

Can Water Mitigate the Palestinian-Israeli Conflict? – the Case for Environmental Peacemaking

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Water resources have always occupied an important role in the bilateral negotiations of the Middle East peace process, as it defined the water issues between Israel and the Palestinian territories. This paper aims to shed light on the possibility of whether environmental concerns are an efficient mechanism in bringing conflicting countries to the bargaining table. This paper will argue that issues over water scarcity can be resolved peacefully through international cooperation and negotiation, rather than through military force. The paper will provide an assessment of geographical case studies related to the water issue (which serves as the empirical background of this paper), and will support the argument that environmental cooperation can be used to promote peace as opposed to peace being a prerequisite for environmental cooperation. The anticipated results will consider the current complications of the recent conflict within the region in order to assess the degree of success in including environmental security issues within the conflict resolution negotiations.

Keywords: Palestinian-Israeli conflict, Water, environmental cooperation, bilateral negotiations

Water: Can it Mitigate the Palestinian-Israeli Conflict?

As climate change reports and documentaries flood today's screens and news channels, many wonder how the world's population will face this crisis of depleting resources in the future. With armed conflicts raging in the Middle East such as the Syrian conflict, and continuous struggle between Israel and the Palestinian territories since 1948; the question of whether all possibilities for peace have been exhausted arises. With a focus on traditional forms of hard power, there has been little or no attention given to the numerous modes of soft power, or an alternative focus on human security over state security. Today many scholars and scientists have prophesized that issues of resource degradation will become a leading security concern that will eventually challenge global stability more than traditional military threats and acts of terrorism. However, the 'water-war' scenario fails to consider the ways in which water scarcity can lead towards cooperation between states and prevent the outbreak of war. For instance, international conflicts over water resources have usually been resolved through bilateral and multilateral negotiations that

have been taking place since the 1950s. The resulting complex interdependence states have with one another due to water sharing agreements arranged at the local, state and regional levels have rendered the possibility of conflict erupting over this issue extremely problematic. Given water's pre-eminence as a critical resource and the fact that its management is poorly defined in the international arena, it is of little surprise that water and conflict are two distinct topics that are being assessed together with increasing frequency. Nevertheless, recent academic literature has suggested that issues of environmental degradation can in fact lead towards cooperation and negotiation among states. These scholars argue that environmental issues may force states to work together and address multilaterally issues of scarcity, even among actors with pre-existing sentiments of political distrust.

Water resources have always occupied an important role in the bilateral negotiations of the Middle East peace process, as it defined the water issues between Israel and the Palestinian territories. This paper it will argue that although disputes over water resources can potentially lead towards violent conflict between states (notably in the Middle East region), issues over water scarcity can be resolved peacefully through international cooperation and negotiation, rather than through military force. In effect, global concerns over water scarcity may lead to the peaceful resolution of disputes through international cooperation, rather than through military conflict. Moreover, this paper will present cases studies where water-sharing and concerns of over-exploitation have led to cooperative agreements between states rather than being a source of conflict between them. The Baltic Sea and South Asian regions were selected, as they reveal how water concerns can represent a common issue for agreement even between states with a deep history of mistrust. In effect, these regions point to real-life examples where activities of environmental cooperation took place and have succeeded to a certain extent in achieving an agreement between states with a history of deep-seated mutual mistrust. Studies into the ideology of environmental peace-making is needed more than ever, as the case of water in the Palestinian-Israeli conflict is fast approaching the stage of full-blown war, due to the amount of clean water available to Palestinians and the Israeli military that controls all water resources. For instance, recent statistics indicate that over 90 percent of the water Gazans receive is contaminated and should not be used for human consumption (Water Crisis, 2017).

Human Security vs. Realism's Traditional Notion of Security

In the post-Cold War period, environmental issues have reshaped the way scholars have examined issues of security. One area of contention focused on whether the framework of security studies should be extended

past the examination of threats to the nation-state, so as to also include threats to the individuals within them. This argument is evident in the work of Chalecki and Gleick (2002, 128), who argue that the individual should be the new referent security object. Other authors such as Elliot (2004, 316) argue that “if peoples and communities are insecure (economically, socially, politically, and environmentally), state security can be fragile or uncertain.” Realism’s insistence that states are the appropriate referent object of security studies renders it unable to absorb the security realities that face the global environment in the 21st century. Realists continue to maintain the belief that if the state is protected from external state or sub-state military threats, then individuals within them will also be protected. However, this theory fails to account for the non-traditional threats that have emerged to challenge the security and well-being of individuals within states. Thus, it is essential to broaden the paradigm of security studies to account for newly emerging challenges affecting the human security of individuals. The urgency to transfer the referent object from a state-centric focus to a human security focus is apparent, as problems such as poverty, starvation, genocide, resource scarcity and issues of environmental degradation contribute to more deaths each year than traditional military threats. Efforts for environmental cooperation would still depend upon the cooperation of nation-states when it comes to the sharing of information and technological expertise, not to mention the historical and demographic characteristics of natural water sources. Such interactions may provide opportunities for achieving mutual gains (such as sustainable water resources and the avoidance of economic and political costs of a water-related conflict) through cooperation. However, critics point out that attempting to broaden the field of security studies can result in terms becoming so general they lose all meaning (Paris 2001, 88). For example, Bajpai (2000) specified that those subscribing to realism “remain [highly] skeptical about the idea of human security, arguing that it is too broad a concept to be useful either analytically or practically.” Moreover, Robert Dorff (1996, 234) argues:

Although a broader definition of [global] security highlights significant contemporary problems, these do not constitute security issues because ‘problems’ is not a concept ...[it] provides with no ordering of reality that we can use to create a common understanding of what it is that we are talking about [nor a] range of possible policy approaches to address those problems.

National governments today are forced to accept that there is a strong link between ecological stability and human security. Middle Eastern states in the past have shown their repeated willingness to resort

to force to deal with threats to their security. The geo-strategic position of these states within a desert climate clearly illustrates that water represents a critical concern.

Environmental Security: Using the Environment as a Tool in Peacemaking Efforts

The broadening focus of security studies has increasingly demonstrated that environmental issues are permanently intertwined with efforts to maintain international order. For instance, numerous studies have demonstrated the significant effect the global warming phenomenon will have on the earth's climate. This rapid change will result in environmental degradation and resource scarcity that presents a threat as serious as traditional threats to national security. Once an issue limited to the political periphery, images of 'tree-hugging' environmentalists are being replaced by various international institutions and non-governmental organizations (NGOs) who are taking up the environmental cause. Environmental security studies have addressed these problems by focusing on 'sustainable utilization' and safety of the human environment. The urgency to include and implement strategies for sustainable development is increasingly being combined with strategies to help developing countries industrialize without harming their resources. Allenby (2000, 7) argues: "the critical pressure to evolve environmental security as a policy system derives from the fundamental recognition that environmental issues can no longer be thought of as ancillary, rather than the integral components of industrial, social, and economic systems."

Despite this, there are those who argue that environmental concerns are not pressing security threats when compared to issues of WMD proliferation or acts of global terrorism. As a leading scholar in this area, Conca (1998) has stated that "framing environmental problems in security terms may be an easy task; although reworking the security agenda [to account for such challenges] is not." However, Sheehan (2005, 211) stresses that such concerns remain important given that "the environment [may be] a present or future cause of war, seen in the realist-environmentalist school." This theory has gained momentum, and the research arena of 'the environment being a possible cause of conflict' has witnessed an increase in the number of practitioners over the past few years.

Traditionally, peace research has been concerned with the level of environmental damage caused by wars and military conflicts between states (Soroos 1994, 329). It has also been primarily concerned with contributing to the understanding of how constructive international partnerships can be help advance goals of sustainable development and international equity. Using the environment as a tool in peacemaking is more feasible than what many believe, since there is a great deal of inter-

dependence between states concerning this issue. Conca (1998, 42) asks “whether environmental degradation can trigger broader forms of inter-group violent conflict, or if environmental cooperation can trigger broader forms of peace.” He defines environmental cooperation as the complete absence of violent conflict in dealings between countries when they are trying to resolve common issues affecting their respective environments (Conca and Dabelko 2002, 220). The trans-boundary nature of environmental problems makes it virtually impossible for states not to share similar environmental threats. Environmental peacemaking deals with three notable concerns: (1) preventing the eruption and/or continuation of conflicts that are directly linked to the environment, (2) initiating and nurturing discourse between parties in conflict, and (3) creating the foundations for a lasting peace. In other words, environmental cooperation would act to prevent “the sort of violence that can be triggered by resource overexploitation, eco-system degradation, or the destruction of people’s resource-based livelihoods” (Conca et al. 2005). The zero-sum approach to conflict therefore becomes illogical, because unsustainable harvesting of resources by either party would be against the long-term interests of both. Environmental cooperation at different levels (local, regional, or national) may alleviate issues of resource degradation that inevitably effect human security.

Several regions in the developing world suffer from a history of conflict which has formed a self-sustaining cycle of violence. In implementing cooperative environmental policies within regions where violence is frequent, states can play a vital role in helping to decrease the likelihood that such conflicts will re-occur. The UNEP has documented cases of environmental damage in post-conflict countries, including Afghanistan, Iraq and Serbia. It has urged that environmental programs be integrated into the reconstruction efforts of these countries (Renner 2006, 115). Ken Conca and his associates have striven to point out some major flaws in the concept of ‘environmental security’. In their view, this concept does not “provide an adequate conceptual or normative basis for redressing the problems that link violence, nature and human insecurity” (Conca et al. 2005). These flaws have led theorists like Conca and Deudney to formulate the concept of ‘environmental peacemaking’. Under this concept, ‘environmental security’ and its noted drawbacks would be reformed with the help of the ‘functionalist’ school of thought.

Conca insists that there is a possibility that the environment and its pressing issues can serve as a “link between environmental cooperation and peaceful international relations,” and can prove to be as powerful as the misguided “link between environmental degradation and violent conflict” (Lipschutz and Conca 1993, 276). Moreover, Conca and Dabelko both point out that there is no proven direct connection between

environmental threats and cooperation. However, increased international cooperation and the forming of new transnational linkages can result in a sense of security and mutual trust within societies and organizations.

The Role of Water as a Tool for Peacemaking Efforts

It may seem strange that water, the most abundant resource on the planet, may become such a security concern. In reality, it is true that the quantity of water, through the hydrological cycle, has not changed since the earth's creation. What has changed however is the quality of natural water sources. Despite the existence of major water-related agreements, many have failed or have been neglected, due to the absence of effective enforcement and regulatory bodies with a clear mandate as defined by international law. Apart from the existing difficulties to guarantee the effective enforcement of these agreements, management and regulation is made more impractical due to "regional politics that tends to exacerbate the already difficult task of understanding and managing complex natural systems" (Chalecki and Gleick et al. 2002, 126). Water sharing has traditionally been about joint efforts to tap water resources to their limits than about the governance and protection of watersheds. However, in the present day, Conca et al. (2005, 149) explain that "communities typically are joined by many simultaneously overlapping ecological interdependencies; places that are upstream from a neighbor in one ecological relationship may well be downstream in another," where each state or actor has different agendas on how the water sources should be utilized or protected. Furthermore, Goldstone (2001, 91) has noted that water serves as "a non-violent environmental/demographic security issue, where the depletion of these environmental resources are themselves the main problems to be addressed, not any armed conflicts that may result."

Case Study: The South Asia Region

The region of South Asia includes territories within India, Pakistan, Bangladesh, Bhutan, Maldives, Nepal and Sri Lanka. The South Asia region is notorious for ethnic and religious conflicts between its two largest religions, Hindu and Islam. Swain notes that the two religions have "long been antagonistic towards each other. This religion-based confrontation has long-standing sources of tension and has witnessed hostilities between India, Pakistan, and Bangladesh, which comprise 94 percent of the region's area and 96 percent of its population" (Swain 2002, 65). However, despite the long history of religious and political animosity, water agreements have represented an area where even traditionally hostile states can find common ground.

The Indus River System, located in South Asia, has been shared for nearly forty years by India and Pakistan. This system of sharing was made possible through mutual cooperation and the formation of a bilateral agreement between the two states. As such, the agreement stipulated specific requirements “to allow Pakistan to construct a system of irrigation works on the western rivers, to compensate for the loss in irrigation supply from the eastern rivers” (Swain 2002, 67). In addition to this treaty, India and Bangladesh have also signed a treaty to ensure the sharing of scarce water resources in the Ganges. A Ganges water agreement was signed in 1996; it locked both states into a thirty-year pledge to tackling the recurrent issues of dry seasons and drought concerns. In effect, this treaty includes detailed amounts of water that would be shared by both India and Bangladesh when water flow rates fall below a specific measurement of average water flow (Swain 2002, 69).

History has shown the strength of the Indus Water Treaty, as it has withstood the test of political tensions, including a full-scale war over the area of Rann of Kutch between India and Pakistan. Water-related cooperation is also evident between India, Nepal and Bhutan over the use of communal water sources (Swain 2002, 62). For example, in 1980, the South Asian Cooperative Environment Program (SACEP) was established under the direction of the United Nations Development Program (UNDP). The SACEP included the South Asian countries, as well as Afghanistan and Iran in an ongoing dedication to stimulate the region’s environmental cooperation. (Swain 2002, 74) Since its inception, the SACEP has taken on several ambitious projects concerned with the environmental upkeep of the region, ranging from deforestation issues to wildlife management.

Despite there being a water-related agreement in place, it is not comprehensive and does not cover every aspect of the region’s water-sharing activities. In addition, the failure to develop effective regulatory and enforcement mechanisms has resulted in a sloppy implementation of the agreements. Swain’s (2002, 82) observations reflect that sharing of the region’s international waters have resulted in “declining fish catches in the open sea, and increases in air pollution, have exposed the hollowness in the authority of an individual state to find solutions.” In effect, this has encouraged a tighter working network among these countries and a more extensive cooperative effort to “ensure further economic development, to infuse greater political stability, and enhance human security.”(Swain 2002, 82)

South Asia, India and Pakistan have utilized a cooperative route for dealing with the Indus River water agreements and cooperative measures, following three violent conflicts (Conca and Dabelko 2002, 225). As a result, “functional interdependencies have resulted in a proliferation of

watercourse agreements despite enduring political tensions.” (Conca and Dabelko 2002, 225) In other words, if the working theory of presenting environmental cooperation as a possible catalyst for peace fails, the option of continuing environmental cooperative efforts in the midst of geopolitical tensions is feasible. These states would stand to lose a great deal of water resources if negotiation and cooperation in this area were to fail. In effect, this mutual need forces them to open up positive-sum negotiations in what would otherwise be a silent, hostile relationship.

Case Study: The Baltic Sea Region

The states within this region have witnessed their share of historical animosity, as many of the Baltic countries were once controlled until recently by the Soviet Union, and thus along the frontline of the ideological struggle which divided Eastern and Western Europe. As such, this legacy led to the harboring of negative attitudes and perceptions within the region. According to VanDeveer (2002, 29), these historical legacies represent ‘barriers’ to cooperation, a definition which applies to a number of issues, including:

ongoing border disputes, resource inequality, and the multidimensional problem of low levels of state capacity. In addition, because of ethnic rivalries and historical tensions, often-compromising political rhetoric has inhibited agreements on border delineation.

Nevertheless, the Baltic Sea region has endured the hostile relations of the Cold War and has risen to embrace environmental cooperation to resemble the “most important strand of regional cooperation – indeed, arguably the only significant strand during that era.” (VanDeveer 2002, 24). Activities for environmental cooperation to ensure the regions’ resources have been continually taking place, particularly in the case of agreements to ensure the upkeep and survival of the region’s water sources. In turn, active participation of multilateral institutions may “contribute to socializing newly democratic states and political actors towards more democratic, humanitarian, and environmentally friendly practices.” (VanDeveer 2002, 24) Even more so, VanDeveer (2002, 55) stated that “environmental issues in the Baltic Region are no longer viewed as ‘low politics’” and more importantly environmental cooperation around the Baltic Sea has contributed greatly towards prospects for regional peace in the region. Institutions such as the World Bank and EU, the European Bank for Reconstruction and Development, the European Investment Bank and the Nordic Bank have all joined the environmental agenda by making funds available for further research (VanDeveer 2002, 55). Moreover, a number of international organizations have enhanced

the strength of existing projects and relationships in this area, despite levels of distrust among some countries regarding their security affairs and economic agendas (VanDeveer 2002, 25). The foundation of trust which is formed between successful negotiations will greatly enhance the possibility of further discussions and agreements between these states, strengthening the ties that bind these historic adversaries. The recurring problems of water pollution set the stage for a form of positive-sum logic, where every state would benefit from cleaning up and acting to prevent this problem, or from cooperation in protecting a shared resource. The 'tragedy of the commons' model demonstrates how the short-term costs of cooperative environmental cleanup and sustainable water use can result in much greater long-term benefit. By sharing the burden of initiatives, states minimize initial burdens can maximize the process net gain, since unilateral efforts would be extremely cost-ineffective.

The natural and geographical characteristics of the water resource in question are fundamental to determining their relationship with the surrounding states. For instance, the states surrounding the Baltic Sea region have an equal opportunity to exploit and utilize its resources, as all states are physically adjoined to that common pool. In this sense, each state has a common interest in cooperation because no one state can monopolize these resources and because without cooperation, these resources will eventually be degraded. As such, in these cases there are enormous incentives for each state to cooperate. In the case of the South Asia region, some rivers systems border two states, while other rivers start in one state and end in another. In some instances, such trans-boundary rivers might eventually feed into another body of water. In this particular situation, zero-sum logic can be applied, where if negotiations over water fail or a state wants to assert its supremacy within the region, it might divert that water source if a portion of it is surrounded by territorial boundaries. In comparison, this is similar to the situation of vital water sources located in the Middle East. However, given the development of some cooperative water sharing efforts in the South Asian region, these may serve as a model for Middle Eastern states in managing water-related conflicts/issues.

The Palestinian-Israeli Conflict

The Middle East region has had a turbulent history. With the imposition of the Westphalian state system after WW I, the Levant area was divided between British and French mandates. Tribal preferences and loyalties were not factored in during the process of carving up this region, resulting in the division of regions that had previously functioned as a whole (as was the case with Syria and Lebanon). The upshot was a series of wars and conflicts between Israel and its neighbors which continues up to the

present. Moreover, the Middle East has “one of the most frequently hypothesized forms of resource wars,” which has been described as a water-scarce region with particularly volatile and violent political relations” among neighboring states. (Duedney 1993, 206). For the most part, disputes over holy spaces, political debts and alliances were seen as the key factors motivating conflict, and water was not viewed as a vital or core issue. However, as conflicts further developed in the region, water became one of the many points of dispute that would lead to political tension. For example, water became an important issue for the development of up-and-coming states in the region (most notably Palestine), and was further used to assess this region’s ecological capacity for an influx of mass populations due to immigration. Furthermore, Allan (2001, 246) highlights the region’s unique environmental security stance and political position by reflecting that

Water in the MENA region is a suitable candidate for analysis according to the framework of the ‘security’ theorists. It has been shown that the manipulation of awareness of the status of water resources is a fundamental feature of the water policies of the region.

At first glance, the existence of unequal distributions of power in this region makes it highly improbable that environmental cooperation among countries will result. In regard to this, Erika Weinthal (2002, 103) stated that “interstate cooperation is unlikely when one state gains more and can use its gains to threaten another state in future interactions, or where the danger of unanticipated defection by one nation-state cannot be hedged against.” Israel utilizes its power to increasingly control and acquire scarce regional water sources. For example, Siha (2004, 131) presents some estimates of water control and use in the region, stating that according to the Israeli Minister of Agriculture at the time:

Forty percent of Israel’s water originates from the West Bank alone through exploiting one-thirds of the West Bank’s share of the Jordan River which amounts to 257 million cubic meters yearly, where Israel takes almost 100 million cubic meters a year. In return, Israeli authorities prohibit the Palestinian people from digging new wells or improving existing ones. According to studies done by the Palestinian Strategic Center, the number of groundwater wells in the West Bank before the occupation were 720, where only 314 wells remain now. That is not all, as the Israeli authorities control the depth of the wells in the West Bank, which varies between 170-300 meters. Israel’s wells reach to about 1200 meters in depth, which can extract up to 41 million cubic meters on some occasions. That has greatly affected the Palestinian share of water resources in the West Bank.

Palestinian Occupied Territories: West Bank and Gaza

The current legal status of the Palestinian people and their lands is extremely complicated. In the case of the rights of the Palestinian people, it is vital to spell out the legal terminology imposed on their situation, as it comes with certain responsibilities that should be carried out by the occupying state and grants certain rights for both the occupying and occupied subjects. The two main water sources that the Palestinian people can access to satisfy their water needs are the Jordan River and the groundwater aquifers it feeds. Moreover, more than eighty- five percent of Palestinian's allotted water that is found in West Bank aquifers has been taken by Israel, and these sources constitute about twenty-five percent of Israel's water needs. (Isaac and Ghanyam, 2006). This is why Rouyer (2000, 139) explained that "water security remains a major stumbling block to peace between Israel and the Palestinians," where the mere notion of giving up any existing water sources, or even sharing it, is perceived as a 'zero-sum' situation. Moreover, the Oslo Accords II contained the agreed upon allocations of trans-boundary water resources that placed Israel and its military in control of almost 80% of water reserves in the West Bank (European Parliament Think Tank 2016).

The exact terminology of 'water rights' was used within the Israeli-Palestinian peace-negotiations, without defining its legal and technical dimensions. This in turn instigated a swift response from Water Commissioner Meir Ben Meir. He stated that "We have to talk about the right to water of the people of the region, and not about water rights, as regrettably set down in the peace agreements." (Elmusa 1997, 361). Based on this statement, the question is whether or not Palestinians have a right to the water found in these areas, as opposed to the vital issue of a basic 'human right' to any water source regardless of the region in question. The difference is but a hairline, but in the eyes of Israeli officials, the legal wording is critical within the context of the peace negotiations. The main obstacle is more politically driven. If Israel were to give up claims to this water source, it would thus be giving up claims to lands in the Occupied Territories. Yet Israel must face the reality that Palestinians also have the "right to an equitable share of the region's water supply, and they should outline a program of action aimed at achieving this goal" (Rouyer 2000, 129).

The question of an Israeli military withdrawal from the West Bank has been and remains a volatile topic in Middle East politics. Israel seems adamant not to give up control of this strategic and vital piece of land, despite the illegality of withholding it from the Palestinian people. The inability of Israel to relinquish the West Bank is due in part to concerns over its national security given the proximity of vital resources that help support Israel, including water "located beneath the West Bank" (Allan 2001, 40). This zero-sum ideology is incredibly destructive to the region's

water resources, particularly when settlers intentionally destroy water resources in order to spark Palestinian migration. The Palestinian people are living under severe conditions where the water supply and its quality are horrendous, resulting in illnesses that range from deteriorating health to infectious diseases. For instance, according to Palestinian officials, the Palestinian inhabitants of Ramallah (numbering approximately 25,000) were left without water “after pipe lines and electricity lines were ruptured by IDF tank movements in the city.” (Hass 2002).

In the early 1990s, Israel demonstrated its concern over public reports about the water situation in the region. Through this concern, it “suppressed a report by the Jaffee Center for Strategic Studies of Tel Aviv University that offered scenarios for [re]solving the water problems of the region within the context of Israeli and Arab cooperation” (Rouyer 2000, 135). Rouyer (2002, 136) described this report as being “one of the most comprehensive studies on the Middle East water crisis ever undertaken.” In other instances, when experts from the Palestinian Water Authority (PWA) wanted to work cooperatively with Israel, they were “never allowed to take part in comprehensive water development planning or have access to water data for the Palestinian territories” (Rouyer 2000, 54). Despite the many challenges the Palestinians face in this region’s water dilemma, some steps have been taken to implement and establish a Palestinian water policy. The difficulty here lies in the fact that they never had to govern their own water policies, and they have always had policies implemented from Jordan, Egypt and Israel (Rouyer 2000, 54). However, these policies have given them a sufficient background to build their own. Nonetheless, the absence of stable permanent sovereign entity has made it more difficult to establish any ‘national’ or regional water polices for Palestinians to follow.

The Gaza Strip has suffered a large series of tragedies and mishaps in the midst of violent clashes, and this area is in great need of international assistance. According to the U.S. Bureau of Census (2004), the Gaza Strip is considered to be “one of the most densely populated areas in the world: [where] over 1.3 million Palestinians are crowded into approximately 400 square kilometers.” To illustrate the severity of the environmental situation, the limited water resources found in the Gaza Strip are non-replenishable and the intrusion of salt water into groundwater resources from the neighboring sea (Weinthal 2004, 21) has further worsened the already existing poor water quality.

The territories have seen a wide array of environmental initiatives taking place with the help of international donors such as USAID and the UN. The Water and Environmental Development Organization (WEDO) also began work in the Territories, given the environmental problems caused by water scarcities. The WEDO has promoted some

environmental programs that concentrate on environmental planning and development, focusing on water quality control, water conservation and wastewater treatment (Palestinian Ecological and Agricultural Organizations 2006). Similarly, the Water and Environment Studies Center was founded to meet the needs of the Palestinian community in the areas of water and environmental control. Further, the Good Water Neighbors (GWN) project (founded by EcoPeace and Friends of the Middle East in 2001) has “raised the awareness of the shared water problems of Palestinians, Jordanians, and Israelis” (Good Water Neighbors n.d.). The GWN project aims to bring together neighboring communities on each side of the political divide to work on common water issues. At the local level, GWN works “with members to improve the water situation through education awareness activities, and urban development projects.” (Good Water Neighbors n.d.). At the regional level, the GWN works to “encourage sustainable water management through information sharing, dialogue, and cooperative ventures” (Good Water Neighbors n.d.). The project’s staff is located in the Palestinian Territories, Israel and Jordan, and it is accompanied by an international advisory committee from Europe and the US which “contributes comments, ideas, and shares experience with water issues and bottom up management strategies” (Good Water Neighbors n.d.). Cooperation with Israel would lead to positive-sum gains between Israelis and Palestinians, as it will decrease the likelihood of violence (i.e. military and civilian casualties) over disputed water sources and access to clean water - both fundamental for human survival. Perhaps - in the long run - cooperative actions may lead to increasing access to more water sources for the Palestinian people. .

Israel

Until now, Israel has been viewed among Arab states as the more powerful actor within every facet of the conflict, including the area of water. Still, Israel faces its own dilemma of water quality and quantity, as it is preoccupied with maintaining its existing water flow and securing its portion of the rivers surrounding it. Like its Arab neighbors, Israel is faced with its own legitimate water quality concerns. The Israeli water sources are divided into three main components: the Coastal Aquifer, the Mountain Aquifer, and the Sea of Galilee. Unfortunately, due to the ongoing deterioration of the water’s quality in the region, the long seasons of drought, and most importantly, the demand of surrounding states, the above-mentioned three water sources are suffering greatly and have seen drastic reductions. In reference to this, Luft (2002) notes that the “combination of low precipitation, growing population, and over-pumping has created a national water crisis.” Luft’s assessment of Israel’s

water sources summarizes the country's unhealthy relationship with its neighboring states. Moreover, Israel's water supply is greatly dependent on the water sources found in the West Bank, and their water demands will increase due to population growth in the coming years. This is not a concern for the state of Israel, as they are the primary water control agent within the West Bank. Their ability to stipulate the number of wells that are to be dug for Palestinian use and the amount of water drawn therefrom gives them a sense of control over the situation.

Given Israel's position as the technologically dominate state in the region; it is somewhat puzzling that Israel's water supply is also suffering. The populated city centers in Israel resemble major European cities, bustling, filled with public parks, and widespread greenery. Yet, it is considered by its government as being water-deprived. Israel's water issue is so severe that in 2002, they were left with no choice but to sign a water accord with Turkey to import 50 million cubic meters of water into Israel over a 20-year period (Luft 2002). Questions remain as to how it is possible that Israel faces water shortages, particularly when Israeli neighborhoods are notorious for having swimming pools, while their Palestinian neighbors are suffering from diseases brought on by poor water quality.

Re-examining how water is used in Israel may help rectify its poor water supply situation. Elmusa (1997, 352) noted that the "the level of household water supply is based not on income [or the availability of water in the state], but on what is believed necessary for a higher quality of life." Sherman (1999, 4) presents criteria for Israel's living standards, explaining that it includes factors such as "adequate levels of personal hygiene, recreational amenities [pools], well-groomed private gardens and public parks, all [of which] involve water consumption, without which high standards of modern life cannot be attained." He further explained that such standards of living do not exceed the average standard for a relatively new country situated in the most water-deprived region. Sherman (1999, 12) then compared Israel's geographical and ecological properties with that of California, claiming that

[The] Israeli urban sector is in no way extravagant by western standards in its consumption of water...by comparison, the urban demand in southern California, a region similar climactic conditions to those in Israel, ranges from 250-300 cum [cubic meters] per capita per annum [while in Israeli water consumptions ranges from 90-100 cum per capita per annum].

That being said, given such high expectations and living standards, Israel is bound to face serious water shortages in the coming years for its agricultural needs, forcing it to invest abroad and import fruits and

vegetables. Thus, Israel's future water situation serves as a framework for the Palestinians in the Levant Region. As the Netanyahu government previously suggested; this assumes that the Palestinian territories and its neighboring Arab countries can afford to sign a water accord similar to Israel's, so as not to affect available water sources that are utilized by Israel (Rouyer 2000, 242).

The Israeli states that "the proportion of water it uses has not changed substantially since the 1950s. The rain which replenishes the aquifer may fall on the occupied territory, but the water does flow down into pre-1967 Israel" (BBC 2010). In addition, many Israelis have placed part of the blame for such dismal water conditions on the

failure of the Palestinian Water Authority and the Palestinian Authority as a whole... treat[ing] waste water effectively, and claim[ed] that untreated waste water flowing into streams and wadis constitutes a threat to the quality of the water of the region's aquifers (Rouyer 2000, 248).

Actions have taken place within Israel's water policy, with significant ramifications for the current quality of water. This is due to the changes taking place with the rising international coverage and awareness of the region's water crisis. On this point, Rinat (2005) reports that

For the first time in Israel's history, the water commissioner had to explain on the national radio program what the government was planning to do with the pollution caused by the defense industry. Until then, this topic, which involved the entire defense industry, had been treated like a sacred cow because of its importance to national security.

This act should be applauded and adopted by the other states in the Middle East region, as Israel placed a vital human security issue ahead of other top national security issues. However, the main question remains: Are the water resources provided to the Palestinians and Israeli equitable? That answer would be a resounding no. A telling incident of that was the cutting of over a million residents in Gaza from all access to water, as a result of a military conflict in the summer of 201.

Conclusion and Recommendations

The unique nature of fresh water creates a dynamic which is inimitable. Unlike oil or other non-renewable resources, it is illogical to take a zero-sum negotiations approach when it comes to water. This is due primarily to the fact that sources, like lakes and rivers, are often shared between states and its resources must be maintained by both for long-term use. Therefore, it is much more likely that states will work to agree on an exchange which will be sustainable. The water situation is undoubtedly

a ‘mutual vulnerability’ dilemma, where most or all states stand to lose or suffer from the depletion of given water sources. Evidence of environmental cooperation developing in this hostile region exists, and has developed over the past fifty years, especially with the cooperative efforts surrounding the Jordan River’s sources. In the case of Israel and the Palestinian Occupied Territories, there is the reality of uneven shared resources and fiercely disputed lands. In turn, there will always be conflicting claims over the region’s pooled resources. This situation reflects the merging of environmental concerns together with highly charged political issues such as the recent move by the United States to move its embassy to Jerusalem, thereby recognizing the city as the capital of Israel, and further undermining the 25-year long peace process (“Jerusalem: Trump move prompts negative world reaction 2017). It is clear that zero-sum mentalities will take some time to break down. More importantly, this case study cannot - at the present time – apply the lessons learned from the aforementioned case studies, due to the immutable fact that Palestinians do not have sovereignty over their places of settlement. Additionally, without Israeli adherence to UN Resolutions 242 and 338, a fair and equitable sharing of water resources will not exist. If both conditions are met, both parties will have equal standing as legitimate nation-states to create their own water-sharing arrangements without a third party, such as the UN or any NGO. Nevertheless, one should not write-off the Middle East region altogether, as the seriousness of environmental concerns creates a hope that the region may be able to accommodate environmental security practices in the distant future. The following recommendations may assist in the adoption of environmental peacemaking agendas:

Given that aquifers and rivers do not conform to boundaries and national borders, it is essential to generate cooperative solutions that meet the needs of all parties, particularly in the Palestinian and Israeli conflict. Environmental guidelines need to be agreed upon before tackling any political or economic concerns. If that plan were to be successfully implemented, then one might consider Weinthal’s (2004, 19) suggestion of the environment playing a role in offering “opportunities in the post-conflict resolution phase to sustain a fragile peace and prevent a return to violence.”

Educational and cooperative efforts related to such environmental concerns should take place between both sides in an attempt to build mutual awareness and confidence. In addition, time should be dedicated to strengthening and building “local capacity, by strengthening local water user associations and civil society groups” (Elmusa 1997, 328). This should preferably be conducted by local officials to better reinforce and legitimize the policy makers’ jurisdiction within the disputed areas.

Notes

¹ Palestinian ownership rights over the West Bank have been decreed by numerous UN resolutions and declarations such as UN Resolutions 242 and 338, which call for the systematic withdrawal of the occupying state.

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