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THE LEGAL IMPLICATIONS OF THE ISRAELI-PALESTINIAN WATER CRISIS

by Juliette Niehuss*

INTRODUCTION

While the non-oil economy of the Middle East is largely agricultural, it is based in an arid, untamable desert environment. Water is naturally scarce in the region, and there has always been conflict over possession and use of water resources. Recent history has shown that while water supplies in the Middle East are limited, maldistribution and overuse of water resources by Israel has aggravated development, and ultimately peace, between Israel and Palestine, and the region as a whole. Specifically, the Israeli-Palestinian conflict can be attributed, in part, to disputes over scarce and valuable water resources of the Jordan River basin and its aquifers.

This article focuses on the legal implications of the water dispute between Palestine and Israel. The article first discusses current water conditions in the Palestinian Territories, including Israeli water policies and the region's unstable water resources. The second part discusses regional and international agreements regarding water-sharing and transboundary watercourses. The third part examines the successes and failures of those mechanisms in regard to Palestinian water access. Finally, the article describes the effect that water disputes have on Palestine's status as an occupied territory, as opposed to its status as a sovereign "state."

WATER ACCESS AND CURRENT CONDITIONS IN THE PALESTINIAN TERRITORIES

Israel and Palestine are located in one of the most arid regions in the world. Demand for water greatly exceeds nature's ability to recharge those resources. In fact, current water recharge minimally sustains the demand. Israelis and Palestinians use 2,570 million cubic meters ("mcm") of water per year combined, while the recharge rate does not exceed 2,634 mcm of water per year.¹ This is a net gain of 64 mcm of water per year as recharge rates continue to fall and overuse of water has steadily decreased water supplies by approximately 1.6 mcm annually.²

Israel's highly disproportionate use of the region's water supply exacerbates the current crisis in the region. Estimates show that Israelis use four to six times as much water as Palestinians.³ Additionally, Israeli water policies allow for distribution of only 50 to 70 cubic liters of water per day for each Palestinian household,⁴ which is less than half of the 100 to 150 cubic liters recommended by the World Health Organization for the minimum to average sanitary conditions necessary for healthy living.⁵

Israel's water policies have systematically worsened the general health of the Palestinian population, as well as Palestine's economy, development, and overall infrastructure.

Such policies include rationing Palestinian households' access to water, diverting Palestinian water sources for use by Israelis and settlers, and preventing the drilling of additional wells in Palestinian territories that would help to meet the rising demand for water.⁶ These restrictions have forced Palestinians to use unclean water for their daily uses, or to put off daily chores such as washing food, cleaning dishes and utensils, and flushing toilets.⁷ Due to these restrictions, Palestinians are exposed to water-borne diseases through lack of sanitary drinking or bathing water,⁸ and some estimates show that over 60% of Palestinians living in West Bank communities are infected with diarrhea.⁹ Palestinian water, when accessible, is also highly salinated, causing kidney problems and hypertension in Gaza in particular.¹⁰

Additionally, the Palestinian economy has been heavily impacted by Israel's water policies.¹¹ Palestinian businesses are affected by these policies on a regularly occurring basis, are forced to rotate water access, and are unable to attract high-tech or manufacturing industries because of this unpredictability.¹² A recent survey of water usage by the Palestinian Central Bureau of Statistics shows that overall, 68% of Palestinians experience loss of water at least twice weekly; in the Gaza Strip, this figure jumps to 73% of Palestinians.¹³

In the Palestinian territories, groundwater (water that accumulates in underground aquifers and springs) is the primary source of renewable water, whereas surface water in the Jordan River and *wadis* (valleys) provide a far less rechargeable supply. Studies by the Palestinian Water Bureau show that the majority of rechargeable water for the Israel-Palestine region occurs beneath Palestinian territories in the Mountain Aquifers, but Palestinians are only allotted 17% of groundwater, 10% of the runoff recharge, and none of the Jordan River recharge.¹⁴ It should be noted that Palestinian usage is only 11% of the total available water recharge, while Israeli usage is 89% of the total, which includes all of the potential recharge of the Jordan River waters.¹⁵ (See Figure 1 for more on water usage.)

Despite similarities in the size of their respective populations, Israelis consume over 85% of the region's total water resources even though Israelis and Israeli settlers make up only 68% of the population.¹⁶ In contrast, Palestinians comprise 32% of the region's population, yet use only 11% of the region's water.¹⁷ Most alarming is the fact that each settler consumes

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600 liters of water per day, which is almost ten times as much as Palestinians and nearly twice as much as the average Israeli although settlers make up only 3% of the population.¹⁸

FIGURE 1: SOURCES OF WATER SUPPLY AND TOTAL USE IN MILLION CUBIC METERS ANNUALLY¹⁹

Israelis and Palestinians use the following water supplies:

The Jordan River Basin: including Lake Tiberias, the Dead Sea, the Yarmuk and Zerka Rivers

The West Bank Mountain Aquifer: including the Coastal Aquifer, the Western Aquifer, and the Northeastern Aquifer.

The Jordan River Basin, Western Aquifer and Northeastern Aquifer are directly within the West Bank territories. The Coastal Aquifer covers all of the Gaza Strip. Even though the majority of the water supply is underneath Palestinian territory, Israel has restricted Palestinian riparian rights and water access, using all of the Coastal Aquifer waters to the detriment of the Gaza Strip, and using most of the West Bank aquifers and all of the Jordan River Basin to the detriment of West Bank territories.

A 1995 Applied Research Institute of Jerusalem (“ARIJ”) survey of water allocation between Israel and Palestine showed that Israel used at least three times as much water from the Jordan River Basin and West Mountain Aquifer as Palestinians were allowed. Specifically, the Jordan River waters have been diverted by the Israeli National Water Carrier to irrigate settlements and agricultural lands in the Negev Desert, violating the terms of the 1950s Johnston Plan and Palestine’s international water rights as a riparian state of the Jordan River.

Although all of the recharge (or replenishing) areas of the Mountain Aquifers are underneath Palestinian territories – mainly the West Bank – Israel uses more than half of these resources. As of 1995, Israel used 115 mcm per year from the Northeastern Basin Aquifer, 325 mcm from the Western Basin, and 65 mcm from the Eastern Basin. From those same aquifers, Palestinians are only allocated 25 mcm, 25 mcm, and 60 mcm per year, respectively.

HISTORIC WATER AGREEMENTS AND THEIR APPLICATION TO THE CURRENT CONFLICT

ISRAELI-PALESTINIAN AGREEMENTS

Palestine and Israel have addressed these water disputes in a variety of past negotiations. The Johnston Plan, which was formulated by the United States in the 1950s and has become de facto customary law in the region, proffered a proposal for equitable distribution of the Jordan River waters between the five states sharing its banks: Jordan, Syria, Lebanon, Israel, and Palestine.²⁰ The Gaza-Jericho Accord of 1994 led the Palestinian Liberation Organization to formally recognize Israel’s water policies in the Gaza Strip.²¹ The Accord stipulated that water resources in the Gaza Strip and Jericho would be managed by the Palestinian Authority (“P.A.”), while existing

supply systems for the settlements would continue to be managed by Merkorot, an Israeli water company, and that the P.A. was not to interfere with such supplies.²² The 1993 Declaration of Principles on Interim Self-Government Arrangements²³ laid the groundwork for the Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip of 1995.²⁴ These Agreements set out provisions on the goal of joint water management of the Occupied Territories. Article 40 of the Interim Agreement’s Protocol Concerning Civil Affairs recognized Palestinian water rights in the West Bank, although it made no mention of the Gaza Strip Coastal Aquifer or Palestinian access to the Jordan River.²⁵

However, despite significant steps towards recognizing Palestinian water rights through such bilateral agreements, the water rights debate essentially has been ascribed the role of a “final status” issue that will not be fully negotiated until the creation of a Palestinian state. One must, therefore, look to customary and international law that may provide support for Palestinian water rights. While a range of international mechanisms provide moral and legal support for granting Palestinians increased water rights, Palestine’s tenuous political status complicates the enforcement of these international laws on Israel.

INTERNATIONAL MECHANISMS AND CUSTOMARY INTERNATIONAL WATER LAW

The United Nations (“U.N.”) International Law Commission and the non-governmental International Law Association (“ILA”) have formulated a recognizable body of international water law, addressing water rights to various sources, including rivers, drainage basins, groundwater sources, surface water sources, underwater aquifers, and other freshwater bodies. Internationally, there is also an increasing recognition of an inherent right to water, included in an expanded theory of fundamental human rights, such as the right to life and the right to favorable living conditions.²⁶ The World Health Organization recently published a report on the right to water as a fundamental human right,²⁷ which it sees as deriving from principles of health and sanitation put forth in Article 12(1) of the Covenant on Economic, Social, and Cultural Rights (“ICESR”),²⁸ and more recently U.N. General Comment No.15.²⁹ In fact, over the last fifty years, a range of international conventions and decisions have addressed this fundamental right to water and have increasingly provided support for Palestine’s claim to water rights.

The Helsinki Rules

The Helsinki Rules on the Uses of the Waters of International Rivers (“Helsinki Rules”) establish that a “basin state” is “entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin.”³⁰ The Helsinki Rules were formulated and adopted by the ILA in 1966 and are respected as customary international law.³¹

One primary principle of the Helsinki Rules suggests that a riparian state, a state occupying land adjacent to a river system, must obtain a “reasonable and equitable share” of that state’s

water sources, including equal use of its rivers, drainage basins, aquifers, and other ground- and sub-surface sources.³² Article V(II) of the Helsinki Rules lists eleven factors that must be considered when determining if a riparian state possesses “a reasonable and equitable share” of their water sources, including the past utilization of the waters, the economic and social needs of the basin State, the population dependent on the waters, and the availability of other resources.³³

The Helsinki Rules also state that “a basin State may not be denied the present reasonable use of the waters of an international drainage basin to reserve for a co-basin State future use of such waters.”³⁴ Interpreted broadly, this principle supports the notion that Israel cannot deny Palestinian access to water for Israel’s own future needs, either by preventing well drilling or by diverting Jordan River flow. However, as noted, the Helsinki Rules were drafted by the ILA, a private non-governmental organization, and although respected within the international community, are not legally binding on Israel’s actions.³⁵

The Law of Non-Navigational Uses of International Watercourses

Israel is legally bound by the Convention on the Law of Non-Navigational Uses of International Watercourses (“the Convention”).³⁶ Israel signed the Convention in March 1989, and ratified it in December of 1994. The Convention was adopted by the U.N. in 1997, and regulates the use of an “international watercourse” that is shared by two or more states.³⁷ Specifically, the Convention regulates the non-navigational uses of water resources such as rivers, basins, and sub- and ground-water systems. The Convention redefined water rights with the consideration that international drainage basins are highly complex transnational systems that generally affect multiple nations.³⁸ The Convention also notes the right of a watercourse or riparian state to be included in multilateral negotiations and to be a party to watercourse agreements that will ultimately affect its rights.³⁹

The Convention focuses on two main principles of customary water law. The first is the “equitable and reasonable utilization” of watercourses,⁴⁰ and the second is the “obligation not to cause appreciable harm” to other states’ watercourses.⁴¹ Equitable and reasonable utilization establishes that each state associated with an international drainage basin has an equal right to the use of its waters.⁴² The “no appreciable harm” concept refers to a principle of property law, *sic utere tuo ut alienum non laedas*, discussed later in this article, that provides that one state cannot cause detrimental harm to the property of its adjacent states.⁴³ The Convention requires several factors be taken into account when determining whether the reasonable and equitable utilization of a watercourse, such as the watercourse state’s social and economic needs, its population needs, conservation concerns, the effects of the use of water, and the availability of alternative uses of the watercourse.⁴⁴ Moreover, the Convention confers an obligation on watercourse states to “take all appropriate measures to prevent the causing of significant harm to other watercourse states,”⁴⁵ and creates an obligation to mitigate or eliminate harms when they do occur.⁴⁶

The Basel Convention on the Control of Transboundary Movement of Hazardous Waste and their Disposal

The Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal⁴⁷ (“Basel Convention”), was ratified by Israel in 1994,⁴⁸ and is binding upon Israel’s actions. The Basel Convention establishes that ratified states have a right to prohibit the movement of hazardous waste through its territories.

Pollution of Palestinian water sources by Israel is a common occurrence and makes what little water is available for Palestinians unsanitary and undrinkable. The Center for Economic and Social Rights (“CESR”) notes that Israeli settlements are primarily to blame, as they are six times more polluting than their Palestinian neighbors.⁴⁹ According to CESR, Israeli settlements located on West Bank and Gaza Strip hilltops dump sewage and wastewater into the Palestinian valleys below. Furthermore, Israeli industries are increasingly relocating to West Bank hilltops to avoid strict Israeli environmental regulations. Over 200 of these industries dump factory effluents and waste directly onto Palestinian agricultural land.⁵⁰ CESR also notes that in 2001, the Israeli government discharged 3.5 million cubic meters of untreated wastewater into the Gaza Strip.⁵¹ This continued pollution is in direct violation of the Basel Convention. However, Israel argues that because the Palestinian Territories are not a sovereign state, such instruments as the Helsinki Rules and the Basel Convention do not apply to the current dispute even though they are international instruments designed to bind Israel.⁵²

PALESTINIAN WATER RIGHTS UNDER CUSTOMARY INTERNATIONAL LAW

The international treaties and conventions discussed above all refer to watercourse “states,” the protection of “state” sovereignty, territorial integrity, and immovable borders. Israel has always qualified Palestine’s claim of water rights by arguing that the Palestinian Territories do not yet constitute an independent and sovereign “state” for the purposes of binding or customary international law. Israel further argues that since Palestine is not, and never has been, a sovereign state, international human rights and customary law provisions do not apply, and therefore Palestine does not have independent riparian rights.⁵³

Many legal sources and scholars, however, disagree with Israel’s determination, and recognize that Palestine *is* a riparian to the rivers that run through it.⁵⁴ They argue that recent history indicates the international community, which includes Israel and Palestine, are preparing for a future independent Palestinian state. Even the U.N. has recently acknowledged as much by passing a resolution with a “vision” of Palestinian and Israeli states living side by side.⁵⁵ Therefore, some feel that the non-State argument is merely a delay tactic, and a virtual non-issue. On a more fundamental level, customary international law dictates that Palestine has rights as a riparian state and should be afforded inherent international and human rights to the aquifers under their territory as well as the Jordan, Yarmuk, and Zerka rivers that flow through the territories.

Under customary international law, riparian states are states that “arise as an incident of ownership to land adjacent [to a] river;”⁵⁶ riparian states have inherent rights to the water that adjoins their land. Riparian rights are derived from property principles and generally include the rights to fish, to use and receive water in its natural state, and to sue when water is diverted, polluted, or otherwise harmed by upstream users.⁵⁷ Although riparian law is essentially derived from English common law nuisance,⁵⁸ it is an internationally recognized principle that riparians own or occupy land adjacent to rivers, and therefore, have a say in how its waters are used. There are two main principles at the core of riparian law. First, riparians have rights to the use of “unaltered water.”⁵⁹ Second, riparians do not have sovereign or absolute rights to use common waters in any manner they wish.⁶⁰ These principles stem from the ancient property principle of *sic utere tuo ut alienum non laedas*,⁶¹ which maintains that a riparian cannot use its property in a manner which would injure the property rights of its neighbor.⁶²

Under riparian principles, the Jordan River should be equitably allocated between all of its rightful parties.⁶³ Palestine and Israel are downstream riparians of the Jordan River. The U.N. has promulgated its own interpretation of riparian rights through General Assembly Resolution No. 3281.⁶⁴ These riparian rights include the following concepts:

- Upper riparian states do not have absolute sovereign rights, but have sovereign rights in their respective territories over the waters of the international watercourse;
- In their use of water, states should not infringe upon the legal interests of the other riparian states (expressed by various terms in the Convention, such as Article 5/1);
- In their utilization of water, riparian states should not substantially harm the other riparian states; this notion is encompassed under the phrase “not to cause significant harm” in the Convention, Article 7.⁶⁵

These principles have been incorporated into the Convention on the Non-Navigational Use of Watercourses. In the Convention, the term “riparian” was replaced with the

phrase “watercourse state.” Yet the governing law retained the basic language of the U.N. resolution, focusing on the rule that a riparian state should not substantially or significantly harm the rights of other riparian states.⁶⁶

There are two notable international cases regarding the application of riparian principles to disputes over river usage. A recent case between Hungary and Slovakia under the International Court of Justice (“ICJ”)⁶⁷ affirmed the principle of “equitable utilization” as presented in the Helsinki Rules. In this case, the ICJ had to decide on the legality of a treaty involving an agreement for a joint building of the Gabčíkovo-Nagymaros Barrage System on a section of the Danube between Hungary and then Czechoslovakia. In 1989, Hungary terminated its duties under the treaty, and in response, the then newly formed Slovakia dammed up a portion of the Danube and substantially diverted its waters away from Hungary. The ICJ found that although Hungary violated its legal obligations in terminating the treaty, it had not given up its “basic right to an equitable and reasonable sharing of the resources of an international watercourse,” and that Slovakia had committed “an international wrongful act.”⁶⁸

The other case involved a 1957 dispute between France and Spain⁶⁹ and applied the *sic utere tuo* doctrine to an arbitral dispute over France’s use of Lake Lanoux. This use required the diversion of water from Lake Carol to Lake Ariège.

Spain claimed rights as a co-riparian of both rivers, and while the arbitration tribunal upheld France’s rights to divert the rivers, it also acknowledged “the correlative duty not to injure the interests of a neighbouring state” and the principle that “no substantial change can be brought about by one riparian without the consent of co-riparians.”⁷⁰

OBSTACLES TO PALESTINE’S FULL RECOGNITION UNDER INTERNATIONAL LAW

The primary problem with using international law and riparian principles to support Palestinian water rights is that Palestinian Territories may not qualify as a “state,” and thus, may not fall under the purview of international water law. The question thus remains whether the Palestinian Territories qualify as a “riparian” for the purposes of claiming independent access to waterways which also flow through parts of Israel. As noted previously, the argument can be made that because Palestine will likely become a state, international laws should apply to the water conflicts between Israel and Palestine. Gamal Abouali notes Israel’s argument that because international law “regulates

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the relation between states and individuals,” it does not apply to the Occupied Territories as its relation to Israel “differs from that of democratic systems.”⁷¹ This argument follows Israel’s position on the Geneva Conventions, the ICESCR, and the laws of belligerent occupation. Ironically, Abouali notes that the Israeli Supreme Court has rejected this argument, finding instead that Israel is a belligerent occupier and must comply with international human rights laws set forth in the Geneva Conventions, the Hague Regulations, and presumably, other human rights and humanitarian laws.⁷² Finally, the 2002 U.N. resolution recognizing the vision of a Palestinian state provides additional reinforcement to the notion that Israel must comply with international norms in its water policies towards the territories.

A secondary obstacle to full recognition of Palestinian water rights is Israel’s justifiable need for “national security.”⁷³ Israel justifies a range of its policies towards Palestine, including its diversion of needed water sources and inequitable distribution of existing waters, by focusing on the security elements involved, which in this case refers to “water security.”⁷⁴ Israel claims that water pipelines and wells in the Palestinian territories are frequent targets of terrorist attacks and that Palestinians often “steal” water meant for other communities in the Occupied Territories.⁷⁵ Furthermore, Israel is, perhaps reasonably, concerned about the continuation of its own water sources as Israel is also an arid desert and suffers chronic water shortages of its own.⁷⁶ Thus, Israel’s water policies towards the Palestinian territories are guided, in part, by a need for self-preservation.

Finally, in all of the negotiations between Israel and the Palestinian authorities, Palestinian water rights have been consistently labeled as a “final status negotiations” issue.⁷⁷ Such issues, like the right of return for refugees and border questions, will not be negotiated until a final settlement of the entire Israel-Palestine crisis is near completion. This semantic ambiguity has made any solid agreement ineffective, especially in regards to protecting Palestinian water rights to the Jordan River and the Mountain Aquifers, or in regards to water distribution and access. The “final status” label is a persistent delay tactic, which excuses current practice with the hope of imminent solution. However, this ambiguity has served to make a final resolution to the question of Palestine’s right to water practically impossible.

CONCLUSION

The essence of the debate over Palestinian water rights involves the following questions, addressed above: 1) whether international laws and norms support the expansion of Palestinian access to joint Palestinian-Israeli water resources; 2) whether Palestine’s status as a non-state prevents the application of international laws to the Palestinian-Israeli water dispute; and 3) whether the prospect of a future Palestinian state should require that international water laws apply to the dispute regardless of Palestine’s current status.

The issue of Palestinian water rights is ambiguous and open to interpretation from all sides. It is largely accepted that human rights and humanitarian law should apply to the Palestinian Territories as a peoples under the control of Israel. Yet, whether

customary water laws that normally apply to sovereign riparian states should also apply to the occupied territories is a harder question to answer. As discussed above, a range of international principles support the notion that customary water laws should apply.

First, customary international norms set forth in documents such as the Helsinki Rules, the Basel Convention, and the Convention on Non-Navigational Uses of transboundary watercourses require that a riparian be given a reasonable and equitable share or utilization of its waters and that riparians not cause appreciable harm to neighboring riparian states. These two principles support Palestine’s access to sources such as the Jordan River, and Palestine’s right to clean and sanitary water that is not polluted by industrial effluent and settler wastewater.

Second, the *sic utere tuo* doctrine has applied not only to sovereign states, but also to individual disputes between communities and thus, could be extended to the Palestinian territories as a community within Israel. This principle permeates throughout all customary international water law and is binding on Israel in the form of the Convention on the Law of Non-Navigational Uses of International Watercourses.

Finally, these doctrines are supported not only by binding and non-binding international documents but also by decades of international case law. The *Hungary v. Slovakia* case affirmed a riparian’s right to the “equitable utilization” of a waterway, and the *France v. Spain* case affirmed the application of *sic utere tuo* to the diversion of a waterway away from its rightful riparian.

Most recently, the inherent right to water has been recognized by the ILA’s Berlin Conference Rules of 2004 (the “Berlin Rules”), a controversial new set of international water laws. Attempting to consolidate over forty years of water law developments since the Helsinki Rules, the Berlin Rules go beyond customary focus on international drainage basins and incorporates rules regarding national waters as well. Although this expanded scope has not, at this point, been accepted by the majority of international water law practitioners, the ILA’s adoption of these stances gives some additional support in applying the international water principles discussed above to the internal disputes between Palestine and Israel.

This article has surveyed the range of international laws in the continuing debate over recognition of expanded water rights for Palestine. Customary international laws favor recognition of these rights, despite Palestine’s ambiguous and unique status as an occupied territory. Application of these laws indicates that, if the final status issues preventing negotiation over water access can be resolved, Palestine should be given greater control over the use of waters located within its territory, as well as access to additional water sources currently prohibited by Israel’s inequitable water policies.



ENDNOTES:

The Legal Implications of the Israeli-Palestinian Water Crisis

¹ *Water and Environment*, PALESTINE FACTS, ch. 7, at 276 (PASSIA, July 2004), available at http://www.passia.org/palestine_facts/pdf/pdf2004/7-Water-Environment.doc (last visited Oct. 31, 2004).

² *Id.*

³ Jad Isaac, *Water and Palestinian-Israeli Peace Negotiations*, POLICY BRIEF, No. 4 (Center for Policy Analysis on Palestine 1999) (claiming that in 1999 Israelis consumed more than four times as much water as Palestinians), available at <http://www.palestinecenter.org/cpap/pubs/19990819pb.html> (last visited Nov. 2, 2004); see also Praful Bidwai, *Dispossessed, Defrauded in One's own Land*, THE HINDU, May 6, 2004 (noting that the average Israeli consumes 350 litres a day, which is around six times more than the Palestinians' 50-70 liters per day), available at

<http://www.tni.org/archives/bidwai/dispossessed.htm>; see also *Not Even a Drop: The Water Crisis in Palestinian Villages Without a Water Network, Information Sheet*, B'TSELEM, July 2001 (noting that the average Israeli uses six times as much water as the average West Bank resident), available at <http://www.fromoccupiedpalestine.org/node.php?id=614> (last visited Nov. 5, 2004).

⁴ *Sharing Water in the West Bank*, GEOTIMES, Dec. 2000, available at <http://www.geotimes.org/dec00/westbank.html> (noting that Palestinians' water use is an average of 50 liters per capita per day, only half of the minimum 100 liters recommended by the World Health Organizations); see also

The Sixth Gulf Water Conference, Amjad Aliawi & Geoff Parkin, *Towards A Sustainable Management of the Palestinian Water Resources* (Mar. 8–12, 2003) (noting that Palestinian use is approximately 70 liters a day compared to the WHO recommendation of an average of 150 liters per day and the CESR finding that 100 liters is the absolute minimum).

⁵ WORLD HEALTH ORGANIZATION *Guidelines on Technologies for Water Supply Systems in Small Communities* (1993).

⁶ See e.g., *P.A. Rejects Israeli Water Proposal; Crisis Feared*, MIDDLE EAST NEWSLINE, June 22, 1999, available at <http://waternet.rug.ac.be/shortage/IPfollow-up.htm> (last visited Nov. 4, 2004).

⁷ See Laura King, *Water Issue Percolates as Another Threat to Mideast Peace*, ASSOCIATED PRESS, August 8, 1999, available at <http://waternet.rug.ac.be/shortage/IPfollow-up.htm> (last visited June 21, 2004).

⁸ See *The Right to Water in Palestine: A Background*, FACT SHEET (CESR, Brooklyn, NY), Apr. 11, 2003, at 2, available at <http://cesr.org/node/view/451> (last visited Nov. 2, 2004).

⁹ *Id.*

¹⁰ *Supra* note 7.

¹¹ See *Water a Vexed Issue for Israel, Palestinians*, JORDAN TIMES, July 7, 2000, available at <http://waternet.rug.ac.be/shortage/IPfollow-up.htm> (last visited June 21, 2004).

¹² *Id.*

¹³ *Percentage of Households in the Palestinian Territory by Changes That Emerged on Water Resources Within the Last Five Years and Region 2003*, SURVEY OF WATER RESOURCES AND ITS EFFECTS ON HOUSEHOLDS LIVING CONDITIONS AND IN THE PALESTINIAN TERRITORY 2003 (Palestinian Central Bureau of Statistics), available at http://www.pcbs.org/water_resources/tab8.aspx (last visited Nov. 5, 2004).

¹⁴ *Supra* note 1, at 1.

¹⁵ *Id.*

¹⁶ Gamal Abouali, *Natural Resources Under Occupation: The Status of Palestinian Water Under International Law*, 10 PACE INT'L L. REV. 411, 474 n.332 (1998) (noting that Israel consumes 85% of joint Israeli-Palestinian water resources); see also CESR 2003, *supra* note 8, at 1.

¹⁷ *Supra* note 8, at 1; see also, PALESTINE FACTS, *supra* note 1, at 276.

¹⁸ *Supra* note 8, at 1.

¹⁹ See Walid Sabbah & Jad Issac, *Towards a Palestinian Water Policy* (Applied Research Institute-Jerusalem, June 1995), available at www.arij.org/pub/Towards%20a%20Palestinian%20Water%20Policy.pdf (last visited Nov. 2, 2004).

²⁰ See *supra* note 16, at 537 (noting that the Johnston Plan, although not formally adopted by any of the river's riparians, serves as de facto customary law for the basin and remains the basis for all water negotiations between Israel and Jordan).

²¹ See generally Agreement on the Gaza Strip and the Jericho Area ("Gaza-Jericho Accord"), May 4, 1994, Isr.-PLO, available at <http://www.usembassy-israel.org.il/publish/peace/peaindex.htm>. The Accord paved the way for the establishment of the Palestinian Authority and the formulation of "Oslo II" Interim Agreement in 1995.

²² See *id.*, at Annex II, *Protocol Concerning Civil Affairs*, Art. 2(B)(31)(a)-(d).

²³ Declaration of Principles on Interim Self-Government Arrangements, Sept. 13, 1993, Isr.-PLO, available at <http://www.jmcc.org/research/series/dop.html> (last visited Nov. 3, 2004).

²⁴ Israeli-Palestinian Interim Agreement On The West Bank And The Gaza Strip, Sept. 28, 1995, Isr.-PLO, available at <http://www.jewishvirtuallibrary.org/jsource/Peace/interimtoc.html> (last visited Nov. 3, 2004).

²⁵ *Id.*, Annex III, art. IV, app. I, art. 40, available at <http://www.jewishvirtuallibrary.org/jsource/Peace/iaannex3.html> (last visited Nov. 3, 2004); see also *supra* note 16, at 560-562 (discussing that while the Interim Agreement superseded both the Jericho Accord and the Declaration of Principles provisions on joint water management, it failed to award additional water resources or protections for Palestinians in the West Bank, and continued to exclude potential Palestinian access to waters of the Jordan River in violation of international transboundary water law).

²⁶ See e.g., *International Covenant on Economic and Social Rights*, G.A. RES. 2200A, U.N. GAOR, 21ST Sess., at Article 11(1), U.N. Doc. A/6316 (1966) (noting the right of everyone to an adequate standard of living) [hereinafter ICESCR]; See also *General Comment No. 15*, U.N. Committee on Economic, Social, and Cultural Rights, U.N. Doc. E/C.12/2002/11, Nov. 26, 2002, available at <http://www.unhchr.ch/html/menu2/6/gec15.doc> (last visited Nov. 3, 2004) (commenting on Articles 11 and 12 of the ICESCR, the right to water, and noting that access to clean water is a human right) [hereinafter *General Comment*].

²⁷ See generally WORLD HEALTH ORGANIZATION, *THE RIGHT TO WATER* (February 2003), available at http://www.who.int/water_sanitation_health/rightwater/en/ (last visited Nov. 5, 2004).

²⁸ ICESCR, *supra* note 26, at art. 12(1) (recognizing "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health").

ENDNOTES: The Legal Implications Continued on page 76

- ²⁹ See *General Comment*, *supra* note 26.
- ³⁰ INTERNATIONAL LAW ASSOCIATION, HELSINKI RULES ON THE USES OF THE WATERS OF INTERNATIONAL RIVERS, 52nd Conference, Helsinki, 1966, at Ch. 2, Article IV, available at http://www.internationalwaterlaw.org/IntlDocs/Helsinki_Rules.htm (last visited Nov. 3, 2004).
- ³¹ See *id.*
- ³² See *id.* at arts. V,VII.
- ³³ See *id.* at art. V(II)(4)-(6), (8).
- ³⁴ See *supra* note 30, at art. VII (last visited Nov. 3, 2004).
- ³⁵ See Jad Isaac, *Core Issues of the Palestinian-Israeli Water Dispute*, (Applied Research Institute-Jerusalem, 1994), available at <http://www.arij.org/pub/corissues/> (last visited Nov. 3, 2004).
- ³⁶ *Convention on the Law of the Non-navigational uses of International Watercourses*, United Nations International Law Commission, G.A. RES. 51/229, U.N. Doc. A/51/869, May 21, 1997, available at <http://www.un.org/law/ilc/texts/nonnav.htm> (last visited Nov. 3, 2004).
- ³⁷ *Id.*
- ³⁸ See *supra* note 16, at 538-39.
- ³⁹ See *supra* note 36, at art. 4(1), (2).
- ⁴⁰ See *supra* note 36, at pt II, arts. 5(1), 6(1).
- ⁴¹ See *supra* note 36, at art. 7(1); see e.g., JUKKA ILOMÄKI, INSTITUTIONAL CHALLENGE OF DEVELOPING TRANSBOUNDARY WATER RESOURCES, *Transboundary Water Resources in International Law*, § 2.7 (Dec. 1999), available at <http://www.water.hut.fi/wr/research/glob/publications/Ilomaki/table.html>, (last visited Nov. 3, 2004) [hereinafter *Transboundary Water Resources*].
- ⁴² See *id.*
- ⁴³ ELIZABETH BRUEKBAKER, PROPERTY RIGHTS IN THE DEFENCE OF NATURE, Without Obstruction, Diversion or Corruption, ch. 3 n.64, available at <http://www.environmentprobe.org/enviroprobe/pridon/chapter3.html> (last visited Nov. 4, 2004).
- ⁴⁴ See *supra* note 36, at art. 6 (1)(a)-(g).
- ⁴⁵ *Supra* note 36, at art. 7(1).
- ⁴⁶ *Supra* note 36, at art. 7(2).
- ⁴⁷ *The Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal*, UNITED NATIONS ENVIRONMENT PROGRAMME, *Conference on the Pleipotentiarites*, March 22, 1989, available at <http://www.basel.int/text/con-e.htm> (last visited Oct. 31, 2004).
- ⁴⁸ Israel ratified the Basel Convention on April 12, 1994. See http://www.ban.org/about_basel_conv/2000.pdf.
- ⁴⁹ See *supra* note 8, at 2.
- ⁵⁰ See *supra* note 8, at 2.
- ⁵¹ *Supra* note 8, at 2.
- ⁵² See *supra* note 35.
- ⁵³ See e.g., *supra* note 16, at 498 (stating that Israel's argument that "since no sovereign state had legitimate title to the territories occupied by it in 1967, international law that presupposes the existence of an ousted sovereign does not apply.")
- ⁵⁴ See e.g., *supra* note 16, at 537; see also *supra* note 35; see also *supra* note 19.
- ⁵⁵ U.N. Security Council Resolution No. 1397, Mar. 12, 2002; see also Sarah Left, *U.N. Security Council Backs Palestinian State*, GUARDIAN UNLIMITED, Mar. 13, 2002, available at <http://www.guardian.co.uk/israel/Story/0,2763,666617,00.html> (last visited Nov. 4, 2004).
- ⁵⁶ Terence P. Douglas, *Sources of Aboriginal Water Rights in Canada*, available at http://www.firstpeoples.org/land_rights/Canada/summary_of_land_rights/water_rughts.htm (last visited Nov. 4, 2004).
- ⁵⁷ See *id.*
- ⁵⁸ *Supra* note 42.
- ⁵⁹ *Supra* note 42.
- ⁶⁰ See Yuskel Inan, *The Law of International Water Courses and the Middle East*, 5 J. INTL. AFF. 2 (2000), available at <http://www.mfa.gov.tr/grupa/percept/V-2/yinan.htm> (last visited Nov. 5, 2004).
- ⁶¹ See *Transboundary Water Resources*, *supra* note 42, § 2.3.
- ⁶² See e.g., *supra* note 42 (citing to a New York case from the turn of the century in which the court granted an injunction against a salt factory which had contaminated a local creek community, *Strobel et al. v. Kerr Salt Co.*, 164 N.Y. 303, 320 (N.Y. Ct. App. 1900)).
- ⁶³ See *supra* note 16, at 537-538.
- ⁶⁴ U.N. General Assembly Resolution No. 3281, 1974 (concerning the "Economic Rights and Duties of States.")
- ⁶⁵ *Supra* note 60.
- ⁶⁶ See generally *Convention*, *supra* note 36, arts. 4-8.
- ⁶⁷ Case Concerning the *Gabcikovo-Nagymaros Project* (Hungary v. Slovakia), 1997 I.C.J. 92 (Sept. 25), available at <http://www.lawschool.cornell.edu/library/cijwww/icjwww/idocket/ihs/ihs-frame.htm> (last visited Nov. 7, 2004).
- ⁶⁸ *Id.* at paras 78, 110.
- ⁶⁹ *Lac Lanoux Arbitration* (Spain v. France), 12 R.I.A.A. 281; 24 I.L.R. 101 (Nov. 16, 1957), available at <http://www.dal.ca/~wwwlaw/kindred.intllaw/Lanoux.htm>. See also INTERNATIONAL ENVIRONMENTAL LAW, *International Environmental Law: Sovereignty versus the Environment?*, ch. 8, at 224 (1995), available at <http://www.ub.rug.nl/eldoc/dis/jur/n.j.schrijver/h8.pdf> (last visited November 3, 2004) [hereinafter *Sovereignty versus the Environment*].
- ⁷⁰ *Id.* For more on this case, see also *Transboundary Water Resources*, *supra* note 42, at § 2.3, and *Sovereignty versus the Environment*, *id.* at 224.
- ⁷¹ *Supra* note 16, at 498.
- ⁷² See *Supra* note 16, at 498.
- ⁷³ See *supra* note 35.
- ⁷⁴ See *supra* note 35.
- ⁷⁵ See e.g., *Water War Leaves Palestinians Thirsty*, BBC NEWS, June 16, 2003, available at http://news.bbc.co.uk/2/hi/middle_east/2982730.stm (last visited June 21, 2004) [hereinafter *Water War*]; see also, *P.A. Rejects*, *supra* note 7.
- ⁷⁶ See *Water War*, *supra* note 75.
- ⁷⁷ See *supra* note 35.