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Hydro-Hegemony in the Upper Jordan Waterscape: Control and Use of the Flows

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ABSTRACT: This paper blends the analytical framework of hydro-hegemony with a waterscape reading to explore the use and methods of control of the Upper Jordan River flows. Seen as a sub-component of the broader Lebanon-Israel-Syria political conflict, the struggles over water are interpreted through evidence from the colonial archives, key informant interviews, media pieces, and policy and academic literature. Extreme asymmetry in the use and control of the basin is found to be influenced by a number of issues that also shape the concept of 'international waterscapes': political borders, domestic pressures and competition, perceptions of water security, and other non-material factors active at multiple spatial scales. Israeli hydro-hegemony is found to be independent of its riparian position, and due in part to its greater capacity to exploit the flows. More significant are the repeated Israeli expressions of hard power which have supported a degree of (soft) 'reputational' power, and enable control over the flows without direct physical control of the territory they run through – which is referred to here as 'remote' control. The 2002 Lebanese challenge of the hegemony established shows that full consent has never been achieved, however, and suggests the maintenance of hydro-hegemony in this international waterscape relies on the reconstitution of reputational power.

KEYWORDS: Hydro-hegemony, waterscape, hydropolitics, water security, Jordan River, Lebanon, Syria, Israel

INTRODUCTION

Depending on how one looks at it, the century-long struggle over the land and water flows in the Upper Jordan River basin can be lacklustre or exhilarating. On the one hand, the interaction over the flows between people and governments in Syria, Lebanon and Israel carries few interesting shifts towards or away from cooperation and conflict. Plotted against Mirumachi's (2007) 'TWINS' frame of co-existing conflict and cooperation, the conflict pales in drama next to the contests for the Nile, Tigris and Mekong rivers, or even the lower part of the Jordan. Reflecting the broader political conflict in every way, the interstate interaction over Jordan's upper reaches has never developed into cooperation of any greater significance than indirect mediated talks.

On the other hand, Upper Jordan's flows have witnessed, if not caused, some of the most talked-about violent incidents in the history of water conflicts, and remain amongst the most heavily securitised in the world. Rural communities living on the banks of the Jordan River have seen the land they live on cut up on six occasions, from a single Ottoman Empire to French then Syrian and Lebanese, or to British then Jordanian and Israeli political entities. Driven by the commercial, religious, and hydrological reasons we explore here, each change that has been accompanied by violence, population transfers, and the construction of water infrastructure – and these in turn have altered the use of, and control over, the flows themselves. Taking both armed and diplomatic forms, the Jordan River conflict exhibits all the nuances scholars have come to expect between people and governments stitched together in hegemonic political contexts by rivers.

The lower reaches of the Jordan have attracted considerable hydropolitical analysis for decades (e.g. Smith, 1966; Gasteryer et al., 2012). Apart from Lowi (1993), Amery and Wolf (2000) and Medzini (2001), however, very little attention has been paid to the river's sources. How the use and control of these flows are assured are largely unknown, as even the asymmetry of their distribution and significance within the Lebanon-Israel political conflict remain largely unexplored.

This paper's appreciation of the importance of social and biophysical processes combining at multiple spatial scales sets it in the wake created by the *Water Alternatives* Special Issue on *Water Governance and the Politics of Scale* (Vol. 5, Issue 1). Authors there investigate how water management and informal water governance are impacted by (Clarke-Sather, 2012; Budds and Hinojosa, 2012), or challenge (Johnson, 2012; Vogel, 2012; Norman, 2012), the dissonance between physical river basin boundaries and political borders.

With the borders in question in this paper being clearly international, a constructivist ontology blending international relations with political ecology is employed to interpret the control and use of the basin flows. More specifically, the analytical frame of hydro-hegemony (Zeitoun and Warner, 2006) is combined with a 'waterscape' reading to interpret how, and to what extent, control over water and territory is facilitated by each state's ability to exploit the flows, its riparian position, and relative power. Material and non-material factors are explored in developing the concept of 'international waterscape', through evidence from the archival record, expert interviews, official statements, media pieces and the academic and policy literature. The analysis reveals the extent to which the tense waterscape has been influenced by Zionism, religion, domestic political pressure and violent and non-violent acts. Alongside previously unpublished maps and data that allow comparison of Lebanese and Israeli water use, the interstate interaction within the waterscape is represented graphically in a manner that serves to distinguish the differences between direct (physical) control over territory, control over surface water and groundwater flows, and effective use of the flow.

A number of expected and less-expected conclusions relevant to hydro-hegemony, power, and the waterscape are reached. The evolution of Israeli hydro-hegemony is found to be partly dependent on its comparative advantage to exploit the flows, for example, but independent of its actual riparian position. Repeated expressions of hard power have supported a degree of 'reputational' power, and have been used in combination to deter most challenges to the asymmetric status quo. A 2002 Lebanese challenge shows that full consent with the weaker party has not been achieved (in the Gramscian sense of hegemony), however, suggesting the maintenance of the order relies on the reconstitution of the reputational power. Water use may thus be maintained without direct physical control over the territory it runs through – an effective separation of the waterscape from the territorial landscape which enables what is referred to here as 'remote' control.

INTERPRETING INTERNATIONAL TRANSBOUNDARY WATERSCAPES

As with the political ecology work on the hydro-social cycle (see e.g. Linton, 2008; Swyngedouw, 2009; Budds, 2009), the approach of 'waterscapes' sees water and society as co-producing, through both

material and non-material forces. Molle et al. (2009: 2) define a waterscape as an "expression of the interaction between humans and their environment and encompasses all of the social, economic and political processes through which water in nature is conceived of and manipulated by societies". Acknowledging that the context of that interaction is replete with asymmetries in capacity, Budds and Hinojosa (2012: 124) argue that the approach of waterscapes is useful to "explore the ways in which flows of water, power and capital converge to produce uneven socio-ecological arrangements over space and time, the particular characteristics of which reflect the power relations that shaped their production". In the upper reaches of the Jordan River basin, the most relevant concepts and manipulation by societies constitute the quest for territory and laying down of nation-state borders through expressions of power by political actors driven by domestic and ideological forces. This particular waterscape is *international*, and interpretation of the effects of co-producing social and biophysical processes upon, and occurring at, domestic, international, and internationalised arenas is served by a frame of international hydropolitics and International Relations theory.

The importance of context

The challenge of reconciling waterscapes with the basin boundary/political border dissonance is deftly exemplified in Norman's (2012) investigation into the influence of aboriginal culture on the environmental governance of the Salish Sea basin straddling the western Canada-US border (a recent environmental governance construction of territory within the Columbia River basin; see Vogel, 2012). The author notes that identity (trans)formation of the members of the bands and tribes in the Salish Sea basin has been influenced by the laying down of colonial British and American borders, which have now been lampooned by the progressive trans-national governance arrangements. The identity of the indigenous Arab, Kurd, Armenian, Jewish, Druze and other populations living in the Jordan Basin has similarly been shaped and reshaped by colonial conquests (see e.g. Khalidi, 1997). Political borders followed by economic processes have also decimated this latter basin's boundaries, and obliged the majority of people who have remained to adapt their water use and management habits (see Courcier et al., 2005).

The tendency to take the comparison further should be resisted, however, until first checking compatibility of the forces and relations active at the broader international context. With Lebanon, Israel, and Syria officially at war with each other, the socio-political context creates a Middle Eastern waterscape fundamentally different to any in North America. A wealth of hydropolitical analyses based implicitly on neo-liberal institutionalist theory may ignore the importance of the socio-political context, however. Some work examining the presence (e.g. Wolf, 2007) and basic content (e.g. Drieschova and Fischhendler, 2012) of transboundary treaties, for instance, appears founded upon the premise that international water conflicts are based on a mistrust that formal agreements may address by reducing uncertainty or increasing transparency (see discussion in Furlong, 2006: 7). Yet relations and water-sharing arrangements between states in hegemonic international contexts are infinitely more subtle (see Gerlak et al., 2011; Brochmann, 2012), and there is only so much to be gained through unconsidered comparison with liberal political contexts[1] (as e.g. De Stefano et al., 2012). Kalbhenn (2011: 716) suggests we can go deeper than simple identification of this "fair-weather phenomenon" between countries that currently enjoy friendly relations in such political contexts.

Investigation of international transboundary waterscapes in more heavily-contested topographies requires a more explicitly political and constructivist line of enquiry. A constructivist International Relations perspective may explore the nuance of the non-material factors influential at multiple spatial levels, for as Julien (2012: 62) argues, "hydropolitics is what societies make of it" in a way not dissimilar

[1] Considering this, it may be more analytically coherent to compare early 21st century water interaction on the Jordan with early 20th century Europe and early 19th century North America. For more discussion on this context, see Zeitoun et al., 2011: 164.

to the ontology of waterscapes. The analytical task of investigating control over water and land in international waterscapes thus becomes necessary to interpret the influence of non-material factors at all spatial levels into the very direct links between (primarily) state control over territory and the water resources that flow through it.

Hegemony and reputational power

In the struggle for use and control of transboundary flows material factors count too. Developments in water treatment technology (mainly desalination) can significantly heighten or weaken the demand for (territorial-bound) freshwater, for instance (see Elhance, 1999), thereby altering what was considered a determining upstream-downstream relationship (see Frey, 1993; Lowi, 1993). More significantly, imports of 'virtual water' become ever more common as world food trade develops – and national food requirements can be (and are routinely) 'decoupled' from water resources availability and water use (see. e.g. Allan, 2002; Sojamo et al., 2012). It follows that analysts must be able to interpret both physical (hydrology, riparian position) and non-physical (broader political context, discourse, economic power) factors.

The analytical frame of hydro-hegemony builds on the constructivist strand to appreciate that a position of hegemony in a basin may be held by one riparian actor if there is clear asymmetry in its favour of the combination of the three 'pillars': riparian position, water exploitation potential, and power (Zeitoun and Warner, 2006). The approach applies most aptly to contexts where the basin hegemon is 'first amongst equals' and where asymmetries in power can be extreme – it has proven useful, for example, in the Tigris and Euphrates (Warner, 2008), Orange (Turton and Funke, 2008), Nile (Link et al., 2011) and Brahmaputra (Sinha, 2012) basins. As these cases show, while hydro-hegemony has been criticised for its statist and sovereignty-based approach (see e.g. Jacobs, 2010; Duarte Lopes, 2012), its explicit call for the investigation of non-material forms of power should allow coherent investigation of international waterscapes.

The steps taken to establish and maintain an arrangement of hydro-hegemony typically involve expressions of hard power followed by soft power[2] (Zeitoun and Warner, 2006). Put into the terms of John Scott (1994), cases where the basin hegemon acts as leader through the exercise of power towards integrative or equitable ends are differentiated from distributive acts of power which block efforts to achieve equity. What Scott (2001: 4) calls "reputational power" is an example of a soft form of power that may be used for either end, and is reliant upon the weaker actor's anticipation of the (re)actions of the stronger. Anticipated reactions, he argues, means that "power can be effected without being exercised" (Scott, 2001: 5). The impact of such subtle manifestations of power is in several ways similar to what Lukes (2005 [1974]: 79) describes as the "inactive exercise of power" and what Boulding calls 'threat' power (see Abitbol, 2012: 25). Ethiopia's lack of construction, until very recently, of any dam that would impede the Nile River's flows, for example, is based on a keen awareness of the scale of any Egyptian response, even before or several years after any threat is made (Cascão and Zeitoun, 2010). The use of such non-exercised power in hydropolitics is also discussed briefly along the Tigris River in Daoudy (2009).

It is here that the socio-political-economic processes active at all spatial scales in the international waterscape can inform International Relations theory. Ideas, sanctioned discourse, and knowledge constructed at the sub-national level have been shown to influence the international and trans-national arena, resulting in skilfully manipulated treaties, coercive 'cooperation', and the perpetuation of water conflicts (Zeitoun and Mirumachi, 2008; Zeitoun et al., 2011). But the extent of hydro-hegemony and expressions of soft power have their limits, as Warner (2008) notes for upstream Turkey on the Tigris.

[2] Theesfeld (2011: Table 2) notes a similar distinction in her examination of perceptions of "power resources" during collective action over local water issues: (soft) "personal relationships", for instance, rank below (hard) "menace" and "physical power".

Even more relevant to the case at hand, given the hegemon's downstream position, Egypt's recent fading of relative power has had a demonstrable impact on its continued ability to deter or shape river development (Cascão, 2009a,c). As we will see, the distributive water conflict in the Upper Jordan waterscape is shaped in part by state armies and diplomats who have been mobilised to invade and occupy the land through which the water flows, on behalf of politicians anticipating both pressure from their domestic audiences and the reaction of the most powerful actors at different spatial levels.

THE UPPER JORDAN RIVER WATERSCAPE: BORDERS, FLOWS AND TRANSFORMATIONS

The character of the upper Jordan River's waterscape reacts faithfully to reflect the unstable political history between the states and communities involved. Shown in Figure 1, the contested political borders in the Upper Jordan River basin are a result of over a century of collisions and collusions between commercial, religious and military interests – often over, or perceived to be over, the water resources shown in Figure 2.

The tributaries of the Upper Jordan River have flowed completely within the Ottoman Empire for centuries until midway through the First World War. They continued flowing as France and Britain laid down the borders of their Syrian and Palestinian mandates following their defeat of the Ottoman Empire (formalised in the 1916 Sykes-Picot Agreement) (see Abu Sitta, 2011). After Lebanon and Syria gained independence from France (in 1943 and 1946, respectively) the Hasbani and Liddan flowed for a few years between Lebanon, Syria and British Mandate Palestine. Following the Palestinian *nakba* ('catastrophe') of 1948 and the creation of the State of Israel, the rivers wove together the conflictual constellation of Lebanon, Syria and Israel. The borders have continued to shift, with Israel's occupation of the Syrian Golan and Lebanese Cheba'a Farms[3] in 1967, from which point the confluence of the Hasbani, Liddan, and Banias and most of the recharge areas of the latter two have remained under Israeli control. As Figure 1 shows, later Israeli governments acquired complete territorial control over the entire Upper Jordan River basin (even beyond the source of the Hasbani, at Hasbaya) during their invasion and indirect occupation in 1978 and subsequent direct occupation of southern Lebanon from 1982. Israel retreated in 2000 from most of the land captured after 1967, but still occupies Lebanese territory in the northern half of the town of Ghajar, and the Cheba'a Farms, and Syrian territory in the rest of the Golan.

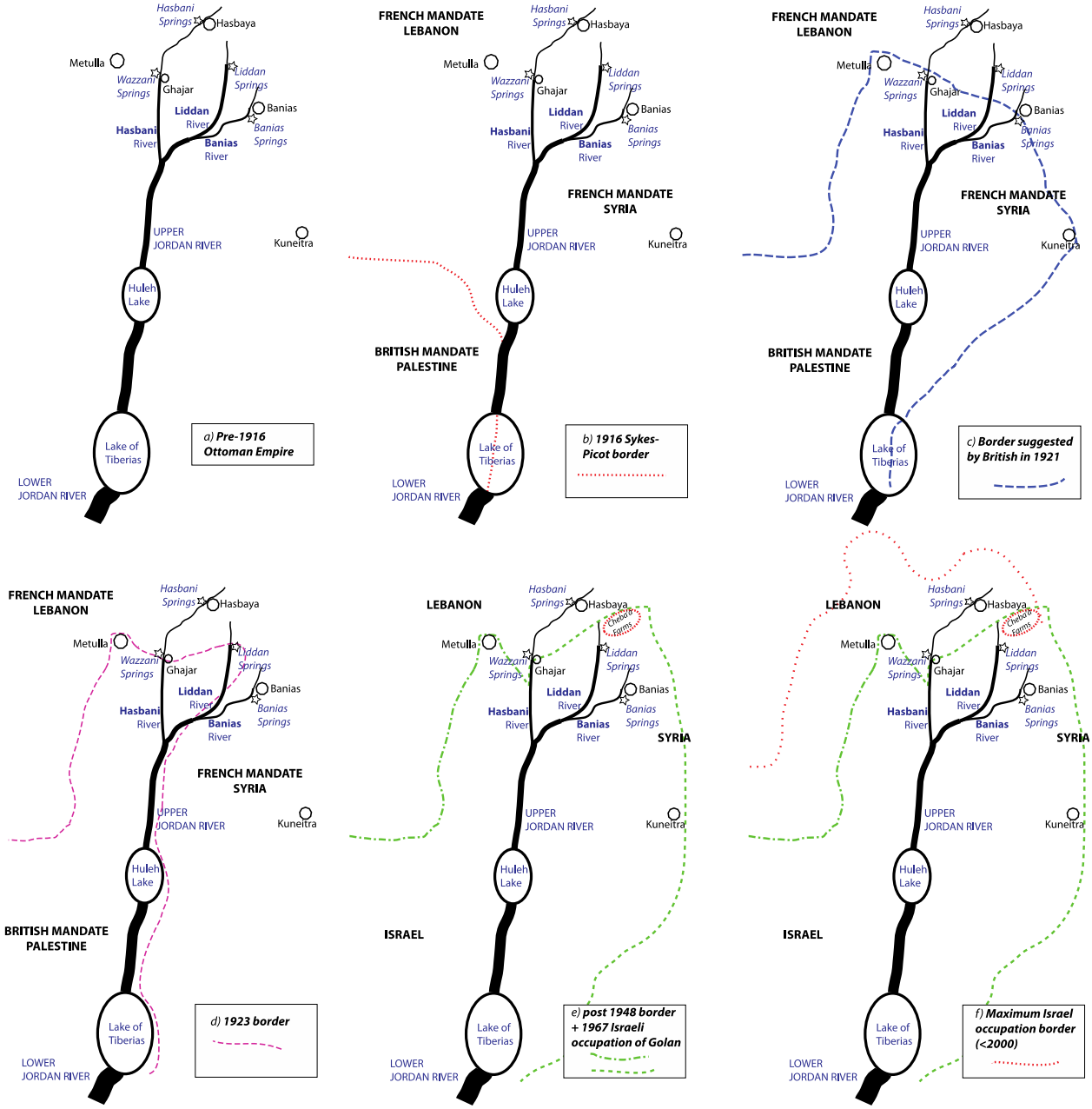
The flows and their use today

In its entirety, the Jordan River basin also includes the Yarmouk River, and the Lower Jordan River – and spans beyond its upper reaches to the culture, people and governments of Jordan and the West Bank. Bilateral agreements have fragmented water-sharing in the basin, which is highly skewed towards Syria in the case of the Yarmouk, and towards Israel in the case of the Jordan's lower reaches (Zeitoun, 2008). The *upper* reaches form part of a basin that drains into the Lake of Tiberias,[4] and counts three primary sub-basins: the Hasbani, the Liddan, and the Banias, as well as the smaller Ajoun sub-basin (Figure 2).

[3] State ownership of the Cheba'a Farms is disputed, with official Lebanese and Syrian acknowledgement that they belong to Lebanon, and Israeli contentions that they belong to Syria (and thus that Israel has fully withdrawn from Lebanese territory).

[4] Different names are used for the same bodies of water in this basin. The Lake of Tiberias is also known as the Sea of Galilee, or Lake Kinneret. The Liddan River is known as 'Dan' in both Hebrew and English (see FNA, 1921b). Mount Hermon is known as Jabal el Sheikh in Arabic. The Hasbani is known as the Hatsbani or Snir, in Hebrew. The Ajoun Stream is referred to in Arabic by Bromiley (1982: 1121) as the *Nahr Beregeith* – or 'Flea River' (see also discussion in MacGregor, 2002[1870]: 162).

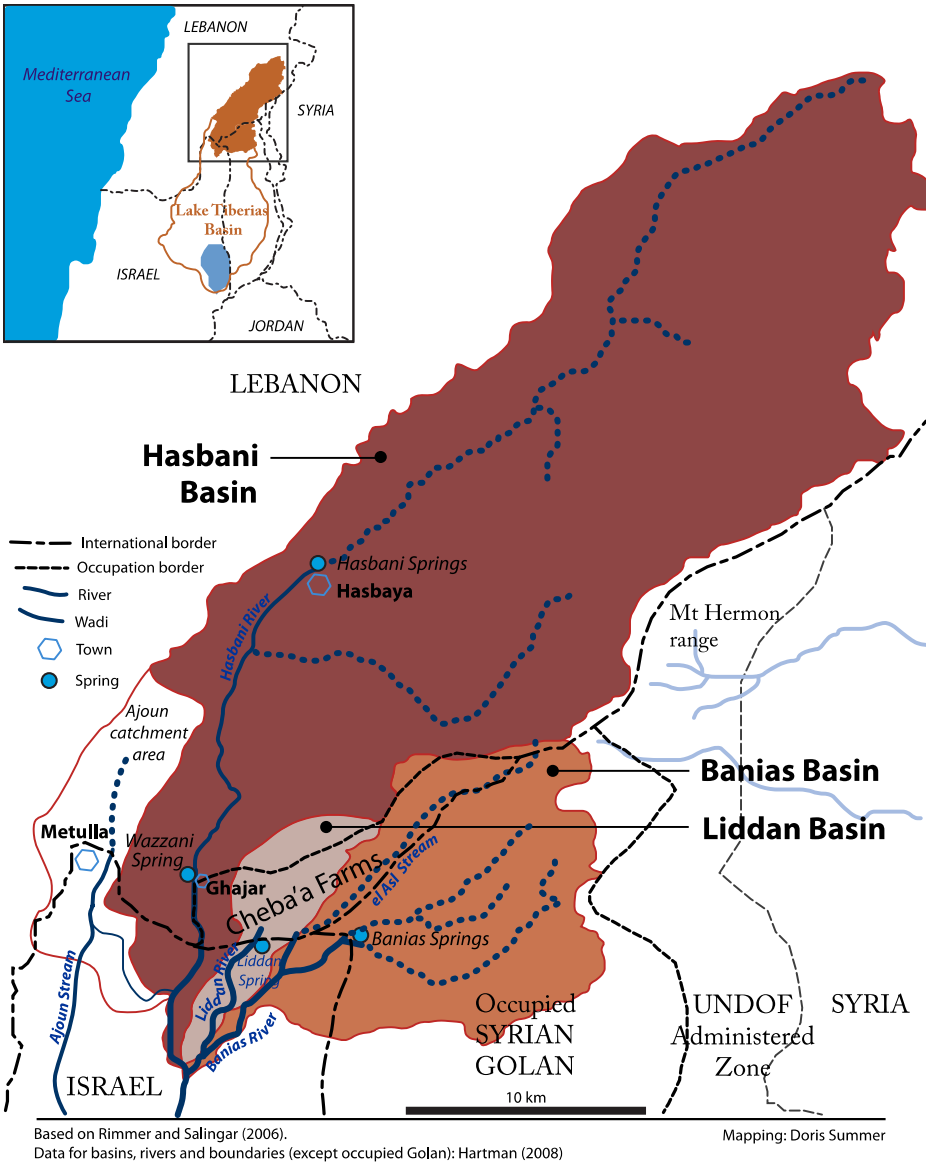
Figure 1. Sketch of water courses and borders in the Upper Jordan River basin, over time. a) pre-1916 Ottoman Empire; b) 1916 Sykes-Picot Agreement; c) suggested by British authorities in 1923; d) following the 1923 Franco-British Agreement; e) following the 1967 Israeli occupation of the Golan; f) during the 1978-2000 indirect and direct Israeli occupation of Lebanon.



The numerous tributaries that flow within the basin transmit water and sediment from the heights of Israeli-occupied Mount Hermon, which at over 2000 metres above sea level makes it a vantage point of considerable military strategic, communications, and operational value (ICG, 2002; Khalife, 2007). The flows end in the Dead Sea, at more than 400 metres below sea level. The Liddan River is the largest of the three main tributaries, and rises from the Liddan Springs just inside Israel's northernmost border. Its average annual flow varies relatively little throughout the year, and has averaged 241 Mm^3/y from 1949 to 2004 (HSI, 1977, 2004; Klein, 1998). The Hasbani River runs for about 22 km until it reaches the town of Ghajar, at which point the river's flow is essentially doubled by the addition of the river-side

Wazzani Springs, and then forms the current border between Lebanon and the Israeli-occupied Cheba'a Farms. The flow of the Hasbani varies considerably between dry summers and winter rains, and which the reconciled Lebanese and Israeli observations record an average flow of 123 Mm^3/y for the period 1949-2004 (HSI, 1977, 2004; Klein, 1998; LRA, 2011; Zeitoun et al., 2012). The Banias River is somewhat smaller and as variable, formed by a number of sub-catchments feeding seasonal streams and springs, of which the Banias Spring is the most important. The el-'Asl Stream[5] is the Banias' most northernmost seasonal source, and like the Liddan is fed by springs recharged in the Cheba'a Farms. The streams flow right beside the site of Abraham's *Covenant of the Pieces* – a site sacred in both Islam and Judaism under one interpretation as the spot where God announced to Abraham that his descendants would inherit the land between the (considerably larger) Nile and Euphrates rivers.

Figure 2. The Upper Jordan River catchment areas (composed of the Hasbani, Liddan, and Banias).



Source: Adapted from Rimmer and Salingar (2006).

[5] Also known as Wadi al 'Asl in Arabic, or Sion in Hebrew.

The same hydrological observations indicate an average flow of the Upper Jordan River at the confluence of the three rivers as 480 Mm^3/y (see also Courcier et al., 2005: Figure 9). Hydro-chemical modelling and analysis carried out by Rimmer et al. (2011) suggest that the bulk, if not all, of the recharge areas for all of the major springs in the Upper Jordan River derives from groundwater originating from rain falling in Syria and Lebanon. A very rough estimate of the Lebanon-Israel transboundary groundwater flows is given by Zeitoun et al. (2012) at 250 to 350 Mm^3/y.[6] A gross lower-end estimate of total water flowing in Israel from the Upper Jordan Basin would add a fraction of the groundwater abstractions (very approximately 40 Mm^3/y) to the inflow contribution of the Upper Jordan River (480 or about 520 Mm^3/y of which approximately 160 Mm^3/y are 'lost' to evaporation). This is roughly one-fifth of all freshwater used in Israel, which via the National Water Carrier[7] supports local irrigation, and domestic and agricultural supply on the coast and, after reuse,[8] the Negev Desert.

Use of 360 to 520 Mm^3/y of water in Israel compares very roughly with 11 Mm^3/y used in Lebanon for local irrigation and drinking water including roughly 4.4 (Zeitoun et al., 2012: 53) to 6.9 Mm^3/y (Comair, 2009: 53) from groundwater abstracted from licensed and unlicensed wells, plus roughly 4 Mm^3/y from surface water through the Wazzani Pumping Station. This is about one-fifth of Lebanon's 'legal' share (claimed informally as 50-55 Mm^3/y), and one-third of shares agreed in 1955 by Israel (but not by Lebanon) during the 'Johnston Negotiations' (35 Mm^3/y for Lebanon, approximately 615 Mm^3/y for Israel) (see Phillips et al., 2007). No water is currently used by Syria, whose land in the basin has been occupied by Israel since 1967.

The uneven distribution of water is felt in Lebanon in terms of compromised farming livelihoods and basic needs (a reliable domestic water supply), and as fuel for internal political struggles between different Lebanese parties, including Hezbollah, Amal and the Future Movement. The highly asymmetric distribution is brought up as one of the few remaining border disputes between Lebanon and Israel (e.g. Nasrallah, 2006), and reflects both the imbalance in power and a number of transformations initiated by the basin hegemon to control territory in Lebanon and Syria.

Transformations in the waterscape

British and French authorities became the focus of Zionist lobbying to get the borders of Mandate Palestine extended as far back as the First World War. French archives record how two of the Zionist groups' arguments – that the town of Metullah was required as the religious frontier of biblical Israel, and that more water was necessary to permit increased European Jewish immigration to Palestine (see CO, 1937; FO, 1937, for arguments regarding the 'absorptive capacity') – coincided with British interests in securing territory to complete the Hejaz (Mecca-Basra-Haifa) railway (FNA, 1921c, 1922). The authorities agreed the 'Huleh Concession' (FNA, 1920, 1921a, 1922), at the 1920 Franco-British Convention, which expanded the 1916 Sykes-Picot border northwards such that the Huleh Marshes just downstream of the confluence of the Upper Jordan tributaries (as well as Metullah) became part of British Mandate Palestine – see Figure 3. The adjusted border – which cleaved right through the Upper Jordan River tributaries, with the Wazzani Springs just to the north and the Liddan Springs just to the

[6] The figure is estimated based on Rimmer and Salingar (2006), Brielmann (2008), Rimmer, et al. (2011), and local observations. It is subject to significant uncertainty, given the absence of reliable precipitation data, and the unexplored groundwater recharge area, flow and percolation rates.

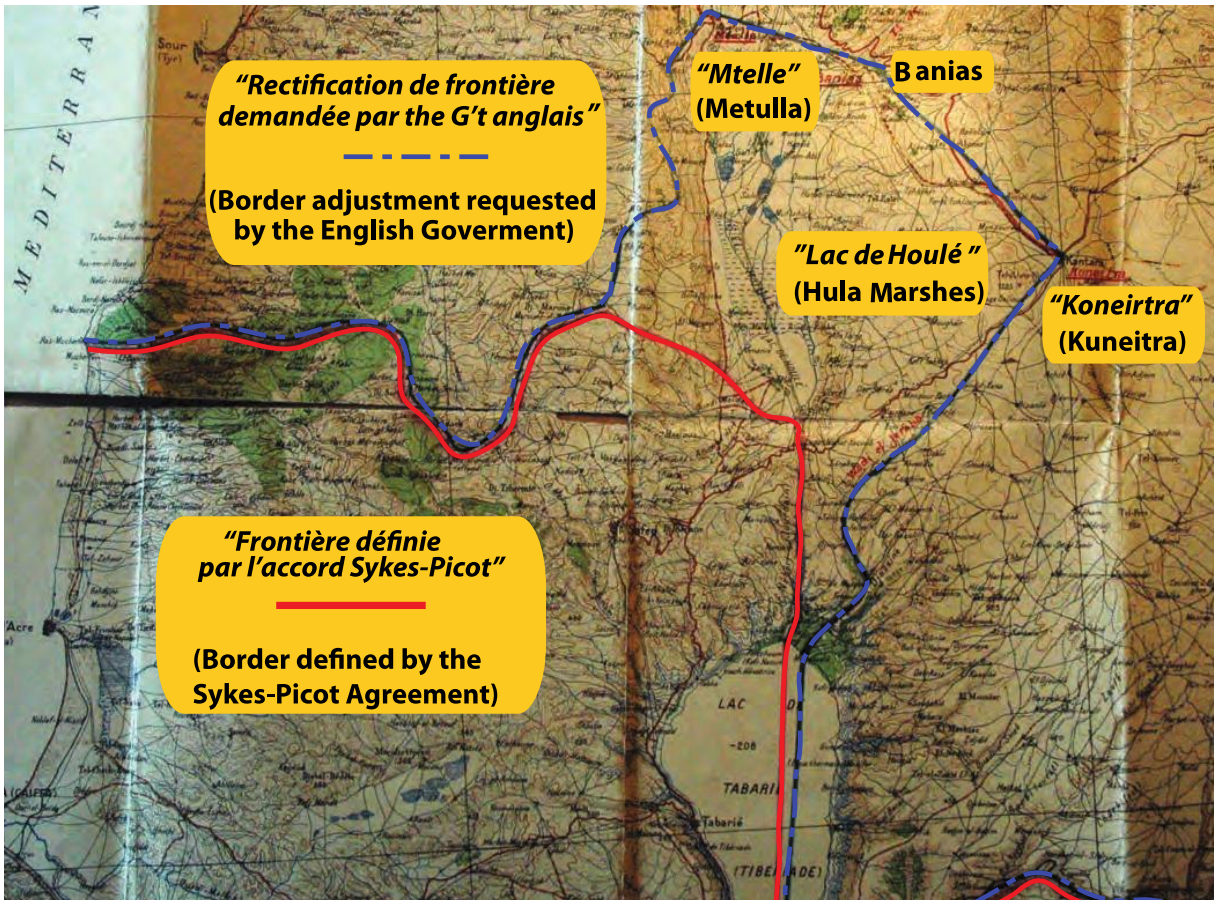
[7] The NWC has pumped an average of 340 Mm^3/y from 1969 to 1990 (HSI, 2008).

[8] Until the late 2000s the flows have also been the main source for irrigated agribusiness in the Negev Desert (about 200 km away), with many of the crops destined for export. These can thus be seen as an 'export' of the Upper Jordan River flows away from the local residents and to Europe. Most of the water currently used for irrigation in the Negev is treated wastewater (from the Shafdan wastewater treatment plant), meaning much of the Upper Jordan River freshwater is still exported out of the country, but indirectly.

south – was to endure until 1948, following further (failed) Zionist efforts to again extend Mandate Palestine's borders to include the Litani River (FO, 1920; Wolf, 1998: 227).

The ideological and commercial drivers influencing the human-environment interaction in the upper Jordan's waterscape from 1948 to the 1967 Israeli occupation of the Golan is well covered in the hydropolitical literature (see e.g. The Link, 1984, Medzini, 2001, el Musa, 1996). Harris and Alatout (2010) clarify how the development of water resources during this period was a key component of Israeli PM Ben Gurion's emphasis on the centrality of the state to help form Jewish identity ('mamlakhtiyut'). The 'hydraulic mission'[9] that the new state of Israel embarked upon was supported by a number of water master plans (e.g. Hays, 1948; Tahal, 1959), which clashed with UN and Arab League water plans generated in response to the *nakba* in order to provide water and livelihoods to the displaced Palestinian people (e.g. the 'Arab's Plan', 1954; UNRWA, 1954). This battle of the plans was followed by military skirmishes between Israel and Syria – who for nearly two decades were situated directly across from each other on either side of the river. Cross-river attacks on Israeli water projects by Syria led to the Johnston Negotiations in the 1950s (Phillips et al., 2007), and were followed in 1965 by Israeli attacks on a Syrian attempt to divert part of the Hasbani River away from Israel's newly completed National Water Carrier (Medzini, 2001: Map 6.1).

Figure 3. Hydropolitical border shift.



Source: Adapted from FNA (1922). Roughly half of the aspirational border (Metullah and the Huleh Marshes, but not Kuneitra or the rest of the Golan) became part of British Mandate Palestine – for religious, commercial and hydrological reasons.

[9] Using Allan's (2001) term. See also Molle et al., 2009, for the links between the hydraulic mission and state power.

Though control of the Upper Jordan River was not a major driver of the 1967 Six Days War,[10] Feitelson's (2000: 350) analysis asserts that Israel's takeover of the Golan (and West Bank and Gaza) "changed both the hydro-strategic relationship of Israel and her neighbours, and the power balance between them". The Israeli invasion and eventual occupation of southern Lebanon a further decade later was a northern manifestation of the changed relationship. The water rewards that came with the 1978 Israeli indirect and later direct occupation of Lebanese territory were once again not a major motive of the military action (Zeitoun et al., 2012), but the incomplete Israeli retreat in 2000 – retaining the town of Ghajar (right across from the Wazzani Springs) and the Cheba'a Farms (the recharge zone for most of the Liddan and Banias flows) – begs the question of the significance of the role that water played.

The Israeli retreat was followed by a near-war after the Lebanese government's development of a pumping station at the Wazzani Springs in 2002 for local domestic consumption. The project sparked a war of words that escalated a non-issue to one of existential importance within weeks (Zeitoun et al., forthcoming-b), and was far out of proportion with the small design capacity – 4.4 Mm^3/y[11] – of the pumps. A deadlock was beginning as the Lebanese side based their claim to develop on the principles of International Water Law and the Israeli side lobbied to preserve the status quo, though external intermediaries, the US, UN and EU (Allès, 2007), and later heavy winter rains served to reduce tensions. Completed at the end of 2002, the pumping station was damaged by Israeli forces during the 2006 Summer War, though the limited nature of the damages (it was repaired within two months) suggests they had none of the hydropolitical significance of similar attacks occurring a half-century earlier (see Zeitoun et al., forthcoming-a).

SHIFTS IN CONTROL AND USE OF WATER AND TERRITORY IN THE UPPER JORDAN WATERSCAPE

The relation between the waterscape and territorial landscape defined by the borders of the political entities in the post-First World War period could scarcely have been more direct, given the late 1930s Zionist lobbying for further expansion of Palestine partly on hydraulic grounds. While control of the water clearly accompanied territorial acquisition, of interest here is the flip side of the relation; that is, the relationship between control over water resources, and the *withdrawal* from territory. This is considered through an examination of shifts in three domains: physical control over territory, control over water flows, and use of water flows.

Shifts in (physical) control over territory

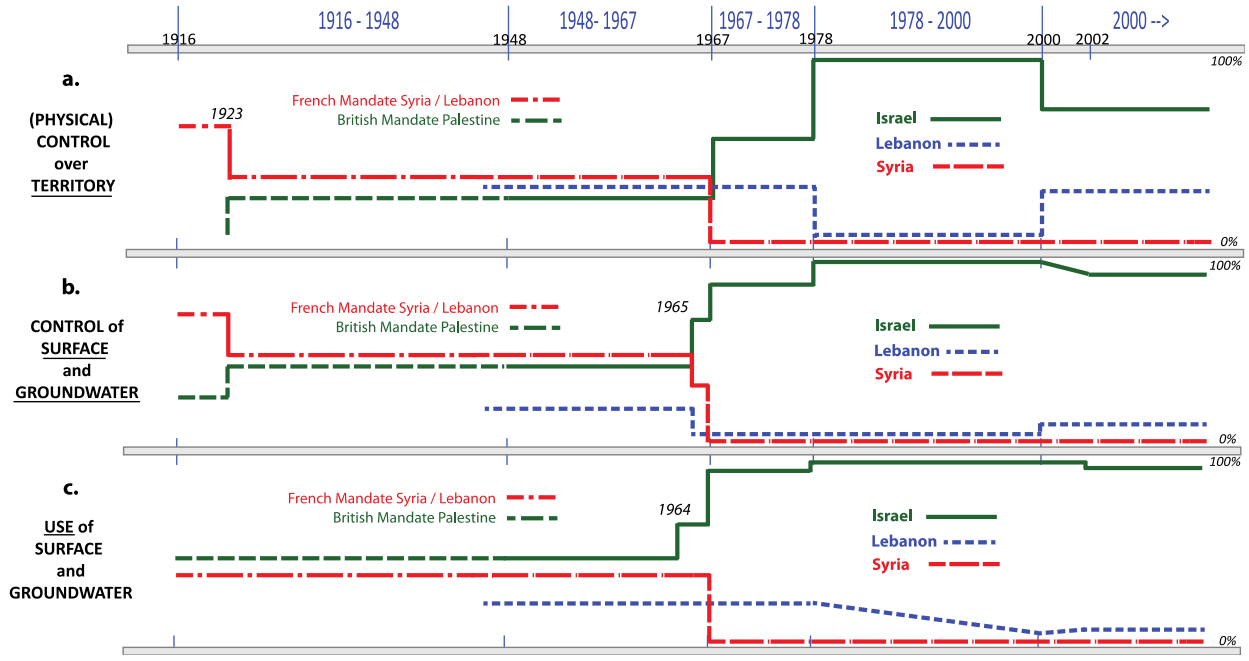
The shifts in control over territory within the Upper Jordan Basin are presented in Figure 4a, which shows this in relative terms for each country: Lebanon, Syria and Israel (or French Mandate Lebanon, French Mandate Syria and British Mandate Palestine, prior to 1943 and 1948). While Zionist lobbying failed to convince the British and French authorities to extend the borders of Palestine to include the Litani, its success in achieving the 'Huleh Concession' is indicated in Figure 4a by the drop in use in 1923 of French Mandate Syria, and the rise at British Mandate Palestine.

Israel's control of the territory jumped during 1967, with its occupation of the Golan. In the same period Lebanese control of the southeast of the country in the 1970s was undermined by the Palestine Liberation Organisation (PLO) and other Palestinian militias, and then lost with the 1978 Israeli invasion. The Israeli retreat in 2000 put the Hasbani Springs and the Wazzani Springs clearly back under the physical territorial control of Lebanon, while continuing to deny it sovereignty over the Cheba'a Farms and Ghajar.

[10] The topic has been covered extensively, in e.g. Wolf, 1998 and el Musa, 1997.

[11] A combination of poor supply of electrical power, of intermittent diesel fuel deliveries (for the stand-by generator), and a state of disrepair of the pumps means that the annual abstraction since 2002 remains much less than the design capacity – some years as low as 2.5 Mm^3/y (Anon, 2008b).

Figure 4. Relative (a) control over *territory*, (b) control over *surface water* and *groundwater*, and (c) *use* of transboundary water flows in the Upper Jordan River basin.



Control over the water flows is one of the reasons frequently cited in media opinion pieces for Israel's continued occupation of the Cheba'a Farms and Ghajar (e.g. Schiff, 2001; Daily Star, 2009). Considering the more subtle internal politics active in the waterscape, however, there is no reason to believe that control over the catchment area of the Banias and Liddan basins is simply more than one of several factors for retention of the territory. The flows' importance relative to the strategic military and religious motives may be a matter of perceptions as much as material factors though the most reliable source of water – the Liddan Springs – are located just within the Israel part of the catchment area and most of the surface and sub-surface recharge zone remains in Lebanon. On the one hand, the continued occupation of Mount Hermon and the Cheba'a Farms provides Israel full control over the entire catchment areas of the Liddan of the Banias – and thus exclusive use of, and an ability to control, the quality of those surface water flows. On the other hand, pollution from the Hasbani (from olive waste in the autumn, for instance) or into the groundwater recharge zones that lie in Lebanon remains outside direct Israeli physical control. A certain degree of control over use (but not pollution) of these flows is exerted through less direct means, as we shall see.

Shifts in control of surface water and groundwater flows

Figure 4b shows shifts in the relative control over time of Lebanon, Syria and Israel over the Upper Jordan tributaries. The figure resembles that of territorial control, at least until about 1965, after which point some important differences can be noted. Prior to the 1967 Israeli occupation of the Golan, control over, and access to, the Upper Jordan River springs was relatively equitable. That is, the Liddan Springs bubbled up from within Israel, while the Wazzani and Hasbaya Springs were fully in Lebanese control, and the Banias was under Syrian control. While Israeli territorial expansion in the 1967 war significantly changed the hydropolitical map, the relations may have in fact been altered by very material factors earlier on, with Israel's 1965 bombing in Lebanon of Syrian efforts to divert the Hasbani River. That no abstractions were attempted by Lebanese governments from that date until 2001 suggests an effectiveness of the attack, and is discussed later as deterrence through unexpressed

reputational power – as will also be discussed. Control of the flows during this period was enabled by the direct physical control of the territory.

There has not since been a single skirmish between Syria and Israel over the use of the waters since 1967 (though this must be interpreted alongside the interest the Syrian government has in the flows, which is low relative to its declared interest in the land of the Golan (ICG, 2002)). The previously discussed disassociation between control over land and control over water resources becomes apparent in Figure 4b around year 2000. The Israeli withdrawal from Lebanese territory (but not airspace) led to a gradual and steady loss in Israeli physical and deterrent control, and was followed in 2001 by Lebanese plans for minor abstraction from the Hasbani, and construction in 2002 of the Wazzani Pumping Station.

An Israeli authority directly involved in the shuttle diplomacy following flare-up of the Wazzani dispute asserts their goal was not to stop construction of the pumping station, but to establish a precedent to pre-empt further unilateral Lebanese actions on the river (Anon, 2011a). This was precisely the message the Israeli authorities passed to Lebanon through American and UN mediators[12] (Anon, 2011a,b). The threats, fear, uncertainty and diplomacy generated during the 2002 Wazzani dispute in effect served to halt that loss of Israeli control. Despite recent Lebanese master plans for the river – for the Ibl al Saqi Dam (ROL, 2008), for instance – there has been no Lebanese alterations to the waterscape. Thus we see that Lebanese use of water may have (marginally) increased following construction of the pumping station, but the government's ability to exert that control (which is discussed later to be in anticipation of Israeli reactions) has arguably decreased.

Shifts in use of surface water and groundwater flows

The relative shifts in *use* of the flows of the Upper Jordan River basin are demonstrated in Figure 4c. The representation highlights the decoupling between the use of flows and physical control over either the territory or the flows themselves; that is, between the waterscape and the territorial landscape.

The 1950s Johnston Negotiations did little to alter the relative water use of any of the riparian actors, though the completion of the National Water Carrier (NWC) in 1964 clearly did (see Zeitoun et al., 2009: Figure 3). The increased use of Upper Jordan River flows (abstracted via the NWC from the Lake of Tiberias) attracted a failed attempt of sabotage by the newly formed PLO, and Israeli withdrawals remained insecure, given the lack of full physical control over the flows.

The use of the Upper Jordan River by the Syrian governments or people has effectively ceased since 1967, while Lebanese withdrawals reduced during the occupation period along with the dismantling and suppression of the agricultural sector there[13] (see El Ezzi, 1990). Lebanese use of the Hasbani increased gradually soon after 2000 following completion of the Wazzani Pumping Station (though less than the original design capacity, due to inability to maintain it – see Footnote 11). With no discernible changes in relative use since 1964, Israeli people and governments continue to receive and use all of the water not abstracted from the waterscape upstream.

[12] Zisser (2002: 2) further substantiates this view: "Israeli spokesmen have also explained that… the problem is not the quantity of water but rather the precedent of unilateral Lebanese action on a particularly sensitive issue. Israeli decision-makers are probably also thinking about past experience, i.e., the efforts of Arab states in the early 1960s to divert the sources of the Jordan River that set in motion a chain of events culminating in the Six Day War of 1967".

[13] Except for possible local increases in adaptation to restricted movements, e.g. from the Ajoun Stream and in the plain of the foot of Marjayoun.

DISCUSSION – HEGEMONY AND POWER IN THE UPPER JORDAN WATERSCAPE

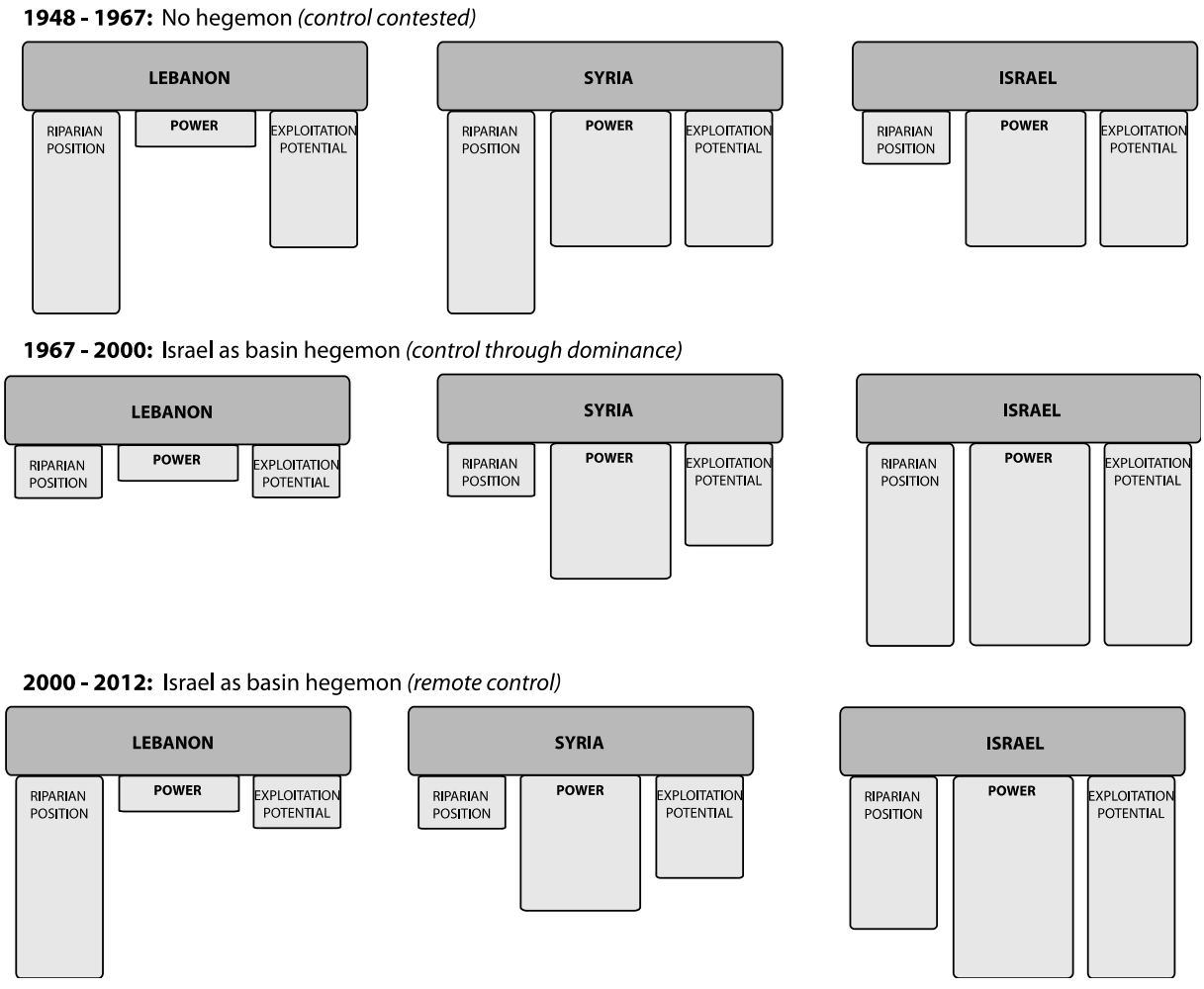
The analysis provides a number of conclusions for international waterscapes in hegemonic political contexts, particularly in terms of what forms of power are employed to maintain hydro-hegemony, and which forces are active at which scale.

Maintenance of hydro-hegemony

Figure 5 shows the movements in riparian position, exploitation potential, and 'power' of each of the state actors, which reflect interesting shifts in the hydro-hegemony established.

The upstream/downstream position that a riparian enjoys on an international watercourse is typically the most stable of the many factors that analysts of transboundary water conflicts have to consider. Interestingly, Israel's occupation since 1967 of the Golan Heights has given it the effective upstream position on the Banias, and relegated Syria to a 'no-stream' position. The occupation of Lebanon in 1978 resulted in Israel becoming the sole upstream riparian for over two decades. Currently, Lebanon is left in an upstream position, basin hegemon Israel in both midstream and downstream position, and Syria in a 'no-stream' position. As Figures 4a and 4c show, the shifts in the riparian position have had little demonstrable influence over which actor can actually make use of the flows.

Figure 5. Shifts in hydro-hegemony on the Upper Jordan River (1948-2012).



There have been no similar significant relative movements in 'exploitation potential', however. From 1948 to 1967, the potential of the governments of Lebanon, Syria and Israel to exploit the surface water or groundwater is considered roughly equal, as all sides were able to marshal well-drilling or river-diverting technology, funds and know-how. The ability of the Israeli government to exploit the flows proved the most decisive in practice, with its 1964 completion of the National Water Carrier – and this has since developed steadily and considerably (see Israel NewTech, 2011). The Lebanese governments' ability to exploit the Hasbani since the 1970s has been hampered by a number of issues in the waterscape, including lack of funds, an unstable domestic political context and internal tensions, the undermining of government authority by foreign armies and militias, an unstable international political context, and repeated Israeli destruction of infrastructure (e.g. in 1996 and especially 2006) (Hamieh and Mac Ginty, 2010; Zeitoun et al., forthcoming-a). The limited capacity is most evident following its successful construction of, but inability to maintain, the Wazzani Pumping Station.

Forms of power

The record of control of territory, and of control and use of transboundary flows, demonstrates how Israeli governments have successfully and without interruption marshalled military (power to meet their water interests in the earlier years, and other interests (with water rewards) in the later periods (middle pillars of Figure 5). This has resulted not only in the maintenance of an inequitable distribution of the flows, but in an improved effectiveness of the use of other forms of power. Recalling Budds and Hinojosa's (2012) observation that uneven socio-ecological arrangements are shaped by the convergence of capital, water and power, the observation merits further investigation.

The somewhat successful attempts by Zionist groups during the British Mandate Palestine period to control the Jordan's River flows were expressed through bargaining, lobbying, and hard power (the establishment of 'facts on the ground' through the development of the Huleh Marshes for agriculture, as an example of the latter). A similar combination of soft power supported by hard power was used with some effect by Israeli governments, from 1948 to 1967. When military might between riparian states was roughly equal, it was used by all sides to thwart diversion projects. It was the (soft) bargaining power of each side that was on display, however, during the run-up to the Johnston Negotiations, with the use of technical and diplomatic expertise to back up political positions in the 'battle of the plans' during the 1950s With the military balance of power swaying towards Israel – though at the time still very much not a fact – the completion of the National Water Carrier in 1964 and the destruction of the intended Syrian diversion of the Hasbani in 1965 can be seen in hindsight as having an enduring effect on Lebanese water use.

Israeli bargaining power was of no use and ceased following the territorial conquest of the Golan in 1967 and control of southern Lebanon indirectly and directly from 1978 to 2000. Control of the flows was clearly enabled during this period under a relation of dominance, not of hegemony (hydro, or otherwise).[14]

The Lebanese government's construction of the Wazzani Pumping Station in 2002 (the first construction on the Hasbani since 1965) certainly challenged the hydro-hegemonic order that had been established. The unofficial Israeli threats of war against Lebanon failed (but were not intended) to halt construction of the pumping station, though these threats seem to have proven effective in pre-empting any further infrastructure construction or (possibly larger) water withdrawals – even with plans for the Ibl al Saqi Dam drawn up. Lebanese officials and experts do not expect the dam project to

[14] The signing of two bilateral agreements with Jordan in 1994 and the PLO in 1995 stand as stark contrasting evidence of Israel's very effective use of bargaining power (and its establishment of hegemony) in the region. Use of the Jordan River was altered little in the treaty with Jordan, and was not up for negotiation with the PLO (and prevented from discussion in the follow-on negotiations rounds in 2000 and 2008; see Zeitoun, 2010).

be completed in the short term (Anon, 2011c), with one stating clearly "[w]hen there is peace, we will build the dam" (Comair, 2011).

The stated goal of the Israeli officials had thus been met here, apparently through power effected without its exercise, to return to Scott's phrase. The enduring asymmetric distribution and use of the flows in the decade since the dispute suggests the tussle has served to re-establish Israeli reputational power. A degree of tacit consent on the part of the Lebanese authorities is also suggested, in the sense that they may prefer not to risk their own reputations making promises of river development that would almost certainly be thwarted by Israel. Further research is required, however, to test such speculation.

In the sense that Israeli governments have managed to achieve and maintain a hydro-hegemonic relationship from a downstream position, the situation is directly comparable to the Nile dynamics discussed earlier. The deterring effect of such practice in both cases is worth deeper comparison, as would be an examination of the disintegration of Egyptian hydro-hegemony with the sudden shifts in relative power following the 2011 political revolution and creation of a new Nile state in South Sudan (Cascão, 2009b; Nicol and Cascão, 2011; El Hatow, 2012).

It is perhaps the *combination* of expressions of power that has ultimately most abetted Israeli control over the flows.[15] Lobbying, reports, and (expert) opinion worked to achieve the interests of the British Mandate Palestine Zionists, and post-1948 Israeli water planners. The same forms of soft power did not serve Lebanon or Syria to meet their interests during the Johnston Negotiations, or through the invocation of Lebanese authorities to International Water Law during the 2002 dispute.

In a similar way, Israel's 'exploitation potential' has been achieved and maintained with repeated use – or threat of use – of hard power from various riparian positions: in 1965, in 1967, and from 1979 to 2000. A further question then becomes if, and to what extent, reputational power must be reconstituted by expressions of hard power. A more theoretically informed power and perhaps environmental psychology perspective would serve to flesh out this grey area between deterrence, consent and control in the international waterscape.[16]

Lessons from, and for, the international waterscape

The analysis also allows us to draw conclusions arising from the reproduction of power and water, notably with respect to the importance of socio-economic and political factors at all levels. The conflict over water does not drive but sits within the Lebanon-Israel conflict, and is subject to domestic pressures in both countries. The significantly uneven distribution in use of the flows is a direct reflection of the asymmetry in power. The record also reveals the impressive extent to which use or control of the transboundary waters has driven the acquisition of land, as reflected over a century by the constant laying down and re-establishment of borders. Behind that drive for control of water resources are ideological forces – primarily Zionist, but also national. And beside the drive are other interests, including religious (Metullah in the first border shift, retention of the site of the *Covenant of the Pieces* in the last), commercial (the Hejaz railway, agribusiness, export of crops) and military (communications towers on the heights of Mount Hermon). Forces active in the domestic political arena have also proven themselves important. We have seen, for instance, the demonstrable effect that Zionist lobbying has had upon the negotiation by British authorities for an enlarged Palestine. Likewise, the Lebanese government's construction of the Wazzani Pumping Station can be interpreted as a tussle for political

[15] The ability to direct different forms of power towards a single goal was noted as a form of power itself, in Hindu philosophy (see Gyawali, 2006). Nye (2004) refers to 'smart power' as the blend of hard and soft power. See also Theesfeld, 2011.

[16] As James Scott (1985: 285) notes in discussing subordination and the 'weapons of the weak', there is a "massive middle ground, in which conformity is often a self-conscious strategy, and resistance is a carefully hedged affair that avoids all-or-nothing confrontation".

popularity in the south, as the river is instrumentalised by political rivals leveraging support based on its development or asymmetric use (see also Zeitoun et al., 2012). Domestic audiences may have been as much a target of the Israeli government's strong (verbal) reaction to the project as were US, EU and Lebanese policy-makers and politicians. Nuance has furthermore been added to our understanding of the relation between control over territory and control over water; that is, between the waterscape and the landscape. The retention of control over the transboundary flows and their use following the relinquishment of territory suggest – at this level of analysis – that reputational power enables 'remote' control. This form of control is a product if not the driver of the decoupling of territory and water, and a very peculiar case feature of this particular international waterscape.

Additional implications for policy and research follow from the fact that the use of power over the century has been solely for distributive ends. The fact that even "shallow cooperation" (Mirumachi, 2010: 18) has not existed in Jordan's upper reaches alone demonstrates that this is much more of a distributive conflict than one that liberal diplomacy efforts based on assumptions of equality (e.g. Waslekar, 2011) can address in order to gain any traction. In international waterscapes in hegemonic contexts, the more overtly political analytical constructivist approach is perhaps best-suited to shed some light. This observation also takes us full-circle to the findings mentioned earlier: when exploring the use and methods of control of international transboundary flows, non-territorial factors such as ideology must be considered alongside the various forms of state power that have been used to conquer.

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