring Egyptian and Sudanese objections and renewed calls for a binding agreement (von Meding, 2022; Yihdego et al., 2025). Reporting also indicates that, despite continued dispute, Ethiopia filled in phases since 2020 and framed the process as non-harmful; meanwhile Egypt continued to seek binding drought and operation rules.

Across phases, three drivers repeatedly reproduce deadlock. First, parties negotiate under distributional conflict: each proposal is interpreted through expected gains and losses during drought years (Heggy et al., 2021; Wheeler et al., 2016). Second, technical debates about modelling and filling scenarios operate as proxies for sovereignty and historical rights (Wheeler et al., 2016). Third, mediation forums become arenas of power: parties attempt to "venue shop" for favorable framing (Mekonnen, 2020), while mediators struggle to maintain legitimacy across mistrust and asymmetric stakes. The structural differences in power dynamics and institutional density between the Nile and Tigris-Euphrates basins are synthesized in Table 1.

4.5 Power asymmetries and hydro-hegemonic dynamics: law as resource, not constraint

The GERD dispute illustrates that international legal language functions less as an external constraint and more as a strategic resource mobilized under shifting power. Egypt historically acted as hydro-hegemon, using material and diplomatic power to preserve downstream advantage. Ethiopia's dam-building capacity, domestic financing, and willingness to proceed without a settled tripartite agreement constitute a counter-hegemonic challenge (Cascão and Nicol, 2016).

Egypt's leverage includes military capacity, diplomacy, and the ability to internationalize the dispute while framing it as existential (Tawfik, 2016). Ethiopia's leverage includes upstream geography, domestic legitimation of GERD as a national project, and insulation from external financial pressure due to domestic financing (Verhoeven, 2011; Cascão and Nicol, 2016). While international legal norms emphasize notification and consultation over explicit "approval," Ethiopia's progression without a binding operational settlement effectively converted construction and phased operation into strategic bargaining leverage (Yihdego et al., 2016). This tactical shift significantly complicates the project's original "win-win" philosophy, which initially framed the GERD as a Pan-African catalyst for regional energy trade and flood regulation. By prioritizing an infrastructural fait accompli, the project has transitioned from a cooperative developmental vision into a primary driver of regional security contestation, as downstream riparians increasingly perceive unilateral operational milestones as a securitized challenge to their hydrological stability (Krampe et al., 2020). Within this landscape, Sudan remains a pivotal "swing" actor; while it stands to benefit from regulated flows and seasonal stability, its inherent vulnerability to non-coordinated releases and dam safety concerns has produced shifting alignments that reflect the broader power struggles and geopolitical shifts currently reshaping the Horn of Africa (Horn Review, 2025).

Importantly, power balances alone cannot explain the persistence of stalemate: historical grievance narratives, domestic political legitimacy, and legal identity claims reinforce inflexibility and raise the

TABLE 1 Comparison of hydro-political dynamics in the Nile and Tigris-Euphrates basins.

Dimension	Nile basin (GERD)	Tigris-Euphrates basin (Ilısu dam)
Power dynamic	Counter-hegemonic challenge: An upstream state (Ethiopia) challenging a historically downstream-favored order.	Hydro-hegemonic consolidation: An upstream state (Turkey) utilizing its position and material power to secure unilateral development.
Institutional density	Partial architecture: Characterized by repeated negotiation tracks (e.g., Declaration of Principles) and regional mediation efforts.	Weak institutionalization: Characterized by a lack of comprehensive tripartite agreements and resistance to high-level third-party audits.
Primary legal argument (upstream)	Equitable and reasonable utilization: Emphasis on the sovereign right to development and energy security.	Sovereign Resource Utilization: Framing water as a "national water" and a domestic development imperative.
Primary legal argument (downstream)	No significant harm: Focused on protecting "acquired/historical rights" and minimizing flow reduction during droughts.	No Significant Harm: Highlighting extreme vulnerability to seasonal flow alterations and dry-season scarcity.
Interaction pattern (TWINS)	High conflict/high cooperation: securitized rhetoric coexisting with sustained, though stalled, diplomatic interaction.	Unilateral interaction: Downstream incapacity to constrain upstream action, reflecting a lack of functional cooperative peace.

political cost of compromise (Verhoeven, 2011). The result is a long-run bargaining environment where Ethiopia can operate the dam, Egypt can block a settlement it views as insufficient, and mediation cycles repeat without closure (von Meding, 2022).

4.6 Implications for regional security and international peace: risks, limits, and caution on securitization

The GERD has been repeatedly securitized in Egyptian discourse. Morsi's statement that "all options are open" captured how water has been narrated as national security (Tawfik, 2016). Yet the empirical record remains more cautious than classic "water wars" claims: despite threats and heightened rhetoric, direct military confrontation has not occurred, and negotiation channels—however imperfect—have continued (von Meding, 2022). This supports the view that the basin sits in a tense middle ground where conflict and partial cooperation coexist, rather than neatly matching either "war" or "peace" narratives (Petersen-Perlman et al., 2017).

The reported alignment of Ethiopia with the Rapid Support Forces (RSF) and Egypt with the Sudanese Armed Forces (SAF) during the ongoing conflict in Sudan suggests that the basin sits in a highly securitized "proxy-contest" where the GERD dispute is increasingly fused with regional survival. According to a 2026 report by Reuters, Ethiopia's alleged support for the RSF, including the establishment of secret training camps, serves as a strategic maneuver to ensure a friendly political order in Khartoum that would favor Addis Ababa's hydrological interests (Reuters, 2026). This fragmentation of Sudanese internal stability effectively mirrors the hydro-political deadlock: by backing opposing factions, Egypt and Ethiopia are not only competing for influence over Sudan's future but are also attempting to secure a favorable "swing" position for a state whose cooperation is essential for any binding settlement on the Nile's flow.

The question of UN Security Council involvement requires particular care. Egypt has periodically attempted to internationalize the dispute, and Security Council attention has occurred in the past, but sustained Chapter VII action has not materialized (von Meding, 2022). At the same time, securitizing water governance can be counterproductive: importing the dispute into high-politics forums may harden positions, reduce space for technical bargaining, and encourage reputational posturing. Even where international forums are used, a core challenge remains that durable outcomes still require operational coordination, data exchange, and credible drought rules—issues that are technically grounded and politically sensitive (Wheeler et al., 2016; Heggy et al., 2021). In this sense, international engagement is best understood as a last-resort conflict prevention tool rather than a default governance pathway, and its effectiveness depends on whether it increases riparian trust and compliance rather than simply raising the dispute's political temperature.

5 The Tigris-Euphrates basin and the Ilısu dam: Turkish unilateralism and downstream vulnerability

The Tigris-Euphrates basin is characterized by a stark power asymmetry, where Turkey's position as the upstream hegemon has enabled a shift from early mid-twentieth-century technical cooperation toward a sustained period of securitized unilateralism. This transition is anchored in the Southeastern Anatolia Project (GAP), a massive hydro-development scheme of which the Ilısu dam is a central component, designed to meet Turkey's domestic energy and irrigation needs without the constraint of a binding tripartite agreement with Syria or Iraq. While early interactions focused on joint technical committees, the post-1960s era has seen these rivers transformed into instruments of political leverage, as downstream states increasingly view upstream infrastructure as a direct threat to their ecological stability and national security. Consequently, the basin functions as a prime example of "unilateral interaction" within the TWINS framework, where the absence of shared governance mechanisms leaves downstream communities acutely vulnerable to seasonal flow alterations and the strategic priorities of the upstream state.

It illustrates a different structural problem from the Nile: instead of a contested shift in hegemony, the basin is characterized by an upstream state with strong leverage and downstream states with limited capacity to institutionalize constraints. In this setting, large dam

projects become less a trigger for sustained rules-based bargaining and more a mechanism for consolidating upstream control, with downstream consequences managed through intermittent diplomacy rather than durable governance (Daoudy, 2009).

Turkey's Ilısu dam should be understood within the broader GAP development strategy, which has long prioritized hydropower, irrigation expansion, and regional economic transformation in southeastern Turkey. This approach has generally treated water infrastructure as a domestic development imperative, making downstream coordination politically secondary unless it aligns with wider strategic incentives (Kibaroğlu and Scheumann, 2011).

Downstream vulnerability is intensified because "harm" in this basin is technically legible and often seasonal: upstream regulation and withdrawals can sharply reduce dry season flows, which are the months when downstream agriculture and ecosystems are most exposed. Empirical work on the Diyala River (a Tigris tributary) shows how upstream regulation can produce drastic downstream reductions, with median dry-season reductions reported as high as 66.4%, underscoring that flow alteration is not a theoretical legal concern but a measurable driver of downstream insecurity (Al-Faraj and Scholz, 2015).

The legal and institutional landscape also constrains cooperation. Unlike basins with more developed joint regimes, the Tigris–Euphrates system lacks a comprehensive tripartite allocation agreement and has long been marked by disagreement over the applicability and operational meaning of IWL principles. This institutional thinness means disputes are less likely to be resolved through shared procedures (data exchange, joint monitoring, enforceable drought rules) and more likely to be handled through *ad hoc* bargaining shaped by leverage and timing.

Hydro-hegemony theory helps explain why this pattern persists: material advantage, upstream geography, and agenda control allow a dominant riparian to set the practical boundaries of cooperation, while weaker riparian struggle to convert harm claims into binding outcomes. In this basin, downstream weakness is further amplified by conflict legacies and governance constraints, making unilateral upstream action more likely even when downstream impacts are severe (Zeitoun and Warner, 2006).

For regional stability, the Ilısu case is best read through a human-security lens rather than a "water wars" lens. The central risk is not conventional interstate war, but the cumulative destabilization created by tighter water availability, rising adaptation costs, and reduced resilience in already stressed downstream systems—conditions that technical mitigation frameworks argue can only be eased through integrated management, efficiency gains, and credible coordination mechanisms. This also supports caution about over-securitizing the dispute: shifting water governance into high-politics security framing may harden positions without solving the operational realities that drive vulnerability (Al-Faraj and Scholz, 2019).

The recent diplomatic developments between Ankara and Baghdad, including a comprehensive "Strategic Framework Agreement on Water," suggest a potential pivot from the historical deadlock of the Tigris-Euphrates basin. This development supports the view that shifting water governance away from high-level securitization toward functional, multi-sectoral cooperation can create new bargaining space.

According to the Turkish Directorate of Communications (2024), these agreements represent a significant institutional shift, moving beyond narrow volumetric water-sharing disputes to include cooperation in energy, trade, and the "Development Road" infrastructure project. By embedding water management within a broader strategic framework, the 190-page "Water Agreement" aims to provide Iraq with a more predictable flow of water while ensuring Turkey's upstream developmental needs are met through joint irrigation and infrastructure modernization (Directorate of Communications, 2024). This reflects a transition toward the "benefit-sharing" model (E6), where water is treated as a component of a regional economic nexus rather than a zero-sum sovereign asset. However, the efficacy of this development remains contingent on E4 (Mediation and Guarantees), as the success of these agreements will depend on the long-term technical authority of the joint committees and the actual implementation of flow-release protocols during periods of high drought.

Figure 2 demonstrates the point of critical flow alteration caused by the Ilısu dam before the Tigris enters the fragile ecological zones of Iraq.

This map illustrates the hydrological connectivity and key infrastructure developments, specifically the Ilısu dam and the GAP region in Turkey, that influence transboundary water governance in the downstream riparians of Syria and Iraq.

6 Comparative analysis: power, law, and conflict trajectories in transboundary water disputes

The GERD and Ilısu disputes show that transboundary water outcomes are shaped less by "what the law says" in the abstract and more by how power, institutions, and vulnerability determine which legal claims become actionable, but the two cases are not symmetrical. GERD reflects counter-hegemonic bargaining against a historically downstream-favored order, whereas Ilısu reflects upstream hydro-hegemonic consolidation in a weakly institutionalized basin (Zeitoun and Warner, 2006). Table 2 tracks the evolution of mediation efforts for the GERD and Ilisu dam, highlighting the shift from technical drafting to political consensus seeking.

6.1 Shared dynamics: dams change advantage, law frames legitimacy

In both basins, mega-dams operate as political projects that reconfigure control over timing and reliability of flows, while legal principles are mobilised as legitimacy tools. Upstream actors foreground development and utilisation claims; downstream actors foreground harm, dependence, and risk—especially under drought uncertainty, so "law" becomes the language through which distributional conflict is argued rather than a neutral constraint that automatically settles it (Zeitoun et al., 2011).

6.2 Different power structures: GERD is counter-hegemony; Ilısu is hegemony

Nile / GERD: The core political tension is rooted in a legacy of downstream advantage associated with colonial-era arrangements and

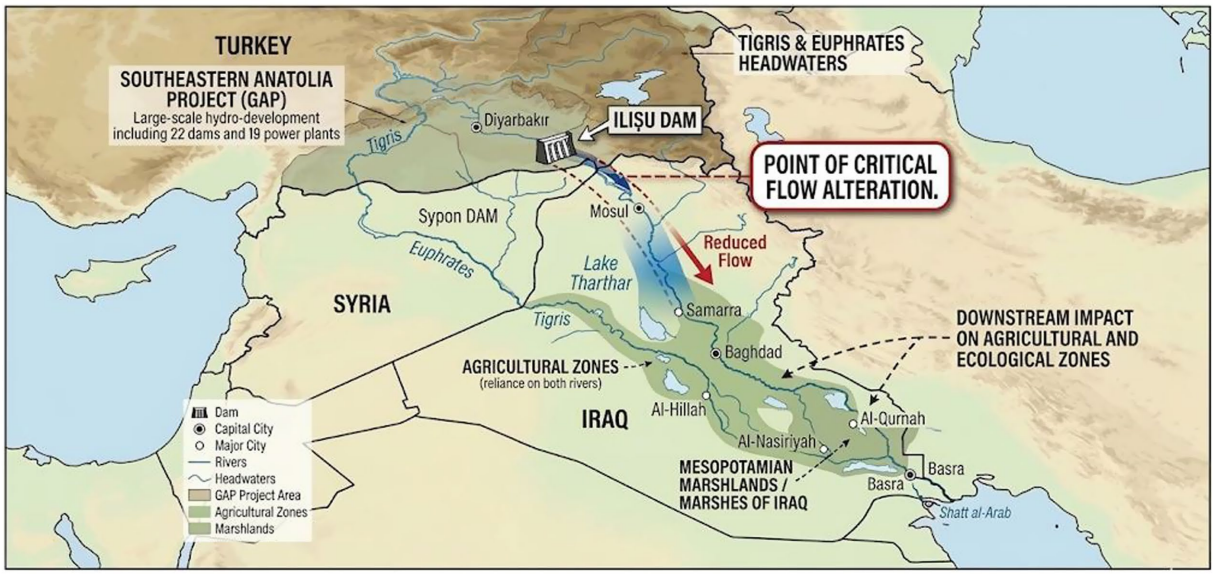

FIGURE 2
The Tigris-Euphrates basin highlighting the Ilisu Dam, demonstrating the point of critical flow alteration before the river enters downstream agricultural and ecological zones in Iraq. Source: UN-ESCWA and BGR (2013). Image generated with the assistance of Google Gemini AI tools.

TABLE 2 Comparative hydro-political architecture.

Dimension	GERD (Nile basin)	Ilısu dam (Tigris-Euphrates basin)
Power dynamic	Counter-hegemonic challenge by an upstream state.	Consolidation of upstream hydro-hegemony.
Institutional density	Partial cooperative architecture with repeated negotiation tracks.	Weak institutionalization and lack of comprehensive tripartite agreements.
Primary legal argument (upstream)	Equitable and reasonable utilization; right to development.	Domestic development imperative; sovereign resource utilization.
Primary legal argument (downstream)	No significant harm; protection of acquired/historical rights.	No significant harm; severe dry-season flow vulnerability.
Interaction pattern (TWINS)	High conflict framing coexisting with sustained cooperative negotiations.	Downstream incapacity reflecting unilateral upstream action rather than cooperative peace.

Egypt's historic capacity to defend the status quo; Ethiopia's dam-building capacity enabled a durable challenge to that order (Waterbury, 2002).

Tigris / Ilısu: By contrast, Turkey's upstream position and broader capabilities place it closer to the role of hydro-hegemon, and the downstream parties' weaker bargaining capacity makes sustained, rule-based negotiation harder to compel in practice.

6.3 Law and institutions: procedural contestation versus institutional thinness

A second key difference is institutional density. The Nile has partial cooperative architecture and repeated negotiation tracks, which sustain long-term engagement even when agreement fails; the Tigris–Euphrates basin lacks a comprehensive tripartite regime, so disputes are less about interpreting shared rules and more about contesting whether meaningful rules can be institutionalised at all (Daoudy, 2009).

This also sharpens the legal precision point: in general IWL reasoning, the issue is typically notification, consultation, cooperation, and due diligence, not downstream "approval." The GERD dispute therefore turns on whether procedures and operational commitments were sufficient to manage material risk—especially during drought—rather than on a formal requirement of consent (Salman, 2016).

6.4 Moving beyond "water wars" vs. "water peace"

Treating these cases as evidence *for* "water wars" or *for* "water peace" creates avoidable contradictions. A better fit is to treat conflict and cooperation as coexisting, shifting interaction patterns rather than mutually exclusive categories. GERD shows sustained cooperative interaction (long negotiations) coexisting with high conflict framing (securitised rhetoric and unilateral steps). Ilısu shows that the absence of interstate war does not equal "peace"; it can also reflect downstream incapacity under extreme asymmetry (Zeitoun and Mirumachi, 2008).

6.5 Third-party involvement: useful, but conditional

The record across both basins supports a more cautious claim than "third parties solve disputes." External facilitation can help when perceived as impartial, technically credible, and able to create incentives for compliance; it can also backfire when parties perceive bias, fear loss of sovereignty, or use the forum to shift blame. In other words, mediation is not inherently peace-producing, it depends on design and trust (Qamar et al., 2019).

6.6 UN security council involvement: a last-resort framing with risks

The manuscript's security argument is strongest when it treats Security Council engagement as a last-resort de-escalation and conflict-prevention pathway, not as a substitute for technical coordination or basin governance. Over-securitising water disputes can harden positions, raise domestic audience costs, and politicise technical bargaining—especially when a durable outcome still requires operational rules, data exchange, and drought coordination (von Meding, 2022).

6.7 What this comparison adds

The paper's specific contribution is not merely that "law is limited" or that "war/peace is too simple." Instead, the GERD and Ilısu cases together show that IWL's practical effect hinges on (i) whether the dam-builder is acting as a counter-hegemon or as a hydro-hegemon, (ii) whether basin institutions can translate principles into enforceable procedures, and (iii) whether third-party involvement increases trust and compliance rather than amplifying securitised contestation (Zeitoun and Warner, 2006).

7 Conclusion and recommendations

This paper explained how conflicts related to transboundary dams are shaped by the interplay of IWL, power imbalances, hydrological fragility, and security policies, it also concludes with a strategic roadmap for reform, proposing specific legal and geopolitical recommendations aimed at bridging the gap between normative theory and the practical realities of an increasingly water-scarce world.

7.1 Conclusion

This paper analyzed the GERD on the Nile and the Turkey's Ilısu dam on the Tigris to demonstrate how transboundary water disputes are driven by the interplay of IWL, power asymmetries, and securitized politics. The central finding is that IWL functions primarily as a normative language for legitimizing claims, whereas actual governance outcomes are dictated by basin-level bargaining power, domestic political constraints, and institutional design. The disputes follow divergent trajectories: the GERD represents a counter-hegemonic challenge to a historically downstream-favored order, resulting in sustained but highly contentious negotiations. Conversely, the Ilısu case exemplifies the consolidation of upstream hydro-hegemony in a weakly institutionalized basin, leaving downstream states acutely vulnerable to unilateral actions.

Moving beyond the simplistic "water wars versus water peace" dichotomy, this paper illustrates that conflict and cooperation constantly coexist and shift. Ultimately, contemporary water governance is hampered not by a lack of legal principles, but by the failure to translate these principles into credible, enforceable procedures. Mitigating future disputes requires moving away from reflexive securitization and high-level political posturing. Instead, efforts must focus on conditional, incentive-based mediation that prioritizes political will, benefit-sharing, and functional cooperation over absolute sovereign control.

7.2 Recommendations

This paper concludes with a set of targeted geopolitical and legal recommendations regarding the GERD and the Ilısu dam, explicitly aligned with the structural challenges of hydro-hegemony and IWL discussed in this paper.

- Fostering Political Will to Operationalize Normative Frameworks: The ongoing GERD dispute demonstrates that resolving the tension between "equitable utilization" and the "obligation not to cause significant harm" is no longer just a technical hurdle. The technical parameters are largely understood; what remains absent is political will. Future mediation, such as the efforts led by the African Union, should pivot from technical drafting to generating the high-level political consensus necessary to actually adopt and enforce specific, quantifiable criteria, such as minimum flow requirements during drought cycles.
- Sequencing Legal Frameworks and Institutional Capacity (RBOs): While transitioning to permanent River Basin Organizations (RBOs) is vital, establishing an RBO without a universally accepted legal framework often fails to constrain unilateral action. As evidenced by the Nile Basin Initiative (NBI) and the Cooperative Framework Agreement (CFA), institutions struggle to resolve disputes like the GERD if the underlying legal mandate is contested by key riparians. Riparian states must prioritize foundational, binding legal agreements that define baseline operational constraints before, or in tandem with, empowering RBOs with dispute resolution mechanisms.
- Catalyzing Cooperation Through the Benefit-Sharing Principle: To overcome zero-sum volumetric disputes and upstream material power, legal and diplomatic efforts must operationalize the "benefit-sharing" principle (E6). This requires shifting the focus from dividing water quantities to sharing the economic value derived from the water, such as regional energy trade and agricultural investments. Through embedding water governance within broader strategic trade and investment protections, similar to emerging multi-sectoral agreements in the Tigris-Euphrates basin, mediators can create powerful positive-sum incentives that outweigh the perceived loss of absolute sovereign control.
- Avoiding Reflexive Securitization and Prioritizing Human Security: International engagement should be reserved strictly for preventive diplomacy and de-escalation rather than serving as a default mechanism for basin governance. Over-securitizing water disputes hardens nationalistic positions. Instead, legal frameworks must evolve to prioritize human security and functional cooperation, ensuring that basic humanitarian water needs, especially in fragile downstream regions like Iraq and Syria, are shielded from high-level hydro-political contestation.

- Adopting a Climate-Resilient Legal Architecture: Future transboundary agreements should be "climate-smart," moving away from fixed-volume allocations toward percentage-based or flexible flow regimes. This ensures that legal obligations remain relevant, equitable, and adaptable in the face of the increasing hydrological volatility affecting the MENA region.

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