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The Limits of Depoliticized Water–Energy Diplomacy: Insights From the UAE–Israel–Jordan Water-for-Energy Deal

Majed Abu-Zreig[1] | Hussam Hussein[2]

[1]Irbid National University, Irbid, Jordan | [2]Department of Politics and International Relations (DPIR), University of Oxford, Oxford, UK

Correspondence: Hussam Hussein (hh.hussam.hussein@gmail.com)

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ABSTRACT

This paper examines the rise and collapse of the 2021 United Arab Emirates (UAE)–Israel–Jordan Water-for-Energy Deal, a landmark initiative that sought to exchange Jordanian solar energy for Israeli desalinated water. Presented as a breakthrough in regional cooperation and environmental peacebuilding, the agreement was brokered under the Abraham Accords with strong backing from the United States and the UAE. However, despite its technical promise, the deal unraveled within 2 years amidst Israel's war on Gaza, mounting public opposition in Jordan, and shifting geopolitical dynamics. Drawing on qualitative analysis and process tracing, this paper argues that the deal's failure reflects the limits of technocratic cooperation in deeply asymmetric and politicized contexts. Rather than addressing structural inequalities, occupation, and historical grievances, the agreement attempted to depoliticize a conflict-laden landscape—ultimately undermining its legitimacy and durability. By situating this case within broader debates on hydrohegemony, power asymmetry, and environmental peacebuilding, the paper highlights how resource-sharing initiatives may reinforce rather than resolve conflict when they overlook the fundamental political conditions in which they operate. The study offers critical lessons for designing more equitable and sustainable transboundary cooperation in the Middle East and beyond.

1 | Introduction

Water-related disputes in the Middle East are deeply entrenched and multifaceted, with one of the most prominent conflicts revolving around the Jordan River Basin (Alatout 2011). This basin has been a source of tension for Israel, Jordan, Lebanon, Palestine, and Syria for decades. These disputes are further complicated by broader geopolitical conflicts, making the path toward a resolution exceptionally challenging (Hussein 2019). This is particularly true at the moment, given Israel's ongoing war on Gaza (Hussein 2023), which the International Court of Justice (ICJ 2024) found plausibly in violation of the Genocide Convention, Israel's invasion of Lebanon, Israel's invasion and occupation of Southern Syria, and the ongoing annexation of the West Bank.

In recent years, water–energy cooperation has been promoted as a promising pathway for advancing peace, stability, and sustainable development in transboundary basins, particularly in conflict-prone regions such as the Middle East (Khalifa et al. 2025). Different regional projects on water and energy, aiming to increase water and energy security, have been discussed and negotiated especially between Jordan and Syria on the Yarmouk, and among Jordan, Israel and Palestine on the lower part of the Jordan River. Other regional examples are the proposed project to build solar panels in Iraq under the Development Road Initiative, funded by

the United Arab Emirates (UAE) (Muhsen 2025); and the Red Sea–Dead Sea Canal (RSDSC) project, which was not pursued due to political reasons. These cases underscore the political and conflict-laden nature of water–energy cooperation in the region.

Advocates of environmental peacebuilding and transboundary water diplomacy often argue that resource interdependence can foster trust and mutual benefit, even in politically sensitive contexts (Gain 2024). However, such optimistic assumptions often fail to account for the deeper power asymmetries, unresolved conflicts, and structural inequalities that define many of these settings (Zeitoun and Warner 2006). As mentioned by Nagheeby (2024), "'water for peace', yes, but it doesn't change the need for peace and justice."

This paper examines the case of the 2021 UAE–Israel–Jordan Water-for-Energy Deal (also referred to as a memorandum of understanding (MoU)), which aimed to establish a new model of regional cooperation by exchanging Israeli desalinated water for Jordanian solar-generated electricity (Mansour and Reiffenstuel 2022). Brokered with support from the United States and framed as part of a broader normalization process under the Abraham Accords, the agreement was presented as a model for innovative cooperation in a resource-scarce region. Yet, within 2 years, the agreement collapsed amidst the war on Gaza, public protests in Jordan, and growing concerns about the political sustainability of bilateral cooperation with Israel (Al Gebaly and Tolba 2023).

The failure of this highly publicized deal raises critical questions about the viability of resource-sharing arrangements in deeply asymmetric conflicts. Can technical cooperation on water and energy succeed when one party maintains an illegal occupation, violates international law, and stands accused of crimes under international humanitarian law? Can environmental cooperation transcend deeply entrenched geopolitical inequalities? Or does such cooperation risk reinforcing existing asymmetries while ignoring the structural drivers of conflict?

This paper argues that the 2021 water-for-energy deal ultimately failed not because of flaws in its technical design, but because it attempted to depoliticize a fundamentally political conflict. The agreement underestimated how power asymmetries, occupation, domestic politics, and international legal violations undermine trust and legitimacy. Without addressing these structural factors, resource-sharing agreements are likely to remain fragile and vulnerable to collapse.

To advance this argument, the paper draws on a qualitative case study approach, employing process tracing and document analysis to reconstruct the evolution of the agreement, the shifting political landscape, and the causes of its eventual abandonment. By situating this case within broader debates in hydropolitics and international relations, the paper contributes to ongoing discussions about the limits of environmental peacebuilding under conditions of occupation and power asymmetry.

The structure of the paper is as follows. First, a general background is presented. Second, the theoretical framework is discussed, engaging with key debates on hydrohegemony, power asymmetry, and critical hydropolitics. Third, the methodology is outlined. Fourth, the details of the 2021 deal and its regional context are examined. Fifth, the paper analyzes the causal factors behind the deal's collapse. Finally, the paper offers policy lessons and conclusions.

2 | General Background: Historical and Hydropolitical Context of the Jordan River Basin

This section provides the historical and hydropolitical context of the Jordan River Basin (see map in Figure 1), highlighting the

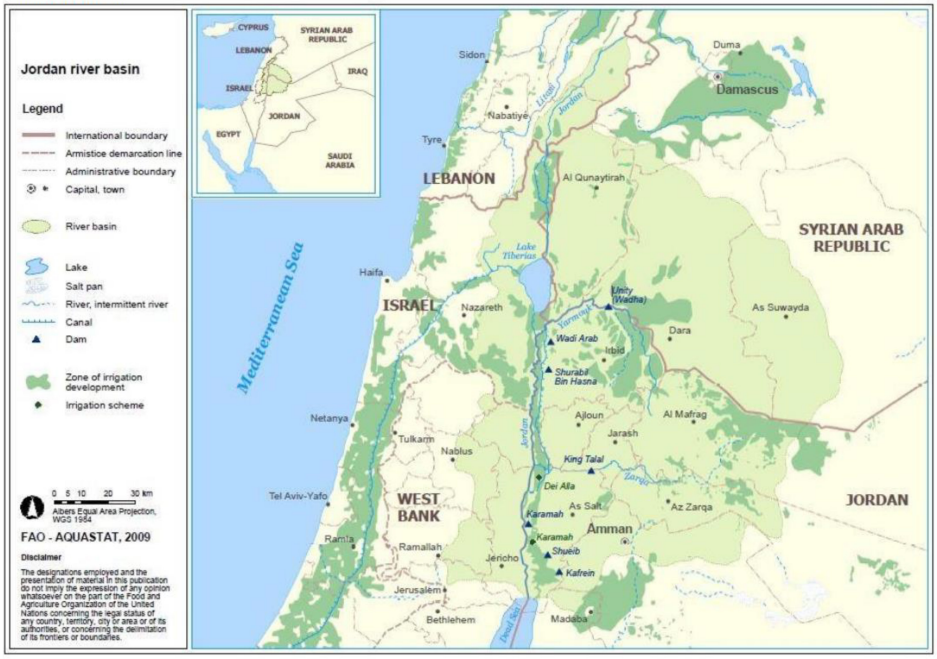

FIGURE 1 | Map from FAO—Aquastat (FAO 2009).

legacy of fragmented agreements, power asymmetries, and ecological degradation that shape current efforts at water–energy cooperation (see Appendices A and B for further details).

For decades, the Jordan River has been at the heart of complex negotiations and disputes between countries in the Middle East (Annex I). The Jordan River flows through Lebanon, Syria, Israel, Palestine, and Jordan, for a total distance of around 228 km. It rises in Jabal Al Shaikh and receives additional flow from the Dan River in Israel, the Hasbani River in southern Lebanon, and the Banias River in the occupied Golan Highlands (UN-ESCWA and BGR 2013). The Yarmouk River forms the Jordan–Syria border and then joins the Jordan River after Lake Tiberias, flowing downstream into the Dead Sea (UN-ESCWA and BGR 2013).

Since the 1950s, the inflow to Lake Tiberias has not changed significantly. However, the lake's outflow into Jordan has been significantly reduced due to the lake's waters being diverted into Israel's National Water Carrier project (NWC) (Bismuth 2016). Water is transported through the NWC from Israel's north to its southern parts for irrigation and drinking. In order to improve the quality of the water in the carrier, saline sources of the lake have been transferred away into the Jordan River, raising its salinity levels. The downstream part of the Jordan River—south of Lake Tiberias—suffers from a reduction in flow rates due to climate change and the overexploitation upstream, which causes a fall in the Dead Sea's level of about 1 m/year, the coastal sea line eroding, sinkholes forming, and salinization of groundwater sources around the Dead Sea (Bismuth et al. 2016). In fact, today only 3% of the original flow of the Jordan River reaches the Dead Sea (Hussein 2017b).

3 | Analytical and Theoretical Framework

This study integrates multiple theoretical frameworks to capture the complexity of the UAE–Israel–Jordan water-for-energy deal, recognizing that no single approach sufficiently accounts for the interplay of geopolitical asymmetries, domestic political constraints, transnational linkages, and legal-normative dimensions shaping its trajectory.

Extensive literature on transboundary water cooperation has been informed by liberal institutionalist perspectives, which emphasize the potential for shared resource management to foster trust, build interdependence, and contribute to conflict resolution (Warner and de Man 2020; Sadoff and Grey 2002; Dinar 2009; Sharipova 2024). This approach underpins much of the advocacy around environmental peacebuilding, where water cooperation is framed as a mechanism for confidence-building and regional stability (Ide 2019; Hussein et al. 2023).

However, critics have argued that such approaches often underestimate the role of power asymmetries, contested sovereignties, and ongoing conflicts in shaping cooperation outcomes (Zeitoun and Warner 2006; Hussein and Grandi 2015; Cascão 2009). In many cases, resource-sharing agreements are negotiated under conditions of hydrohegemony, where dominant actors are able to shape the terms of cooperation to serve their own interests, often reproducing existing inequalities while maintaining a façade of collaboration (Selby 2013). The Joint Water Committee between Palestinians and Israelis has often been criticized for reproducing such power asymmetries and for failing to challenge the structural inequalities (Christian and Speight 2016; Selby 2013). Growing literature calls for putting justice at the forefront of water diplomacy, emphasizing the need to decolonize water diplomacy by shifting from a security–peace to an equity–identity-driven approach (Nagheeby and Amezaga 2023; Nagheeby et al. 2025; Hussein et al. 2023).

The hydrohegemony framework offers a useful lens for analyzing such cases. According to Zeitoun and Warner (2006), hydrohegemony emerges when one riparian state exercises control over shared water resources through a combination of material, ideational, and bargaining powers. Hussein and Grandi (2015, 2017) further expand this analysis by showing how historical and discursive asymmetries together with the role of the broader political context often perpetuate unequal outcomes in water-sharing agreements.

In the Israeli–Palestinian–Jordanian context, these asymmetries are particularly pronounced. Israel's occupation of Palestinian territories, its control over key aquifers, and headwaters, and its ability to shape regional negotiations, have created enduring imbalances that directly affect water diplomacy (Zeitoun et al. 2009; Elmusa 1996; Talozi et al. 2019). These dynamics not only limit the scope of equitable cooperation but also erode trust, both at the elite level and among affected populations.

Moreover, the political economy of international law and occupation complicates the possibility of genuine cooperation. As the International Court of Justice (ICJ 2024) has recently emphasized, Israel's ongoing occupation and treatment of Palestinians, including the "plausible" act of genocide, violate international legal norms, further undermining the legitimacy of cooperative frameworks that exclude Palestinians or benefit from the occupation's resource arrangements.

Moreover, domestic politics plays a critical role in shaping international water diplomacy (Hussein 2019). As Putnam's two-level game framework suggests, national leaders must simultaneously negotiate with external partners and domestic constituencies. While Foucauldian perspectives on diffuse forms of power and resistance may enrich analysis, this paper focuses primarily on hydrohegemony, two-level games, and connectivity theory to preserve analytical coherence. Moreover, within domestic politics, there is a need to consider how decisions and policies are also shaped by politics from below. Here, it is necessary to consider how civil society, activists, and initiatives against econormalization manage to shape national politics (Rose and El Khazen 2023; El-Khazen and Rose 2024; Hamouchene 2023).

Finally, while the two-level game theory provides a valuable lens for examining hydrodiplomacy (Rigi and Warner 2020)—highlighting the interplay between domestic political constraints and international bargaining—it offers only a partial account of the strategic dimensions of water–energy

cooperation. To complement this perspective, insights from the theory of connectivity in geopolitical studies can deepen our understanding of how such cooperation functions not merely as a site of mutual gain, but also as a potential instrument of power. In geopolitical studies, connectivity refers to the physical, institutional, and economic linkages—such as transport corridors, energy grids, water pipelines, and trade routes—that bind regions together. These connections are rarely neutral. The actors that design, control, or regulate them can shape flows of resources and information, create dependencies, and exercise leverage over partners. Rather than simply enabling cooperation, connectivity can be strategically structured to amplify influence and manage vulnerabilities (Douzet et al. 2023; Flint and Zhu 2019).

When applied to hydrodiplomacy, connectivity theory directs attention to how integrated water and energy systems can serve as more than technical arrangements. Large-scale water–energy cooperation projects—such as cross-border water-for-energy exchanges—may consolidate flows of vital resources into a limited set of infrastructures or agreements. This concentration can transform points of interdependence into strategic levers, allowing one party to influence or even constrain the economic and political choices of others (ibid.).

A useful metaphor for understanding this dynamic is the "hourglass bottleneck." In an hourglass, multiple flows converge into a single narrow passage before dispersing again. In geopolitical terms, this "waist" represents a choke point: a single dam, pumping station, pipeline, or transmission line upon which multiple actors depend. Control over such choke points magnifies bargaining power and enables the application of pressure in times of political tension. In water–energy cooperation, what may outwardly appear as a mutually beneficial arrangement can, through the consolidation of flows, embed long-term dependencies and asymmetries.

By incorporating connectivity theory alongside two-level game theory, analysis of hydrodiplomacy can move beyond a focus on negotiations and domestic constraints, to also capture the structural power embedded in the design of cooperative infrastructures. This dual lens reveals how cooperation can simultaneously advance shared objectives and entrench strategic advantages, particularly where the architecture of connectivity creates choke points that resemble the hourglass bottleneck.

By combining insights from hydrohegemony, critical hydropolitics, international law, two-level game theory, the theory of connectivity in geopolitical studies, and the growing literature on antinormalization, this paper analyzes the structural limits of the 2021 water-for-energy agreement and draws broader lessons for the future of resource-sharing diplomacy in asymmetrical conflict settings.

This article's primary contribution lies in demonstrating how integrating hydrohegemony with connectivity theory helps explain why depoliticized cooperation collapsed in this case. Whereas prior work has emphasized institutional design or cooperation benefits, this study highlights how the choke point logic of connectivity reinforced asymmetry under occupation and contributed to the fragility of the 2021 water-for-energy deal.

4 | Methodology

This study adopts a qualitative case study approach to analyze the rise and collapse of the 2021 UAE–Israel–Jordan water-for-energy deal. A case study design is particularly appropriate for examining complex, context-specific processes that involve interrelated political, legal, and hydrological dynamics (George and Bennett 2005). The analysis focuses on reconstructing the sequence of events surrounding the agreement and identifying the causal mechanisms that shaped its evolution and eventual abandonment.

The primary method employed is document analysis, which draws on a wide range of sources including: official agreements, treaties, and memoranda (e.g., the 1994 Israel-Jordan Peace Treaty, the 2021 deal, and earlier bilateral water agreements); public statements and press releases from the involved governments and regional organizations; media reports from regional and international outlets covering the negotiation, public reactions, and eventual suspension of the agreement; international legal documents and rulings, including the International Court of Justice (ICJ 2024) orders regarding Israel's actions in Gaza and its broader occupation of Palestine; reports and statements from international organizations, NGOs, and civil society groups, including BDS and antinormalization campaigns in Jordan; secondary academic literature on transboundary water governance, Middle East hydropolitics, and regional diplomacy.

In addition to document analysis, the study applies a process-tracing approach (Beach and Pedersen 2013) to reconstruct the causal chain linking the initiation of the water-for-energy deal to its eventual collapse. This involves tracing the interaction between international negotiations, domestic political pressures in Jordan, Israel's conduct in Gaza and the West Bank, shifts in regional diplomacy, and broader questions of legal legitimacy and trust.

Finally, the paper draws upon theoretical insights from critical hydropolitics, hydrohegemony, and two-level game theory to interpret the empirical material and to situate the case study within broader debates about the feasibility of resource-sharing agreements under conditions of occupation, structural inequality, and contested legitimacy.

This study did not rely on primary interview data but instead synthesized extensive existing documentary, legal, and academic sources to analyze the highly public nature of the case and its broader political–legal implications.

In applying process tracing, this study follows the "explaining-outcome" variant outlined by Beach and Pedersen (2013), which seeks to identify the specific causal mechanisms responsible for a particular empirical outcome, in this case, the collapse of the 2021 water-for-energy deal. The procedure began by defining the outcome of interest and formulating competing causal hypotheses drawn from the theoretical frameworks discussed earlier (e.g., hydrohegemony, two-level

games, connectivity theory). Each hypothesis was then broken down into its constituent causal mechanisms, which were operationalized into observable manifestations expected in documentary and secondary sources. Evidence was assessed to evaluate the plausibility of each mechanism, with attention to temporal sequencing and the elimination of alternative explanations. This systematic approach allowed the study to move beyond chronological description, providing a structured basis for linking specific political, legal, and societal developments to the agreement's demise.

5 | Operationalization of Process Tracing

The outcome under investigation is the collapse of the Emirati–Israeli–Jordanian water-for-energy agreement in late 2023. To explain this outcome, the article considers three competing hypotheses. The first highlights Jordan's structural dependence on US security and aid, which has historically shaped regime survival strategies and constrained foreign policy choices. The second centers on domestic politics, particularly the role of civil society and parliamentary opposition in mobilizing against normalization with Israel. The third draws on hydrohegemony and connectivity theory, emphasizing how the choke point design of the agreement, underwritten by Emirati finance and reliant on Israeli control of desalinated water, entrenched asymmetry and generated long-term political unsustainability.

Each hypothesis generates observable implications. For example, if structural dependence was decisive, one would expect Jordanian officials to stress the indispensability of the US partnership and to continue engagement with the deal despite popular resistance. If domestic politics were decisive, one would expect parliamentary motions, mass protests, and civil society mobilization to be explicitly cited as reasons for withdrawal. If connectivity and hydrohegemony were decisive, one would expect discourse to highlight sovereignty concerns and vulnerabilities linked to Emirati–Israeli control of key infrastructures.

The analysis proceeds by tracing events from the signing of the memorandum in November 2021, through the waves of civil society protests in 2022, to the escalation of regional violence in Gaza and Jordan's official suspension of the deal in November 2023. Documentary evidence, parliamentary debates, and media reports are therefore not treated as descriptive background, but as empirical tests of these competing explanations. This allows alternative mechanisms to be weighed against one another and clarifies how international, domestic, and infrastructural factors combined to undermine the sustainability of the agreement.

6 | The UAE, Israel, Jordan Energy Water Exchange Declaration

In November 2021, the UAE, Israel, and Jordan signed a deal to explore a potential large-scale exchange of water and energy resources. The proposal, often referred to as the *Blue-Green Prosperity* or *Water-for-Energy Deal*, envisioned electricity to be produced in a new 600-MW solar power plant to be built in Jordan, financed by the UAE, which would generate renewable electricity for export to Israel. In exchange, Israel would supply Jordan with 200 million cubic meters (MCM) of desalinated water annually from its Mediterranean desalination facilities (Munin 2024; Jong 2022; Luckmann 2025).

The deal was brokered under the active diplomatic encouragement of the United States and was celebrated by some as a flagship achievement of the post-Abraham Accords era. Signed in the presence of US climate envoy John Kerry, the agreement was framed as a win–win arrangement that would advance regional climate goals, address water insecurity, and foster deeper cooperation between Jordan and Israel.

At the technical level, the deal appeared attractive to all three parties:

- **For the UAE**, the deal offered multiple strategic benefits. As a key architect of the Abraham Accords, the UAE sought to consolidate its growing role as a regional diplomatic and financial broker. Financing renewable energy infrastructure in Jordan enhanced its geopolitical standing, deepened ties with Israel, and showcased its ambition to lead on climate diplomacy in the wider Middle East (Kirmanj and Tofik 2023).
- **For Israel**, the agreement provided an opportunity to showcase its desalination capacity and environmental innovation, while contributing to its ambitious climate targets by securing clean energy imports without compromising its own energy security (Schuetze and Hussein 2023; Jong 2022). Having already achieved near full water self-sufficiency through large-scale desalination and wastewater reuse, Israel faced little vulnerability from the arrangement.
- **For Jordan**, chronically water-scarce and facing rising demand, the promise of an additional 200 MCM of desalinated water represented a potential strategic lifeline. The deal offered an opportunity to diversify its water sources without the political and technical complications of its stalled Red Sea–Dead Sea project or further dependence on upstream Yarmouk flows (Hussein 2017b; Roya News 2021).

While the technical and financial logic of the deal appeared sound, its political foundations were fragile. By excluding a key stakeholder, the Palestinians, the deal was exposed to public criticism and delegitimation in Jordan and beyond (DW 2023). The deal was also signed at a time of growing regional tension. The Abraham Accords, while publicly embraced by some Arab regimes, faced significant opposition among Arab populations, who viewed normalization with Israel as a betrayal of the Palestinian cause (Monshipouri et al. 2025). In Jordan, public protests against the deal emerged almost immediately after its announcement, with demonstrations criticizing the Jordanian government for deepening cooperation with Israel despite ongoing occupation and rights violations (Mansour and Reiffenstuel 2022; DW 2023).

At the same time, Israel's broader conduct continued to erode regional trust. Beyond the longstanding occupation of the West Bank and East Jerusalem, Israel's policies in Gaza—which escalated sharply in 2023 with its full-scale military assault—triggered widespread international condemnation.

In January 2024, the International Court of Justice (ICJ) issued provisional orders in response to genocide accusations brought by South Africa, marking a significant legal milestone in the international community's response to Israeli actions in Gaza (ICJ 2024).

These developments directly undermined the political sustainability of the deal. As public outrage in Jordan intensified in late 2023, the Jordanian government came under increasing pressure to withdraw from the agreement. On November 16, 2023, Jordan's Foreign Minister Ayman Safadi officially announced that Jordan would not proceed with the deal, citing both the humanitarian catastrophe in Gaza and the broader collapse of trust in Israeli–Jordanian cooperation (Al Gebaly and Tolba 2023; Jordan Times 2023).

The 2021 UAE–Israel–Jordan deal thus became a vivid example of how deeply embedded power asymmetries, occupation, and regional mistrust can overwhelm even the most technically promising cooperative arrangements. Rather than advancing a depoliticized model of environmental peacebuilding, the deal collapsed under the weight of unresolved political grievances, legal violations, and public opposition.

7 | The Collapse of the Agreement: Trust, Power, and Structural Limits

The failure of the 2021 UAE–Israel–Jordan water-for-energy deal cannot be fully explained by technical shortcomings or financial obstacles. Instead, its collapse exposes the structural limits of resource-sharing diplomacy under conditions of unresolved occupation, power asymmetry, and political mistrust. This section analyses the key causal factors that undermined the agreement and ultimately rendered it politically unsustainable.

7.1 | Occupation and Legal Asymmetry as Structural Obstacles

At the heart of the problem lies the fundamental asymmetry created by Israel's decades-long occupation of Palestinian territories and its control over shared water resources. Israel's control over the Mountain Aquifer, the Jordan River headwaters, and much of the transboundary water infrastructure enables it to exercise disproportionate influence over regional water allocations (Zeitoun et al. 2009; Hussein 2017a). Palestinians remain almost entirely excluded from meaningful participation in regional water diplomacy, and their water rights—recognized in international law—have been repeatedly denied or deferred (Elmusa 1996; Zeitoun and Warner 2006).

While the deal was presented as a forward-looking model of technical cooperation, it was negotiated without addressing these structural injustices. The exclusion of Palestine from the agreement was not merely a diplomatic oversight but a reflection of the power asymmetries that continue to shape regional governance. As Zeitoun and Warner (2006) argue, such agreements often reproduce existing inequalities by focusing on technical resource-sharing while ignoring contested political contexts. In this case, the attempt to separate water cooperation from the unresolved status of occupation only deepened public skepticism.

Moreover, Israel's broader conduct further undermined any prospects for trust-based cooperation. In 2023, Israel's full-scale military operations in Gaza, resulting in widespread civilian casualties and destruction of critical infrastructure, triggered unprecedented levels of public outrage across the Arab world. The International Court of Justice's 2024 provisional ruling, which found Israel plausibly guilty of genocide, added significant legal weight to these grievances (ICJ 2024). Against this backdrop, any form of cooperation with Israel—especially one that deepened interdependence—became increasingly difficult for Jordanian leaders to justify domestically.

7.2 | Domestic Opposition in Jordan

Jordan's foreign policy trajectory may be characterized as a pendulum-like movement between two competing forces: The domestic pressure exerted by a largely pro-Palestinian civil society, and the state's concurrent drive toward economic modernization and normalization with Israel, largely underpinned by its structural dependence on US security and aid.

Domestic political opposition in Jordan played a decisive role in the deal's collapse. As Putnam's (1988) two-level game theory suggests, international agreements must satisfy both external diplomatic partners and internal constituencies. In Jordan, where antinormalization sentiment remains strong, public acceptance of expanded cooperation with Israel has always been fragile (Hussein and Grandi 2015; Zeitoun et al. 2019).

The announcement of the deal triggered immediate protests across Jordan, with demonstrators accusing the government of undermining national sovereignty, betraying the Palestinian cause, and increasing Jordan's dependence on Israel. Antinormalization activists, professional associations, and elements of the political opposition mobilized widespread criticism, framing the deal as part of a broader normalization project that disregarded both domestic public opinion and international legal principles (Al Gebaly and Tolba 2023; Jordan Times 2023).

The escalation of Israeli violence in Gaza during late 2023 further radicalized public opinion (DW 2023). In this context, any continuation of the agreement would have risked significant domestic instability, placing pressure on the monarchy and the political establishment. As public anger mounted, Jordan's leaders faced narrowing room for maneuver, eventually prompting Foreign Minister Ayman Safadi to officially withdraw from the agreement in November 2023.

7.3 | The Limits of Liberal Resource-Sharing Models

The collapse of the water-for-energy deal challenges the liberal assumption that resource interdependence can foster peace and stability, even in deeply divided regions. Liberal institutionalist theories often emphasize the potential for environmental cooperation to build trust and generate win–win outcomes (Sadoff

and Grey 2002; Dinar 2009). However, these models typically downplay the central role of power, occupation, and legitimacy in shaping the prospects for cooperation (Zeitoun and Mirumachi 2008; Zeitoun and Warner 2006; Katz 2021).

In the case of the 2021 deal, cooperation was pursued without addressing the underlying political and legal asymmetries that structure Israeli–Palestinian relations and the wider regional order. As several scholars have argued (Hussein 2019; Nagheeby and Amezaga 2023), water-sharing arrangements that fail to engage with these asymmetries risk legitimizing and entrenching existing inequalities rather than transforming them. This dynamic not only undermines the legitimacy of such agreements but also weakens the domestic political foundations necessary for their durability.

In this context, growing literature explores the attempts of normalization—through technocratic narratives—in the region. Dunlap (2022) discusses the politics of megaprojects and how they reinforce genocide and ecocide; Schuetze (2024) analyses the Arab–Israeli normalization via technocratic efforts at promoting a transit trade route in order to bypass politics; Alkhalili et al. (2023) discuss the greening of occupations focusing on wind energy development in occupied Western Sahara and occupied Golan Heights and on the ways in which liberal initiatives at peacebuilding and/or normalization perpetuate inequalities and authoritarian repression when underlying power imbalances are not addressed; while El Kurd (2023) notes how normalization with Israel reinforces authoritarian repression in the Arab Gulf states.

7.4 | The UAE's Geopolitical Calculus

While much of the attention has focused on Jordan and Israel, the UAE's role in the agreement also reflects shifting geopolitical alignments. As a leading force behind the Abraham Accords, the UAE sought to leverage its financial capacity and diplomatic influence to deepen economic integration with Israel while expanding its regional leadership in climate and energy diplomacy (Kirmanj and Tofik 2023). However, the deal's failure demonstrates the risks of attempting to normalize economic cooperation while bypassing unresolved political conflicts. Even with substantial financial backing, third-party brokerage cannot substitute for legitimacy when agreements disregard public sentiment and legal norms.

When applying the theory of connectivity within geopolitical studies to the UAE–Israel–Jordan water-for-energy deal, the connectivity–hourglass framework reveals that such arrangements are not merely technical solutions to resource scarcity but also strategic instruments aligned with the UAE's broader foreign policy ambitions. As Kirmanj and Tofik (2023) note, the UAE has consistently pursued control over regional ports and waterways as part of its effort to expand influence, secure economic advantages, and shape political alignments. In this light, its role in financing solar power infrastructure for Jordan in exchange for desalinated water from Israel embeds the Emirates within a critical resource corridor linking the Levant's water and energy systems. By helping to create and underwrite a centralized "waist" in the region's water–energy hourglass, the UAE positions itself not only as an indispensable partner but also as a gatekeeper, with the potential to amplify its leverage over economic choke points should regional political dynamics shift. This transforms what might be presented as climate cooperation into a structural power asset, consistent with Abu Dhabi's pattern of linking connectivity control to geopolitical influence.

8 | Lessons for Future Water–Energy Diplomacy

Beyond explaining the collapse of a single agreement, the paper advances theoretical understanding by demonstrating how an integrative, multiframework approach can illuminate the causal mechanisms of failure in asymmetric hydrodiplomacy, while offering policymakers a diagnostic tool to anticipate and mitigate similar vulnerabilities in future transboundary resource deals.

The collapse of the 2021 UAE–Israel–Jordan water-for-energy memorandum of understanding offers important lessons for policymakers, diplomats, and scholars concerned with transboundary resource cooperation in conflict-affected regions. While the technical design of such agreements may be innovative and financially attractive for the involved states' elites, their sustainability ultimately depends on the political, legal, and normative context in which they operate. Several key lessons emerge from this case.

First, any durable transboundary agreement must explicitly address underlying power asymmetries between parties. In the Jordan River Basin, Israel's control over critical water resources, combined with its continued occupation of Palestinian territories, creates structural imbalances that directly undermine the equity and legitimacy of water-sharing frameworks. Agreements that ignore or sidestep these realities risk reproducing existing inequalities and failing to secure lasting support from affected populations. Genuine cooperation requires confronting, rather than bypassing, the political foundations of resource control.

Second, the exclusion of Palestine from the 2021 deal not only marginalized one of the key riparian countries but also delegitimized the agreement in the eyes of many in the region. Future agreements must ensure the full inclusion of all relevant stakeholders, particularly those whose rights have been historically denied or undermined. Incorporating Palestinian water rights—as recognized under international law—into any regional framework is a political necessity for building public support and regional legitimacy. It is necessary to note, however, that at the beginning of the RSDSC project, Palestine was not included, and this caused the project's halt (Hussein 2017b). However, while Palestine was later included, the project was nevertheless unsuccessful. So, learning from these two projects, exclusion is an important explanatory factor, but inclusion is not enough, as demonstrated in the RSDSC case. Even if Palestine had been included in the water-for-energy deal, structural factors would still carry significant weight in shaping transboundary water interactions, and must therefore be addressed.

Third, as demonstrated by the Jordanian public opposition to the deal, transboundary agreements are shaped not only by interstate negotiations but also by domestic political considerations. Policymakers must recognize that agreements perceived

as undermining national sovereignty or disregarding public opinion may face insurmountable internal resistance. Effective diplomacy requires parallel efforts to build domestic consensus, foster transparency, and engage civil society actors who play critical roles in shaping national debates on normalization, sovereignty, and regional cooperation. As mentioned above, Jordan's foreign policy trajectory may be characterized as a pendulum-like movement between two competing forces: the domestic pressure exerted by a largely pro-Palestinian civil society, and the state's concurrent drive toward economic modernization and normalization with Israel. This interpretation clarifies the rationale behind Jordan's initial support for and eventual withdrawal from the deal.

Fourth, while external financial support—from actors such as the UAE—can facilitate the material implementation of water–energy projects, financial incentives cannot substitute for political legitimacy. Third-party brokers must recognize that sustainable agreements require not only technical feasibility but also public trust, legal compliance, and respect for the broader geopolitical context. Brokered deals that neglect these dimensions risk rapid collapse in the face of political shocks.

Fifth, international law, including international humanitarian law and international water law, provides critical normative frameworks for guiding resource-sharing agreements. Future negotiations should prioritize compliance with existing legal obligations, including the prohibition of benefit transfers to illegal settlements, recognition of Palestinian water rights, and the obligations outlined by rulings such as the ICJ's (2024) provisional orders. Embedding agreements within clear legal frameworks can strengthen their legitimacy and resilience.

Sixth, future resource-sharing agreements would benefit from the creation of joint oversight institutions that include all affected parties, operate transparently, and are supported by independent third-party monitors such as regional organizations or neutral international bodies (e.g., the EU and UN agencies). Such institutions can enhance trust, monitor compliance, resolve disputes, and reduce the risks of unilateral political manipulation of shared resources.

Seventh, perhaps the most central lesson is that technical or depoliticized approaches to resource-sharing are unlikely to succeed when occupation, contested sovereignty, and violations of international law remain unresolved. Water–energy diplomacy cannot be insulated from the larger political conflict in which it is embedded. Sustainable cooperation in the Jordan River Basin will require progress on the core political issues that continue to fuel mistrust, inequality, instability, and injustice.

Conflicts of Interest

The authors declare no conflicts of interest.

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Appendix A

Previous Agreements on the Jordan and Yarmouk Rivers

As summarized in Table A1, historically, the early 20th century saw visionary plans like the Franjieh Plan in 1913, which aimed to harness the potential of the Jordan Valley for irrigation and hydropower while redirecting the Yarmouk River's flow to Lake Tiberias. However, these early plans remained unrealized (Sofer 1999). Before 1950, there were three distinct agreements concerning the allocation of water resources in the Jordan River Basin, specifically addressing the shares of Palestine, Syria, and Lebanon. In 1955, the nonratified Johnston Plan for sharing the Jordan River Basin's water proposed a comprehensive water allocation strategy for the region (Milich and Varady 1999) but faced obstacles that eventually led to disputes. Jordan's intention to divert the Yarmouk River triggered Israel's construction of the NWC in 1953. These tensions set the stage for larger conflicts, culminating in the Six-Day War of 1967, which resulted in Israel's control and occupation of the Golan Highlands, the West Bank, and the Gaza Strip. The region's water resources became a pawn in geopolitical struggles, with water scarcity intensifying disputes (Green Cross Italy 2006).

Israel and Jordan negotiated the Treaty of Peace, which was signed in October 1994, and agreed to it in July 1994 by signing The Washington Declaration. The two countries agreed to work together to develop plans for boosting water supply and enhancing water usage efficiency. They also committed to exchanging data on water resources through the bilateral Joint Water Committee (JWC) (Milich and Varady 1999).

The peace treaty has initially enhanced regional collaboration regarding the creation of new water resource projects and for the economic development of the Jordan Valley. For instance, discussions on the potential for constructing a canal from the Red Sea to the Dead Sea to provide desalinated water with hydropower and to "save the Dead Sea" were sparked by the peace treaty (Hussein 2017b). The proposal to construct a canal between the Red Sea and the Dead Sea involved Jordan, Israel, and Palestine, and it was faced with political obstacles and environmental concerns. In fact, this project did not advance significantly and was eventually discarded (Roya News 2021).

The existing agreements regarding the Jordan River Basin are primarily bilateral and do not acknowledge the basin as a single integrated system. While not endorsing any specific plan, this highlights the limitations of bilateral agreements that neglect the basin's holistic nature. These agreements, mostly dating back to the 1990s and earlier, no longer rely on current empirical data. Furthermore, they often establish joint committees to share responsibility but lack clarity on ultimate responsibility. As a result, compliance varies, such as in the case of Palestine and Israel. Water distribution among key riparian parties like Jordan, Israel, and Palestine remains unresolved in these agreements.

The Johnston Plan

The Johnston Plan, subsequently known as the "Jordan River Allocations Agreement," was mediated by Eric Johnston, a special envoy dispatched by the United States of America to the area in 1953. The proposal was initially followed even though the participants never formally approved it. Based on the plan, 400 MCM/year was allocated to Israel, and 720 MCM/year to Jordan (377 MCM/year from the Yarmouk River, 243 MCM/year from local valleys and wells, and 100 MCM/year from the upper Jordan River, including up to 15 MCM/year of saline water), and 132 MCM/year to Syria (Phillips et al. 2007). However, in

the 1960s, the parties started to pursue projects exceeding the Johnston allocations. This might be viewed as one of the causes of the 1967 war, which extended Israel's control over two of the three Jordan headwaters: the entirety of the lower part of the Jordan River and the Mountain Aquifers in the West Bank (Wolf 2000). The latter is strategically significant for Israel's groundwater supply; these aquifers feed Israel's major springs. Meanwhile, Israel's current consumption of water in the Jordan River Basin is approximately between 580-640 MCM annually, whereas Jordan uses roughly 290 MCM annually (UN-ESCWA and BGR 2013).

The Johnston Plan is often used as a foundation for cooperation agreements; however, it falls short when considering sustainable groundwater uses, environmental concerns, and the effects of population increase and climate change on the availability of water resources (Mager 2015). The Johnston Plan, which was accepted but never ratified, awarded more water to Jordan than what was received under the peace treaty (Beaumont 1997; Hof 1998).

Israel—Jordan Peace Treaty

Israel and Jordan signed a peace treaty in 1994, and Appendix B contains the water clauses that outline the water-sharing arrangement between the two countries. The three essential tenets of international customary water law—the duty to collaborate, the obligation to use water in an equitable and reasonable manner, and the prohibition of harming others—are all indirectly referred to in the treaty—(IL JO_941026_PeaceTreatyIsraelJordan.pdf (un.org)). The distribution of the shared water resources from the Yarmouk and Jordan rivers is agreed upon by the two (not all) parties: During the summer, Israel receives 12 MCM from the Yarmouk River, with Jordan receiving the remaining waters, while Israel is permitted to receive 13 MCM during the winter. The parties also approved a storage system, which permits the storage of 20 MCM for allocation during the summer period. It is interesting to note that Jordan's water supply fluctuates from year to year—as Jordan receives the remaining flow—whereas Israel's fixed allocation ensures a consistent supply for Israel.

As part of the treaty discussion over the Jordan river, the Israeli delegation presented to King Hussein a water proposal consisting of three components, each accounting for 50 MCM/year. The first component would be acquired from the Yarmouk River, which Israel used beyond its allocated share. The second component was intended to be acquired from dams that were to be jointly constructed by both countries. However, the proposed third component remained undetermined (Haddadin 2002) Water Annex II, Article 1, Section 3 indicates that (Haddadin 2000):

> Israel and Jordan shall cooperate in finding sources for the supply to Jordan of an additional quantity of (50) MCM/year of water of drinkable standards. To this end, the Joint Water Committee will develop, within one year from the entry into force of the Treaty, a plan for the supply to Jordan of the abovementioned additional water. This plan will be forwarded to the respective governments for discussion and decision.

The source and the financing of the additional 50 MCM/year were not determined in the treaty, which turned into a significant roadblock for the treaty (Fischhendler 2008). Instead, Israel agreed to supply Jordan with 25 MCM/year of water for 3 years at specified cost, until a desalination plant could be constructed. In practice, Jordan continues to receive 25 MCM/year at specified cost, instead of its total share of 50 MCM/year (Talozi et al. 2019). The 1994 Water Annex does not include any mention of the occupied Golan Highlands. However, it does contain clauses related to the Yarmouk River, which effectively permits Israeli water usage in its vicinity. Additionally, Annex II's jurisdictional boundaries extend only to the point where the West Bank meets the Jordan River. Consequently, water resources managers in Jordan face challenges due to agreements that do not account for the origins and boundaries of the Yarmouk tributary, which crosses Jordan's northwestern border (Zeitoun et al. 2019).

Article IV of the Water Annex addresses groundwater. It states that Israel is allowed to continue increasing its groundwater extraction from areas inside Jordanian territory, particularly in Araba Valley, which is located well beyond the Jordan River Basin. In Article IV, point three of Annex II "Israel may increase the abstraction rate from wells and systems in Jordan by up to (10) MCM/year above the yields ..." However, it is noteworthy that the Water Annex does not adequately acknowledge the interconnectedness and ongoing integrated management of groundwater and surface water within the Jordan River, as highlighted in Zeitoun et al. (2009) work. Additionally, the annex does not account for the Yarmouk tributary basin.

Annex II of the agreement also does not account for adapting to changing circumstances, such as forced border adjustments resulting from conflicts (e.g., Israel's occupation of the West Bank, Gaza, and southern Lebanon), reduction in water availability, climate change, increased demand due to population shifts, or the emergence of alternative water sources like wastewater reuse and desalination, as previously discussed. Furthermore, it is important to note that the Water Annex does not address biodiversity concerns and lacks self-enforcement mechanisms to regulate compliance with clauses that may go unfulfilled.

While Annex II has received some praise for its role in obtaining Israeli acknowledgment of Jordan's "legitimate allocations," (Al-Kloub and Abu-Taleb 1998; Haddadin 2002; Shamir 1998; Yasuda et al. 2017), the treaty has been generally criticized because it fails to account for future changes such as climate change, population growth, and needs. Moreover, it does not account for environmental sustainability, it allocates fixed amounts to Israel and not to Jordan, and it does not specify who would bear the costs of new projects to ensure Jordan's additional 50 MCM.

Appendix B

TABLE A1 | (FAO 2009): Historical major events in the Jordan River Basin, Jordan water agreements and Jordan persue for water.

Year	Plans/projects/treaties/ conflicts	Countries, territories, or organizations involved	Main aspects
1913	Franjieh Plan	Ottoman Commission	Irrigating Jordan Valley, transferring Yarmouk River flows to Lake Tiberias, generating electricity.
1951	Jordan announced plan	Jordan	Jordan plans to divert part of the Yarmouk River via the East Ghor canal.
1953	Israel began constructing the NWC	Israel	Resulting in military skirmishes between Israel and Syria.
1955	Johnston Plan	The USA, Israel, Lebanon, Syria, Jordan	Allocation of water: 55% for Jordan, 36% for Israel, and 9% each to Syria and Lebanon. Was not signed because Arab riparians insisted the USA was not impartial.
1964	The NWC opened and began diverting water from the Jordan River Valley	Israel	This diversion led to the Arab Summit of 1964.
1964	Arab Summit	Egypt, Iraq, Lebanon, the State of Palestine, Syria, Saudi Arabia, Jordan, Yemen, Libya, Sudan, Morocco, Tunisia, Kuwait, and Algeria	A plan was devised to begin diverting the headwaters of the Jordan River to Syria and Jordan.
1965–1967	Israel attacked construction projects in Syria	Israel and Syria	This conflict, along with other factors, escalated to the Six-Day War in 1967.
1967	Six-Day War	Egypt, Israel, Jordan, Syria, Occupied Palestinian Territory	Israel destroyed the Syrian diversion project and took control of the Golan Highlands, West Bank, and Gaza Strip. Palestinian irrigation pumps on the Jordan River were destroyed or confiscated after the Six-Day War, and Palestinians are not allowed to use Jordan River water. Israel introduced quotas on existing Palestinian irrigation wells and did not allow new ones.
1978	Israel's invasion of Lebanon	Israel and Lebanon	Giving Israel temporary control of the Wazzani spring/stream feeding the Jordan River.
1987	Syria and Jordan agreement	Syria and Jordan	Defined the Syrian share of the Yarmouk River and limited Syria to 25 dams with a capacity of 156 MCM. The Wehda (Unity) Dam was included.
1993	Declaration of Principles on Interim Self-Government Arrangements	Israel and Occupied Palestinian Territory	Called for Palestinian autonomy, the creation of the Palestinian Water Administration Authority and the Water Development Program.
1994	Washington Declaration and Treaty of Peace	Israel and Jordan	Israel and Jordan signed the Washington Declaration, ending the state of belligerency. They negotiated the Treaty of Peace (Wadi Araba agreement), allocations for the Yarmouk and Jordan rivers, and efforts to prevent water pollution.
1995	Israeli–Palestinian Interim Agreement on the West Bank and the Gaza Strip (Oslo II)	Israel, West Bank, Gaza Strip	Israel recognized the Palestinian water rights (During the interim period, a quantity of 70–80 MCM should be made available to the Palestinians). A Joint water committee was established to manage West Bank water cooperatively and to develop new supplies.
1996	Israel tries to begin talks on water resources with the Syrians	Israel and Syria	Syria refuses because of the conflict in the Golan Highlands.

TABLE A1 | (Continued)

Year	Plans/projects/treaties/ conflicts	Countries, territories, or organizations involved	Main aspects
1999	Israel reduces the quantity of water piped to Jordan by 60%	Israel and Jordan	Due to drought. This reduction caused a sharp response from Jordan.
2002	The Wazzani Conflict	Israel and Lebanon	Lebanon announced the construction of a new pumping station at the Wazzani springs, causing tension between Israel and Lebanon.
2008	Negotiations between Israel and Syria	Israel and Syria	Negotiations took place to solve the conflict in the Golan Highlands.
2015	Red Sea–Dead Sea Water Conveyance Project	Israel, Jordan, Palestinian Authority	The agreement aims to provide desalinated water from the Red Sea to all the parties, and to transfer the byproduct brine to the Dead Sea to replenish it (Al-Khalidi 2015).
2015	Disi aquifer agreement	Jordan and Saudi Arabia	The agreement defined the terms for long-term management and protection of the nonrenewable transboundary Disi aquifer (Namrouqa 2015).
2020	Jordan launches the first phase of the Aqaba-Amman Water Desalination and Conveyance National Project (AAWDC)	Jordan	The project aims to provide water to Amman and other governorates in Jordan, from desalinated seawater from Aqaba (Namrouqa 2020).
2021	Declaration of Intent agreement	Jordan, Israel, and the UAE	The agreement explores the potential exchange of water and energy, where Jordan supplies Israel with solar power in exchange for desalinated water from Israel (Jordan Times 2021).