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On the Cusp of Water War:

A Diagnostic Account of the Volatile Geopolitics of the Middle East

Ahmed Abukhater

Abstract

This paper provides a diagnostic account of the nature and severity of the trans-boundary water resources conflict in the Middle East and how it is intertwined with issues of high politics. The concepts and analytical framework provided in this paper represent universal principles that, while applying to the Middle East water conflict, are also reflective of and applicable to many other disputes over natural resources around the world. This aspect about the research is particularly of great interest to the quest and scope of many other researches, considering the Palestinian-Israeli conflict is regarded as the sine qua non from which many troubling aspects emanate in different part of the Middle East and beyond. By outlining the problem and the root causes and nature of the water crisis in arid regions, this paper seeks to provide evidence of lack of equitable water sharing in the status quo water allocation and ample justification for the need to apply equitable principles to promote cooperation and peace. More precisely, this research will reflect on the way in which conflicting representations of hydrological resources have created tension, conflict, and injustice in general, with particular emphasis on the Middle East water conflict issues of the occupied territories, namely the Palestinian territories and the Golan Heights.

“Till taught by pain, men know not waters’ worth” - Byron

Introduction

Water scarcity is a real problem in the Middle East. In such a semi-arid region, the scarcity of water affects the Middle Eastern political arena as much as it affects the lives of its inhabitants. The relationship between the hydrological resource use and geopolitical representations has always been intimately linked whenever these resources are potentially available from either side of a political border. Working in unison together, water use and geopolitical representations provide us with diagnostic tools that help trace the roots of one of the most pervasive conflicts involving water – the Arab-Israeli dispute, namely the Israeli-Palestinian conflict and the issue of the Golan Heights between Israel and Syria.

Reflecting the growing competition for water in terms of quality and quantity, the issue of water shortage (as a key driving force of international disputes) has become the focus of many conflicts around the world in general, and more specifically in the context of arid regions. The concept of “water wars,” as suggested by Starr (1991), has increasingly become an important element of the political rhetoric, and can best be supported in light of the Israeli-Palestinian case, where disproportional allocation of water has emerged as an obstacle to peace and prosperity. Under this argument, lack of water and the need to secure adequate water supply can become a matter of national security and prioritized political and military objectives (Mirumachi 2007). In 1967 and prior to the Six-Day War between Israel and other Arab countries, the Israeli Prime Minister Levi Eshkol stated that “water is a question of survival for Israel,” and that “Israel will use all means necessary to secure that the water continues to flow” (Biliouri 1997). Commenting on the same event of the 1967 Six-Day War, the Crown Prince of Jordan stated that the war of 1967 “was brought on very

largely over water related matters” and predicted that without an international water agreement in the Middle East by 2000 “countries in the region will be forced into conflict” (Irani 1991). These statements and others are frequently referenced in support of the “water wars” rhetoric. Because of dramatic population growth and the staggering technological advancement of the 20th century that made great volumes of water extraction possible (Grover 2007), many scholars have gone even further to suggest that the next war will be fought over water. Gleik (1993) for example explains that water in these arid contexts can become an instrument for war and can easily escalate to a contentious issue. To that end, Dr. Ismail Serageldin, former vice president of the World Bank remarked in 1995 that “the wars of the next century will be about water” (New York Times, August 10, 1995). In such an arid region, water is an extremely confined and precious natural resource that, according to this paradigm, evidently triggered wars in the past and could possibly be the reason for peace in the future. In support of this argument that water, if not utilized as a catalyst for peace and stability, can potentially be a source of conflict and war, the former UN Secretary General, Kofi Annan states that “fierce competition for fresh water may well become a source of conflict and wars in the future.” He later added, “But the water problems of our world need not be only a cause of tension; they can also be a catalyst for cooperation. If we work together, a secure and sustainable water future can be ours” (Annan 2001).

Contrary to the “water war” paradigm that views water as the source of past conflicts and future wars, this paper provides an alternative approach to conflict resolution that, by promoting a vision of peace through equitable allocation of disputed natural resources, views water as a

venue for future cooperation. In keeping with the argument that inequitable water allocation schemes undermine chances for peace, water is not the source of conflict but rather an obstacle to peace. With the same token, if water is in fact an obstacle to peace, resolving the water issue means removing a major obstacle to attaining peace. As such, water can be a catalyst for peace and the reason for the disputing nations to come together to the negotiation table. According to Dr. Haddadin (2002), former president of the Jordan Valley Authority who served as the senior water negotiator on behalf of the Jordanian side in the Israel-Jordan peace talks, “water, after all, is used to extinguish fires, not to ignite them.”

The water crisis of the Middle East has many geopolitical dimensions that tend to contribute to this dispute. On the whole, the water crisis is the result of the limited water resources, the exponential population growth and the consequent rise in water demand, coupled with the regional competition on trans-boundary water resources that is fueled by the overall conflict. In essence, four major dimensions are identified as the main characteristics of the volatile geopolitics of the Middle East. These dimensions include the political and hydro-diplomatic dimension, the hydro-hegemonic dimension, the environmental dimension, and the psychological environment and ideological dimension. While the hydro-hegemonic dimension is characterized by a power structure imbalance and Israel’s national security concerns, the environmental dimension pertains to the unequal water access and infrastructure mishaps, inequitable and significantly variable trends of water consumption, and the associated adverse environmental consequences; the psychological environment and ideological dimension includes the perception of the “other,” different interpretations of the notion of water use “efficiency,” perception of the land and the environment, and the dramatic variations of agricultural and landscape patterns; and the political and hydro-diplomatic dimension reflects the unstable

political atmosphere, discusses the inadequacy of the international law, the failure of previous water-related diplomatic attempts, and significant political implications. This paper presents a discussion of how these factors relate to each other and influence the overall hydrological stability creating tension, injustice, and severe conflict and in turn resulting in a state of “volatile geopolitics.”

The Political and Hydro-diplomatic Dimension

Origins of the Conflict

The Arab-Israeli conflict dates back to the late nineteenth century and water (among other pressing issues) has always been considered key in its perpetuation. The Jewish immigration to Palestine, land ownership, and the later establishment of the State of Israel in 1948, triggered armed conflicts that lasted for decades (Shamir and Haddadin 2003). (This armed conflict was interrupted by the 1979 Peace Treaty between Israel and Egypt and later the 1994 Peace Treaty between Israel and Jordan, both of which were bilateral agreements; Haddadin 2006.) With the increasingly rising idea of establishing a sovereign state in Palestine for Jewish settlers, Great Britain turned over the fate of Palestine to the United Nations, who in 1947, decided to partition Palestine into provisional states; one Jewish and one Arab (McKinney 2008). The UN Partition Plan allocated 44% of the land to the Arab state and 56% of the land to the Jewish state although the Palestinian Arabs constituted more than two thirds of the population and owned 93% of the land (Söderblom 2003). Because of its inequitable allocation, the Plan was rejected by the Arab states and triggered the 1948 Arab-Israeli War (Söderblom), which resulted in the establishment of Israel and the creation of the Rhodes Armistice Demarcation Line marking Israel’s borders, including historical Palestine, except for the West Bank and Gaza

Strip which were subsumed by Jordan and Egypt respectively (McKinney 2008). The June War of 1967, known as The Six Day War, was a decisive event that altered the nature of the conflict as much it altered the positioning of the co-riparians and the regional water allocation and utilization. For the Arab countries, the outcome of this war was deemed as a defeat, as they lost part of their territories and once again Israel reinforced its military superiority. The impact of this war was not confined to changing the international border; rather, it also changed the demographic characteristics and impacted the co-riparians' access to water as well as their relationships (Louka 2006; Elmusa 1995; Zawahri 2009).

In the wake of this war, the Armistice Line changed as Israel extended its boundaries and took over the Palestinian Gaza Strip and the West Bank, the Syrian Golan Heights, and the Egyptian Sinai desert (Lowi 1995; and McKinney 2008). As the West Bank and the Gaza Strip were transferred from Jordanian and Egyptian dominion respectively to Israel, thousands of Palestinian refugees were once again displaced into the neighboring Arab states (Lowi). Except for the Sinai, which was returned to Egypt through the 1979 Israeli-Egyptian Peace Agreement, the resultant international borders created in the wake of the 1967 War are largely maintained until today (McKinney 2008). This new border and territorial configuration also impacted access to water. Now the Upper Jordan River flows, almost entirely, in Israeli territory (Lowi). By controlling the Banyas River, Lake Tiberias, the Lower Jordan River, and expanding its access to the Yarmouk River, Israel was able to prevent the neighboring Arab countries from accessing the Upper Jordan River, block the River at its exit from Lake Tiberias, and exclusively use the latter for its own storage needs (Shamir and Haddadin 2003; and Zawahri, 2009). By doing so, the West Bank Palestinians and Lebanese were prevented from accessing River basin altogether (Elmusa 1995). With its occupation of the West Bank, Israel gained control over the Palestinian

groundwater resources, namely the Mountain Aquifer, which is proven significant to its water security (Louka 2006).

Previous Water-related Diplomatic Attempts

Throughout history, several water schemes were prepared to utilize the regional water resources, including the Jordan River, starting as early as 1899 with the Zionist Organization and later under the Mandate (Naff and Watson 1984). In the post-1949 period, Israel and the neighboring Arab countries were unilaterally formulating and implanting national water development proposals to improve their economies and address the issue of water needs for immigration and Palestinian refugees in adjacent Arab countries after the establishment of the State of Israel in 1948 (Lowi 1995; and Shamir and Haddadin 2003). During these years of no direct communication, both Arabs and Israelis unilaterally proposed many conflicting plans to govern and manage the utilization of the shared water resources. The first multilateral cooperative venture was lead by the United States in 1953-55, known as the Shuttle Diplomacy which was conducted by the U.S special envoy to the Middle East, Ambassador Eric Johnston, which proposed the Unified (Johnston) Plan (Lowi; Shamir and Haddadin). Although the Plan was never ratified, it was accepted by all Arab states (Elmusa 1995), and became a customary law in the region as both sides have generally adhered to its technical details and water allocations as it constituted the basis for the Jordan River Valley development thereafter (Louka 2006; Shamir and Haddadin; Wolf and Newton 2008).

Despite the conscientious attempts to negotiate and cement an enduring settlement, this conflict has been particularly violent since 1967. As tension continued to mount, intermittent diplomatic attempts, which continued through the 1970s and 1980s, failed to reach a plausible resolution creating a situation of talk-fight (Priscoli and Wolf 2009; Gurr et al. 2001). It was not

until the Madrid Peace Process on October 31, 1991, that the PLO and the Arab states entered into direct peace negotiations with Israel in Madrid aimed at achieving “a just, lasting and comprehensive peace settlement” on the basis of the “land for peace formula” outlined by the UN Security Council Resolutions 242 and 338 (Israeli Ministry of Foreign Affairs 1995). No progress was made except through the channels of various secret negotiations that were started in December 1992 leading to the Oslo Accords or “Gaza-Jericho First” and the establishment of the Palestinian National Authority (PNA) (Klieman 2000). In September 1994, the PLO leadership in exile returned to the Gaza Strip and the West Bank (Tamimi 2005). In the same year, Jordan and Israel signed a unilateral agreement that governed the water allocation and sharing of the Jordan River, the Yarmouk River, and the Araba/Arava groundwater, which excluded key regional players such as the Palestinians and Syria (Haddadin 2002). In April 2003, the “Road Map,” a peace plan for a two-state solution, was devised by the Quartet (US, UN, Russian Federation and the EU) (Reinhart, 2006).

The failure of previous diplomatic attempts to land sustainable and robust peace agreements is related in large part to the fact that all of these diplomatic attempts variously suffered from a number of deficiencies outlined below. First and foremost, in the practice of many of these international agreements appears a flaw that seems to have led to only fragile and unsustainable agreements at best. This major flaw is related to the fact that all of these previous negotiations between the Palestinians and Israelis regarding water allocation were based on a position-based approach (Rouyer 2000). They attempt to address only the question of entitlement to land and water resources instead of addressing actual water needs (Rouyer). This problem seems to have its roots in the classic process of distributive bargaining, where one party’s gain, while viewed as winning, is considered the loss of the other party (Postel and Wolf 2001). This is

coupled with the fact that the zone of possible agreements, or ZOPA, between the two parties did not even exist in the previous stages of diplomatic efforts and negotiation, which have been focused on *dividing* the resources of the region, namely land and water, rather than *sharing* them (Scheumann 1998). Furthermore, resolutions over water were not part of these attempts, as water, Jerusalem and the right of return were the main three issues that were deferred to the final round of negotiations (Wolf 1995a).

Another fundamental flaw is concerned with the challenges in establishing and presenting accurate data for water needs, let alone agreed upon reflective consumption figures (Alatout 2006). Conventional approaches proposed to address the water crisis of the Middle East have been problematic as they often tend to establish needs that are either exaggerated or underestimated. This is because the production of scientific data and environmental narratives regarding the use of water and its environmental consequences is influenced by power imbalances as well as the hegemonic structure (Alatout). The accuracy of water data was in question as both sides often present different figures regarding water availability and current and future demand. Another major problem from which previous water allocation plans suffer lies in the evident disconnect between reaching an agreement and its implementation. Almost all of the previous negotiations suffered from the lack of implementation. It was not until the 1990s that conflict progressed from agreements to partial implementation (Shmueli 1999). However, this classical negotiation process that was once thought to be revolutionary is now yielding another surprise. The dispute reverted back to a stage of “talk-fight” and the negotiation between the Palestinians and Israelis have come to a screeching halt (Gurr, et al., 2001).

Inadequacy of International Law

It is often the case that both the Palestinians and Israelis ground their arguments in the negotiation over water allocation on principles of international law. These include the Hague Regulations of 1907, the Fourth Geneva Convention of 1949, the Helsinki Rules of 1966, and the 1997 UN Convention on the Non-navigational Uses of Watercourses (Wolf 1999). While it introduces elements of water needs, the international law is more concerned with issues of sovereignty over water resources. The Helsinki Rules of 1966, which put emphasis on the right to “beneficial use” rather than the right to water *per se* (Housen-Couriel 1994), provided eleven factors pertinent to hydrographic and socio-political criteria (Wolf). Similarly, the 1997 UN Convention on the Non-navigational Uses of Watercourses provided general guidelines for equitable water allocation. The two main principles introduced in the 1997 UN Convention are “equitable and reasonable utilization” and “no significant harm” to other watercourse states (Diabes-Murad 2004, 5). It further gives “special regards” to the “requirement of vital human needs” (Fathallah 1996, 144). Although the concept and guidelines for “reasonable and equitable” sharing of common waterways were introduced in the Helsinki Rules of 1966, as well as the 1997 UN Convention, no clear definition of this concept was provided (Caponera 1985).

In handling the conventional long-standing dispute between upstream and downstream riparians and existing and future uses, the international law provides more protection for the downstream users and existing uses (Wolf 1999). This practice is often conducted with little regard for environmental concerns. Although it laid some ground rules to manage the sharing of the disputed water resources, international law seems ambiguous and in many cases contradictory (Wolf 1996). In addition, the law does not provide a clear enforcement mechanism to ensure the applicability of its rules (Rouyer 2000).

International law is an area of great controversy, however (Wolf 1996; Wolf 1995b; Rouyer 2000). Although binding on all nations, the applicability of many elements of these laws to the Arab-Israeli dispute is denied by Israel based on claims of irrelevance (Rouyer). In reality, Israel continues to deny its obligations as a “belligerent occupier” and further enforces its unilateral control of the regional water resources (Rouyer). As such, the current utilization of trans-boundary water resources of the Middle East does not comply with the international law, namely the “equitable and reasonable utilization” and the “no harm” principles (Diabes-Murad 2004).

Hydropolitical Implications

Water is one of the most critical issues that shape the geopolitical reality of the Middle East. Water constitutes a fundamental ingredient in the making of both the Middle East geopolitics and bleak realities. In such a semi-arid region, water is a precious natural resource that has always been a point of contention, severe political conflict and vicious disagreement. Given its political importance, water remains an unresolved challenge facing the entire region. It is one of the major issues, along with Jerusalem and the right of return that are deferred to final separate rounds of negotiations between Israel and the Palestinians (Zeitoun 2008). This is due to a number of reasons. First, the extensive reliance of Israel on water resources originated in the Palestinian territories, namely the West Bank rain-fed Mountain Aquifer which is the main source of domestic water use for Israel, makes Israel hesitant to enter negotiation with the Palestinians over water resources that it currently uses. This is because any meaningful resolution will inevitably result into a transfer of this groundwater ownership and use to the Palestinian population of the West Bank, leaving Israel short of at least one third of its annual

water supply (Lonergan and Brooks 1993), which is already insufficient in the face of its growing population and water demand.

Second, the fact that both the Israeli and Palestinian populations depend on the same source of water, along with the current unprecedented degree of regional water stress, created a situation known as zero-sum game, where one riparian state's gain is perceived as another's loss (Postel and Wolf 2001). Third, because water is scarce, the Palestinians, and possibly Israel, will continue to experience severe water shortages unless a new radical, feasible, and large-scale (proportional to the magnitude of the water crisis) alternative source of water, whether on the demand or supply side, is to be employed. This alternative could be, as in demand side management (DSM), conserving water, or as in supply side management (SSM), finding new sources of water to augment water supply by utilizing alternative technologically-driven sources, such as desalination of brackish groundwater or seawater, wastewater reclamation, and trans-boundary water imports (Wolf 1992). Fourth, another major deterrent to formulating a plausible negotiation process is the fact that the practice of modern negotiation and conflict resolution is relatively new to the Middle East and viewed as a western panacea (Irani 2000). Akin to approaches that exhibit a gap between public needs and public policy, previous attempts at negotiation demonstrate inability to connect with the local culture and indigenous practice to gain general public acceptability (Abukhater 2009). This indigenous perception of modern resolution approaches, as a western panacea, prevents advancing negotiations towards more plausible agreements and robust implementation (Abukhater).

However, the difficulty in initiating and reaching agreements over water is not confined to only the above mentioned reasons, although relevant and tangible. This is because the importance of securing uninterrupted water access for Israel in reality is not a matter of

economic considerations or agricultural production. Rather, Israel's water policy is solely driven by political, religious, and ideological realities and motives. It would be more costly for Israel to continue monopolizing the Palestinian water resources, which might trigger confrontation with the Palestinians, where Israel would have to expropriate a great deal of its resources (Rouyer 2000). Conversely, it would be a more economically feasible option for Israel to engage the Palestinians in a bilateral negotiation process over water and reach a plausible agreement. However, Israel, unwilling to immediately tackle the impending water issue until its security is assured, seems to opt for the most costly option (Rouyer).

The Environmental Dimension

Water Access, Infrastructure, and Variable Trends of Water Consumption

Water access is characterized by legal and technological imbalances. The problem partially lies with the exclusive Israeli control of over 85% of all available water resources in the region which leaves other riparian countries with less *per capita* water availability than that of Israel (Zeitoun 2005). Israel, upstream riparian, diverts 75% of the Jordan River's water before it reaches the Palestinian West Bank (PASSIA 2002). While Israel, Syria, and Jordan access the Jordan River, Palestinians are the only riparian with no access to the water of the river (Elmusa 1995). Although the Johnston Plan of 1959 clearly constitutes their share of the Jordan River water, approximately 200 MCM per year (Rouyer 2000), Palestinians are denied all access to the river to the east, in addition to most of the productive zones in the Western Aquifer Basin (Zeitoun 2005).

Technologically, Israel is far more superior to the other co-riparians. The use of more sophisticated technology in water installations makes it easy for the Israelis to dig deeper wells,

which increases the Israeli excavation capacity. This practice often causes the old and shallow Palestinian wells to dry up, which drastically affects the amounts and quality of water that the Palestinian communities can extract (Nasser 2003). This technological prism connotes unequal access to the same quality and quantity of water that Israelis and Palestinians extract (Zeitoun 2005).

Due in part to the above-mentioned challenges concerning the Palestinian water access and technological and infrastructure limitation, Palestinians do not receive anywhere near the amount of water they need. The *per capita* Israeli consumption of water is more than five times the *per capita* Palestinian use (Zeitoun 2005). Because of these dramatic differences, attributed in part to the lack of Palestinian access to water along with the intermittent water supply of that the Palestinian communities endure, water distribution between the Palestinians and Israelis reflects a situation of severe inequity.

Environmental Consequences

In addition to the consumptive and exploitive water use imposed by the “tragedy of the commons” situation where each state competes to divert the greatest amount of water and prevent others from doing the same, this situation of inequity has a number of substantial environmental ramifications, including, but not limited to, the deterioration of the quantity and quality of water for the Palestinian communities, the salinity of the Jordan River and the declining trend of the Dead Sea water levels (Haddadin 2002; Rouyer 2000). More than 80 % of the Gaza Strip’s potential drinking water is not compatible with the standards of the World Health Organization (WHO) for potable water use due to this high level of contamination (Palestinian National Information Center 1999). The extensive consumption and extraction of the Jordan River water, which is the main source of the Dead Sea water supply, has caused the

disappearance of the Dead Sea at a staggering rate (Greenberg 2006). The decreased inflow of the River increased its salinity and resulted in the demise of the Dead Sea, causing its water level to drop about one meter per year (the equivalent of 3 feet) (IRIN 2006). It is expected that within a few decades the Dead Sea will completely vanish and live up to its own name.

Hydro-hegemonic Dimension

Power Structure Imbalance

The shortage of adequate supplies of fresh water has emerged as one of the most severe and pernicious conundrums in the Middle East. In many cases, decisions regarding water allocation have become increasingly controversial as competition over shared water resources has increased (Syme, et al. 1999). As conflicts metastasize, the interplay between water acquisition and power structure imbalance becomes more evident.

In the Middle East, access to water is strongly linked to the degree of hydro-hegemony that each co-riparian state has achieved. Realizing the significance of hydro-hegemony as a dominant underlying factor in determining who gets access to water helps to understand how Israel receives the highest amount of water in the region (Zeitoun 2005). The interplay between water acquisition and hydro-hegemony, on one hand, and political decisions of either cooperation or altercation, on the other, is seemingly pronounced in Middle Eastern water management and policies in a number of ways. First, the riparian states' inability to facilitate stable cooperation has become an undisputable fact. While violence in the region gives rise to potential armed conflicts, the more powerful states tend to maximize their share of water and undermine that of others. For example, in the case of the Jordan River, many states, including Palestine, Israel, Jordan, Lebanon, and Syria, claim the right to share access to the river water.

However, due to the political instability of the region, the only state that disproportionately benefits from accessing the Jordan River is Israel, given its economic and military advantages. Conversely, there is strong evidence that the Palestinians, given their weak hydro-hegemonic position, are in a less favorable position, compared to other riparians, as far as access to clean and reliable water resources is concerned. As such, these results are reflective of the dynamics of regional power imbalance.

Second, the most powerful riparians are usually reluctant to enter into any cooperative agreements to regulate their use of transboundary water resources. This is because cooperation is perceived by powerful riparians as compromising their most favorable position (Lowi 1995). If cooperation is desired by powerful riparians, it is usually coercive, unsustainable, and sought to solidify the *status quo* (Abukhater 2009). With the same token, given the weak Palestinian political and military stance, most of the previous agreements achieved between the Palestinians and Israel fall into this category of coerced negotiation. Another prominent example emerges from the issue of the Golan Heights, which is disputed between Syria and Israel. Overlooking northern Israel and southern Syria, the Golan Heights is of strategic importance to Israel. Because of the Golan Heights' strategic importance, Israel, being the more powerful of the two states, denies Syria's access to its natural resources (Atwan 1999). In the wake of The Six Day War of 1967, Israel gained *de-facto* control of the Golan Heights to secure access to Lake Tiberias (also known as Lake Kinneret or Sea of Galilee) which provides over 30% of Israel's water supply (Golan 2007). During the 1973 Middle East War, Syria tried to reclaim the Golan Heights, but was unsuccessful because of Israel's strong hydro-hegemonic position. Syria was coerced into signing an armistice in 1974, based on which a UN observer force has been deployed to maintain this ceasefire (BBC News 2007). Taking advantage of its most powerful

hydro-hegemonic position, Israel unilaterally annexed the Golan Heights in 1981, applying its law and administration to, and intensifying its settlements in, the territory, which was not recognized by the international community (Encyclopedia of the Orient 2007).

Third, unequal access to water resources generates a state of resentment and lays the grounds for international disputes among different nations (Abukhater 2009). Resentment against the most powerful state because of its advantageous position as far as access to water is concerned generates more hostility that, reflecting the “water war” paradigm, can possibly build up to an all out war. As hostility grows and festers, various unrealistic and overestimated demand figures on water emerge, defying the notion of sustainable peace. Not only have levels of hydro-hostility grown more potent as time wears on, but the very nature of the discourse has as well (Klieman 2000). With severe resentment and hostility among competing riparian states, water (among other political factors) emerges as an essential venue in the geopolitical reality of the whole region that fuels the overall conflict. As the population of the region grows exponentially, the demand on water increases, while the region’s overall water reserve is fixed. This exacerbates the situation and evokes a state of sever hydro-hostility among the disputing nations. Thus, the compatibility of the hydro-hegemony and the distribution of water resources in shifting the regional balance and fueling the clash between the Arabs and the Israelis have become undeniably prominent (Zeitoun 2005; Lowi 1995).

Water and Israel’s National Security

All nations require, and rationally vie for, their share of a continuous supply of food, water, fuel and other raw materials. The concept of ecological security is related to both national sovereignty and the need for a secured statehood access to these resources for economic development goals (Barney 2006). Securing this access means, and often necessitates, retaining

exclusive control of one's land and own natural resources (Westing 1988). The strongly interconnected nature of the relationship between national security and these factors implies, and creates, a complication that triggers conflict among different nations, all of which strive to rationally acquire water (Wolf 1992). This rationality in making decisions regarding water security constitutes a significant part of the problem.

By the same token, Israel's policy makers often link secure water access to Israel's own national security (Frisch 2000). In 1967 and prior to the Six-Day War between Israel and other Arab countries, the Israeli Prime Minister Levi Eshkol stated that "water is a question of survival for Israel," and that "Israel will use all means necessary to secure that the water continues to flow" (Biliouri 1997). Moreover, Israel considers, and utilizes, water as a resource and effective weapon (Zawahri 2004) to reinforce its security, political stability, and strategic position, on one hand, and harness negotiations with other Arab states for its benefit, on the other (Lonergan and Brooks 1994). Because of its importance to Zionism, the topic of peace and security is given high priority and introduced in the first chapter of the Likud Party Platform. Drawn upon this belief system, Zionists assert that "the right of the Jewish people to the Land of Israel is an eternal right, not subject to dispute, and includes the right to security and peace" (Virtual Jewish Library 1996). Although they acknowledged and emphasized the need to enter into negotiated agreements with the Arabs to reach peace, they further qualified this peace with security as a first and foremost precondition stating that "security is the basis for durable peace in our region. Israel will make security a first condition in any peace agreement" (Virtual Jewish Library). Israel's foreign policy is also anchored around serving its national security concerns which are given particular emphasis in any diplomatic effort that Israel may undertake. To that end, the Likud Party Platform further holds that "it will recognize the facts created on the ground by the

various accords, and will act to reduce the dangers to the future and security of Israel resulting from these agreements” (Virtual Jewish Library).

Given Israel’s control of most of the Palestinian natural resources and the strategic locations of the Israeli settlements on the best catchment areas of the Occupied Palestinian Territories, about 70 percent of Israel’s consumption of groundwater, and more than 33 percent of its overall annual water budget, comes from the Occupied Palestinian Territories (Lonergan and Brooks 1993). This high dependency of Israel on Palestinian water resources is what motivated the former Israeli Agriculture Minister Rafael Eitan to declare that relinquishing Israel’s control of the Palestinian water resources would be detrimental to its national security and would further “threaten the Jewish state” (Lonergan and Brooks).

The Israeli control of the Golan Heights, which represents a territorial and natural resources conflict, provides another example of how Israel’s national security concerns shapes its foreign policy. The value of the Golan Heights to Israel cannot be overstated and stems from the strategic importance of its location and natural resources. The strategic importance of the Golan Heights is due to a number of reasons. First, because of its central location between Israel and Syria and its significant elevation, the Golan Heights provides a natural buffer against any Syrian military invasion by land (BICOM 2007). Second, without its control of the Heights, northern Israel would be vulnerably located within the firing range of any artillery attack launched from the Golan Heights (Palestine Facts 2007). Third, because of its adjacent location east of Lake Tiberias, the Heights provide significant fresh water supply (about one third) and storage capacity for Israel (Golan 2007).

As such, the Golan Heights constitutes a stumbling block in the way of negotiation between Israel and Syria. In 2003, the Syrian President Bashar Al-Assad, reflecting the overall

Syrian desire to secure access to the Golan Heights as part of any peace agreement, declared his country's intention to revive peace talks with Israel (BBC News 2007). During the 1999 talks, Syria demanded a full Israeli withdrawal to the pre-1967 border (Wihbey and Berman 2000). However, because of the fact that this Israeli withdrawal would give Syria control of the eastern half of the Jordan River headwaters and the eastern shore of Lake Tiberias, one of the main water resources and the main storage facility for Israel, Israel refuses this condition for negotiation. Israel's decision to relegate its sovereignty of the Golan Heights would undoubtedly shift the hydrological balance of power in the region in favor of Syria (Wihbey and Berman). To that end, because of the Israeli government's view of the Golan as an essential asset to Israel's security and water needs, retaining Israel's sovereignty over the Golan Heights is identified as a major prerequisite for any negotiation with Syria (Migdalovitz 2005). In addition, this negotiation may potentially yield a deal with Syria that compels Israel to dismantle its Jewish settlements in the region. A public opinion survey conducted in 2004 shows that the majority of Israelis oppose negotiations that involve returning the Golan Heights to Syria (BBC News). The intensive presence of the Israeli settlements in the Golan Heights, which is estimated to be 17,000 settlers (BBC News), and the dependence of the State of Israel on water originated in this territory is indicative of the Heights importance and suggests that Israel would continue to maintain control of the Golan Heights, which is deemed as a matter of national security.

Reflecting this land-water nexus imbedded in the Israeli ideological, political, and religious spheres, Haim Druckman, a well-known Israeli leader, asserts that "settlements are the essence of our existence and flesh of our flesh. We shall not accept the amputation of our living flesh" (Lustick 1994, 85). As such, Israel will be unwilling to negotiate any agreement with the Palestinians or Syrians that may lead to compromising its settlements in the Occupied Palestinian

Territories or the Golan Heights, which, given their hydro-political importance, appear to provide a safety net to Israel's national security. According to the 1996 Likud Party Platform, "Jewish settlement, security areas, water resources, state land and road intersections in Judea, Samaria and the Gaza Strip shall remain under full Israeli control" (Virtual Jewish Library 1996). It also holds that "Israel will keep its vital water resources in Judea and Samaria. There shall be no infringement of Israel's use of its water resources." As a result, water seems as important as Israel's national security and almost a non-negotiable matter to the mainstream Israelis. The persistence on the deliberate biblical use of "Judea and Samaria" to refer to the West Bank has a strong connotation that the current Israeli government, the Likud Party, does not recognize the Palestinian ties to this land or its natural resources. These statements represent an extreme approach to water allocation that relies only on entitlement and exclusion of the "other." This same goal of maintaining exclusive Israeli control over the West Bank's and the Gaza Strip's potential pumping areas is also echoed by the Begin-Sadat (BESA) Center for Strategic Studies at Bar-Ilan University in Israel (Gvirtzman 1998).

This intimate link between water and national security and perception of water as vital to the establishment and survival of the state of Israel explains Israel's tendency to acquire more water. To that end, Moshe Sharett, Israel's first Foreign Minister, sums up the value of water to Israel by stating that "water for Israel is not a luxury; it is not a desirable and helpful addition to our natural resources. *Water to us is life itself*" (Rouyer 2000, 108). Understanding the correlation between water and security helps in understanding the rationale behind Israel's negotiation strategy. Israel realizes that improving its access to water resources requires maintaining control of the Occupied Palestinian Territories and the Golan Heights of Syria while continuing to implement restriction on the Palestinian and Syrian water use (Lonergan and

Brooks 1993). Based on that, Israel seems hesitant to negotiate and reluctant to reach agreements over water resources. Agreements which suggest the need for Israel to give up some of its water supplies, even though they are acquired from other territories, or stop the expansion of illegal settlements in the Occupied Palestinian Territories and the Golan Heights of Syria are often rejected by Israel. This point is clearly delineated in the Likud Party Platform that holds that “immigration will be increased, and settlement will be strengthened. The decision to freeze settlements will be rescinded” (Virtual Jewish Library 1996).

The Psychological Environment and Ideological Dimension

Perception of land, natural resources (including water), and the “other” impacts riparian states’ behavioral tendency to either cooperate or altercate (Dolatyar and Gray, 2000; Lipchin 2003). This translates into policies, strategies and actions on the ground (Lowi 1995; Rouyer 2000). Understanding these physiological and ideological discourses has profound implications on understanding the nuances of the overall conflict and envisioning appropriate resolutions. Consequently, without this understanding of the perception on the local level and the different interpretations of the appropriate water management measures, policy makers will fail to produce holistic solutions that successfully manage trans-boundary water resources and will continue to employ inept policies.

Perception of the “Other”

Both parties’ view of the “other” is tailored to reflect general hostile views materializing into two forms of representation. First, communicative discourses, namely the representation of the “other” party induced by media and educational system, are incorporated as part of the statecraft and doctrine system. Many of the Arabs and Israelis remain captive to the idea portrayed by their media that the ongoing violence, which is represented in a cynical way, is

inherently a key characteristic of the Middle Eastern culture. Many of the dimensions and true implications of the conflict were censored from the media, and images and narrations are being manipulated one way or another and appear to be out of sink to serve the interest of the most powerful party. Israel, through its media, represents itself as an established sovereign state surrounded by a sea of hostile Arab nations whose only aim is to annihilate it. The complete exclusion of most of the Israeli policies and activities in the Palestinian territories by the media, namely house demolition in the Gaza Strip, tends to distort and deceive the public opinion and, in turn, shape their perception about the reality of the conflict. In contradistinction, the Palestinian media represents the conflict as a byproduct of occupation from which everything else, including the construction of the separation wall and land confiscation, emanates. They view resistance as a legitimate response against the structure of occupation and oppression of the shrinking and noncontiguous Palestinian land and population. These distorted communicative discourses are believed to target and manipulate public perception of the self and other's position as well.

Another example emerges from the educational system, where Palestinian and Israeli children alike have usually been taught in school two very different points of view about the conflict and the other party involved in it. Employing these prominent forms of communicative discourse, Israel often tends to deny the term "occupation" and further developed a pejorative attitude towards the Palestinians and their water needs (Lowi 1995; Rouyer 2000). Palestinians, on the other hand, usually view Israelis as invaders and occupiers, fought by heroic Palestinian resistance. In response to Israel's insensitivity to their needs, Palestinians tend to develop a feeling of resentment towards Israel, which prevents them from achieving mutual understanding and cooperation.

Second, it is often the case that Israel, through its political, intellectual, and popular discourses, makes the argument of needs, as opposed to the water rights and entitlement argument, as a basis to not only justify their exclusive control and consumption of water, but also to provide support for the many *ad hoc* water resolution proposals for the water shortages that the Palestinian communities exhibit (Alatout 2000, 2003; Shmueli 1999). Although the Palestinians do not reject the idea of allocating water based on actual needs *per se*, representing the Palestinian water crisis as a matter of absolute need in separation from rights is a misrepresentation of their real issue, which remains to be a major concern to them. Water rights are essential from the Palestinian perspective as an uncompromised part of their rights to their land, which has been denied. As such, the Palestinian perception provides a radically contradictory ideology to that of Israel regarding their water use, asserting that “Israel is using the Palestinian water” (Rouyer 2000). Palestinians blame the Israelis not only for attempting to destroy their identity by occupying their land and squandering its natural resources, but also for denying their inherent rights. Saeb Erekat, a high official in the PNA, reiterated the Palestinian belief that water is part of their occupied land by stating that “The Israelis are stealing our water and it must stop. They must be reminded that they are sitting on our chests; and not by an act God, but by an act of war” (Rouyer 2000, 186).

Regardless of their level of accuracy, truthfulness, or legitimacy, these perceptions of the “self” versus the “other” (or “us” versus “them”) invoke fear and ungrounded rationales for the annihilation of the “other.” Furthermore, because of these perceptions of one another as the adversary, which continue to widen the communication gap and create a state of distrust, it is unlikely that the Palestinians or Israelis will respond to any attempts for reconciliation as long as they are unilaterally proposed and initiated by the “other” adversarial party.

Different Interpretations of the Notion of Water Use “Efficiency”

This conflict connotes dramatically diverse and conflicting ideological descents, interpretations of key concepts, and representations. The concept of “efficient” use of water, for example, has been subject to different contradictory interpretations depending on who defines it and for what purpose. Palestinians and Israelis have different representations and interpretations of “efficiency.” “Efficiency” for Israel, on one hand, means “more crop per drop” regardless of how much water is used (Postel 1999). This interpretation of the concept of “efficiency” is linked to the notions of “productive efficiency” and “allocative efficiency” (Frisch 2000). “Productive efficiency” has its roots in the technological advancement of Israel’s water management that aims to obtain a greater yield from a unit of water, whereas “allocative efficiency” emerges from the market-driven water allocation and pricing system (Allan 1999). This understanding of “efficiency” as “productive efficiency” promotes the search for water management options to increase supply or decrease demand. Efficient agricultural practice includes drip irrigation, water reuse (which constitutes 70% of Israel’s municipal water supply), desalination, greenhouse technology, cloud seeding, and genetic bioengineering of crops for drought and salinity resistance (Selby 2005; Wolf 1996). “Allocative efficiency,” on the other hand, is linked to economic values and production (Allan). For Israel, water consumption, although may be considered excessive by many other standards, is viewed as efficient based on the aforementioned criteria of efficiency.

As such, Israel is often regarded as an example of sound water management. Evidently, Israel’s water management and efficient water use is handled well on the micro-level, namely at the consumer level (Lonergan and Brooks 1993). However, efficiency of water allocation is missing on the macro-level, posing a great challenge for Israel, which seems to be confronted

with an acute state of vulnerability to water shortages now and in the near future (Lonergan and Brooks). Except for rare occasions of conservation, typical Israeli policy in water resources management relies more on increasing supply than decreasing demand. One of the demand side management strategies that Israel tends to rely on to alleviate pressure on natural resources and maximize “efficiency” is restricting water consumption. Given that Israel’s *per capita* water consumption constitutes 25% of that of the US, claims are often made that Israel’s water allocation strategies are efficient (Lonergan and Brooks). However, figures of water consumption data indicate that Israel still consumes great volumes of water for irrigated agriculture. This is partially due to its national policy in handling water distribution and pricing system, which seems to paradoxically contradict with the very aim and definition of both “productive” and “allocative efficiency”. Namely, the problem here seems to be strongly linked to Israel’s policy in subsidizing water for agricultural irrigation (Lonergan and Brooks). This policy tends to increase water consumption in the long run and undermine both “productive” and “allocative efficiency” by counteracting conservation and market economy goals. Nevertheless, the key issue is not whether Israel is reducing its water use *per se*, but rather whether this reduction is sufficient enough to match the magnitude of the crisis facing the region (Naff 1990).

“Efficiency” for the Palestinians, on the other hand, means conserving water at all times. Water allotment follows the overall guiding principles of demand side management (DSM) and water conservation. Realizing the importance of water conservation, the Islamic teaching encourages people to conserve water even if a running river is present (Faruqui 2001). This is because Muslims believe that the earth is not a gift that was given to humans unconditionally, but rather a sacred trust that has been placed in human hands for safekeeping. This includes animals, plants, soil, water, and even the very air that we breathe, which are all borrowed

property that will ultimately be recalled and asked for one day. Water in particular is deemed as a blessed and sacrosanct resource sent from God to purify and cleanse the earth. As such, it is worth saving.

They believe that humans are equal not only in sharing rights, but also responsibilities. Rights include securing equal access of clean and reliable source of water to all people, rich or poor (Abukhater 2009). In addition to rights, there are a series of unspoken moral principles, yet well-known to everyone, that guide the overall perception of “efficiency” and water consumption. These include moral and ethical responsibilities in maintaining the integrity of water resources and preventing waste. For example, only 2–3 liters of water is the recommended amount for a sufficient bath by the Islamic and societal standards (Faruqi 2000). Moreover, people are encouraged to share water and prohibited from depriving others from water that they need. In this regard, one must not withhold water from travelers who need it (Faruqi). The process of water allocation is, therefore, solely and exclusively based on respecting and catering to all parties’ needs, including the right of the environment. This understanding of the concept of “efficiency” is closely linked to water conservation and calls for proportional distribution of not only benefits, but also costs, of water use among all parties.

Perception of the Land and the Environment

Zionists view Israel as a Jewish “safe haven” land. Their perception of the “promised land” shaped the way they value the land and its natural resources as being sacred and nonnegotiable. Water is a central component of the Zionist ideologies and ethos of nation building (Rouyer 2000). For Zionists, the “ideology of agriculture” is at the core of their belief that constitutes a predominant part of their identity (Lowi 1995). Large-scale agricultural development is deemed essential to accommodate the large numbers of Jewish immigration

(Rouyer). Because of its importance to agricultural production, water is viewed by Israelis as an essential element for the establishment and survival of this sovereign Jewish state, referred to as “*Eretz Yisrael*” (Lowi). As such, water, in addition to its economic value, is intimately linked to ideological and political prisms which are proven significant to Israel’s survival and security.

Water is regarded as an essential element not only to accommodate the growing population, but also for stabilizing their ties to the land. In their continuous quest to keep the land “green,” Israelis acquire as much water as necessary to farm and irrigate the land (Lowi 1995). This ideologically-driven push to keep the land green motivated Israel, in the 1950s, to establish its 130 kilometer-long National Water Carrier, referred to as the Kinneret-Negev Conduit, that transfers water from Lake Tiberias and delivers it to the rest of the country penetrating into the depth of the Negev desert to support agricultural development (Rouyer 2000; Shamir and Haddadin 2003). However, in light of the fact that agriculture is considered a minor sector in Israel’s economy, the reason for keeping the land green seems to have little to do with agricultural production and economic development. The establishment of this National Water Carrier would not have been possible without Israel’s advantageous hydro-strategic position with the annexation of the Golan Heights, which allows it to secure access to the principal headwaters of the Jordan River.

By continuing to avoid entering any peace negotiation with Syria over the Golan Heights, Israel continues to not only utilize those water resources, but also prevent Syria from diverting more water from the Yarmouk River and its main tributaries. By so doing, Israel ensures its exclusive control over Lake Tiberias. Because of its strategic location, bordering the northeastern part of Israel, the Golan Heights provides an example of how Israel’s perception of water

resources and land shapes the course of action taken in securing its access to its natural resources.

Moreover, many scholars tend to justify Israel's relatively high use of water based on the argument that the more astute the society is, the higher the amount of water it requires for its development. To them, the Palestinian water scarcity problem is believed to be solely related to infrastructure mishaps. Their representation of the problem holds that the Palestinian water crisis is linked to the lack of adequate infrastructure that would allow them to extract greatly increased volumes of water to meet their exponentially growing demand.

The Palestinian perception, on the other hand, is shaped by, and reflects their fear of dispossession and the 20th century Jewish immigration (Rouyer 2000). They feel that the origin of the conflict stems from the establishment of the state of Israel in 1948 and the subsequent relocation of the Palestinians, known to them as the "Nakba" or catastrophe (The American Task Force on Palestine 2005). In addition, their view of their land as being occupied since 1967, namely the West Bank, the Gaza Strip, and East Jerusalem, shaped the way Palestinians perceive and interact with Israel, the land, and its natural resources (The American Task Force on Palestine, 2005). For Arabs, who are living in a predominantly agricultural society, water is seen as an extension of their land and an integral part of their daily life (Lowi 1995). Their view of the land and water is not only confined to economic values, rather, Palestinians maintain that they have been living in harmony with their environment, which they envision to be part of their identity and sense of belonging and pride. They believe that no peace can be attainable unless the water crisis is adequately resolved first.

Agricultural and Landscape Patterns

Landscape defines and reflects not only states' national identity but also their use of water. Examining the agricultural and landscape patterns in both Israel and Palestine helps understand agricultural water consumption and its geopolitical and hydropolitical implications. For example, the landscape of the Gaza Strip reflects small and fragmented farm lands, a small town feel, and a gradual transformation of an indigenous landscape across the region. This indigenous agricultural and landscape pattern that dominates the Palestinian terrain (shown in figure 1) represents more conservational water use. Bearing in mind that this is a semi-arid region, such indigenous landscape still thrives without harming the environment through careful management of water use. On the contrary, the Israeli landscape indicates large-scale agricultural development and reflects an alien landscape to a semi-arid region, high use of technology, and extensive water use to sustain and keep land green. It is clear that this amount of large-scale agricultural land demands significant amounts of water considering the aridness of the landscape and environment.

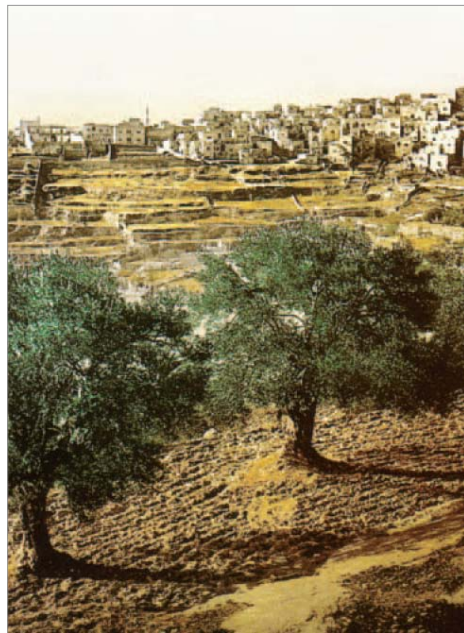


Figure (1): formal structure of the Palestinian landscape - olive trees and small towns
Source: Susiman, D., et al.,2005

Discussion and Closing Remarks

We cannot live without water. Water is essential to human survival and development. The significance of water has led to the creation of many dramatic and complicated conflicts among different nations throughout human history, all of whom vie for their fair share of water for different uses. Moreover, the intricacy of man-made boundaries and the natural delineation of upstream and downstream riparians make the issue of international water disputes a formidable and volatile one (Mirumachi 2007).

The Middle East in general, and the Palestinian-Israeli conflict in particular, represents cases in which water availability trends (among other influential factors) provide evidence of catastrophic water shortages. This is because water remains an unresolved conundrum facing the whole region. In the Palestinian-Israeli conflict, it is one of the major issues, along with Jerusalem and the right of return that have been deferred to the final round of negotiations. This, which poses a potential obstacle to a lasting peace agreement, could be viewed as good news, however, in the sense that water could propitiously be a source of cooperation and a catalyst for sustainable peace, rather than a *casus belli* (Fisher et al. 2001).

I contend, however, that the water problem in the Middle East and in other arid regions is not simply a matter of water shortage, but rather it is related to the lack of equitable water allocation. To that end, Mirumachi (2007) astutely points out that "...there is a growing consensus that water scarcity is not the major and sole factor that prompts war..." The persisting inequity in its allocation to and across national boundaries fosters hydro-hostility (and therefore excavation of water) instead of hydro-stability and multi-

national cooperation. It is often the case that water resources allocation is challenged by the question of equity, which is a major concern in water conflict management. To that end, Wolf (1999, 4) states, “application of an ‘equitable’ water-sharing agreement along the volatile waterways of the world is a prerequisite to hydropolitical stability which, finally, could help propel political forces away from conflict in favor of cooperation.”

As such, recognizing that equity is at the core of such conflicts, a plethora of conflict resolution methods are developed and considered to manage equitable sharing of trans-boundary water resources as well as peaceful relationships among riparian states. Notwithstanding, severe conflicts over water still exist, where a group of people receives more water than their actual need, while many others suffer because of that. As is the case in many arid regions of the world, inequitable water distribution is common and means that some groups will suffer from lack of water access, while other groups may enjoy disproportionate benefits from accessing more than enough water for their needs (Isaac 1999; Shmueli 1999). Developing and applying principles of equity on water allocation processes tends to foster optimal water management, which procures an atmosphere conducive for seeding cooperation and rooting out altercation. Equity in water resources allocation and the ongoing pursuit of sustainable peace in the Middle East are inextricably linked. The application of equitable water-sharing to disputed water resources in the Middle East is of paramount importance in enticing hydropolitical stability.

The applicability of the international law to the volatile watercourses of the Middle East is inconclusive and should take a more proactive turn. Enforcing the law is crucial in this regard. Without clear and puissant enforcement mechanisms, the situation could easily

escalate into chaos, where little hope for peace is left. It is imperative to point out that international law provided general rules to allow room for flexibility and adaptability for states to more easily find solutions for various cases. However, in the case of the Arab-Israeli conflict, this flexibility caused more disagreements among disputed parties over the meaning and interpretation of the law to justify and legitimize their positions. Aside from these laws, the focus should be on finding common ground for equitable distribution of water resources based on real needs of the population, rather than the desire of the riparian states for territorial and resources accusation. Regardless of water ownership and entitlement, satisfying the urgent need for domestic and potable water should have priority over agricultural application. In short, the international law is necessary, yet not sufficient by itself. Good will on both sides, the intervention of a third party, and an ongoing negotiation and cooperation process are warranted for the success of effective and environmentally sound water allocation practice.

The fact that the water issue remains unresolved impacts the political arena and exacerbates the conflict. This deferment of water negotiation means that not only will the water scarcity crisis remain unresolved, but also a situation of inequity and water deprivation for the Palestinians will continue to disrupt and hinder any chances for peace. According to scholarly consensus, it is surely to the detriment of the whole region's future peace and prosperity that Israel has expropriated away not only the Palestinians national and land rights, but also the right to have access to a clean, reliable, and equitable water supply. With limited channels of communication and meaningful diplomatic efforts among the two disputing parties, the situation is characterized by unidirectional relationships, where one state, looking out for self interest, causes environmental harm to the other, but manages to inflict no harm to itself. This situation

will entice the most powerful state, Israel, to continue pursuing large-scale plans unilaterally, to maximize its allocation of the shared water resources.

If all sides have enough water to meet their demands, peace may become, and could stay, within reach. This is because water, a simple substance, is very crucial to the survival of both nations. This is especially the case since the larger political and cultural clash (issues of high politics) is intertwined with the problem of water shortage (issues of low politics) (Wolf 1995b; Daoudy 2009). They have emerged as major contributors to the regional hydro-conflict, which makes the chances of success for any attempt to craft a meaningful and practical resolution almost insurmountable. Therefore, it is hard to skip the conclusion that without equitably resolving the water crisis of the Palestinians, Israel's own interests, security, and stability will continue to be at risk. Attaining and maintaining water equity and security is a prerequisite for the overall regional stability. Similarly, resolving the overall conflict enhances chances of resolving disputes over shared water resources. Any resolution attempt must recognize the link between the two factors and the importance of equitable water sharing to succeed.

Further, given the complexity of sharing the region's natural resources, fresh water scarcity generates and derives conflict among multiple parties sharing these resources. However, neglecting the overall regional and multilateral nature of the dispute, most treaties accomplished thus far are bilateral. Evidently, there are plenty of solutions proposed for the water scarcity problem along the volatile watercourses of the Middle East by various riparian states, none of which recognize the region and the different populations as a whole. For instance, under the threat of water shortages, a medley of plans have been proposed by different riparian countries, all of which lack a regional outlook. Confining their target population to their own people, many disputing states often tend to provide national solutions neglecting the regional scale of the crisis.

Clearly, the conundrum is not only pertinent to identifying what issues are disputed, but also related to the number of disputants involved and the way conflict resolution approaches have been sought. These unilateral attempts of bilateral approaches often tend to provide national solutions to a regional problem (Ganoulis 1996). The problem, therefore, is not related to a shortage of solutions or resolutions, but rather to the lack of a holistic approach that ties all of these unilateral resolutions into a unified regional approach applicable to all nations in the region. Without regional, comprehensive, and sustainable solutions that consider the future of the region as a whole, a disastrous water problem is almost guaranteed. Similarly, approaches that depend merely on technological solutions are not adequate to resolve the problem. Rather, approaches that treat quantity and quality issues together, recognize the importance of mutually shared rights and responsibilities, embody both technological and political solutions, and incorporate equity as part of the solution are considered to be more desirable and effective.

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