

Power and Water in Jordan and Israel:

An Exploration of Hydro-Hegemony in the post-Peace Treaty Era

Major Research Paper

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Abstract

Water resources in the Lower Jordan Basin states of Israel, Palestine and Jordan have historically been characterized by unilateral development, competition and conflict, but have seen increasing levels of cooperation since the 1994 Jordan-Israel Peace Treaty. This new era of cooperation, however, is not immune to power relations, as Israel remains the dominant economic and military force of the region. This paper will explore how the power dynamic between Israel and Jordan has evolved in the post-Peace Treaty era, as it pertains to water-related affairs. This paper then presents the question; can Jordan's active role in pursuing joint Jordan-Israel water projects be seen as acting in concert with or in opposition to Israeli hydro-hegemony?

Ultimately, the research will present the argument that Jordanian interactions largely complied with Israeli hegemonic leadership in the fields of ideological and normative power, which are considered highly effective in generating consent. There is however also notable evidence that Jordan has strategically used counter-hegemonic mechanisms in the 'leverage' field, seeking to increase Jordan's position within the existing hegemonic order, without attempting to replace it or fundamentally change it.

The prevalence of these contest mechanisms demonstrates that the hegemonic order of the Lower Jordan River Basin is not complete, and that Jordan is at least partially acting as a counter hydro-hegemonic force, while primarily complying with the existing hegemonic order.

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1 – Introduction

1.1 Introduction and Purpose of Study

Following independence from colonial powers, water management in Israel, Palestine and Jordan has been largely defined by conflict, competition and unilateralism. With each state striving unilaterally to pursue its own process of nation-building, the development of water resources has progressed in a largely asymmetrical manner,¹ based primarily on political and economic lines rather than those of the hydrological cycle. In the context of Israeli political, economic and military dominance among the states of the Lower Jordan River Basin, water resource development has reflected this state of Israeli hegemony.

The 1994 Jordan-Israel Peace Treaty marked a notable departure from the unilateral pattern of water development, for the first time formalizing relations between Jordan and Israel following decades of war, and establishing principles and specific provisions for the sharing and development of water resources. While the Treaty marked a new era in the water management of the Lower Jordan Basin, the political, economic and military asymmetries which defined 20th-Century Jordan-Israel relations continued to exist, with Israel continuing to act as regional hegemon. The aim of this paper is to contribute to the study of hydrohegemony and counter-hydrohegemony as a field, and to advance the understanding of Israeli-Jordanian relations in the post-Peace Treaty era.

¹ UN-ESCWA and BGR. "Jordan River Basin", Inventory of Shared Water Resources in Western Asia. 2013. <http://waterinventory.org/sites/waterinventory.org/files/chapters/chapter-06-jordan-river-basin-web.pdf> , 171

1.2 Statement of the Research Question

From the 1948 Israeli War of Independence until the 1994 Peace Treaty, relations between Jordan and Israel were formally a state of war, with any cooperation conducted in a limited fashion at the highest political level.² The Peace Treaty marked a notable shift in Israeli-Jordanian relations, with the years following the Treaty contrasted by both cold attitudes and consistent cooperation.³ Jordan has actively pursued the implementation of the Peace Treaty and played a very active role in pursuing joint Jordan-Israel water projects. The shift from primarily unilateral and adversarial water development to formalized cooperation and joint projects between Jordan and the basin hegemon Israel raises a key question.

- Do Jordan's actions reflect a compliance with or contest of Israeli hydrohegemony in the post-Peace Treaty era? That is, can Jordan's actions be seen to correspond with Israeli priorities and discourses, revealing a re-production of Israeli hegemony, or rather with counter-hegemonic mechanisms, slowly subverting traditional Israeli dominance over water-related issues?

In addressing this question, this paper will include three sections. Following an introductory look at the Lower Jordan Basin, this paper will explore theoretical concepts which help explain transboundary water management, and the politics that continually redefine power structures among co-riparians. Next, this paper will take a detailed look at the hydro-political context of the Jordan basin, and the impact of history, power asymmetries, institutions, and the Israeli-Palestinian conflict on Jordanian-Israeli water management. Finally, this paper will utilize a

² Rateb Amro, "Historical Political Conflict of Jordan River Water Resources", in *Water in the Middle East*, ed. David Hambright, (Brighton: Sussex Academic Press, 2006), 28

³ Ram Aviram, "Desalination as a Game Changer in transboundary hydro-politics", *Water Policy* 16 (2014), 615

qualitative methodology to examine Jordanian-Israeli water interactions over time, and assess Jordanian-Israeli water interactions in their theoretical and regional context to answer the central question of whether Jordan is utilizing pro-hegemonic or counter-hegemonic strategies in the post-Treaty era.

In the conclusion, this paper will argue that throughout water interactions between Jordanian officials and Israeli actors in the Post Peace Treaty era, Jordan has made significant use of counter-hegemonic mechanisms, particularly in the form of increasing its leverage and bargaining position. This study also finds that Jordan has utilized pro-hegemonic mechanisms, reflecting Israeli hegemonic priorities on the normative and ideological levels. This suggests that Jordan opposes Israeli hegemonic leadership strategically to improve its position within the existing hegemonic balance, but is not fundamentally trying to replace the Israeli-led hegemonic order.

1.3 The Lower Jordan Basin: An Introduction

The Jordan River Basin (See Figure 1) is the principal river basin in the Levant region of the Middle East, originating in the Anti-Lebanon and Mount Hermon mountain ranges and terminating in the Dead Sea. A river or catchment basin refers to “the area of land from which all surface run-off flows, through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta”.⁴ The basin is split into two halves, defined by the Upper and Lower sections of the Jordan River. The Upper Jordan River originates from the confluence of the Dan, Baniyas and Hasbani Rivers approximately 5 km south of the Israeli border, flowing

⁴ European Environment Agency. Terminology: River Basin. Accessed Sep 26 2016, http://glossary.eea.europa.eu/EEAGlossary/R/river_basin

south through the Hula Valley to Lake Kinneret (also known as the Sea of Galilee or Lake Tiberias). From Lake Kinneret, the Lower Jordan River continues South and is fed by the Yarmouk River, which acts as the border between Jordan and Syria. The Lower Jordan, acting as the northern portion of the Israeli-Jordanian border, finally terminates in the Dead Sea. The total basin area is approximately 18,285 km², of which 40% lies in Jordan, 37% in Israel, 10% in Syria, 9% in Palestine, and 4% in Lebanon.⁵ The basin is populated by 7.18 million people.

Rainfall and water level varies greatly across the basin, with 1400 mm annual precipitation in the Upper Jordan Basin, and just 100 mm annual precipitation in the southern end of the Lower Jordan Basin.⁶ Climate change projections anticipate a further process of aridification over coming years.⁷

Water use in the Lower Jordan River Basin is very much unevenly developed –Palestine has no direct access to the Jordan River,⁸ the most extensive users of Jordan Basin water being Israel, which withdraws approximately 580-640 million cubic meters (MCM) per year mostly from Lake Kinneret, and Jordan, which withdraws 290 MCM, mostly from the Yarmouk River.⁹ Both countries use major water diversion infrastructure to support mostly agriculture, as well as domestic uses, elsewhere in the country, with Israel's National Water Carrier and Jordan's King Abdullah Canal.

⁵ Food and Agriculture Organization, UN. "Jordan River Basin", 2009.
http://www.fao.org/nr/water/Aquastat/basins/jordan/jordan-CP_eng.pdf, 1

⁶ FAO, "Jordan River Basin", 1

⁷ Ibid.

⁸ Mark Zeitoun, *Power and Water in the Middle East*, (New York: IB Taurus, 2008), 54

⁹ UN-ESCWA and BGR. "Jordan River Basin", 171

Annual water flow is extremely variant on season, with streams often experiencing 40% of their annual flow in February and drying up completely during the summer months. It is important to note that changing climate conditions and over-extraction of resources have led to a sharp reduction of annual flow in the Yarmouk and Lower Jordan Rivers, which represent the majority of freshwater resources in the Lower Jordan Basin.¹⁰ This increasing scarcity represents a growing challenge for the Lower Jordan Riparians of Israel, Jordan and the Palestinian Authority.

River	Annual Average Flow 1950s	Annual Average Flow 2013
Upper Jordan River	605 MCM	616 MCM
Yarmouk River	450-500 MCM	83-99 MCM
Lower Jordan River	1,300 MCM	2-200 MCM ¹¹

Both Israel and Jordan have access to less than 230 MCM of renewable freshwater per year, significantly lower than the level of 500 MCM per year commonly used as the standard of chronic water shortage,¹² and have been extracting more than 100% of the available renewable water resources for several decades. Stress on the water supply of the Lower Jordan Basin has been slightly eased by the extensive use of virtual water, or the practice of importing goods and agri-products which are water intensive, while specializing in agriculture and industries which

¹⁰ UN-ESCWA and BGR. "Jordan River Basin", 172

¹¹ Ibid.

¹² Aviram, "Desalination as a Game Changer", 612

are relatively water-efficient.¹³ Despite this, rapid population and industrial growth and climate change continue to diminish water availability.

The supply of freshwater has however been drastically altered by advances made in desalination and wastewater processes. Desalination began large-scale in 2005 with Israel's first major plant in Ashkelon,¹⁴ and by 2016 Israel received 55% of its freshwater from seawater desalination, and re-used 86% of its wastewater for agricultural purposes.¹⁵ Desalination and wastewater treatment is as yet relatively underdeveloped in Jordan, accounting for just 9% of the water supply.¹⁶

2 – Theoretical Concepts

2.1 Transboundary Water

Water plays a crucial role in human society, providing the basis for domestic life, industrial production, and agriculture. Of the world's water resources, only 2.5% is comprised of freshwater sources, of which only 1.2% is found in surface water, which comprise the majority of resources used by human societies.¹⁷ This relative scarcity is complicated by the fact that political borders in nearly every case do not adhere to the hydrological cycle - more than 263

¹³ Tony Allan, *Virtual Water*, (London: I.B. Taurus, 2011), 17

¹⁴ Aviram, "Desalination as a Game Changer", 617

¹⁵ Rowan Jacobsen, "Israel Proves the Desalination Era is Here", *Scientific American*, July 29 2016, accessed Sep 25 2016, <https://www.scientificamerican.com/article/israel-proves-the-desalination-era-is-here/>

¹⁶ Paul Ostergaar, Henrik Lund and Brian Mathiesen, "Energy system impacts of desalination in Jordan", *International journal of Sustainable Energy Planning and Management* Vol. 01 (2014), 34

¹⁷ US Geological Survey, "The World's Water", Last modified May 2 2016, <http://water.usgs.gov/edu/earthwherewater.html>

surface water basins are shared between at least two states, accounting for 60% of global freshwater flows.¹⁸

It is estimated that 40% of the world's population lives in a basin shared by two or more states. The populations of many shared basins, including the Jordan Basin, are predicted to rapidly expand over the coming years and decades.¹⁹ In addition, climate change is expected to have a significant impact on the regional availability of freshwater resources, with studies showing that by 2050, 54 countries may become water scarce, comprising 4 billion people.²⁰ In this context, it is increasingly crucial to study transboundary water governance and cooperation for the sake of local communities, as well as the stability of regional and global orders.

Yet while changing supply and demand in world freshwater supplies will certainly prove a challenging factor to basin governance, it by no means guarantees conflict. While transboundary water resources do inevitably cause competition between states, states are statistically more likely to reach an agreement on transboundary water management than they are to engage in conflict over it.²¹ Simply, water is too important to fight over.

2.2 Hydropolitics and Hydrohegemony

Hydropolitics

The process of transboundary water management is however more complicated than a simple cooperation-conflict binary. Water as a resource is subject to the fundamentally political

¹⁸ Anton Earle, "Setting the Scene for Transboundary Water Management Approaches", in *Transboundary Water Management Principles and Practice*, ed. Anton Earle et al. (London: Earthscan, 2010), 1

¹⁹ FAO, "Jordan River Basin", 3

²⁰ UN Environment Programme, "Increased Global Water Stress", <http://www.unep.org/dewa/vitalwater/article141.html>

²¹ Aaron Wolf, "Conflict and Cooperation Over Transboundary Waters", Human Development Report 2006, 18

processes of control, utilization and allocation.²² River basins are themselves fundamentally political landscapes, as a product of their physical and social geography. One's physical presence in a particular region of a basin will have implications for one's access to resources, networks of relationships and hierarchies of power,²³ and these social and political structures similarly have a notable impact on the physical geography, as water resources are developed and used along social lines. The constant interplay between physical, social and political geography is studied as part of the field of Hydropolitics, the "systematic study of conflict and cooperation between states over water resources that transcend international borders".²⁴

This leads to the recognition that in the context of politically-defined territory, not all cooperation is necessarily good, nor is all conflict in every case negative.²⁵ This complexity is reflected in different understandings of absolute and relative gains in international relations theory. Neoliberal institutionalism holds that states will pursue their absolute gain, indifferent to the gains of others, while neorealist thought holds that states will consider their gains in relation to those of other states, and in the anarchy of international politics, relative gain is more important than absolute gain.²⁶

In hydropolitical theory, the extent to which a state favours the neoliberal 'absolute gains' or the neorealist 'relative gains' mindset is related directly to how the resource or issue in

²² Ana Cascao and Mark Zeitoun, "Power, Hegemony and Critical Hydropolitics", in *Transboundary Water Management Principles and Practice*, ed. Anton Earle et al. (London: Earthscan, 2010), 27

²³ Alice Cohen, "Watersheds as a Link between Water Governance and the Politics of Scale", in *Negotiating Water Governance*, ed. Emma Norman et al., (Surrey: Ashgate, 2015), 29

²⁴ Arun Elhance, *Hydropolitics in the Third World*, (Washington DC: United States Institute of Peace Press, 1999), 3

²⁵ Naho Mirumachi and J.A. Allan, "Revisiting Transboundary Water Governance: Power, Conflict, Cooperation and the Political Economy", CAIWA Conference Paper, 3

²⁶ Robert Powell, "Absolute and Relative Gains in International Relations Theory", *The American Political Science Review* Vo. 85 No. 4, Dec 1991, 1304

question is perceived as important to its own security and independence. The development of resources which may impact a state's security or independence will more often be viewed through the lens of relative gains,²⁷ emphasizing a rival state's access to a strategic resource relative to one's own. In this context, where a resource is considered crucial to strategic wellbeing, a state may forego economic or other gains, if it will mean depriving a rival of larger gains.

Water in the Lower Jordan Basin is closely linked to economic, domestic, and strategic wellbeing, which has led to riparian states treating it as a security issue in their policies.²⁸ Absolute gains remain important for the Lower Jordan Basin states, where any additional water will have a much-needed positive impact, yet due to the strategic importance of the resource, relative and asymmetrical gains are important for the overall hydropolitical balance of the region. A cooperative water agreement, while benefiting both parties, will in nearly every case benefit one actor more than another, which may have negative impacts on the overall long-term governance of the transboundary water resource. It is therefore more accurate and helpful to view hydropolitical events not in terms of cooperation or conflict, but rather in terms of more complex 'interactions', placed in the context of hydropolitics and power asymmetry.²⁹

Hydrohegemony

The political concept of hegemony, as developed by theorist Antonio Gramsci, refers to a power relationship wherein parties which are formally equal have in fact strong power

²⁷ Shlomi Dinar, "Negotiations and International Relations: A Framework for Hydropolitics", *International Negotiation* 5 2000, 385

²⁸ Erika Weinthal et al., "Securitizing Water, Climate, and Migration in Israel, Jordan, and Syria", *International Environmental Agreements* 15, 2015, 294

²⁹ Mirumachi, "Revisiting Transboundary Water Governance", 3

asymmetries, where the more powerful party controls the weaker through a combination of coercion and consent. Contrasted to a situation of dominance, or “leadership buttressed by coercion”, hegemony emerges when the more powerful nation maintains and produces its dominance through both sticks and carrots, or “leadership buttressed by authority”.³⁰

The study of highly asymmetric hydropolitics led to the conceptualization of ‘hydrohegemony’ by Zeitoun & Warner, which they defined as “hegemony at the river basin level, achieved through water resource control strategies such as resource capture, integration and containment”.³¹ The heavy power asymmetry of one riparian over its neighbours produces a situation where weaker riparians will comply with the hegemon’s interests by coercion, through a mixture of sticks and carrots, and by consent, through the normative and ideological influence of the hegemon’s discourses. The existence of a hegemonic order can have a stabilizing effect on a river basin if the junior partners provide full consent, or it may cause resentment should the consent not be total.³²

The field of hydrohegemony was developed primarily by researchers Zeitoun, Cascao, Warner and Mirumachi, for whom the most relevant level of analysis is that of the ‘state’. It is important to note however that scholars such as Wessels have expanded the study of hydro-hegemony to focus on actors and networks of actors, who often operate on a sub-state and inter-state basis.³³ This constitutes a ‘bottom-up’ approach of understanding the ongoing production of

³⁰ Cascao & Zeitoun, “Power, Hegemony and Critical Hydropolitics”, 30

³¹ Mark Zeitoun and Jeroen Warner, “Hydro-Hegemony- a framework for analysis of trans-boundary water conflicts”, *Water Policy* 8 (2006), 439

³² Zeitoun & Warner, “Hydro-Hegemony- a framework”, 435

³³ Josepha Wessels, “Challenging hydro-hegemony: hydro-politics and local resistance in the Golan Heights and the Palestinian Territories”, *International Journal of Environmental Studies* 72:4, 2015, 603

hegemonic authority, as opposed to the ‘top-down’ approach theorized by Zeitoun et al. The ‘state’, understood as both as official state organs and the elite cadre of decision-makers,³⁴ remains an important level of analysis, as the majority of macro water management decisions are made at this level. This paper follows the state level of analysis to address the macro hegemonic processes of the Lower Jordan Basin.

In order to study and characterize cases of hydrohegemony, Ana Cascao and Mark Zeitoun developed a hydrohegemonic framework, through which hydrohegemony can be quantified through four fields of power; geographical power (location in a river basin), material power (economic and military prowess), bargaining power (capacity of actors to define the political parameters of an agenda, influence terms of negotiations and provide or influence incentives), and ideational power (ability to set discourses and muster international support).³⁵ (See Figure 2)

Hegemony is a power relationship which is constantly reproduced, for which Mark Zeitoun describes four compliance-producing mechanisms (See Figure 3). Coercive mechanisms involve the use or threat of force to ensure compliance, representing an expression of hard power. Utilitarian mechanisms refer to the use of incentives to reward behaviour favourable to the hegemon, and can be seen as an expression of bargaining power. Normative mechanisms establish rules that set compliance with hegemony as a ‘right’, an obligation, or a duty to comply with. Finally, Ideational mechanisms establish compliance with the ‘order of things’ as simple common sense, and non-compliance as nonsensical or criminal in the attitudes and discourses of

³⁴ Mark Zeitoun, Ana Cascao, et al. “Transboundary Water Interaction III: Contest and Compliance”, (Springer, May 11 2016), DOI 10.1007/s10784-016-9325-x, 3

³⁵ Cascao & Zeitoun, “Power, Hegemony and Critical Hydropolitics, 31-32

non-hegemonic states.³⁶ The Normative and especially Ideational mechanisms are considered to be considerably more effective at producing compliance than Coercive and Utilitarian methods.³⁷

2.3 Counter-Hydrohegemony

Power asymmetry is a fact of life in relations between states, but this does not necessitate a situation of subjugation, or imply that a given hegemonic order is static. As a process of both coercion and consent, the key to maintaining an order of hegemony is the consent of its constituents. When consent to the hegemonic order is not total, the possibility of contest to hegemony arises through the process of counter-hydrohegemony.³⁸

The use of counter-hegemonic tactics and strategies “can move a disadvantaged riparian party to a position where it can change the rules of the game or bring in a level of parity.”³⁹

An important distinction must be made between acts of counter-hegemony and acts of resistance. Acts of resistance to a hegemonic order tend to be “more reactive in its motivation, and refractory in consequence”,⁴⁰ ultimately perpetuating the existing hegemonic order. Acts of counter-hydrohegemony, on the other hand, “have the potential to transform an order, thereby bringing about radical changes to the way in which power is exercised by different actors”.⁴¹ A counter-hydrohegemonic power, then, is a non-hegemonic state which employs strategies against the current hegemonic order for the purpose of restructuring or replacing it.

³⁶ Cascao & Zeitoun, “Power, Hegemony and Critical Hydropolitics, 32

³⁷ Zeitoun and Warner, “Hydro-Hegemony”, 438

³⁸ Zeitoun et al., “Transboundary water interaction III: contest and compliance”, 6

³⁹ Uttam Kumar Sinha, “Examining China’s Hydro-Behaviour: Peaceful or Assertive?”, *Strategic Analysis* Vol. 36, No. 1, January 2012, 51

⁴⁰ Zeitoun et al., “Transboundary water interaction III: contest and compliance”, 4

⁴¹ Ibid.

Ana Cascao outlines a range of actions that non-hegemonic states can take to counter a hydrohegemonic order. According to Cascao, mechanisms to challenge a hydrohegemonic system fall into roughly three categories (See Figure 3):

1) Coercive mechanisms: These tactics resist the established order by compelling one actor involuntarily, by threat or use of force. This includes the use of force, the unilateral construction of water infrastructure in transboundary waters, or the threat thereof.⁴²

2) Leverage mechanisms: These mechanisms attempt to transform the established order by increasing an actor's influence and authority at the local, regional or global level. This approach does not necessarily challenge the legitimacy of the prevailing political order, but rather tries to challenge a hegemon within the existing 'rules of the game'. This can include forming strategic alliances, diplomatic efforts, contesting prevailing circumstances with International Water Law, or the mobilization of alternative sources of funding.

3) Transformative mechanisms: These mechanisms seek to transform the order through the undermining of the foundations that underpin it. This challenges the legitimacy of the order by offering alternatives, for example replacing discourses, agendas, realities and knowledge.⁴³

An application of this framework can be seen in Figure 4, demonstrating the use of counter-hegemonic mechanisms in river basins across the world.⁴⁴

⁴² Zeitoun et al., "Transboundary water interaction III: contest and compliance", 4

⁴³ Ibid.

⁴⁴ Ibid., 13

3 – Lower Jordan Basin Context

3.1 Historical Context of Transboundary Water in the Lower Jordan Basin

Unilateral Development

Following the establishment of the State of Israel and subsequent Arab-Israeli War of 1948, the newly-independent Jordan River riparians of Lebanon, Syria, Jordan and Israel each began to plan and implement the unilateral development of basin freshwater resources, based on wholly different ideological visions.

Israeli Zionists viewed agricultural development as an ideological mission and the bedrock of the fledgling nation, for which water was a necessity.⁴⁵ Jordanian Arab nationalism, particularly following the influx of Palestinian refugees following the Arab-Israeli War of 1948, required the development of water resources as an act of nation-building and to provide for an expanding population.⁴⁶ During the period of 1948-1967 Jordan controlled the West Bank, and therefore both banks of the Lower Jordan River, as well as a significant portion of the aquifer groundwater. The technology and infrastructure to develop these resources extensively was however not available at this time to Jordan.⁴⁷

The Johnston Plan

Efforts by each riparian to unilaterally develop Jordan Basin water resources at the cost of other riparians led to rounds of sporadic fighting in the years following 1948.⁴⁸ To prevent

⁴⁵ Mark Zeitoun et al., “Hydro-political Baseline of the Upper Jordan River”, (Beirut: Association of the Friends of Ibrahim Abd el Al, 2012), 59

⁴⁶ Zeitoun, *Power and Water in the Middle East*, 67

⁴⁷ Aviram, “Desalination as a game changer”, 614

⁴⁸ Neda Zawahri, “Governing the Jordan River System: History, Challenges and Outlook”, *Journal of Transboundary Water Resources* 1 (February 2010), 129

further conflict and promote better water management, the United States sent Ambassador Eric Johnston to the Middle East, who from 1953 to 1955 conducted negotiations between the Jordan Basin riparians. The ‘Johnston Plan’ sought to establish proportional allocation of the river basin water resources, ensuring each riparian a pre-agreed share of water. Once each riparian received its share, additional water resources were able to be transferred outside the basin area, which would later be undertaken by Israel and Jordan.⁴⁹

While ratification of the ‘Johnston Plan’ eventually failed to pass the Arab League, it established a basic legal framework, which the United States was willing to support through financial and political aid.⁵⁰ Israel and Jordan were both highly interested in the implementation of several Johnston Plan articles, each unilaterally pursuing these policies without the establishment of a basin-wide management structure.⁵¹

Israel began construction of its National Water Carrier, which diverted water from Lake Kinneret to mostly agricultural regions outside the Jordan Basin, while Jordan built a series of dams on the Yarmouk River and constructed the King Abdullah Canal, which diverted Yarmouk waters also to mostly agricultural regions outside the Jordan Basin.⁵² With water governance reforms and the construction of these water deliverance systems, both Israel and Jordan replaced the Ottoman-era system of riparian rights with a system of nationalized central control and distribution.⁵³

⁴⁹ Munther Haddadin, “Compliance with and Violations of the Unified/Johnston Plan for the Jordan Valley”, in *Water in the Middle East*, ed. David Hambright, (Brighton: Sussex Academic Press, 2006), 36

⁵⁰ Zawahri, “Governing the Jordan River System”, 129

⁵¹ Zawahri, “Governing the Jordan River System”, 129

⁵² *Ibid.*, 130

⁵³ Rebhieh Suleiman, “The historical evolution of Water Resources Development in the Jordan River Basin in Jordan”, (Amman: MREA-IWMI Working Paper, 2004), 10

War and Cooperation

The Six Day War of 1967 greatly changed the hydropolitical context of the Jordan River Basin, when the Israeli Army gained control over the Golan Heights and the West Bank. With the victory, Israel gained access to the lower Jordan River, became the only riparian to have access to Lake Kinneret, and gained access to nearly 50% of the Yarmouk River.⁵⁴ From 1967 to 1994 political ties between Jordan and Israel remained extremely cold, with each country primarily following a unilateral water policy, with occasional low-key, high-level cooperation to avoid major confrontations.⁵⁵

During this era of unilateral water management policy, a sandbar gradually built up in the Yarmouk River, obstructing the river and decreasing flow to the King Abdullah Canal. In response, starting in 1979 Israeli and Jordanian water experts and environmental officials began to meet in secret alongside the Yarmouk River, in a series of talks which became known as the “Picnic Table Talks”. These ‘Picnic Table Talks’, were held in the field, near the diversion point from the King Abdullah Canal and the Yarmouk River, and helped to develop a level of “trustful and solid relations” between the professional communities.⁵⁶ The Picnic Table meetings were successful in clearing the Yarmouk, and fostered the beginnings of long-term water cooperation between Jordan and Israel. ⁵⁷

Despite the lack of a formal Israeli-Jordanian agreement to develop water resources, through the ongoing Picnic Table Talks an unwritten tacit understanding existed, with US

⁵⁴ Zawahri, “Governing the Jordan River System”, 131

⁵⁵ Aviram, “Desalination as a Game Changer”, 614

⁵⁶ Uri Shamir, “Water Agreements Between Israel and Its Neighbours”, *Middle Eastern Natural Environments* 103, 1998, 275

⁵⁷ Zawahri, Jordan Basin Governance, 133

support, that each nation would use the Jordan Basin water, based loosely on the revised Johnston Plan.⁵⁸ This agreement was secretly kept until the formalization of relations with the Jordan-Israel Peace Treaty in 1994.

Peace Treaty

The Jordan-Israel Peace Treaty of 1994 formalized for the first time water cooperation between the states, with water-sharing and management issues featuring prominently in the treaty. Jordan and Israel formally recognized each other's 'rightful allocation' to the Jordan, the Yarmouk, and Araba/Arava groundwater, stated that water supplies are insufficient for their needs and that new sources of water should be sought out, and promoted the potential of water issues to form a basis of broader long-term cooperation.⁵⁹

In addition, the parties agreed to a water-sharing agreement, whereby the King Abdullah Canal would be linked to Lake Kinneret, through which Israel will provide Jordan 50 MCM of freshwater per year.⁶⁰ The water-swapping arrangement benefited both Israel and Jordan by reducing the uncertainty of yearly availability, through the use of water-sharing guarantees and by providing seasonal storage mechanisms.

⁵⁸ Moshe Ma'oz, "The Jordan Valley's Water: A Source of Conflict or a Basis for Peace", in *Water in the Middle East*, ed. David Hambricht, (Brighton: Sussex Academic Press, 2006), 13

⁵⁹ UN Peacemaker, "Treaty of Peace between the State of Israel and the Hashemite Kingdom of Jordan: English Text", http://peacemaker.un.org/sites/peacemaker.un.org/files/IL%20JO_941026_PeaceTreatyIsraelJordan.pdf, 396

⁶⁰ Eliahu Rosenthal and Robbie Sabel, "Water and Diplomacy in the Jordan River Basin", *Israel Journal of Foreign Affairs* III:2 (2009), 104

Red Sea-Dead Sea Conveyance Project

The Peace Treaty also stipulated that “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”, for which the parties were required to propose a joint project within one year.⁶¹ On May 18 1995 the Government of Jordan announced that Jordan and Israel had agreed to hold joint studies of the Red Sea-Dead Sea (RSDS) project, leading to the launch of an agreed feasibility study by Israel, Jordan and Palestine in 2004, and a Memorandum of Understanding to undertake the project signed in 2013.⁶² The progress of the RSDS project has continued to flourish, with Israel and Jordan signing a bilateral agreement to launch the first phase of the project in 2015, and as of late 2016, five firms have been shortlisted in the competition for the contract to carry out its implementation.⁶³

The RSDS project (see Figure 5) involves the construction of a canal linking the Red Sea to the Dead Sea, pumping seawater to counter the yearly decline of the Dead Sea, currently receding by approximately 1 meter per year.⁶⁴ The elevation difference between the Red and Dead Seas is approximately 430 meters, which is expected to provide hydroelectric power.⁶⁵ In addition, the second phase of the RSDS project will see the construction of a major desalination

⁶¹ UN Peacemaker, “Treaty of Peace”, 457

⁶² Jens Jacobsen, “Power and Water in Jordan and Israel”, Unpublished Paper, Dataset: Events 10, 40, 63

⁶³ “Suez and Mitsubishi on shortlist for Red Sea Dead Sea Project”, 30 November 2016, <http://www.desalination.biz/news/0/Suez-and-Mitsubishi-on-shortlist-for-Red-Sea-Dead-Sea-project/8606/>

⁶⁴ Ittai Gavrieli et al., “The Expected Impact of the Peace Conduit Project on the Dead Sea”, *Mitigation and Adaptation Strategies for Global Change* 10 (2005),9

⁶⁵ Imad El Anis and Roy Smith, “Freshwater Security, Conflict, and Cooperation”, *Journal of Developing Societies* 29, 1 (2013), 12

plant in Aqaba, Jordan, producing 850 MCM of freshwater to cover Jordan's water deficit, and depositing the brine waste in the canal, destined for the already-salty Dead Sea.⁶⁶

Finally, the agreement commits Israel to purchasing 35-50 MCM of the Jordanian desalinated water at-cost, and in return Israel will double its water allocations to Jordan's Northern region.⁶⁷ This will allow Israel to supply its southern Arava region with water more easily, and to double its regional population, and will save Jordan the transportation costs of conveying the water to its water-starved industrial and agricultural hub in the North of the country. In addition, the project will allocate 30 MCM per year to the Palestinian Authority.⁶⁸

3.2 Hydrohegemonic Baseline in the Post-Treaty Lower Jordan Basin: Israel and Jordan

As outlined above, hydrohegemony is "hegemony at the river basin level",⁶⁹ and is the outcome when two formally equal entities have notably unequal strength. This hegemonic order can be measured by the use of four interlocking fields of power; geographical power, material power, bargaining power, and ideational power.⁷⁰ To aid the study of counter-hydrohegemony in the Jordan Basin, this section will briefly explore the hydrohegemonic baseline of the Lower Jordan Basin between Jordan and Israel.

⁶⁶ Khaled Alqadi, and Lalit Kumar, "Water Policy in Jordan", *International Journal of Water Resources Development* 30:2 (2014), 329

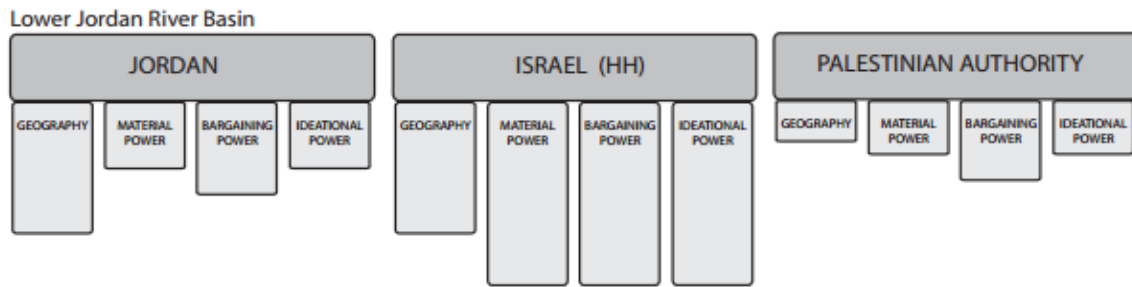
⁶⁷ Akram Rabadi, "The Red Sea-Dead Sea desalination project at Aqaba", *Desalination and Water Treatment*, (2016) DOI: 10.1080/19443994.2016.1157991, 2

⁶⁸ Hana Namrouqa, "Gov't signs engineering services deal for first phase of Red-Dead Project", *The Jordan Times*, Dec 20 2015, accessed Sep 26 2016, <http://www.jordantimes.com/news/local/govt-signs-engineering-services-deal-first-phase-red-dead-project>

⁶⁹ Zeitoun & Warner, "Hydro-hegemony- a framework", 435

⁷⁰ Cascao & Zeitoun, "Power, Hegemony and Critical Hydropolitics", 31

Hydrohegemonic Configuration of the Lower Jordan River basin (2009 estimate)⁷¹



Geography

The Jordanian-Israeli border is largely delineated by shared water resources, beginning in the North with the Yarmouk River, followed by the lower Jordan River, and the Dead Sea. Israel holds sole access to Lake Kinneret, and controls the Upper Jordan River by means of hegemonic status quo with Lebanon and Syria. This control of the upper Jordan River and Lake Kinneret gives Israel significant geographical power as an upstream riparian to Jordan. Jordan, however, controls the upstream of the Yarmouk River, which flows into the shared Lower Jordan River. Israel also controls the West Bank, including the western bank of the Lower Jordan River and the underground aquifers, giving Israel a significantly larger share of Jordan Basin water resources to draw on.

Material Power

Material power represents the most visible form of power. Zeitoun and Cascao outline a short selection of material power, comprising of economic power, military might, technological prowess, and international political and financial support. Each of these categories merit

⁷¹ Cascao & Zeitoun, "Power, Hegemony and Critical Hydropolitics", 31

extensive investigation, but for the purpose of this study, a brief overview will suffice to demonstrate the asymmetry between Israel and Jordan in material power.

2014	Economic Power		Military	Technological	International Support
	GDP (USD)	GDP/Capita (USD)	Might	Progress	
			Defence Budget, % of GDP	# Patent Applications ⁷²	US Aid Received ⁷³
Israel	\$305.7 bn	\$37,206	5.9%	1125	\$3.1 bn
Jordan	\$35.8 bn	\$4,831	4.3%	40	\$1.1 bn

An additional development related to the material power balance between Israel and Jordan relates to desalination. As noted above, Israel has made massive investments in the development of desalination technology, which has led to the fulfilment of 55% of Israel’s water needs through desalination, with Jordan producing just 9% of its needs through desalination.⁷⁴

The development of major new desalination projects like the RSDS project will ultimately lead to a sharing in the financial burden of desalination, and more price-effective valuation of desalinated water in the region.⁷⁵ Modern water resource development is unfolding according to the economic experience and strengths of Israel, which is a demonstration of Israel’s leadership role as hydro-hegemon.

⁷² World Bank. World Governance Indicators, Accessed October 2 2016 <http://databank.worldbank.org/data/reports.aspx?source=Worldwide-Governance-Indicators>

⁷³ USAID. Foreign Aid Explorer, Accessed October 2 2016, <https://explorer.usaid.gov/>

⁷⁴ Jacobsen, “Israel Proves the Desalination Era is Here”

⁷⁵ Deborah Shmueli, “The International Hydropolitical Policies of Israel”, in *Water Policy in Israel*, ed. N. Becker (Dordrecht: Springer, 2013), 254

Bargaining Power

Cascao & Zeitoun define bargaining power as the capacity of each actor to control the ‘rules of the game’, define the political parameters of an agenda, and influence the terms of negotiations and agreements.⁷⁶ Israel’s bargaining power in hydropolitical contexts stems from a combination of its material and geographic power, which allow it a wide variety of tools. Bargaining power is difficult to measure, though it can be viewed in specific instances, such as negotiations.

An example of this occurred during the RSDS project feasibility study negotiations between Jordan, Israel and the PA. In negotiations both Israel and the PA held strong conflicting priorities, amounting to an impasse that Jordan was forced to confront as mediator.⁷⁷ Israeli negotiators were successfully able to influence the Jordanian leadership and the negotiations as a whole, and as a result of superior Israeli bargaining power, “Jordan and Israel (achieved) an agreement over a project that is identical to the pilot projects, which does not offer substantial benefits to the PA”.⁷⁸

On the other hand, negotiations leading to the 1994 Peace Treaty showed that “Jordan, the weaker state, managed to overcome its disadvantage in bargaining by harnessing the ambiguities in the agreement to its advantage”,⁷⁹ which demonstrates that while Israeli bargaining power compared to Jordan is substantial, it is not complete.

⁷⁶ Cascao and Zeitoun, “Power, Hegemony, and Critical Hydropolitics”, 31

⁷⁷ Zawahri, “World Bank and RSDS”, 63

⁷⁸ Ibid., 70

⁷⁹ Itay Fischhendler, “Ambiguity in Transboundary Environmental Dispute Resolution: The Israeli-Jordanian Water Agreement”, *Journal of Peace Research* Vol 45 No 1, (2008), 106

Ideational Power

Ideational power refers to the ability of a riparian to impose and legitimize particular ideas and narratives, which can be achieved through knowledge structures, sanctioned discourses, and the imposition of narratives and storylines.⁸⁰ There are several key Israeli discourses with regard to water.

The first of these discourses is the notion that water is a scarce resource. While this may seem common sense in the context of Middle East water resources, in fact the notion of scarcity is as much a political and social construct as it is a physical reality. The dominant discourse of the early Zionist movement leading up to the founding of the State of Israel, and even extending into the first years of Israel's existence, was the notion that Israel was a land of plenty, with abundant underutilized resources which could and should support massive Jewish immigration. A key ideology of the early Israeli state and its first Prime Minister Ben Gurion was the importance of centralization, which was seen as a way to build a strong state, and to rid Israeli society of everything which had gone wrong in the Mandate period.

A discourse of general scarcity was built to legitimize a strong central government, and finally with the Water Law of 1959, water scarcity was declared a fact, necessitating its centralized control by a strong state.⁸¹ The promotion of this discourse continues to be an Israeli priority – during Israeli-Jordanian negotiations leading to the Peace Treaty, it was a key interest to Israeli negotiators to avoid the image of a 'water rich nation', and that the language of the

⁸⁰ Cascao & Zeitoun, "Power, Hegemony and Critical Hydropolitics", 32

⁸¹ Samer Alatout, "State-ing Natural Resources through Law: The Codification and Articulation of Water Scarcity and Citizenship in Israel", *The Arab World Geographer* Vol 10 No 1 (2007), 20

agreement recognize the overall regional water scarcity, and the need for both sides to look for additional resources.⁸²

The current dominant Israeli discourse is the ‘Needs, Not Rights’ discourse, which stems from the notion of regional scarcity, and was developed during the Oslo period by those who advocated cooperation with Palestinians. The discourse accepts that there are Palestinian water needs which are not being met, as well as a refusal to acknowledge Palestinian water ownership rights.⁸³ The core of Needs, Not Rights is the notion that shared resources are scarce, and that the full application of rights to each riparian to utilize the shared resource to their full desire would see resources over-utilized, to the detriment of all. Instead, it is preferable to avoid the application of rights, which is not feasible given the scarcity of the resource, and instead focus on cooperation to fill people’s individual water needs.⁸⁴

A central Jordanian discourse is that water is scarce, and this scarcity is man-made.⁸⁵ From Jordan’s early years as a nation and many times since it has had to cope with large waves of refugees, putting significant stress on otherwise sufficient water resources. This discourse also commonly argues that Israel is partially responsible for Jordan’s water shortage. That being said, another influential discourse in Jordan is that peace and water cooperation with Israel are desirable, as it would further Jordanian national-strategic interests through increased US economic and military aid.⁸⁶

⁸² Shmueli, “International Hydropolitical Policies of Israel”, 254

⁸³ Zeitoun, *Power & Water*, 77

⁸⁴ Ibid.

⁸⁵ Anders Jaegerskog, “The Sanctioned Discourse- A Crucial Factor for understanding Water Policy in the Jordan River Basin”, Occasional Paper No 41, Linköping University (January 2002), 4

⁸⁶ Jaegerskog, “The Sanctioned Discourse”, 5

A key example of Israeli ideological power can be seen in the 1994 Peace Treaty. While the Peace Treaty represents the interests and concerted efforts of both Israel and Jordan, its terms show the power imbalance between the riparians, reflecting Israeli ideational power in several ways. Firstly, the Peace Treaty stipulates each side recognizes each other's 'rightful allocation' of water, without addressing the question of water rights.⁸⁷ This reflects the priorities of the Israeli 'Needs, Not Rights' discourse.

The treaty also led the parties to "recognize that their water resources are not sufficient to meet their needs. More water should be supplied for their use through various methods".⁸⁸ This emphasis on insufficient resources falls directly in line with the Israeli discourse of regional scarcity. The impact of this discursive influence is that the focus on new water sources lessens the need for the riparians to adjust allocations of freshwater resources, charging both with the shared responsibility to address water issues by means other than further reallocation.⁸⁹

3.3 Water Institutions in the Lower Jordan Basin

Institutions are defined as sets of formal rules, informal norms, or shared understandings which constrain and prescribe political actors' interactions with one another.⁹⁰ Institutions play a crucial role in ensuring effective transboundary water management, and to "provide much-needed infrastructure for the promotion and coordination of benefit sharing".⁹¹ As a form of political organization, institutions are formed in the context of prevailing power balances, and

⁸⁷ UN Peacemaker, "Treaty of Peace", 396

⁸⁸ Ibid.

⁸⁹ Peter Beaumont, "Dividing the Waters of the River Jordan", *Water Resources Development* Vol. 13 No. 3, (1997), 416

⁹⁰ "Institution, Political Science Definition", last modified 12 Dec 2015, <https://www.britannica.com/topic/institution>

⁹¹ Marwa Daoudy, "Getting beyond the Environment-Conflict Trap", *Transboundary Water Management Principles and Practice*, ed. Anton Earle et al. (London: Earthscan, 2010), 50

the 'rules of the game' which they establish often reflect the priorities of the more powerful partner.

As noted earlier, prior to the 1994 Peace Treaty there were no formal institutions established between Israel and Jordan which dealt with water issues, but rather the Picnic Table collection of informal talks between water experts from Israel and Jordan to address immediate issues. Though informal and secret, this collection of meetings qualifies as an institution, as it established certain 'rules of the game' for Jordan Basin management, and even included basic elements of conflict resolution and management.⁹²

Given Israel's position as the stronger partner in terms of riparian position and economic, military and political power, the status quo followed by the Picnic Table Talks institution largely favoured Israeli discourses, and ultimately ideational power. For example, while Jordanian negotiators were able to successfully negotiate the transfer of extra quantities of water to the King Abdullah Canal, the issue of water rights were at no point seriously addressed, and the Picnic Table Talks remained focused on water resource management and year-to-year needs.⁹³

The 1994 Peace Treaty established the first formal institution to govern Israeli-Jordanian water issues, the Joint Water Committee (JWC). The JWC was created as a permanent institution, comprising of three water experts from each side, and charged with developing and managing existing and new water resources, minimizing waste, providing mutual assistance to alleviate water shortages, facilitate the transfer of information, and to promote joint water

⁹² Ahmed Abukhater, *Water as a Catalyst for Peace*, (New York: Routledge), 107

⁹³ Shamir, *Water Arrangements*, 275

research.⁹⁴ Future disputes were to be resolved by direct negotiation, or by third party arbitration in the case of deadlocks, though the process is not specified.⁹⁵ The Treaty also called for the establishment of regional water initiatives, leading to the founding of the Middle East Desalination Research Centre (MEDRC) in 1996 by Israel, Jordan, and the Palestinian Authority.⁹⁶

As formal institutions, the JWC and MEDRC play an important role in the operation and future development of norms for the bilateral and multilateral use of water resources. Both organizations additionally reflect the power balance which existed at the time of their founding.

In the Peace Treaty and in the mandate of the JWC, a relatively high level of ambiguity is used in several key areas of responsibility for the new institution. The Peace Treaty addresses the issue of water supply, but it is ambiguous on the role of the rapidly increasing water demand in the region. In addition, the Treaty does not include specific measures to deal with water shortages, as may occur during a drought. Instead, such questions are left for the JWC to resolve by direct negotiation.⁹⁷ The Israel-Jordan Peace Treaty in fact falls in the minority of treaties which lack an explicit conflict resolution mechanism, with JWC direct negotiations and ambiguously-defined third-party arbitration the only options for resolving conflicts. The structure of the JWC determines that each side's three-member delegation answers directly to

⁹⁴ Shamir, *Water Arrangements*, 277

⁹⁵ *Ibid.*, 276

⁹⁶ Mohammed Matouq, "The Peace Process and Water Supply in Jordan", in *Water in the Middle East*, ed. David Hambridge, (Brighton: Sussex Academic Press, 2006), 168

⁹⁷ Shamir, *Water Agreements*, 280

political leadership, which makes it likely that water issues will be linked to broader, unrelated political issues.⁹⁸

The openness and flexibility of the JWC mandate has the advantage of providing the parties with a method of addressing the ever-changing supply of water in the region without having to change the text of the original agreement. This openness however also carries implications for the power dynamic between Israel and Jordan, as it more heavily benefits the upstream riparian (Israel), and provides a vehicle for the hydro-hegemon to exert bargaining power.

This process is clearly visible in the ‘Mini Crisis’ of 1997, the first real challenge for the JWC. The Peace Treaty had promised Jordan an additional 150MCM/year ‘from all sources’, of which Israel had only transferred 50 MCM/year. The ambiguity of the Treaty led to a misunderstanding, where Jordan fully expected to receive an additional 100MCM through direct transfer from Lake Kinneret, while Israel understood that the additional 100MCM would be provided by jointly developed new water sources, such as dams and desalination.⁹⁹ After Jordanian leadership raised the issue, the dispute was quickly linked with ongoing political issues, such as the shooting of Israeli schoolchildren by a rogue Jordanian soldier, and the stalling of the Israeli-Palestinian Peace Process.¹⁰⁰ The meetings of the JWC resulted in deadlock, which was resolved only through secret direct negotiations between King Hussein and Prime Minister Netanyahu. These meetings led to an agreement where Israel would immediately

⁹⁸ Olivia Odom & Aaron Wolf, “Institutional resilience and climate variability in international water treaties: The Jordan River Basin as “proof-of-concept”, *Hydrological Sciences Journal* 56(4), 2011, 709

⁹⁹ Abukhater, *Water as a Catalyst for Peace*, 108

¹⁰⁰ Dona Stewart, *Good Neighbourly Relations: Jordan, Israel and the 1994-2004 Peace Process*, (New York: Tauris Academic Studies, 2007), 62

transfer 30MCM to Jordan, with an additional 50MCM to be provided within 3 years through joint projects.¹⁰¹

The ambiguity which is written into the mandate and structure of the JWC institution made it nearly impossible to resolve conflicts by means of neutral third parties. The lack of arbitration mechanisms necessitated the involvement of political leadership at an early stage in the dispute, which de facto encouraged the linking of water-related issues with other political issues. With Israel as the regional hydrohegemon, Israeli leadership was able to use its stronger bargaining position to achieve an agreement which more closely reflects Israeli priorities over those of Jordan. The JWC institution thus formalizes the de facto relationship which had existed in the Picnic Table Talks era, where water issues are regularly influenced by political leadership, and resolved on a primarily bilateral level.

The founding of the MEDRC as the first permanent multilateral water institution of the lower Jordan Basin similarly reflects the power dynamics present among its partners. As discussed earlier, at Israel's insistence the Peace Treat stressed the importance of developing new sources of water, while avoiding the discussion of water rights. The MEDRC fully avoids the issue of water rights, focusing on the development of new water development, notably in desalination, of which Israel is a world leader. This is a reflection of Israeli ideational power, as the scientific 'normal' established in the region is based on the Israeli discourse of scarcity, and the need to develop new resources over discussing rights and allocations.

¹⁰¹ Stewart, *Good Neighbourly Relations*, 62

3.4 The Israeli-Palestinian Conflict and Israeli-Jordanian Water Relations

The ongoing conflict between the Israelis and Palestinians plays a central role in domestic Jordanian politics, and in nearly every sphere of Israeli-Jordanian relations, including water management and hydropolitics

The importance of Palestine to Jordanian politics

A majority of Jordan's population is comprised of ethnic Palestinians, many of whom arrived in Jordan as refugees following the 1948 Arab-Israeli war which resulted in Israel's independence, and who still have close familial and personal ties to Palestinians living in the West Bank and Gaza.¹⁰²

In addition to personal links between its citizens, Jordan has traditionally been closely involved with the governance of the West Bank. Between the 1948 and 1967 Arab-Israeli wars, the West Bank was directly governed by Jordan as a constituency of the Kingdom, and Jordan's ongoing 'special role' in Palestinian affairs was confirmed by the Israel-Jordan Peace Treaty, which acknowledged Jordan's responsibility to care for Muslim holy shrines in Jerusalem, and Jordan's future inclusion in permanent status negotiations, including those regarding water.¹⁰³

Ongoing affairs in Israel and Palestine are also relevant for Jordan's foreign policy, as it must maintain close relations with regional partners and fellow members of the Arab League, who often have negative relations with Israel, and unlike Jordan, little to no political, military, or economic interest in pursuing rapprochement with Israel. "Israeli actions towards the Palestinians were often frustrating and confusing for Jordanian officials, as they forced Jordan to

¹⁰² Stewart, *Good Neighbourly Relations*, 10

¹⁰³ *Ibid.*

at least publicly align itself closer with other Arab states, than might have been the case otherwise”.¹⁰⁴

Thus due to the strong feeling held by the majority of its citizenry, historical responsibilities and the priorities of regional allies, the ongoing conflict between Palestine and Israel has important implications for Jordanian politics, and has an impact on policy-making vis-à-vis bilateral relations with Israel.

Jordan as an advocate for Palestinian interests

While conducting political and hydropolitical negotiations with Israel, Jordan has often acted in concert with Palestinian interests. Prior to the Peace Treaty, early negotiations at the Washington and Madrid Conferences saw the Palestinians and Jordanians negotiating as a single team. This resulted from the fact that the USA and Israel did not at the time recognize the Palestinian Liberation Organization (PLO) as an independent party to a future agreement, and reflected the willingness of Jordan’s political leadership to negotiate on the Palestinians’ behalf.¹⁰⁵

Indeed, the general political feeling of the early 1990s was hopeful that the broader Arab-Israeli conflict was being resolved, not the Jordanian-Israeli or Palestinian-Israeli conflicts in isolation.¹⁰⁶ Jordanian negotiators and the political elite approached the peace process with Israel in the context of a resolution to the Palestinian conflict. Negotiations for the Peace Treaty between Israel and Jordan had slowed in early 1994, but experienced a significant boost and

¹⁰⁴ Stewart, *Good Neighbourly Relations*, 52

¹⁰⁵ Shamir, “Water Agreements Between Israel and Its Neighbours”, 275

¹⁰⁶ Abukhater, *Water as a Catalyst for Peace*, 88

intensification in July 1994, once it became clear that Israel and the Palestinians were about to sign the Washington Declaration.¹⁰⁷ This demonstrates the importance that Jordan placed on peace in Palestine to the overall project of its own Peace Treaty with Israel.

When negotiating water issues for the Peace Treaty, Jordanian negotiators also directly promoted Palestinian water interests on several occasions. During early Treaty negotiations, progress between Israeli and Jordanian negotiators was slowed by the insistence of the Jordanian party that normalization between the countries must wait for real success in key issues, including borders, Palestinian refugees, and water allocations.¹⁰⁸ Additionally, in the Washington round of negotiations Jordanian negotiators affirmed that any agreement between Israel and Jordan would not impact Palestinian water rights.¹⁰⁹

Jordanian hydropolitical interests are prioritized over Palestinian interests

While Jordan does occasionally pursue policies which further Palestinian interests, ultimately the Jordanian government has historically demonstrated its willingness to subvert Palestinian water interests to its own strategic water interests.

While Jordanian negotiators took care to tie the Peace Treaty negotiation process to the Israeli-Palestinian peace process, several details of the final peace settlement in fact ignore Palestinian water interests. Israeli and Jordanian negotiators “took great care, during the course of their negotiations, to limit their discussion of the Jordan River to places north of where the West Bank fronts on the Jordan River”.¹¹⁰ The final meetings prior to the Peace Treaty saw

¹⁰⁷ Fischhendler, “Ambiguity in Transboundary Environmental Dispute Resolution”, 97

¹⁰⁸ Abukhater, *Water as a Catalyst for Peace*, 96

¹⁰⁹ *Ibid.*, 102

¹¹⁰ Amro, “Historical Political Conflict of Jordan River Water Resources”, 32

Jordan and Israel reach an agreement on water allocation in separation from larger political issues and other regional parties.¹¹¹ The agreement ultimately divided the entire supply of the Jordan River between the two parties, leaving nothing available for co-riparians Syria and Palestine.

While it is conceivable that Jordan River allocations could be revised to reflect peaceful partnerships with these riparians, that fact that this would require an amendment to the Peace Treaty, to the detriment of both Jordan and Israel, makes it unlikely that this would be easily achieved. In pursuing a greater water allocation for itself, Jordan negatively impacted the negotiating position of Palestine in the long-term in Jordan Basin hydro politics, and placed Palestinian hydro political interests directly in opposition with those of Jordan.

The Red Sea-Dead Sea Project provides a further example of Jordan pursuing its own hydro political interests, to the detriment of Palestinian interests. As discussed earlier, negotiations between Israel and Jordan over the RSDS project began following the 1994 Peace Treaty, and led to a joint proposal for a feasibility study to the World Bank in 2002. Many in the PA had long expressed their criticism of the RSDS project, fearing the impact it may have on the borders of a future Palestinian state.¹¹² Given the importance of the RSDS project for Jordan's water needs, Jordan disregarded these worries, choosing to proceed with the project without consultation with the Palestinians. When the Palestinians learned of the World Bank's interest in funding the feasibility study, they protested to the World Bank over their exclusion, leading the

¹¹¹ Abukhater, *Water as a Catalyst for Peace*, 104

¹¹² Stewart, *Good Neighbourly Relations*, 66

World Bank and donor community to insist on the inclusion of the Palestinian Authority in the study.¹¹³

Over the course of negotiations over the project, talks occasionally broke down over political deadlock between the Palestinians and Israelis. As Jordan was the main beneficiary of the project, Jordanian negotiators were eager to proceed with the project, and were forced to act as mediator in these disputes. A dispute between the Palestinians and Israelis arose over the terminology used in the agreement, which deadlocked the negotiations. The issue was resolved by the direct intervention of Jordan's King Abdullah, who brokered a compromise by calling the President of the PA.¹¹⁴ Jordan also later intervened on behalf of the Israeli team in opposing plans for a Palestinian desalination plant on the coast of the Dead Sea, instead supporting a water transportation system which avoided the question of Palestinian water rights.¹¹⁵

While the RSDS project will likely have a transformative effect for Jordan's access to water resources, from a Palestinian perspective the project will moderately increase the availability of water supplies, while leaving the issue of water rights unresolved, and weakening Palestine's hydropolitical strategic position in the long run. For this reason, the RSDS project has been called "a chimeric peace dividend, which will sustain rather than resolve the conflict".¹¹⁶

¹¹³ Neda Zawahri and Erika Weinthal, "The World Bank and Negotiating the RSDS Project", *Global Environmental Politics* 14:4, 2014, 59

¹¹⁴ Zawahri, "The World Bank and Negotiating the RSDS Project, 64

¹¹⁵ *Ibid.*, 68

¹¹⁶ Karin Aggestam, "Depoliticizing water conflict: functional peacebuilding in the RSDS project", *Hydrological Sciences Journal* 61:7, 2016, 1310

Conditional Comradery: Jordan, Palestine, and Water

In the study of hydropolitical relations between Israel and Jordan, it is crucial to have a basic understanding of the ways that the Israeli-Palestinian conflict impacts Jordanian policies, and the limitations of this influence. This relationship is incredibly complex, and a more detailed exploration of this complicated relationship is beyond the scope of this paper. A basic understanding of these dynamics is however crucial to address the central research question of this paper. In the exploration of hydrohegemony in the post-Peace Treaty era, and Jordan's potential use of pro- or counter-hegemonic mechanisms in its water interactions, several key lessons from the Palestinian context need to be considered.

Firstly, ongoing events in Palestine and Israel have significant domestic political implications for the Jordanian government, which often leads policymakers to at least publicly adopt anti-cooperative discourses. Statements by the Jordanian government made at critical moments in the Israeli-Palestinian conflict need to be understood in this context, and may not directly reflect the willingness of the government to oppose cooperation with the Israeli government.

Secondly, Jordan has significant institutional and familial links to Palestine, which at times results in Jordan directly negotiating on behalf of the Palestinians.

Finally, Jordan has demonstrated a willingness to subvert the interests of the Palestinians to its own strategic interests, though this seldom occurs in public proclamations, but rather through negotiated agreements with the Israelis.

4 – Data Section

4.1 Methodology

Research Question

With an understanding of the theoretical concepts of transboundary water cooperation, the historical context of the lower Jordan River basin, and an overview of the baseline of Israeli Hydrohegemony, it is now possible to return to the principle research question:

Do Jordan’s actions reflect a compliance with or contest of Israeli hydrohegemony in the post-Peace Treaty era?

To answer this question, this research paper has three objectives: 1) To assemble a comprehensive dataset of Jordan-Israel water interactions from 1994-2016, 2) To classify each interaction into categories according to its relationship to Israeli Hydrohegemony, and 3) To quantitatively analyze the resulting data to determine whether Jordan can be seen to be utilizing counter-hegemonic or hegemony-compliant mechanisms.

Scope

To effectively answer the question of Jordan’s use of counter-hegemonic strategies, the target data will be Jordanian governmental water interactions toward actors in Israel. While Israeli interactions are of course relevant to the discussion of Jordan-Israel water relations, in order to specifically measure Jordan’s use of counter-hegemonic mechanisms, the study will be limited to interactions in which Jordanian officials directly participated in water interactions with Israeli actors, government or otherwise.

The primary unit of analysis will be ‘water interactions’, described by Zeitoun and Mirumachi as “relations of co-existing cooperation and conflict... (which) is above all a political

process subject to whims of power”.¹¹⁷ Possible interactions include meetings, diplomatic exchanges, quotations by official sources, and physical exchanges which relate to shared freshwater resources. Interactions relating to other water resources or non-freshwater sources, such as the Red Sea, are excluded.

This research project is concerned primarily with Jordan-Israel interactions following the Peace Treaty, and therefore sets the scope as 26 October 1994 to 31 August 2016.

Data Collection

In order to build a data set encompassing Jordanian-Israeli water interactions from 1994-2016, this paper adapted the data collection methods of Wolf et al. in their Basins at Risk project.¹¹⁸ Wolf et al used several social science and news databases to assemble every water interaction around the world for much of the 20th century; with updated search terms and timeframe, this offered an effective method to assemble Jordan-Israel water interactions. The electronic news databases used by Wolf et al.¹¹⁹ did not cover the full research period, and were not able to be used in this project due to limited access. A strong substitute was found with Factiva,¹²⁰ a service which provides daily full-text stories from 6,000 newspapers around the world.

The initial search using relevant search terms and dates returned 2605 articles. A great majority of these articles were not relevant to the research question, and a process of sorting left

¹¹⁷ Mark Zeitoun and Naho Mirumachi, “Transboundary water interaction I: reconsidering conflict and cooperation”, *International Environmental Agreements* (2008), DOI 10.1007/s10784-008-9083-5, 299

¹¹⁸ Aaron Wolf et al., “International waters: identifying basins at risk”, *Water Policy* 5 (2003), 32

¹¹⁹ Shira Yoffe et al., “Conflict and Cooperation over International Freshwater Resources: Indicators of Basins at Risk”, *Journal of the American Water Resources Association* (October 2003), 1110

¹²⁰ Factiva, <https://global.factiva.com/factiva/login/login.asp?productname=global>

a total of 284 articles spanning 26 October 1994 to 31 July 2016, which concerned water interactions between Jordan and Israel.

Adapted from the Basins-at-Risk methodology, I then combed through the 284 articles for records of interactions, as defined above. The search revealed 76 water interactions between Jordanian officials and Israeli actors relating to shared freshwater resources. These interactions were reported by 24 different news sources, averaging 3 interactions per news source. In a spreadsheet a variety of information was compiled for each interaction, including the date, interaction classification, news source, event summary, key quotations, and lastly, the classification according to the contest-compliance framework (Figure 6).

To measure the instances of contest and compliance in Jordanian interactions, this paper uses the framework developed by Zeitoun, Cascao, et al., and is shown in figure 6.¹²¹ As noted in section 2.3, the key to hydrohegemonic analysis is to understand each interaction in the context of overall relations, and of the nature of other related events.¹²² To best place each interaction in its larger context, each data point was assigned a classification, namely ‘infrastructure’, ‘international conference’, ‘international support’, ‘Red Sea-Dead Sea (RSDS) Project’, ‘technical cooperation’, ‘water-sharing agreement’, and ‘others’. The classifications of ‘infrastructure’ and ‘RSDS project’ were separated given the significance of the RSDS project, necessitating its study independent of other infrastructure-related interactions.

Having divided the interactions by classification, each interaction was given a numerical value from the Contest-Compliance Framework (Figure 6), determined as a combination of each

¹²¹ Zeitoun, “Contest and Compliance”, 13

¹²² *Ibid.*

case's relevance to the Framework, and the context of the other interactions in each issue type. If the interaction was an overly close call between compliance and contest, the neutral value of '0' was assigned to minimize the subjectivity of the researcher.

Limitations

The data collection method employed by this paper is comprised only of publicly-available, English-language, online news reports. Water interactions within the study period which were not reported in the available newspapers are not included in this study. In addition, the presentation of the data is necessarily impacted by the journalistic and editorial influences on the stories themselves.

The process of classifying interactions on the Contest-Compliance Framework presented a key challenge. Cascao et al. describe the difficulty of differentiating between counter-hegemonic strategic collaboration and compliance with a hegemonic regime, calling hegemony and counter-hegemony a “dialectic pair, both shaped by any acts of contest or compliance by those involved”.¹²³ The distinction is nonetheless important to make, as such patterns can indicate crucial developments in a water basin. According to Cascao et al, “Verbal claims of resistance to an established order may be the start of a campaign of resistance, or of a counter-hegemonic movement. If the claims are not followed by the effort required to change the order, however, they may remain simply expressions of disagreement with that order, and in effect demonstrate tacit consent to it.”¹²⁴

¹²³ Zeitoun, “Contest and Compliance”, 6

¹²⁴ *Ibid.*

This point has important research implications – in the study of hydrohegemony and counter-hydrohegemony, each interaction only holds meaning in conjunction with other interactions, and the wider hydropolitical context. The need to consider each interaction within these contexts necessitates the subjective judgement of the researcher, who thereby becomes both an observer and a participant in the production of the data. The findings of this study are the result of the careful, but subjective, synthesis of the background information of sections 1-3 with each interaction, in the context of all interactions of the same classification.

The dataset used in this study comprised of 76 interactions, gathered from 23 different news sources, which represents a medium-size sample of relatively strong diversity. However, a more thorough dataset would improve the depth of the visible trends and the external validity of the results.

In addition, the scope of this study is designed to measure the direct water interactions between Jordan and Israel, which excludes interactions taken in indirect and more multi-lateral contexts. A key example here is the ongoing Peace Process between Israel and Palestine, wherein water is a key issue and Jordan is an important actor. The inclusion of interactions involving shared Israeli-Palestinian groundwater in which Jordan plays a role are beyond the scope of this study, but merit further study and consideration.

4.2 Results

Following analysis of the data, several trends were noted in the classifications of ‘Infrastructure’, ‘RSDS Project’, ‘Technical Cooperation’, ‘Water-Sharing Agreement’, and ‘International Conference’.

Contest-Heavy Categories

Infrastructure (See Figure 7)

Of the 8 water interactions relating to infrastructure, 5 were classified as contest mechanisms, namely Strategic Cooperation and Mobilization of Funds. While the Peace Treaty does stipulate the need for infrastructure projects to supplement regional water supplies,¹²⁵ the rhetoric associated with these events emphasized the national-strategic impetus for Jordan to complete these projects, with little to no mention of cooperation with Israel.¹²⁶ Historically Jordan has long seen its water deficit as a strategic issue, whose resolution will have significant effect for Jordanian development.¹²⁷ Thus due to the national-strategic rhetoric, the data showing the pursuit of projects and donors which do not include Israel (for example the Disi Aquifer project), and the long-standing Jordanian strategic goal of increasing water supply through infrastructure, a significant number of infrastructure-related interactions can be seen as a contest mechanism.

By attempting to diversify its water development specifically excluding Israel, Jordan would gain increased water independence in the region, and be able to pursue water management policies more independently of Israeli involvement. This would result in Jordan becoming stronger in water negotiations, and mark an increase in Jordanian leverage within the existing regional order.

¹²⁵ UN Peacemaker, "Treaty of Peace", 396

¹²⁶ Jens Jacobsen, "Power and Water in Jordan and Israel", Unpublished Paper, Data: Events 22, 37, 42

¹²⁷ Alqadi, "Water Policy in Jordan", 325

RSDS Project (See Figure 7)

The RSDS project can be seen in a very similar light to other infrastructure projects. In the data the RSDS Project is repeatedly described in strong national-strategic terms, and often emphasized as being a purely Jordanian project, with any Israeli involvement strongly downplayed.¹²⁸ As with Infrastructure, this rhetoric gains significance in the context that Jordan has long viewed the construction of major infrastructure projects as a key strategic interest. Jordan has in addition pursued the RSDS project aggressively, spearheading its progression through feasibility studies and even threatening to construct the project unilaterally when the World Bank-led process lagged.¹²⁹

This context suggests the conclusion that Jordan's RSDS interactions represent strategic cooperation, intended to increase Jordan's standing within the hegemonic balance of the Lower Jordan Basin. 12 of 18 interactions were classified as mechanisms of contest, including leverage mechanisms intended to increase Jordan's relative power within the existing order, and transformative mechanisms, offering alternate visions to the existing order.

Compliance-Heavy Categories

Technical Cooperation (See Figure 8)

The dataset of Jordanian water interactions with Israel revealed 9 cases of technical cooperation, of which 7 were classified as normative compliance, defined as compliance which reconfirms the legitimacy of the hegemonic order.¹³⁰ The data showed technical cooperation

¹²⁸ Jacobsen, Unpublished Paper, Data: Events 52, 60, 61, 62, 63, 64, 67, 71, 72, 74

¹²⁹ Zawahri, "World Bank and RSDS", 69

¹³⁰ Zeitoun, "Contest and Compliance", 5

between Jordan and Israel to be focused largely on the development of joint knowledge and research centres and the implementation of technical aspects of the Peace Treaty.

The creation of joint knowledge, such as the creation of a bilateral desert research centre in 2004¹³¹ or an agreement allowing Jordanian students to study in Israel in 1996,¹³² provides added legitimacy to the existing order, instilling the belief that compliance with the order is a right or duty.¹³³ The cases of technical cooperation can therefore be understood as jointly creating legitimacy to the existing order of Israeli hegemonic leadership.

Water-Sharing Agreements (See Figure 8)

Water-sharing agreements were a central feature of the Peace Treaty, and continued to constitute an important arena of Jordanian-Israeli water interactions over the period of this study- of the 7 categories, 'Water-sharing agreements' was the most common interaction category, with 24 interactions over the 22-year period of study. As noted in the section concerning the Peace Treaty, water-swapping arrangements benefit both Israel and Jordan by increasing water supply, reducing uncertainty of yearly availability, and providing storage mechanisms.¹³⁴

However, the water-sharing agreements also fall within Israeli sanctioned discourse and interests. Flexible arrangements of providing Jordan with water from Lake Kinneret rather than establishing Jordan's right to pump directly from the Jordan River aligns notably with the Needs, Not Rights discourse.

¹³¹ Jacobsen, "Power and Water in Jordan and Israel", Unpublished Paper, Data: Event 57

¹³² Jacobsen, "Power and Water in Jordan and Israel", Unpublished Paper, Data: Event 34

¹³³ Zeitoun, "Contest and Compliance", 5

¹³⁴ Beaumont, "Dividing the Waters", 419

The data shows 14 cases of compliance, 8 cases of contest, and 3 cases which were not classifiable. The high instances of compliance interactions stem from Jordan's frequent advocacy of the water-sharing agreements stipulated in the Peace Treaty. In several cases Jordanian officials strongly encouraged the implementation and adherence to water-sharing agreements, responding to perceived and actual reluctance on the Israeli side.¹³⁵ In this case the Jordanian resistance to changes proposed by the Israeli government was in fact resistance in favour of the existing hegemonic balance, and can be seen as a form of compliance. There were also a relatively significant number of contest interactions, representing 8 of the total 24. In these cases, Jordanian officials re-framed the water-sharing agreements as an exertion of Jordanian sovereign rights to its territory and water, which was won back from Israeli occupation.¹³⁶

This discourse of restored Jordanian rights runs counter to the Needs, Not Rights Israeli discourse which de facto dominates the basin, and therefore represents the promotion of an alternative discourse, constituting a transformative mechanism of contest.

Mixed Compliance-Contest Categories

International Conferences (See Figure 9)

Lastly, the category of International Conferences represented a mixed-result category, with 3 contest mechanisms, 4 compliance mechanisms, and 3 unclassifiable events. In general, the participation in regional or global water conferences represents a normative compliance mechanism, since such conferences normally promote the dominant water management

¹³⁵ Jacobsen, "Power and Water in Jordan and Israel", Unpublished Paper, Data: Events 18, 31, 35, 41, 53, 73

¹³⁶ Jacobsen, "Power and Water in Jordan and Israel", Unpublished Paper, Data: Events 6, 14, 15, 17, 18

discourses, thus making participation an act of hegemonic compliance.¹³⁷ The dataset includes 4 such conferences, which comprise the 3 normative and 1 ideological mechanisms of compliance of the data. However, Jordanian officials did not always simply attend water conferences, but in several cases made overt political statements or actions. Notable here is the use of non-compliance, where Jordan in one case cancelled a water conference over a dispute with Israel, and in another refused to attend a Jerusalem-based water conference.¹³⁸

These actions are rare cases of Jordanian coercive contest, whereby Jordan used its non-participation in water-related conferences as a political weapon against Israel.

Overall Results (See Figure 10)

Overall, it was found that the usage of compliance and contest mechanisms by Jordan between October 27, 1994 to July 31, 2016 was approximately equal, with 29 cases of compliance and 30 cases of contest, as well as 17 cases which were not classifiable. Interactions are most strongly concentrated in the period immediately following the Peace Treaty from 1994-1999 at 31, with a drastic decrease to only 11 from 2000 to 2005. This number has slowly increased with time, reaching 20 between 2011-2016. Two major eras are visible in the data for the use of contest vs compliance mechanisms – in the periods of 1994-1999 and 2000-2005 contest mechanisms comprised only 25% and 27% respectively, while in the periods of 2006-2010 and 2011-2016 contest mechanisms made up 57% and 55% of interactions, showing a notable increase in the use of contest mechanisms over time, matched with a decrease in compliance mechanisms and relative stability of unclassifiable interactions.

¹³⁷ Zeitoun, "Contest and Compliance", 5

¹³⁸ Jacobsen, "Power and Water in Jordan and Israel", Unpublished Paper, Dataset: Event 46, 48

Contest mechanisms have overall been represented by leverage mechanisms at 56.7%, versus 36.7% transformative and only 6.7% coercive. While the use of leverage mechanisms in the 1994-1999 period was relatively low at 25%, since then it has remained between 64% and 75%.

Compliance mechanisms have been overwhelmingly normative in nature, making up 82.8% of all compliance mechanisms, followed by ideological mechanisms at 10.3% and coercive mechanisms at 6.9%.

Zeitoun & Cascao outline the power implications of different contest and compliance mechanisms, seen in Figure 11. The demonstrated use of leverage and some transformative counter-hegemonic mechanisms corresponds with the ‘Levelling the Playing Field’ method of challenging power.¹³⁹

The experience of this study confirms that a simple, objective classification of water interactions is not feasible, it is necessary for the researcher to thoroughly and competently examine each interaction within the broad hydropolitical context and the context of other interactions in the dataset.

¹³⁹ Zeitoun, “Contest and Compliance”, 11

5 – Conclusion

“When the King says it is midnight at noon, the wise man says ‘behold the moon.’”¹⁴⁰

This paper examined the evolving power relationship between Jordan and Israel in the post-Peace Treaty era, and sought to determine whether Jordanian actions represent a confirmation or challenge to Israeli hydro-hegemony. Through an analysis of hydrohegemony in the Lower Jordan Basin, this paper showed that just as conflict and cooperation coexist, so too do hegemony and counter-hegemony. Prior to the Peace Treaty, relations between Jordan and Israel were characterized by conflict, occasional strategic cooperation, and Israeli dominance. The Peace Treaty ended the state of war and broadly opened the path for cooperation, yet as demonstrated above, many of the pre-Treaty trends of power imbalance have continued in recent years. The post-Treaty era has seen regular cooperation and several joint projects, yet also adversarial language and discourses, and the use of contest mechanisms. The Peace Treaty marked a milestone of cooperation and the fulfillment of Jordanian strategic goals, yet also reflected and reinforced Israeli hegemony in terms of normative and ideational power.

The results of the study suggest there is notable evidence that Jordan has utilized counter-hegemonic mechanisms in particular areas of transboundary water relations with Israel in the post-Treaty era, and that the use of these mechanisms evolves over time. The use of leverage mechanisms has increased over time and constituted the majority of contest mechanisms, occurring in particular as strategic collaboration and fund mobilization, associated with Jordan’s strategic infrastructure projects. Compliance with Israeli hegemony has been largely normative in nature, and has gradually decreased as the Peace Treaty becomes more distant.

¹⁴⁰ Omar Khayam (1050-1122), quoted in Zeitoun, “Power and Water”, 25

The dynamics of transboundary water interactions are demonstrated by Figure 12, showing the complexity wherein contest and compliance can coexist in a hegemonic balance. The data of this study shows a near half-and-half split between contest and compliance mechanisms, with leverage mechanisms the most common for contest, and normative mechanisms the most prevalent on the side of compliance. Based on Figure 12, this would suggest that contest and compliance coexist in Jordan's water interactions with Israel, and that the compliance mechanisms at play are deeper and more effective than the contest mechanisms. In short, there is evidence suggesting that Jordan is contesting its strategic position within the Jordan River Basin by increasing its leverage, but that Israeli normative mechanisms are still largely prevalent in determining what Jordan considers proper water management, how resources should be developed, or what it should do.

“The contest of hegemony is conceived when consent to the hegemonic order is not total”.¹⁴¹ While the data demonstrates that the compliance mechanisms evident in Jordanian water interactions are more effective forms of hegemonic power than the corresponding leverage mechanisms, the prevalence of these contest mechanisms demonstrates that the hegemonic order of the Lower Jordan River Basin is not complete, and that Jordan is at least partially acting as a counter hydro-hegemonic force, while primarily complying with the existing hegemonic order.

¹⁴¹ Zeitoun, “Contest and Compliance”, 6

6 – Figures

Figure 1 – Jordan River Basin Map

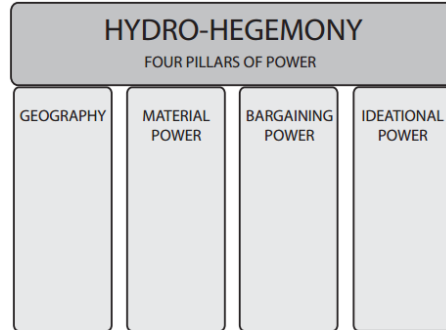


Source: American Association of Geographers.

Jordan-Yarmuk River Basin.

http://cgge.aag.org/WaterResources1e/cs-1/paste_image10.jpg

Figure 2: Hydrohegemony Pillars of Power

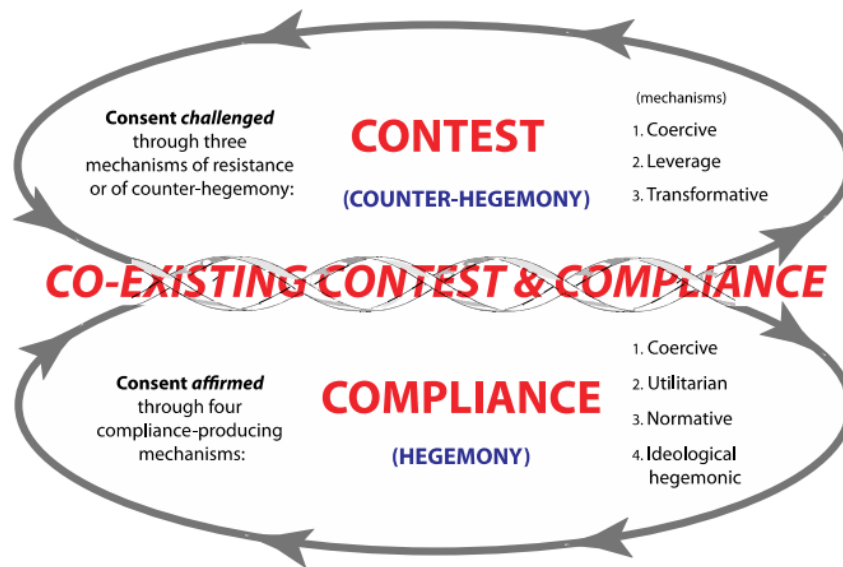


Source: Cascao & Zeitoun,

“Power, Hegemony, and Critical

Hydropolitics”, 32

Figure 3: Mechanisms to reproduce Hegemony



Source: Zeitoun, Cascao, et al. “Contest and Compliance”, 7

Figure 4: Counter-Hydrohegemonic Mechanisms across Basins

		Jordan River	JR + aquifers	Tigris and Euphrates	Ganges	Mekong	Amu Darya	Nile
Non-hegemonic state actors considered here :		Lebanon	Palestine	Iraq, Syria	Nepal	Cambodia	Tajikistan	Ethiopia (primarily)
Degree of power asymmetry (2015):		High	Extreme	High	Extreme	Extreme	High	Moderate
Coercive mechanisms + related tactics	Military force	^	^	^	^	^	^	^
	Threat of use of force	***	***	**	^	^	*	^
	Construction of infrastructure	***	^	**	^	^	***	***
	Financial rewards	^	^	^	^	^	^	^
Leverage mechanisms + related tactics	Strategic collaboration ¹⁴	^	^	**	**	***	***	***
	Alternative vision/agenda	*	***	^	*	*	***	***
	Mobilisation of funds	^	^	^	*	*	***	***
Liberating mechanisms + related tactics	Alternative discourse	***	*	*	^	*	***	***
	(Establishment of) Alternative tbw arrangements	^	^	^	^	*	^	***
	Alternative knowledge	^	^	^	^	*	***	***

Determining whether the use of counter-hegemonic mechanisms is consciously or intentionally part of a counter-hegemonic strategy, or not, requires specific research not undertaken here. Labels of 'strategic collaboration' here in particular may be questioned

^ = no use; * = mild use; ** = medium use; *** = significant use

Source: Zeitoun, Cascao, et al. "Contest and Compliance", 13

Figure 5: Red Sea-Dead Sea Water Conveyance Project



Source: <http://www.waterworld.com/articles/wwi/print/volume-28/issue-6/technology-case-studies/water-provision/green-light-for-red-dead-sea-pipeline-project.html>

Figure 6: Contest/Compliance Framework

Jordanian Use of Counter-Hegemonic Mechanisms		
Mechanism Type	Mechanism Name	Numerical Value
Coercive Mechanisms	Violence, Sabotage	1.1
	Non-Participation, Disobedience	1.2
	Construction of infrastructure	1.3
Leverage Mechanisms	Strategic collaboration	2.1
	Alternative vision/agenda	2.2
	Mobilization of funds	2.3
Transformative Mechanisms	Alternative discourse	3.1
	(Establishment of) Alternative transboundary water arrangements	3.2
	Alternative knowledge	3.3
Jordanian Compliance with Israeli Hegemonic Mechanisms		
Mechanism Type	Mechanism Name	Numerical Value
Coercive Mechanisms	Military Force	4.1
	Threats of use of force	4.2
	Active stalling	4.3
Utilitarian Mechanisms	Financial rewards	5.1
	Political rewards	5.2

Normative Mechanisms	Water Treaties	6.1
	Water management/investment rules	6.2
	Global or Regional water conferences	6.3
Ideological Hegemonic Mechanisms	Sanctioned Discourse	7.1
Other		
Classification		Numerical Value
Neutral / Not Enough Information		0

Source: Zeitoun, “Contest and Compliance”, 13

Note: Numerical Values added in by author

Figure 7: Contest-Heavy Results

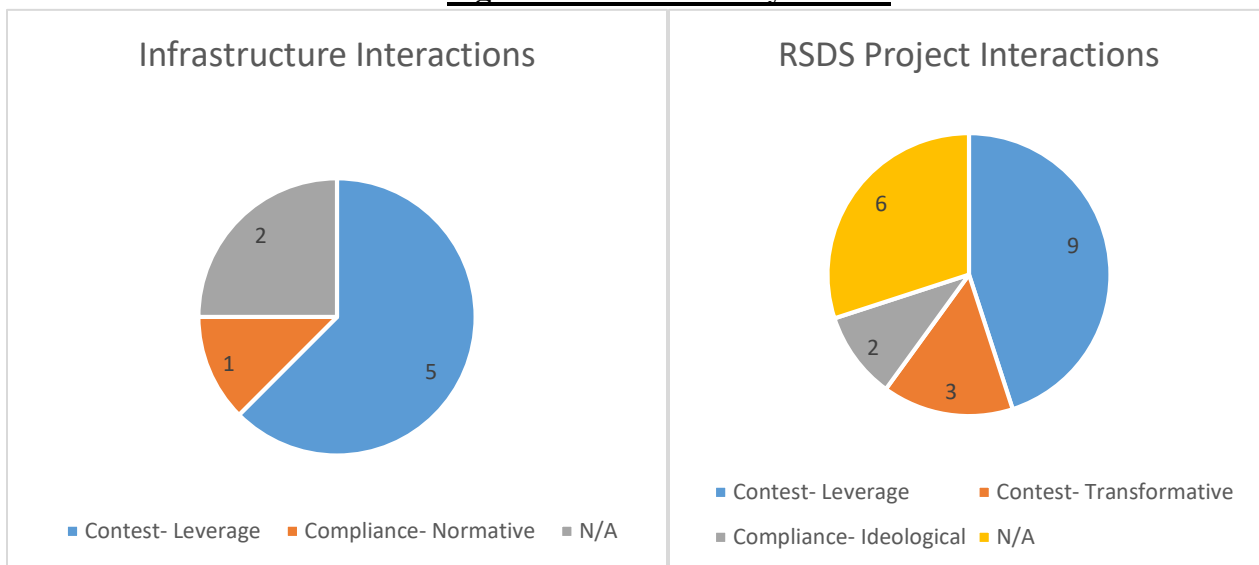


Figure 8: Compliance-Heavy Results

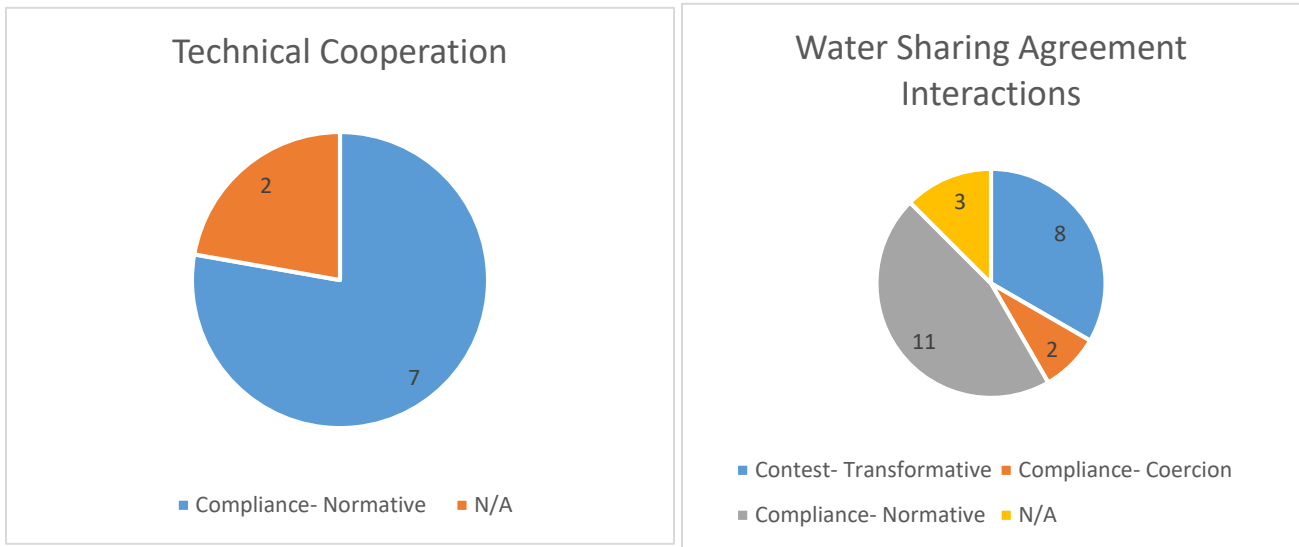


Figure 9: Mixed Contest/Compliance Results

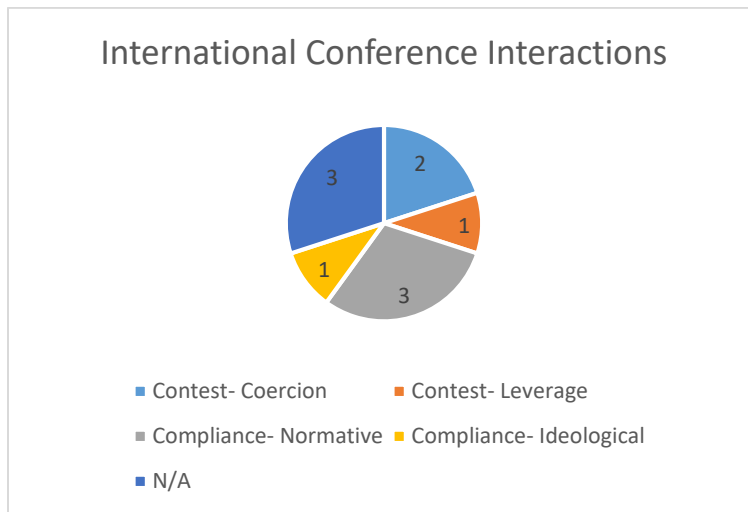
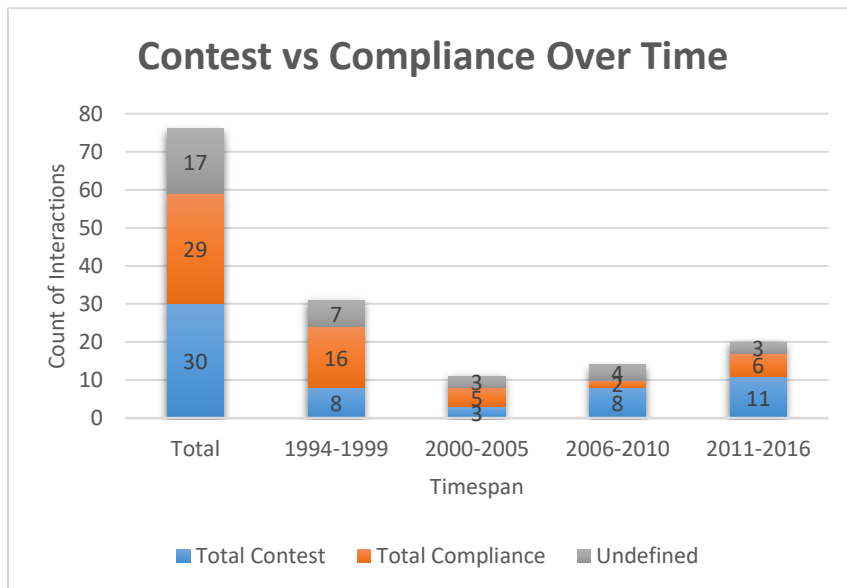
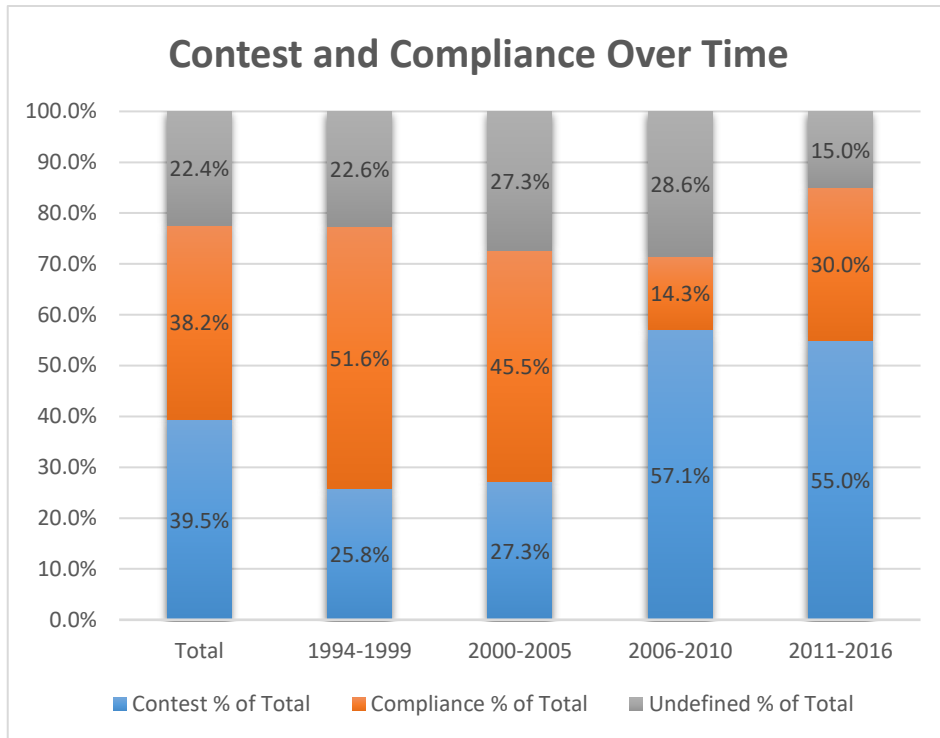


Figure 10: Overall Results



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