

Analysing the Israel/Palestine water conflict through the lens of international law and hydro-hegemony

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Abstract

This paper explores the tensions between Israel and Palestine in their ongoing water conflict, and assesses the use of international law as a remedy for peacebuilding. I argue that the water conflict between Israel and Palestine cannot currently be alleviated through the use of the international legal system. Initially, a background of the water-related histories and geographies of both states provides insights into the skewed development of each. Then, I first argue that International Water Law (IWL), is not sufficient due to the low global signatory coverage, use of vague language, and lack of adaptive flexibility. Second, I argue that the 1995 Oslo Accords are a major obstacle in facilitating Palestinian development of the water and sanitation sector, thus also hindering cooperation with Israel. Third, I claim that in the water conflict between these two States, hydro-hegemony is more influential than international law. Finally, to accommodate the future needs of an expanding population, I explore prospects of the conflict by offering suggestions of IWL development, climate change accountability, and peacebuilding efforts.

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List of Abbreviations

IDF	Israel Defence Forces
IL	International Law
ILC	International Law Commission
IMFA	Israel Ministry of Foreign Affairs
IWL	International Water Law
JWC	Joint Water Committee
MENA	Middle East and Northern Africa region
MCM	Million cubic meters
PA	Palestinian Authority
UNHCR	United Nations Commissioner for Human Rights
UNWC	United Nations Watercourses Convention (Convention on the Law of the Non-navigational Uses of International Watercourses)
WB	The World Bank

I. Introduction

Globally, providing sufficient quality, quantity, and affordability of freshwater remains a significant challenge. As only ~2.5% of Earth's water is freshwater, it is essential that this is maintained sustainably. Studies using population projections and global climate models have shown that climate change and human activity will exacerbate water scarcity, with significant food security, environmental, and economic impacts (Alcamo, Flörke and Märker, 2007; Erzin and Hoekstra, 2014; Hoekstra, 2014; Mitchell and Zawahri, 2015; Gosling and Arnell, 2016; Distefano and Kelly, 2017). Specifically, arid regions such as MENA, are likely to see reduced rainfall and increased water scarcity (Verner, 2012). Hydrologic variability, including current and future impacts of climate change, does not see (political) boundaries; and with a continuously growing population, water scarcity is an issue that will affect all.

A growing body of research explores the relationship between transboundary water conflicts and opportunities for cooperation (Mianabadi *et al.*, 2020). The world holds over 300 transboundary river basins across ~150 sovereign states, corresponding to almost 60% of global freshwater supplies, and ~600 international aquifers (UN-Water, 2015; UN-Water and UNESCO, 2021). Historically, transboundary river basins have been the cause of many international disputes, including the Jordan, Nile, Ganges, Danube, and many others (Al-Khasawneh, 2013). While water insecurity can be the cause of many conflicts or tensions, it is also prevalent as a result of conflict (Unfried, Kis-Katos and Poser, 2022). To settle disputes and regulate shared natural resources, international treaties and institutions can be used to determine the water allocation from upstream riparian States to downstream neighbours (Benvenisti, 1996; Wouters, 1999). Globally, there are more than 3,500 water-related agreements; however, only 300 of these are related to non-navigational water uses, covering issues of water quality, quantity, and hydropower (Al-Khasawneh, 2013; Salman, 2013).

This paper will explore the tensions between Israel and Palestine in their ongoing water conflict, and assesses the use of international law as a remedy for peacebuilding. I will argue that the water conflict between Israel and Palestine cannot currently be alleviated through the use of the international legal system. Initially, a background will be provided of the water-related histories and geographies of both states. Then, I first argue that International Water Law (IWL), is not sufficient due to the low global signatory coverage, use of vague language, and lack of adaptive flexibility. Second, I argue that the 1995 Oslo Accords are a major obstacle in facilitating Palestinian development of the water and sanitation sector, consequently also hindering cooperation with Israel. Third, I claim that in the water conflict between these two States, hydro-hegemony is more influential than international law. Finally, I will explore prospects of the conflict by offering suggestions to meet future water needs of both states.

II. Background

A brief history of water in Israel and Palestine: 1870 to present

To understand the water conflict between Israel and Palestine, and the broader peacebuilding context, it is essential to provide a brief history [Figure 2]. Prior to the 1870s, Palestinian water rights were a combination of local custom and common law, in which water was considered *res nullius*, or a good shared by all (Ward, Ruckstuhl and Learmont, 2022). In the 1870s, during the Ottoman empire, water rights were codified in the *mejelle*, a civil code based on Code Napoleon, where water became a public good that was required to be licensed and regulated (Ward, Ruckstuhl and Learmont, 2022). At the San Remo conference in 1920, the Mandate for Palestine was given to the British, whose goals were led by imperial interests, particularly the Suez Canal trade route (Ward, Ruckstuhl and Learmont, 2022). The Mandate led to the early establishment of a Jewish state within the state. The 1930s saw severe inequalities in the development of water supply and sanitation services due to imbalances in investment, with Jewish enterprises having all privileges over Palestinian running waters (Ward, Ruckstuhl and Learmont, 2022). In 1944, in “Palestine, Land of Promise”, soil conservationist Lowdermilk presents an objective but reductive assessment of Palestine being a haven for Jewish settlers, revealing that if “the great undeveloped resources of these countries are properly exploited, twenty to thirty million people may live decent and prosperous lives” (Lowdermilk, 1944). Additionally, Herzl’s 1946 “The Jewish State” advocated for the Zionist movement and a vision of Jewish settlement in Palestine (Herzl, 1946). These years represented a flux of Jewish settlers into the region.

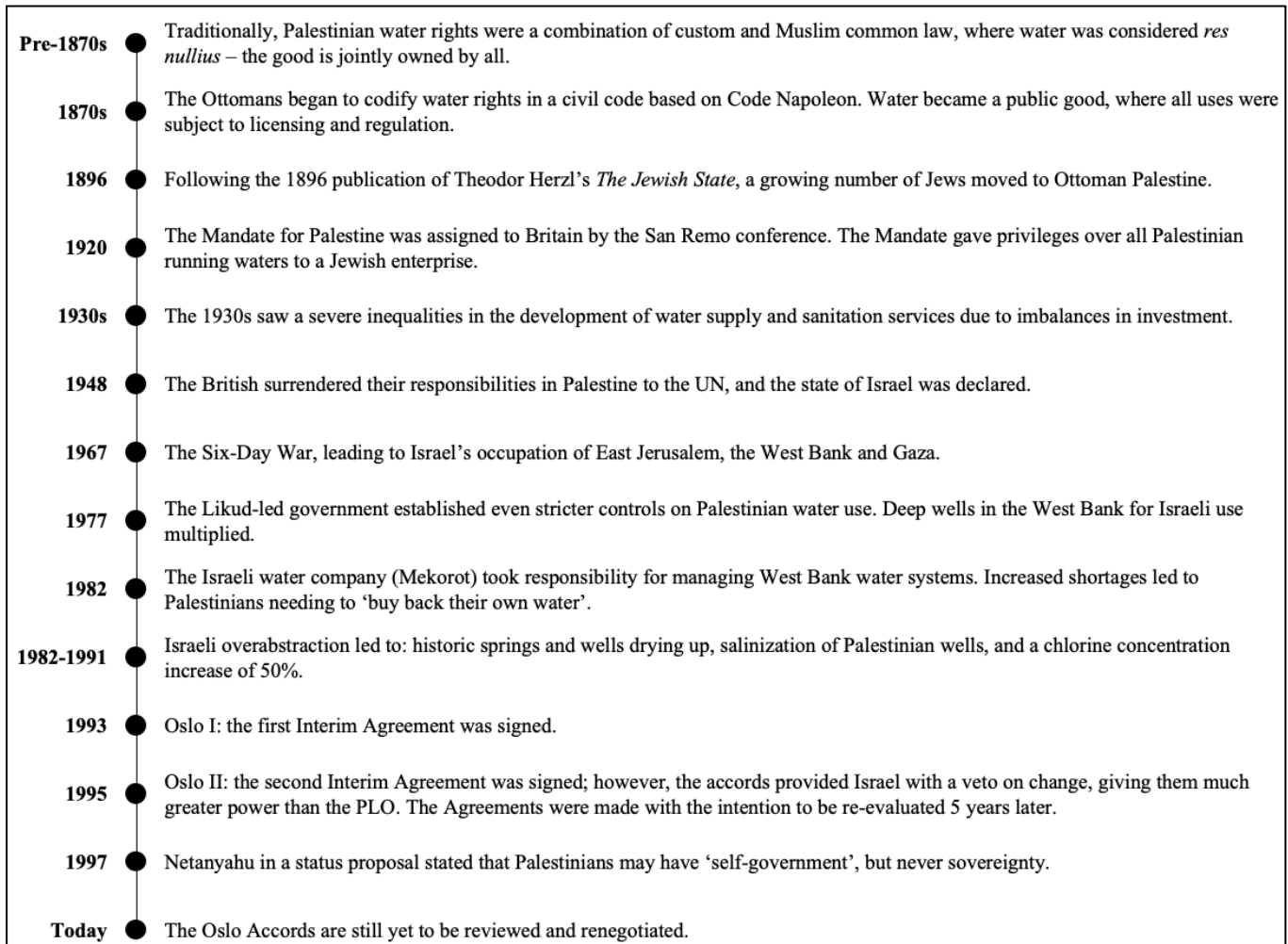
Figure 1: *Palestinian Loss of Land from 1946 to Present (American University of Beirut, no date)*



In 1948, the British surrendered their responsibilities in Palestine, after which the application to admit Israel into the UN was approved; a consequent war and decisive victory allowed Israel to acquire considerably more land than had been initially allocated [Figure 1] (Ward, Ruckstuhl and Learmont, 2022). Israel then established a national water carrier, Mekorot, to convey water from main sources of water supply to agricultural, municipal, and industrial customers (WB, 2009). By 1967, Israel had established the most integrated water system in the world, with water connections from both the Jordan River Basin and the Mountain Aquifers under the West Bank (Ward, Ruckstuhl and Learmont, 2022). This same year saw the 1967 Six-Day War, which led to Israel's occupation of East Jerusalem, the West Bank and Gaza, including water resources (Ward, Ruckstuhl and Learmont, 2022). In 1982, Mekorot took responsibility for managing West Bank water systems, but increased shortages led to Palestinians needing to "buy back their own water" (Ward, Ruckstuhl and Learmont, 2022). Further overabstraction by the Israelis in the next decade led to historic springs drying up, salinisation of wells, and a 50% increase in chlorine concentration; what was initially conceived as a severe drought was, in 1990, confirmed to be a case of 25 years of poor management by Israeli government, having severe consequences for riparian neighbours (Schwartz, 1991; Ward, Ruckstuhl and Learmont, 2022).

In 1993, the first Interim Agreement (Oslo I) was signed between Israel and Palestine. The agreement would constitute Israeli withdrawal from Gaza and Jericho, and a transfer of civil administration of those regions to the Palestine Liberation Organization (PLO). By this time, the Israeli state occupied over half of the West Bank through military zones or settlement areas (Ward, Ruckstuhl and Learmont, 2022). In addition, over 100,000 Jews had illegally settled in the occupied West Bank (Ward, Ruckstuhl and Learmont, 2022). The second Interim Agreement (Oslo II) was signed in 1995 by both parties, but the Israeli side achieved a veto on change, providing the autonomy to make future negotiations conditional on the implementation of Oslo II (Ward, Ruckstuhl and Learmont, 2022). Additionally, the Agreement was only meant to hold for 5 years, but in fact still stands. The details of the agreement, particularly of Article 40 dealing with water and sewage, will be discussed in the next chapter.

Figure 2: Visual representation of the history of water between Israel and Palestine



Water geography of the Jordan River basin and Mountain Aquifers

The Jordan River basin is shared by 5 riparian States: Lebanon, Syria, Israel, Jordan, and Palestine; however, Palestine does not share the river itself. There are two main systems: the Jordan River [Figure 3] and the Mountain Aquifer system, which sits primarily under the West Bank [Figure 4]. This is an oversimplified summary of the main geophysical components of the system, but provides the physical context to the legal discussion. Furthermore, although the water is shared by 5 States, the next sections will focus on water sharing between Israel and Palestine.

Figure 3: Map of the Jordan River Basin (ARIJ - <https://water.fanack.com/palestine/water-resources/>)



Figure 4: Map of the Mountain Aquifer system (UNEP <https://water.fanack.com/palestine/water-resources/>)



III. The Israel/Palestine water conflict

The UN Watercourses Convention as an ineffective tool for conflict resolution

Currently, IWL, specifically the UN Watercourses Convention (UNWC), is an ineffective tool for managing the water conflict between Israel and Palestine due to its low global signatory coverage, use of weak and vague language, and lack of adaptive flexibility. International environmental law is used to settle disputes regarding natural resources shared by States across boundaries, which can come in the form of direct agreements (bilateral/multilateral treaties) or joint commissions to share governing authority (Smith, 1949). This type of legal system focuses on States rather than individuals, using a ‘horizontal legal system’ that lacks centralised law enforcement (Malanczuk, 1997). The field of IWL is relatively recent; in 1949, Smith wrote that in the case of a dispute, States themselves must seek settlement in an agreed tribunal, but that this form of resolution was “obviously little more than a gamble unless there are clear and accepted rules of law” (Smith, 1949). Although codification processes have led to major developments in IWL, the sentiment of Smith’s statement still holds.

In 1970, the UN identified the need for clearer rules surrounding transboundary water management, and recommended that the International Law Commission (ILC) “take up the study of the law of the non-navigational uses of international watercourses with a view to its progressive development and codification”

in the UN GA Res 2669 (XXV) (UN, 1970). The ILC consequently spent three decades codifying the rules for international watercourses in the form of the UNWC, which was based on a combination of state practice, previous treaties, and regional treaties (Wouters, 1999; Boisson de Chazournes, Leb and Tignino, 2013).

The 1997 UNWC only entered into force in 2014, after 35 parties had ratified, and currently still has low global coverage. It is often upstream States that abstain “out of fear of limiting the freedom of their own activities on the watercourse” (Wouters, 1999). At the basin level, observing the Tigris and Euphrates, Syria and Iraq are signatories, while the upstream State, Turkey, has not signed [Figure 5]. Similarly, in the Jordan River basin, Jordan, Lebanon and Palestine are signatories, and Israel has not [Figure 5].

Figure 5: Parties to the 1992 and 1997 Convention on the Law of the Non-navigational Uses of International Watercourses, Middle East Region (Meyer, 2017)



In the 1997 UNWC, Articles 5-7 are of particular importance. However, there remains a lack of common understanding of the language of the Convention, making it insufficient to deal with the complexity of water disputes (Al-Khasawneh, 2013; Grey and Garrick, 2013). Article 5 outlines the need for watercourse States to use international watercourses in an “equitable and reasonable manner”, but there are no clear definitions for “equitable” and “reasonable” (UN ILC, 1997). Next, Article 6 identifies factors relevant to “equitable and reasonable utilisation”, ranging from geographic, social, economic, and conservation factors (UN ILC, 1997). Both “existing and potential uses” are included, meaning future uses must be accounted for, yet this contradicts with the inflexibility of the Convention itself. It is currently estimated that almost ~10% of Palestinians have access to less than 50L of water per day, which is well below the 100L recommendation by the WHO (UNHCR, 2021). Further, Article 7 is the “obligation not to cause significant harm”, where States who may harm must consult with the affected States to either

eliminate the harm or discuss compensation (UN ILC, 1997). This Article was a big obstacle in preventing States from signing and ratifying the agreement (Grey and Garrick, 2013). The dispute settlement options are outlined in Article 33 of the convention; however, diplomatic options are prioritised over adjudication (UN ILC, 1997). In the case of advancing negotiations, the parties “may jointly seek the good offices of ... a third party”, it is therefore not possible to seek arbitration unilaterally (UN ILC, 1997). Finally, the lack of enforceability is a key factor that currently limits the capabilities of IWL (Zeitoun, 2008).

In summary, four guiding principles have been outlined: watercourse States must peacefully prevent and resolve water disputes, provide and offer “equitable and reasonable use” of shared water resources, take all measures to avoid causing significant harm, and must notify affected States when implementing a new or adjusted use of shared watercourses (McCaffrey, 2019). These overarching principles form a normative platform for cooperation, but are currently still insufficient as a legal mechanism in the Israel/Palestine water conflict (Zhao *et al.*, 2021).

The hindrance of the 1995 Oslo Accords in allowing Palestinian development

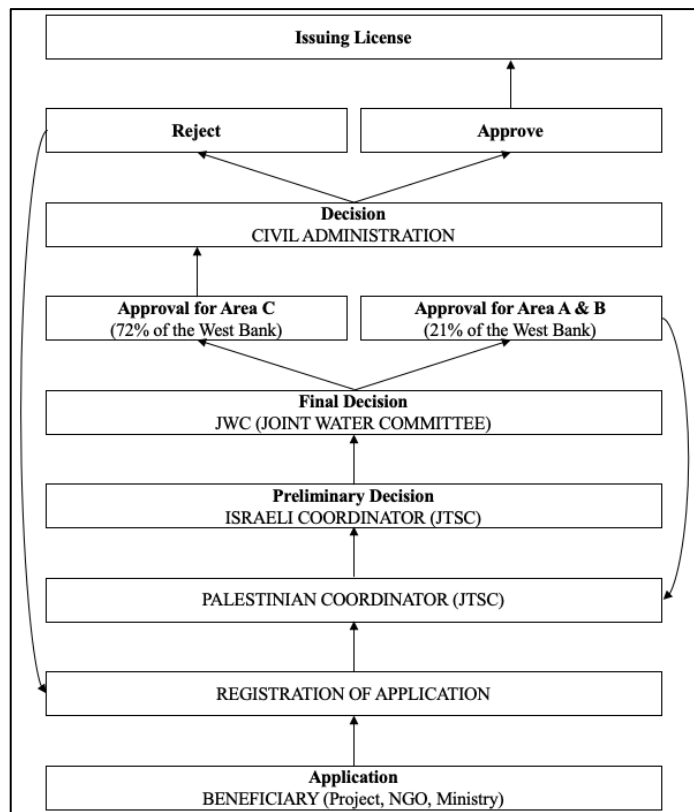
The 1995 Oslo Accords, as briefly outlined previously, were intended to be an Interim Agreement between Israel and Palestine regarding numerous topics, and would be renegotiated in the permanent status negotiations after 5 years. To date, the Interim Agreement still stands, leaving Palestine in a vulnerable position. The Agreement is a major obstacle in facilitating Palestinian development of the water and sanitation sector, thus hindering cooperation with Israel. The legal roots of the water conflict stem from Article 40, which outlines agreements for water and sewage (IMFA, 1995) [Appendix 1]. Many aspects of Article 40 are contested, primarily due to their unexpected long-lasting impact, over 25 years on.

The Agreement resulted in the separation of the West Bank into areas A, B, and C, where Area A is governed by the Palestinian Authority (PA), Area B sees partial governance by the PA and Israeli military rule, and Area C is fully governed by Israel [Appendix 2]. The ABC mosaic creates major difficulties in facilitating water infrastructure development projects, as Palestinian governance occurs on Area C “islands”. Initially, Article 40 was seen as a form of “exemplary cooperation” over water resources, as the text offers glimpses of language on sustainability (both quality and quantity) (40.3a), water quality (40.3b, f), avoiding harm (40.3e, h), inter-annual variability (40.3a, c, d), and an integrated approach (40.3g, i) (IMFA, 1995). In fact, the Agreement was far from exemplary, assigning water allocations to Palestinians that were scarcely more than in 1967 (70-80 MCM per year), meeting about a quarter of their requirements (IMFA, 1995). The Agreement does not account for population growth, and therefore water withdrawals per head of the Palestinian population has been declining, and is less than 25% of that available to Israelis (WB,

2009). A third of communities still lack access to network services, often paying high prices for poor quality water from unconnected springs, cisterns or tankers (WB, 2009). Not only does the Agreement fail to account for population growth, but also does not include clauses regarding climate variability, a component that is strongly emphasised (Fischhendler, 2004).

Major constraints on Palestinian development stem specifically from the permanent Joint Water Committee (JWC). The JWC was intended to manage water and sewage related issues in the West Bank, including coordinated management, protection, laws and regulations, enforcement, dispute settlement, and water sharing agreements (IMFA, 1995). However, the JWC does not function as a joint institution due to inherent asymmetries in power, capacity, and interests (WB, 2009). The JWC carries structural inequities that provide the IDF with a final say over Area C (78% of the West Bank), leaving only Areas A and B (21% of the West Bank) being subject to a formally symmetrical authority [Figure 6] (Zeitoun, 2008). All new water development projects in the West Bank require JWC approval, but Israel’s power has blocked many Palestinian attempts (WB, 2009). Specifically, 106 water projects and 12 wastewater projects are still awaiting JWC approval, which would have benefited 1.1 million and 800,000 people, respectively (WB, 2009). Selby has usefully asserted the JWC as a form of “dressing up domination as ‘cooperation’”, which has deemed to be extremely ineffective in providing “equitable and reasonable” water rights to Palestinians, and beyond that, serves as a further instrument of control (Selby, 2003).

Figure 6: The JWC – Project Licensing Procedure (adapted from Zeitoun, 2008)



Without permanent status negotiations and an updated Agreement, the West Bank will not have equitable access to water resources, both from the Jordan River basin and the Mountain Aquifers. With a growing population, Article 40 of the Interim Agreement is not sufficient in facilitating cooperation between the two States and has proven inequitable (UNHCR, 2021).

Israeli hydro-hegemony: regional domination of water resources

In the water conflict between Israel and Palestine, I argue that hydro-hegemony is more influential than the role international law currently plays. When analysing cooperation on international rivers, especially those with political tension, international relations must be taken into account (Grey and Garrick, 2013). In 1987, Strange noted that “the outcomes in an international society that has no legitimate, overriding authority are necessarily determined by relationships of power and far less by law, custom or social convention than is the case within national societies” (Strange, 1987). It would therefore be unwise to analyse this water conflict without considering the power asymmetry at play.

The Framework of Hydro-hegemony was advanced by Zeitoun, who aimed to systematically theorise its concepts (Zeitoun and Warner, 2006; Zeitoun and Allan, 2008). In doing so, a spectrum of control and forms of hydro-hegemony are used to observe the influence of power relations on water conflicts [Figure 7] (Woodhouse and Zeitoun, 2008). In the case of a hegemon with a less ‘benign’ form of hydro-hegemony, it is likely that the principles of IWL will be largely neglected, and that cooperation relies more on power (Woodhouse and Zeitoun, 2008). On this spectrum, Israel is classified as a ‘dominative’ hydro-hegemon, thus with low adherence to the principles of IWL (Woodhouse and Zeitoun, 2008).

Figure 7: “Forms of Hydro-hegemony, based on the outcome for the non-hegemonic State and degree of control shared by the hegemon” (Woodhouse and Zeitoun, 2008)

	Outcome (for Non-hegemon)	Control shared (by Hydro-hegemon)	Form of Hydro-hegemony
↑	Good	Significant	'Benign'
	Neutral	Some	Neutral
	Poor	Selective	Restrictive
	Very poor	Minimal	Obstructive
↓	Extremely poor	None	Dominative Oppressive

There is a grey area relating to the role of overt and covert coercion in water conflicts. In the 1969 Vienna Convention, Articles 51 and 52 restrict the use of coercion of a representative of a state or a state itself by the threat or use of force, referring to the use of overt coercion, neglecting reference to covert coercion (UN ILC, 1969). Despite this, Israel has still used overt power tactics in maintaining its status. For example, an attack on the municipality of Jenin in 2002 caused massive destruction on wells, severely impacting residents of the area (Zeitoun, 2008). Similarly, a recent UNHCR report found that of the 849 structures that were destroyed by Israel in the West Bank in 2020, 84 were for Water and Sanitation (UNHCR, 2021). Alongside attacks, the construction of the ‘separation wall’, IDF patrol roads and electronic surveillance, are another way in which Israel physically separates Palestinians from Israelis, while blocking access to vital water resources [see red line in Appendix 2] (Zeitoun, 2008).

Covertly, Israel has maintained control over water resources through its hegemonic position within the JWC. Due to the structural imbalance discussed in the previous section, Israel has often rejected Palestinian requests for new wells, water rights, and meetings to discuss issues (Zeitoun, 2008). In contrast, issues raised by the Israeli side are never truly opened for discussion (Zeitoun, 2008). Additionally, Israel’s government has continuously approved thousands of construction plans in Jewish settlements in the occupied West Bank since 1967, restricting Palestinian access to resources (Allegra and Maggor, 2022).

Future needs

IL is currently an ineffective mechanism for resolving the water conflict between Israel and Palestine, due to the weakness of IWL, embedded inequities of Article 40, and Israel’s position as hydro-hegemon. As of 2020, water availability, quality, accessibility, and affordability in the West Bank were extremely poor (UNHCR, 2021). For example, in Area C of the West Bank, Palestinians must pay six times the national price for water (UNHCR, 2021). Looking ahead, changes are necessary to accommodate the needs of an expanding population. Three main future challenges can be categorised under IWL development, climate change accountability, and peacebuilding efforts.

IWL, as earlier described, still has issues of vague and uncertain language. To improve it as a legal tool, scholars note the need for improving written (treaty) law in order to increase the number of parties to the UNWC, or to observe State behaviour for wider acceptance of customary law (Woodhouse and Zeitoun, 2008). Generally, a key improvement will come from creating shared definitions in order to establish a common understanding amongst riparians, specifically with regards to Articles 5 (“equitable and reasonable

utilisation”) and 7 (“do no significant harm”) of the UNWC (Grey and Garrick, 2013). The further development of IWL will ideally allow for improved means to manage international water disputes.

Climate change is creating increased uncertainty for water security, on a global scale. However, current legal structures do not have the adaptive capacity to account for such changes. Fischhendler emphasises the importance of considering water variability caused by climate change or by human actions when drafting agreements (Fischhendler, 2004). This can be done through an ‘escape-clause mechanism’, to be used in extreme scenarios, allowing riparian States suffering from drought to reduce the required allocation to neighbours; however, this is strongly opposed by downstream riparians who will consequently receive less water (Koremenos, Lipson and Snidal, 2001; Fischhendler, 2004). An alternative is to allocate water based on a certain percentage of flow rates, so that riparians receive a relative amount to meteorological conditions (Fischhendler, 2004). A final alternative is to provide joint institutions with control over separate parts of the hydrological cycle, including surface water and groundwater, in order to offer more flexibility during crises (Feitelson, 2000). Overall, it is essential that climate change clauses or accountability become commonplace when riparian States make water sharing agreements.

The Israel-Palestine conflict currently remains unstable having myriad impacts on citizens’ access to water resources. A renegotiated permanent agreement does not necessarily equate to a resolved water conflict, as we have seen that Israel’s role as hydro-hegemon plays a more powerful role in maintaining control than do the current Oslo Accords. Zeitoun suggests that water sector improvements may only be possible through a broader political shift away from its current asymmetrical form (Zeitoun, 2008). In addition, a massive restructuring of the JWC is needed to create more balanced governance (Zeitoun, 2008; UNHCR, 2021). Overt improvements would include proper data sharing and jurisdiction over water resources, but it seems as though this is far from possible (Zeitoun, 2008). Furthermore, external pressures from the international community must be activated to condemn Israeli behaviour in the conflict. The UNHCR recommends that the Government of Israel stops extracting water resources for its own benefit without addressing Palestinian needs, reduces water exploitation in Palestine, stops the destruction of water infrastructure, and renegotiates prior agreements (Oslo II), especially given the consequences of climate change and population growth (UNHCR, 2021). However, seeing as Israel has not responded to the OHCHR’s request to provide information on realised or envisaged actions to ensure equitable drinking water access to the Occupied Palestinian Territory, it seems unlikely that they are prepared to open this discussion (UNHCR, 2021).

V. Conclusion

Globally, water security for all should be a non-negotiable human right, and conflict-affected regions need not be the exception. From the initial occupation in 1948, Israel has abrogated Palestinian access to land and water resources in order to achieve its hegemonic status in the Jordan River basin. The water conflict between Israel and Palestine has continuously worsened over the last decades. Where many global water disputes have been settled through the use of legal instruments, international law has proven to be ineffective in managing this particular conflict for three primary reasons. Firstly, IWL has been unsuccessful due to low global signatory coverage, use of vague language, and lack of adaptive flexibility. Second, the 1995 Oslo Accords have hindered Palestinian development due to the structural inequities shaped by the JWC and inadequate water allocation agreements. Third, Israel's position as hydro-hegemon has shown to overpower the principles of IWL. In the future, IWL definitions must be made more specific, climate change needs to be accounted for in transboundary agreements, and Israel and Palestine must renegotiate permanent agreements, including a drastic restructuring of the JWC.

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Appendices

Appendix I: Article 40 of Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip (Oslo II) (IMFA, 1995)

Article 40: Water and Sewage

On the basis of good-will both sides have reached the following agreement in the sphere of Water and Sewage:

Principles

1. Israel recognizes the Palestinian water rights in the West Bank. These will be negotiated in the permanent status negotiations and settled in the Permanent Status Agreement relating to the various water resources.
2. Both sides recognize the necessity to develop additional water for various uses.
3. While respecting each side's powers and responsibilities in the sphere of water and sewage in their respective areas, both sides agree to coordinate the management of water and sewage resources and systems in the West Bank during the interim period, in accordance with the following principles:
 - a. Maintaining existing quantities of utilization from the resources, taking into consideration the quantities of additional water for the Palestinians from the Eastern Aquifer and other agreed sources in the West Bank as detailed in this Article.
 - b. Preventing the deterioration of water quality in water resources.
 - c. Using the water resources in a manner which will ensure sustainable use in the future, in quantity and quality.
 - d. Adjusting the utilization of the resources according to variable climatological and hydrological conditions.
 - e. Taking all necessary measures to prevent any harm to water resources, including those utilized by the other side.
 - f. Treating, reusing or properly disposing of all domestic, urban, industrial, and agricultural sewage.
 - g. Existing water and sewage systems shall be operated, maintained and developed in a coordinated manner, as set out in this Article.
 - h. Each side shall take all necessary measures to prevent any harm to the water and sewage systems in their respective areas.
 - i. Each side shall ensure that the provisions of this Article are applied to all resources and systems, including those privately owned or operated, in their respective areas.

Transfer of Authority

4. The Israeli side shall transfer to the Palestinian side, and the Palestinian side shall assume, powers and responsibilities in the sphere of water and sewage in the West Bank related solely to Palestinians, that are currently held by the military government and its Civil Administration, except for the issues that will be negotiated in the permanent status negotiations, in accordance with the provisions of this Article.
5. The issue of ownership of water and sewage related infrastructure in the West Bank will be addressed in the permanent status negotiations.

Additional Water

6. Both sides have agreed that the future needs of the Palestinians in the West Bank are estimated to be between 70 - 80 mcm/year.

7. In this framework, and in order to meet the immediate needs of the Palestinians in fresh water for domestic use, both sides recognize the necessity to make available to the Palestinians during the interim period a total quantity of 28.6 mcm/year, as detailed below:

a. Israeli Commitment:

- (1) Additional supply to Hebron and the Bethlehem area, including the construction of the required pipeline - 1 mcm/year.
- (2) Additional supply to Ramallah area - 0.5 mcm/year.
- (3) Additional supply to an agreed take-off point in the Salfit area - 0.6 mcm/year.
- (4) Additional supply to the Nablus area - 1 mcm/year.
- (5) The drilling of an additional well in the Jenin area - 1.4 mcm/year.
- (6) Additional supply to the Gaza Strip - 5 mcm/year.
- (7) The capital cost of items (1) and (5) above shall be borne by Israel.

b. Palestinian Responsibility:

- (1) An additional well in the Nablus area - 2.1 mcm/year.
- (2) Additional supply to the Hebron, Bethlehem and Ramallah areas from the Eastern Aquifer or other agreed sources in the West Bank - 17 mcm/year.
- (3) A new pipeline to convey the 5 mcm/year from the existing Israeli water system to the Gaza Strip. In the future, this quantity will come from desalination in Israel.
- (4) The connecting pipeline from the Salfit take-off point to Salfit.
- (5) The connection of the additional well in the Jenin area to the consumers.
- (6) The remainder of the estimated quantity of the Palestinian needs mentioned in paragraph 6 above, over the quantities mentioned in this paragraph (41.4 - 51.4 mcm/year), shall be developed by the Palestinians from the Eastern Aquifer and other agreed sources in the West Bank. The Palestinians will have the right to utilize this amount for their needs (domestic and agricultural).

8. The provisions of paragraphs 6-7 above shall not prejudice the provisions of paragraph 1 to this Article.

9. Israel shall assist the Council in the implementation of the provisions of paragraph 7 above, including the following:

- a. Making available all relevant data.
- b. Determining the appropriate locations for drilling of wells.

10. In order to enable the implementation of paragraph 7 above, both sides shall negotiate and finalize as soon as possible a Protocol concerning the above projects, in accordance with paragraphs 18 - 19 below.

The Joint Water Committee

11. In order to implement their undertakings under this Article, the two sides will establish, upon the signing of this Agreement, a permanent Joint Water Committee (JWC) for the interim period, under the auspices of the CAC.

12. The function of the JWC shall be to deal with all water and sewage related issues in the West Bank including, inter alia:

- a. Coordinated management of water resources.
- b. Coordinated management of water and sewage systems.
- c. Protection of water resources and water and sewage systems.
- d. Exchange of information relating to water and sewage laws and regulations.
- e. Overseeing the operation of the joint supervision and enforcement mechanism.
- f. Resolution of water and sewage related disputes.

- g. Cooperation in the field of water and sewage, as detailed in this Article.
 - h. Arrangements for water supply from one side to the other.
 - i. Monitoring systems. The existing regulations concerning measurement and monitoring shall remain in force until the JWC decides otherwise.
 - j. Other issues of mutual interest in the sphere of water and sewage.
13. The JWC shall be comprised of an equal number of representatives from each side.
14. All decisions of the JWC shall be reached by consensus, including the agenda, its procedures and other matters.
15. Detailed responsibilities and obligations of the JWC for the implementation of its functions are set out in Schedule 8.

Supervision and Enforcement Mechanism

16. Both sides recognize the necessity to establish a joint mechanism for supervision over and enforcement of their agreements in the field of water and sewage, in the West Bank.
17. For this purpose, both sides shall establish, upon the signing of this Agreement, Joint Supervision and Enforcement Teams (JSET), whose structure, role, and mode of operation is detailed in Schedule 9. Water Purchases
18. Both sides have agreed that in the case of purchase of water by one side from the other, the purchaser shall pay the full real cost incurred by the supplier, including the cost of production at the source and the conveyance all the way to the point of delivery. Relevant provisions will be included in the Protocol referred to in paragraph 19 below.
19. The JWC will develop a Protocol relating to all aspects of the supply of water from one side to the other, including, inter alia, reliability of supply, quality of supplied water, schedule of delivery and off-set of debts.

Mutual Cooperation

20. Both sides will cooperate in the field of water and sewage, including, inter alia:
- a. Cooperation in the framework of the Israeli-Palestinian Continuing Committee for Economic Cooperation, in accordance with the provisions of Article XI and Annex III of the Declaration of Principles.
 - b. Cooperation concerning regional development programs, in accordance with the provisions of Article XI and Annex IV of the Declaration of Principles.
 - c. Cooperation, within the framework of the joint Israeli-Palestinian-American Committee, on water production and development related projects agreed upon by the JWC.
 - d. Cooperation in the promotion and development of other agreed water related and sewage-related joint projects, in existing or future multi-lateral forums.
 - e. Cooperation in water-related technology transfer, research and development, training, and setting of standards.
 - f. Cooperation in the development of mechanisms for dealing with water-related and sewage related natural and man-made emergencies and extreme conditions.
 - g. Cooperation in the exchange of available relevant water and sewage data, including:
 - (1) Measurements and maps related to water resources and uses.
 - (2) Reports, plans, studies, researches and project documents related to water and sewage.
 - (3) Data concerning the existing extractions, utilization and estimated potential of the Eastern, North-Eastern and Western Aquifers (attached as Schedule 10).

Protection of Water Resources and Water and Sewage Systems

21. Each side shall take all necessary measures to prevent any harm, pollution, or deterioration of water quality of the water resources.
22. Each side shall take all necessary measures for the physical protection of the water and sewage systems in their respective areas.
23. Each side shall take all necessary measures to prevent any pollution or contamination of the water and sewage systems, including those of the other side.
24. Each side shall reimburse the other for any unauthorized use of or sabotage to water and sewage systems situated in the areas under its responsibility which serve the other side.

The Gaza Strip

25. The existing agreements and arrangements between the sides concerning water resources and water and sewage systems in the Gaza Strip shall remain unchanged, as detailed in Schedule 11

Appendix 2: West Bank Access Restrictions, June 2020 (UNOCHA, 2020)

