

2006

The Jordan River Basin and the Mountain Aquifer: The Transboundary Freshwater Disputes between Israel, Jordan, Syria, Lebanon and the Palestinians

Rose M. Mukhar

Follow this and additional works at: <http://digitalcommons.law.ggu.edu/annlsurvey>



Part of the [International Law Commons](#), and the [Water Law Commons](#)

Recommended Citation

Mukhar, Rose M. (2006) "The Jordan River Basin and the Mountain Aquifer: The Transboundary Freshwater Disputes between Israel, Jordan, Syria, Lebanon and the Palestinians," *Annual Survey of International & Comparative Law*: Vol. 12: Iss. 1, Article 5.
Available at: <http://digitalcommons.law.ggu.edu/annlsurvey/vol12/iss1/5>

This Article is brought to you for free and open access by the Academic Journals at GGU Law Digital Commons. It has been accepted for inclusion in Annual Survey of International & Comparative Law by an authorized administrator of GGU Law Digital Commons. For more information, please contact jfischer@ggu.edu.

THE JORDAN RIVER BASIN AND THE MOUNTAIN AQUIFER: THE TRANSBOUNDARY FRESHWATER DISPUTES BETWEEN ISRAEL, JORDAN, SYRIA, LEBANON AND THE PALESTINIANS

ROSE M. MUKHAR*

“WAR OF BASOOS”

In ancient times, so goes the story, two neighboring tribes had long coexisted in peace. They had shared a single well located on the boundary of their territories. Each tribe had access to the water from its own side to the common trough.

One day, a camel from one tribe wandered across the boundary and drank from the wrong side of the trough. Incensed at this breach of his tribe’s sacred territorial rights, the son of the sheikh whose realm was violated, killed the offender.

Alas, that hapless creature just happened to belong to the son of the neighboring sheikh, who then rose in anger to smite the killer of his beloved naaqa. There began a blood feud between the tribes that lasted five generations and cost countless lives on both sides. It was known as the “War of Basoos,” though no one

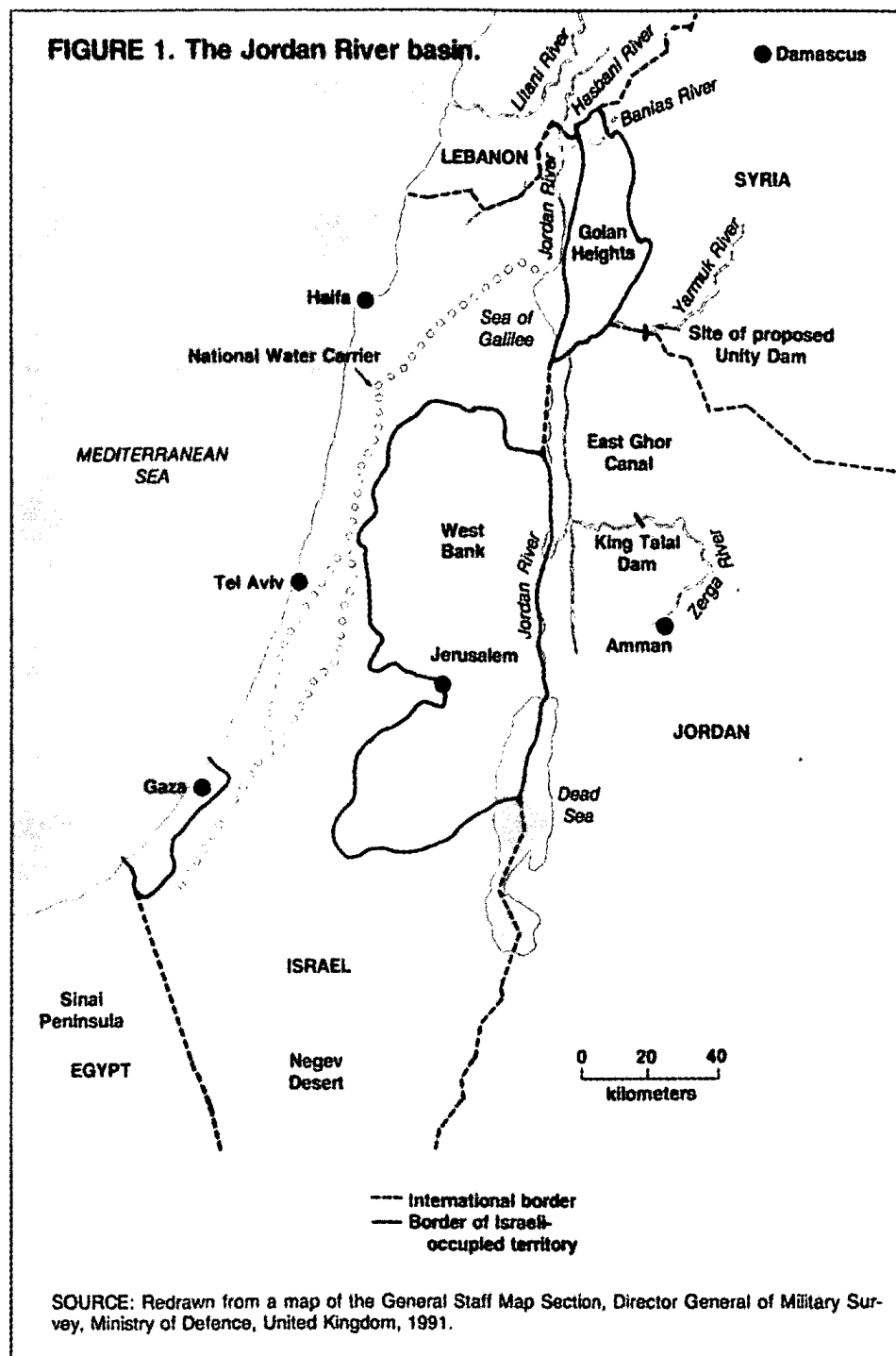
* J.D., Golden Gate University School of Law (2005).

60 ANNUAL SURVEY OF INT'L & COMP. LAW [Vol. XII]

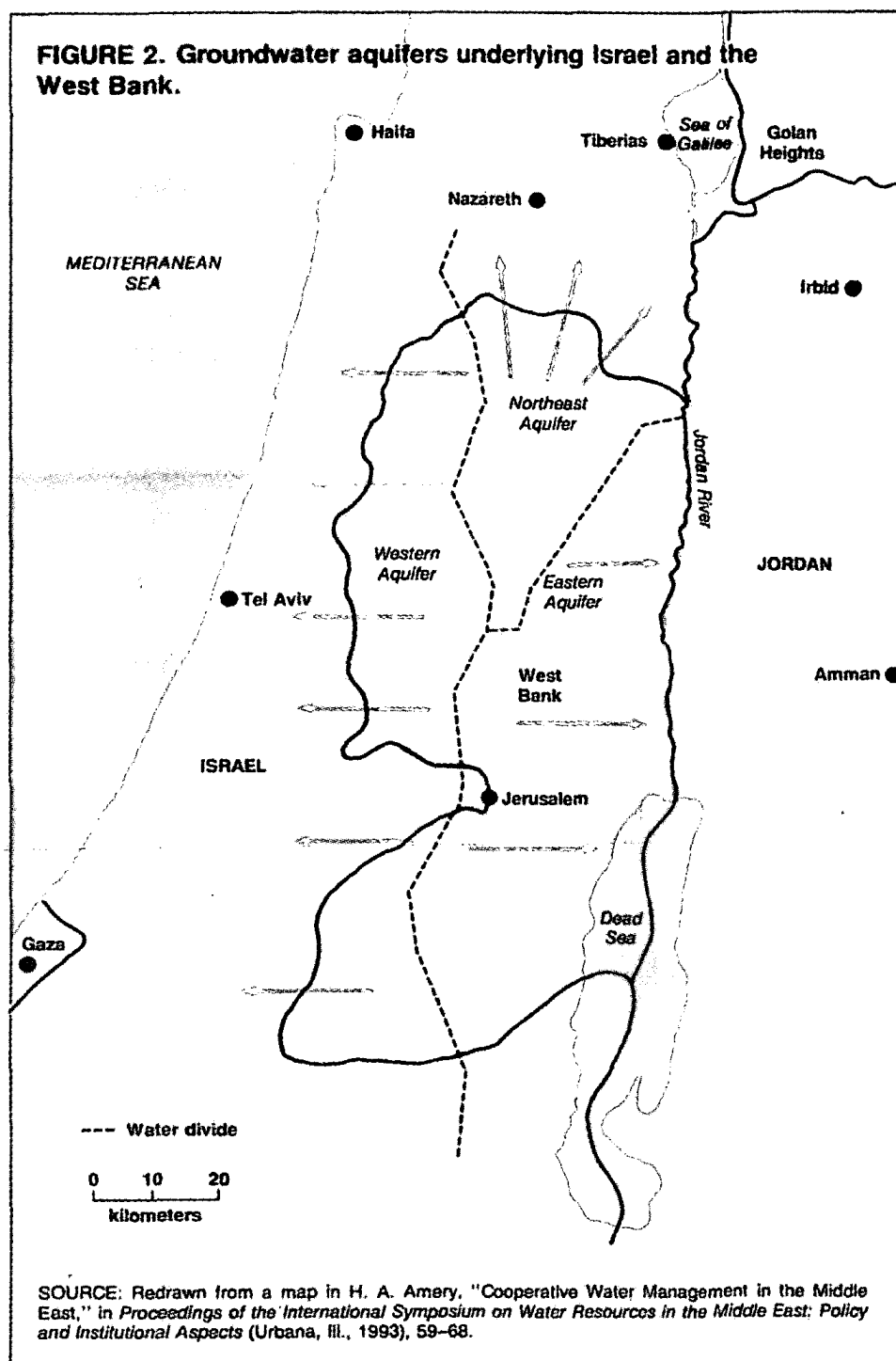
remembered that Basoos, the cause of the strife, had only been an errant camel.

When the fighting ended, neither tribe had won over the other and both were relieved to reestablish their original sharing arrangement. Even the self-generating hatred born of reciprocal violence could not prevail over the imperative to resolve the dispute and restore an equitable water supply to all.¹

1. DANIEL HILLEL, *War of Basoos*, in RIVERS OF EDEN 6-7 (Oxford Univ. Press, 1994).



Source: P. Gleick, *Water, War & Peace in the Middle East*, in 36(3) ENVIRONMENT 13 (1994).



Source: P. Gleick, *Water, War & Peace in the Middle East*, in 36(3) ENVIRONMENT 14 (1994).

I. INTRODUCTION

Water has been a problematic issue for centuries in the Middle East.² This is explained by the fact that water has always been a scarce commodity in this region.³ The problem is further exacerbated by the fact that most of the waters in the Middle East are transboundary, which is water that crosses or spans an international border.⁴ Indeed, the lack of water, or access to it, has often led to serious armed conflicts. This is reflected in the Arabic literary legend, “War of the Basoos,” a long conflict over water between Arab tribes in ancient Arabia. However, that dispute was resolved once the parties were able to reach a settlement that represented an equitable utilization of the shared resource.

Today, achieving an equitable and reasonable utilization of a shared resource is only one of the many legal principles parties attempt to achieve when trying to settle water disputes. Additional principles guiding settlement of shared water disputes include good faith consultation, cooperation and negotiation among the parties; prevention of significant harm to the water resource; and, a holistic approach to the management of surface and groundwater shared resources. While trying to achieve all these goals to avoid a potential disagreement or to settle an actual dispute may seem idealistic and unattainable, the reality is that water is a life sustaining resource that no person or group of people can live without nor should be denied access to. The nature and characteristics of water, however, present unique and challenging problems in resolving water disputes. For example, “the flow of water ignores political boundaries.”⁵ In addition to legal⁶ issues, scientific, geological and environmental issues are also important in reaching a comprehensive solution, and these create a need for an all-inclusive approach to water dispute settlement.

This study discusses the settlement of water disputes in the Middle East and focuses on two disputes in particular relating to the Jordan River

2. For the purposes of this study, the region referred to as the Middle East is inclusive of Israel, Jordan, Lebanon, Syria, the Palestinian Occupied Territories, and the areas under the Palestinian Authority (PA).

3. For the purposes of this study, the term “water” will refer to freshwater resources, such as surface waters like lakes and rivers, as well as underground or groundwaters like aquifers.

4. A transboundary water resource refers to “water that crosses between, or is shared by, nations, sub-national political units, economic sectors, or interests.” HEATHER BEACH, ET AL., *TRANSBOUNDARY FRESHWATER DISPUTE RESOLUTION: THEORY, PRACTICE, AND ANNOTATED REFERENCES* 3 (U.N. Univ. Press, 2000). The term “transboundary waters” will be used interchangeably with “international waters,” “shared water resources,” and “riparian waters.”

5. *Id.*

6. For example, as to the “ownership” of and right to use the water.

basin and the Mountain Aquifer in the West Bank.⁷ There is a genuine need for an all-inclusive approach by the parties utilizing these international transboundary waters. The first dispute relates to the sharing of the surface water of the Jordan River basin between Israel, Jordan, Lebanon, Syria and the Palestinians of the West Bank. The second dispute concerns the shared utilization of the ground water resources from the Mountain Aquifer that extends from the West Bank into Israel between Israel and the Palestinians. In addition to the already complicated issues in any transboundary water dispute, these two disputes also involve extremely complex political and territorial issues. The history of these disputes involves, not surprisingly, both armed conflict and peaceful negotiation.

The first section of this study will describe previous efforts to resolve these disputes, including a brief historical review of the background to, and origin of, the disputes. The following section will outline relevant principles of international water law, which up to now have not played a significant role in efforts to settle these disputes. The next section discusses the two disputes in detail. Finally, the study will suggest possible all-inclusive water settlement strategies to resolve these conflicts peacefully, consistent with the binding principles of the Charter of the United Nations (1945).⁸

II. HISTORICAL EFFORTS TO RESOLVE THE JORDAN RIVER BASIN AND THE MOUNTAIN AQUIFER DISPUTES

Before addressing the current status of the Jordan River basin and the Mountain Aquifer disputes, this section reviews the origins of the disputes and previous efforts to resolve them involving Israel, Jordan, Syria, Lebanon, and the Palestinians.

7. Due to various land claims, the West Bank has been known as "Judea and Samaria," the "Occupied West Bank," and the "Occupied Territories." In this work, the region will be referred to as the "West Bank." A significant portion of the West Bank is autonomous from Israel's administration/occupation and is under the authority of the Palestinian Authority (PA).

8. In particular, see art. 1 of the Charter of the United Nations, concluded at San Francisco, June 26, 1945, entered into force October 24, 1945, *reprinted in* 1 *Weston IA1*. Both Syria and Lebanon became members of the U.N. in 1945, Israel in 1949, Jordan in 1955, and Palestine (the PLO) received a standing invitation to participate as observers in the sessions and the work of the General Assembly and maintaining permanent offices at U.N. Headquarters in 1974, with upgraded status in 1988 and 1998. See U.N. Member site located at: <<http://www.un.org/members/>>, GA Res. 160, 43rd Sess., Dec 9, 1988, and GA Res. 250, 52nd Sess., July 7, 1998. See also the Declaration on Principles of International Law Concerning Friendly Relations and Cooperation among States in Accordance with the Charter of the United Nations, adopted by the U.N. General Assembly without recorded vote October 24, 1970, GA Res. 2625, U.N. GAOR, 25th Sess., Supp. No. 28, at 121, *reprinted in* 9 *ILM* 1292 (1970).

A. EARLY HISTORY

At the end of World War I, the League of Nations entrusted Great Britain with the Mandate for Palestine, which was comprised of the areas now referred to as the West Bank, Gaza, Israel and Jordan.⁹ In 1947, Britain announced its plan to formally withdraw from Palestine by 1948, and requested that a special session of the United Nations (U.N.) General Assembly prepare a study on the question of Palestine.

The U.N. Partition Plan on Palestine recommended that 54% of the land area of the former Palestine would be allocated to a proposed Jewish State, and the rest of the land to a proposed Arab State.¹⁰ Zionists accepted the Partition Plan, however Arabs rejected it. As hostilities and violence rose, the British withdrew in May 1948; Israel declared itself a State; and the first Arab-Israeli war began.¹¹

B. HOSTILITIES SWELL OVER WATER DISPUTES IN 1949

A year later, in 1949, with the assistance of the U.N. mediators, a formal armistice was declared which created a demarcation line between Israeli and Arab forces (often referred to as the “Green Line” because of the color used on the maps).¹² The new Israeli State had gained control over most of the territory proposed under the Partition Plan, with the exception of the areas known as the West Bank and the Gaza Strip, which respectively were under the control of Jordan and Egypt.

The frail armistice agreement focused solely on a cease-fire, and the post-war atmosphere was not conducive to negotiation on any issues let alone transboundary waters. As a result, “each of the riparians moved to utilize the Jordan River system unilaterally.”¹³ In 1949, Israel established national water laws and a Water Commission to manage the nation’s water economy, and to issue licenses for tapping any source of water.¹⁴ It

9. UNITED NATIONS, *Mandate for Palestine*, in THE ORIGINS AND EVOLUTION OF THE PALESTINE PROBLEM: 1917-1988, 48 (1990).

10. U.N., Report on the United Nations Special Commission on Palestine, 8/31/47, U.N. GAOR, 2nd Sess., Supp. 11, U.N. Doc. A/353, vols. i-iv. *See generally*, U.N., THE UNITED NATIONS AND THE QUESTION OF PALESTINE (New York, 1994). *See also*, EDWARD SAID, THE QUESTION OF PALESTINE 11 (Vintage Books ed., 1992). The Partition Plan also recommended that Jerusalem be placed under the administrative authority of the U.N.

11. Arab forces were comprised of military troops from Lebanon, Jordan, Syria, Iraq, Egypt, Saudi Arabia, and Yemen. *See generally, supra* note 10.

12. Security Council Resolution 62 of 1948, S.C. Res. 62, U.N. SCOR, 3rd Sess., U.N. Doc S/RES/62 (1948).

13. MASAHIRO MURAKAMI, MANAGING WATER FOR PEACE IN THE MIDDLE EAST: ALTERNATIVE STRATEGIES, Ch.1 (1995).

14. DANIEL HILLEL, OUT OF THE EARTH: CIVILIZATION AND THE LIFE OF THE SOIL 246 (U.C. Press, 1991).

66 ANNUAL SURVEY OF INT'L & COMP. LAW [Vol. XII]

subsequently developed a plan called the National Water Carrier so that the waters of the Jordan River could be diverted to the coastal plains and the Negev desert.¹⁵ The first part of the project was to drain the Huleh swamps, which infringed upon the demilitarized zone with Syria.¹⁶ This provoked hostilities between Syria and Israel as well as the Palestinian refugees in this area.

In 1951, Syria and Lebanon considered (but never implemented) a scheme to divert the flow of the Hasbani and Banyas tributaries to the Litani in the Beqa'a Valley of Lebanon.¹⁷ In the early 1950's, both the Jordanian Government and the U.N. Relief and Works Agency for Palestine Refugees in the Near East (UNWRA) began working on separate irrigation schemes to improve Jordanian agriculture and to resettle the Palestinian refugees.¹⁸ By 1953, Jordan and UNWRA signed an agreement to form two dams diverting the Jordan River waters from Israel and Syria; however, this plan did not come to fruition because Israel objected to it.¹⁹ Subsequently, Israel began diverting waters at Jisr Banat Ya'qub, in the center of the demilitarized zone with Syria.²⁰ Under international pressure from the U.N. and the U.S., Israel later stopped these diversions.²¹

C. THE JOHNSTON PLAN

By 1954, the U.S. Government had become more intricately involved with the water disputes. American Ambassador Eric Johnston went to the Middle East on President Eisenhower's behalf for the purpose of dividing the waters of the Jordan River in the West Bank equitably among Lebanon, Syria, Jordan and Israel.²² The Johnston Plan has since been praised because it was able to facilitate a technical formula of equitable distribution of these waters based on the agricultural needs of each state rather than the location of each state relative to the river.²³ However, no formal agreement to this proposed regional water scheme was reached because the Arab League rejected it on the ground that it did not

15. *Id.*

16. MURAKAMI, *supra* note 13.

17. MUNTHERR HADDADIN, DIPLOMACY ON THE JORDAN: INTERNATIONAL CONFLICT AND NEGOTIATED RESOLUTION, 31 (Kluwer 2002).

18. ALWYN ROUYER, TURNING WATER INTO POLITICS, THE WATER ISSUE IN THE PALESTINIAN-ISRAELI CONFLICT 111-112 (2000).

19. *Id.*

20. *Id.* at 112.

21. *Id.* at 113; *see also*, MURAKAMI, *supra* note 13.

22. DANIEL HILLEL, RIVERS OF EDEN 161 (Oxford Univ. Press, 1994).

23. E. Benvenisti & H. Gvirtzman, *Harnessing International Law to Determine Israeli-Palestinian Water Rights: The Mountain Aquifer*, in 33(3) NATURAL RESOURCES JOURNAL 548 (1993).

provide, or even consider, the water rights of the Palestinian people who lived within Israel's borders but remained under Jordan's rule.²⁴ While this plan may have been revered for its ingenuity, today it is considered outdated²⁵ due to underestimated population growth, demographic changes within the region, shifts in water patterns, altered political alignments, and the fact that the plan failed to address the groundwaters of the Mountain Aquifer. Even so, Israel and Jordan independently abided by the allocations prescribed in the Johnston Plan in their water utilization of the Jordan River from 1956 to 1967.²⁶

D. THE 1967 SIX-DAY WAR THROUGH THE MIDDLE EAST PEACE PROCESS

By 1956, Israel continued to utilize the West Bank's main aquifer, the Mountain Aquifer, even though Jordan administered the West Bank.²⁷ In the 1960's, Syria attempted to divert Israel's headwaters from the Jordan River. Israel retaliated via air strikes to break the dams, and this rapidly rising tension led to the Six Day War in 1967.²⁸

When the final U.N. cease-fire was imposed just 6 days later, Israeli forces had captured all the territories which had constituted Palestine under the proposed Partition Plan, including the West Bank and East Jerusalem from Jordan, the Gaza Strip and Sinai Peninsula from Egypt, and the Golan Heights from Syria.²⁹ All these lands were strategic for their natural water resources. Despite numerous U.N. resolutions, including Security Council Resolution 242, which emphasized the "inadmissibility of acquisition of territory by war,"³⁰ to date no comprehensive multilateral peace treaty has been reached among all the parties, and there is no comprehensive treaty dealing with the water disputes.

However, by 1991, a sequence of regional events and international consequences occurred, shifting the concept of "hydro-conflict" in the Middle East to the potential for "hydro-cooperation."³¹ These included: the

24. MIRIAM LOWI, *WATER AND POWER* 105 (Cambridge Univ. Press, 1995).

25. *Id.*

26. *Id.*; see also, BEACH, ET AL., *supra* note 4 at 93.

27. HILLEL, *supra* note, 14 at 245.

28. Peter Gleick, *Water, War & Peace in the Middle East*, 36(3) ENVIRONMENT 10 (1994).

29. Said, *supra* note 10 (recounting the history of Israel and the Arab-Israeli wars); see also C. HELD, *MIDDLE EAST PATTERNS: PLACES, PEOPLES, AND POLITICS* 171 (Westview 1994); *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion*, International Court of Justice, General List No. 131, July 9, 2004, at 31.

30. Security Council Resolution 242 of 1967, S.C. Res. 242, U.N. SCOR, 22nd Sess., U.N. Doc S/INF/22/Rev.2 (1968).

31. Aaron Wolf, *Hydropolitical History of the River Basins*, in *INTERNATIONAL WATERS OF THE MIDDLE EAST FROM EUPHRATES-TIGRIS TO NILE* 36 (Oxford Univ. Press, 1994).

Intifada, or uprising, by the Palestinians against the Israeli occupied territories that began in 1987, which raised the profile of the water problems faced by the Palestinians; a drought starting in 1988 covering the Jordan River basin, which caused a dramatic tightening in the water management practices of each of the riparians including domestic rationing, cut-backs in agricultural use by as much as 30 percent, and the restructuring of water pricing and allocations;³² the Gulf War of 1990; and the collapse of the Soviet Union, causing a realignment of political alliances in the Middle East. These developments resulted in the October 1991 Madrid Conference, the first ever direct peace talks between Israel and Jordan, Syria, Lebanon, and the Palestinians. Since the 1991 Madrid Conference, there have been a series of bilateral and multilateral negotiations, as well as non-governmental academic discussions which all contributed to the Middle East Peace Process.³³

Whereas the bilateral talks would deal with problems inherited from the past, the multilateral track would focus on the future shape of the Middle East.³⁴ The need for cooperative arrangements to foster economic development, to preserve and enhance the supply of water, and to control environmental degradation was shared by all the states in the region. The multilateral talks also provided a mechanism for the development of bilateral relations between the Israeli Government and its Arab counterparts. Prior to Madrid, these Arab states had never participated in direct talks or had official contacts with Israel. On the contrary, they were officially at war.

Syria and Lebanon boycotted all of the multilateral talks. However, Jordan, Israel and the Palestinians all participated in "The Middle East Multilateral Working Group on Water Resources," and while this group has had its difficulties with two absent riparian parties, it had a number of specific achievements. For instance, not only has a wealth of expertise and information been mobilized, but the parties, for the first time, were able to begin the steps required to enhance and effectively jointly manage the scarce water resources of the region.³⁵

32. *Id.*

33. S. Lonergan and D. Brooks, *Watershed: The Role of Fresh Water in the Israeli-Palestinian Conflict*, INTERNATIONAL DEVELOPMENT RESEARCH CENTRE 212 (1994).

34. J. Peters, *Pathways to Peace*, 1996 ROYAL INSTITUTE OF INTERNATIONAL AFFAIRS 5.

35. *Id.* at 17.

E. EFFECTS OF THE PEACE PROCESS ON THE WATER DISPUTES

Progress in the bilateral and multilateral peace tracks led to the Oslo Peace Accords,³⁶ which culminated in a series of bilateral agreements. In 1993, there was the Declaration of Principles on Interim Self-Government Arrangements (DOP), which allowed the PLO and Israel to formally “recognize their mutual legitimate and political rights, and strive to live in peaceful coexistence and mutual dignity and security and achieve a just, lasting and comprehensive peace settlement and historic reconciliation through the agreed political process.”³⁷ Both parties agreed to cooperate to establish a Water Development Program Committee to manage and develop water projects in the West Bank and Gaza, however no specific details were set out in the DOP.³⁸

In 1994, the Israel-Jordan Peace Treaty established detailed provisions on the allocations, storage, protection and quality of water and created a Joint Water Committee to help implement these provisions.³⁹ There were additional agreements⁴⁰ between Israel and the PLO after the DOP, including most importantly the Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip (Interim Agreement).⁴¹ This agreement proposed a plan for the establishment of independent “Palestinian institutions.”⁴² Significantly, the parties recognized each other’s rights to water in the West Bank, and they agreed to establish a Joint Water Committee similar to the Jordan-Israel model.⁴³ However, the Interim Agreement stopped short of a long-term resolution on the allocation, protection or storage of water. While the Interim Agreement and the Israel-Jordan Peace Treaty may have addressed water allocation to some degree, overall these bilateral agreements did not resolve nor attempt to settle the transboundary water disputes over the Jordan River basin and

36. The Oslo Peace Accords consist of: 1) Declaration of Principles on Interim Self-Government Arrangements executed in Washington DC on Sept. 13, 1993, and 2) Letters Exchanged between PLO Chairman Arafat, Israeli Prime Minister Rabin, and Norwegian Foreign Minister Holst between Tunis and Jerusalem on Sept. 9, 1993.

37. Declaration of Principles on Interim Self-Government Arrangements, *supra* note 8, Preamble.

38. *Id.* at Annex III(1) & IV(2)(B-4).

39. WATSON, G., *THE OSLO ACCORDS: INTERNATIONAL LAW AND THE ISRAELI-PALESTINIAN PEACE AGREEMENTS*, 302 (Oxford Univ. Press, 2000).

40. As in the Agreement on the Gaza Strip and the Jericho Area, May, 4 1994; the Agreement on Preparatory Transfer of Powers and Responsibilities, Aug. 29, 1994; the Protocol on Further Transfer of Powers and Responsibilities, Aug. 27, 1995; the Protocol Concerning the Redeployment in Hebron, Jan. 15, 1997; the Wye River Memorandum, Oct. 23, 1998; and the Sharm el-Sheikh Memorandum on Implementation Timeline of Outstanding Commitments of Agreements Signed and the Resumption of Permanent Status Negotiations, Sept. 4, 1999.

41. Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip, Sept. 28, 1995, the Government of the State of Israel and the PLO.

42. *Id.* at Preamble.

43. *Id.* at Annex III, art. 40(1).

the Mountain Aquifer. Regardless of the formations and progress of the Joint Water Committees between Jordan and Israel, and Israel and the Palestinians, currently there has been no substantial advancement in resolving these water disputes.

Thus, in summary, the approach to resolving water disputes between Israel, Jordan, Syria, Lebanon and the Palestinians initially involved the use of armed force, and then turned to the utilization of peaceful negotiations during the 1990's, although there has been no recent progress. Specific international water laws have not featured prominently, if at all, in the efforts to resolve these disputes. Yet, there is a growing body of international water law that may point the way to a peaceful resolution. The next section outlines these international water laws and the following two sections then review their possible application to the Jordan River and Mountain Aquifer disputes.

III. THE INTERNATIONAL LEGAL FRAMEWORK FOR SHARED FRESHWATER RESOURCES

It was not until after World War I that international water law began to take shape.⁴⁴ For instance, in 1929, the Permanent Court of International Justice (P.C.I.J.) resolved the first international water dispute case related to navigation rights of the Oder River.⁴⁵ The P.C.I.J. relied on the concept of ensuring or protecting the "community interest" in navigable rivers based on co-existing rights so that there was an "exclusion of any preferential privilege of any one riparian State in relation to the others."⁴⁶ Subsequently, the International Court of Arbitration, in a case involving the utilization of a shared lake between France and Spain, stressed that good faith consultations and negotiations were necessary prior to the development of any water plans, not as a mere formality, but as a genuine attempt to conclude an agreement for the prevention of conflicts.⁴⁷

Today, settlement of transboundary water disputes relies on these same notions of co-existing rights and duties, based on treaties⁴⁸ between state

44. BEACH, ET AL., *supra* note 4 at 10. See also, Guillermo J. Cano, *The Development of the Law of International Water Resources and the Work of the International Law Commission*, 14(4) WATER INTERNATIONAL 168 (1989).

45. See Territorial Jurisdiction of the International Commission of the River Oder (United Kingdom, Czechoslovak Republic, Denmark, France, Germany, Sweden, and Poland), Judgment No. 16, 1929, P.C.I.J., Series A, No. 23.

46. *Id.* at 27.

47. France v. Spain, Lake Lanoux Arbitration Case, Award of 16 November 1957, 12 UN REP. INT'L ARB. AWARDS 218; 24 I.L.R. 101 (1957).

48. Per the Statute of the ICJ, art. 38(1)(a) (1945), the most authoritative source of international law is international treaties (also known as conventions, charters, protocols, and statutes) because it is a consensually binding expressed contract between the parties. See also, the Vienna

parties (if there are any) and customary international law⁴⁹ for further clarification. Additionally, specific bodies of international law have been created to provide a framework for the settlement of disputes related to the utilization of freshwater and groundwater resources. However, these laws, including the Helsinki Rules on the Uses of the Waters of International Rivers; the Seoul Rules; the Draft Articles on the Law of the Non-Navigational Use of International Watercourses; and the Convention on the Protection and Use of Transboundary Watercourses and International Lakes are termed as “soft law.” That is, while these bodies of law are not in and of themselves intended to be legally binding, they provide evidence of customary law that helps establish what international water law is.⁵⁰ So, these bodies of law are really “guidelines for the process of conflict resolution.”⁵¹

A. THE HELSINKI RULES

The International Law Association (ILA), established in 1873, is a non-governmental international organization that works towards reform and codification of public and international law as well as the settlement of disputes by arbitration.⁵² The ILA published the Helsinki Rules on the Uses of the Waters of International Rivers⁵³ (Helsinki Rules) in 1967. They represent an early attempt at codifying customary international law pertaining to transboundary water resources.⁵⁴ The Helsinki Rules define an international drainage basin, as a “geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a com-

Convention on the Law of Treaties, 23 May 1969, U.N. Doc. A/CONF.39/27, art. 2(1)(a) [hereinafter Vienna Convention]; and, L. DAMROSCH, INTERNATIONAL LAW: CASES AND MATERIALS 92 (West Group, 2001).

49. The second source of international law is defined as an “international custom, as evidence of a general practice accepted as law.” See Statute of the ICJ, *supra* note 48, art. 38(1)(b). A customary international norm is comprised of both continuous and consistent State practice and *opinio juris* (a State’s practice based on a belief of legal obligation). See DAMROSCH, *supra* note 48, at 92.

50. Stephen McCaffrey, notes from the discussion of *Fair and Just Allocation of International Watercourses*, presented at: “A Just & Peaceful World Under Law” Centennial Regional Meeting of the American Society of International Law at Golden Gate School of Law, April 8, 2005.

51. BEACH, ET AL., *supra* note 4, at 9.

52. INSTITUTE OF ADVANCED LEGAL STUDIES, INTERNATIONAL LAW ASSOCIATION: ADMINISTRATIVE HISTORY (2001), found at: <<http://ials.sas.ac.uk/library/archives/ila.htm>>.

53. The Helsinki Rules on the Uses of the Waters of International Rivers, adopted by the International Law Association at the Fifty-Second Conference (1967) [hereinafter Helsinki Rules]; *Report of the Committee on the Uses of the Waters of International Rivers* found at: <http://fletcher.tufts.edu/faculty/rubin/courses/l201/L201_VIIC3_Helsinki.doc>.

54. Gabriel Eckstein, *Hydrologic Reality: International Water Law and Transboundary Ground-Water Resources*, in WATER: DISPUTE PREVENTION AND DEVELOPMENT 92 (American Univ. Center for the Global South, 1998).

mon terminus.”⁵⁵ They further provide that each State is entitled to a “reasonable and equitable share” of the beneficial uses of the waters of an international drainage basin based on “all the relevant factors in each particular case.”⁵⁶

The legal definition of an ‘international drainage basin’ in these Rules is significant because a river’s basin is usually at the heart of a riparian dispute. For example, the extent of the basin determines whether it spans international boundaries and therefore which states are implicated. As discussed below in Section IV(A), the Jordan River basin is a prime example of an international drainage basin.

B. THE 1986 SEOUL GROUNDWATER RULES

Twenty years later, the Seoul Groundwater Rules (Seoul Rules) were proposed at the Sixty-Second Conference of ILA, to compliment the Helsinki Rules.⁵⁷ The Seoul Rules included groundwater as part of the definition of a drainage basin, and used the terms groundwater and aquifer interchangeably.⁵⁸ The inclusion of groundwater within the definition of a drainage basin is significant because groundwater comprises 31 percent of the total freshwater in the world, compared with 0.3 percent of surface water.⁵⁹ Thus, the majority of disputes concerning transboundary freshwater are over groundwater sources. These types of disputes are complicated because the delineation of the boundaries of groundwater is far more challenging than surface water. This is because groundwater disperses beneath the surface, irrespective of state boundaries, and it is hard to determine sovereignty for an aquifer.⁶⁰ Thus, while the Seoul Rules affirm that groundwater is subject to international water law, the Rule’s definition of an aquifer alone cannot resolve the issue of groundwater ownership.

C. THE 1994 ILC DRAFT ARTICLES AND THE 1997 U.N. CONVENTION

The International Law Commission (ILC) was established in 1947 by the U.N. General Assembly to promote the “progressive development of

55. Helsinki Rules, *supra* note 53, art. II.

56. *Id.*, arts. IV & V.

57. MATSUMOTO, TRANSBOUNDARY GROUNDWATER AND INTERNATIONAL LAW: PAST PRACTICES AND CURRENT IMPLICATIONS, 8 (2002).

58. Arts. 1 & 2, The Seoul Rules, adopted by the International Law Association at the Sixty-Second Conference Held at Seoul, Korea, 1986 [hereinafter Seoul Rules].

59. I. SHIKLOMANOV, WORLD FRESH WATER RESOURCES, IN WATER IN CRISIS: A GUIDE TO THE WORLD’S FRESH WATER RESOURCES, 13-24 (Oxford Univ. Press, 1993).

60. MATSUMOTO, *supra* note 57, at 3.

international law and its codification.”⁶¹ The ILC studied, drafted and then adopted the Draft Articles on the Law of the Non-Navigational Uses of International Watercourses (ILC Draft Articles) in 1994 after the General Assembly directed it to do so in 1970.⁶² The ILC Draft Articles created the term of art: “watercourses;” defining it as “a system of surface and underground waters constituting by virtue of their physical relationship a unitary whole.”⁶³ Thus, the ILC acknowledged the fact that groundwater is governed by international water law as originally set out in the Seoul Rules.

In 1997, the General Assembly adopted the United Nations Convention on the Law of the Non-Navigational Use of International Watercourses⁶⁴ (U.N. Convention on International Watercourses), which, with modest revisions represented the ILC Draft Articles.⁶⁵ When the General Assembly adopted the U.N. Convention on International Watercourses, member states were invited to become parties to it.⁶⁶ However, the U.N. Convention did not enter into force because it failed to meet the required 35 ratifications, acceptances, approvals or accessions by May 2000.⁶⁷

The language of this convention is very similar to the Helsinki Rules, in that it requires riparian states of a shared watercourse to communicate and cooperate.⁶⁸ In fact, consistent themes from the legal instruments previously addressed are repeated in the U.N. Convention on International Watercourses. For example, surface waters and groundwaters must be dealt with holistically, as a “unitary whole;”⁶⁹ there must be notification, consultation and consent regarding planned measures;⁷⁰ there must be an equitable and reasonable utilization of the watercourse by riparian states;⁷¹ and, there is an obligation not to cause significant harm

61. Vienna Convention, *supra* note 48, art. 1(1).

62. BEACH, *supra* note 4, at 10.

63. Draft Articles on the Law of the Non-Navigational Uses of International Watercourses, 1994, Part I, Intro., art. 2, found at: <<http://www.un.org/law/ilc/texts/nav94fra.htm>>.

64. See General Assembly Resolution 229, U.N. GAOR, 51st Sess., U.N. Doc A/RES/51/229 (1997) [hereinafter GAOR 229].

65. Stephen McCaffrey and M. Sinjela, *Current Development: The 1997 United Nations Convention on International Watercourses*, 92 A.J.I.L. 97, 106 (1998).

66. GAOR 229, *supra* note 64.

67. *Id.*

68. U.N. Convention on the Law of the Non-navigational Uses of International Watercourses, art. 5 (1997) references “equitable participation,” and states that cooperation is necessary [hereinafter U.N. Convention]; See <<http://www.un.org/law/ilc/texts/nav94fra.htm>>; see also, BEACH, *supra* note 4, at 10.

69. U.N. Convention, *supra* note 68, art. 2.

70. *Id.* art. 3.

71. *Id.* art. 6.

74 ANNUAL SURVEY OF INT'L & COMP. LAW [Vol. XII]

to the watercourse.⁷² These themes have particular application in the Mountain Aquifer dispute discussed below in Section V.

Article 33 of the U.N. Convention concerns settlement of disputes, and for the most part, this dispute settlement clause seems in line with the principles set forth in the U.N. Charter or the Declaration on Principles of Friendly Relations. For instance, the first paragraph calls upon those parties to a dispute without an agreement to “seek a settlement of the dispute by peaceful means...”⁷³ And, the second paragraph states that if the parties are unable to negotiate an agreement, they may jointly seek good offices services, mediation or conciliation by a third party, or utilize any joint watercourse institutions the parties have established, or they can “agree to submit the dispute to arbitration or to the International Court of Justice.”⁷⁴

However, this dispute settlement clause has been regarded as controversial because it “provides for compulsory fact-finding at the request of any party to a dispute.”⁷⁵ For instance, one of the reasons Israel abstained from voting on the adoption of the U.N. Convention was because “the means of settling a dispute must be left to [the parties’] agreement. Parties to a dispute must be allowed to choose the mechanism which was most appropriate to their specific needs and circumstances.”⁷⁶

That said, accurate facts are clearly important in determining a state’s obligations under the U.N. Convention.⁷⁷ For instance “how can a state establish that it has sustained significant harm if the state that allegedly caused the harm denies that it caused it or that any harm has been suffered?”⁷⁸ Even though only the fact-finding commission is compulsory, and only then if one party requests it after negotiations fail to settle the dispute within 6 months, “any compulsory dispute settlement procedure is bound to draw strong objections from certain countries.”⁷⁹ Thus, this compulsory fact-finding clause is probably one of the reasons this Convention has not been ratified.

Because the U.N. Convention did not enter into force, it is not a binding legal instrument. Nonetheless, Jordan and Syria both ratified this Con-

72. *Id.* art. 7.

73. *Id.* art. 33(1).

74. *Id.* art. 33(2).

75. McCaffrey, *supra* note 65 at 104. See U.N. Convention, *supra* note 68, art. 33(3-8).

76. United Nations General Assembly Press Release, GA/9248, May 21, 1997.

77. McCaffrey, *supra* note 65, at 104.

78. *Id.*

79. *Id.*

vention and Lebanon accepted it when it was open for signature.⁸⁰ The Palestinian Authority (PA) was not eligible to accede to the U.N. Convention because the Palestinians do not have sovereign status, and an “international watercourse” is defined as “a watercourse, parts of which are situated in different States.”⁸¹ However, Article 32 confers some procedural rights on non-state actors, including ensuring “access to judicial or other procedures, or a right to claim compensation or other relief in respect of significant harm caused by such activities carried on its territory.”⁸² Accordingly, if the Palestinians attempt judicial recourse, they should not be discriminated against nor denied access to member States’ courts in Jordan, Syria and Lebanon.

The U.N. Convention was further strengthened when the International Court of Justice (ICJ) cited to it and ruled that a transboundary water conflict should be solved peacefully through dispute resolution mechanisms in the Case Concerning the Gabčíkovo-Nagymaros Project.⁸³

D. THE CASE CONCERNING GABČIKOVO-NAGYMAROS PROJECT

In September of 1997, the ICJ gave its first judgment that was directly related to non-navigable international watercourse law. It concerned a dispute between Hungary and Slovakia over the planned dams for the Danube River, known as the Gabčíkovo-Nagymaros Project. In 1977, the governments of Hungary and Czechoslovakia concluded a treaty (1977 Treaty) where two dams (one in each State) along the Danube River were to be jointly developed, constructed, financed, owned, operated, and maintained.⁸⁴ With the collapse of both communist governments in 1989, and the subsequent formation of Slovakia, Hungary abandoned the completion of the project and notified Slovakia of the termination of the 1977 Treaty.⁸⁵ Slovakia insisted that Hungary carry out its treaty obligations, and in 1992, it proceeded with its own dam project on

80. See U.N. Convention Participants Table at:

<<http://untreaty.un.org/ENGLISH/bible/englishinternetbible/partI/chapterXXVII/treaty41.asp#N1>>.

81. U.N. Convention, *supra* note 68, art. 2, para. B.

82. *Id.* art. 32.

83. Case Concerning the Gabčíkovo-Nagymaros Project (Hungary/Slovakia), Judgment, Sept. 25, 1997, I.C.J., General List, No. 92 [hereinafter Gabčíkovo-Nagymaros Project]; *see generally* the Judgment, *in particular see paras. 155(2)(B)-(C)*.

84. HILAL ELVER, PEACEFUL USES OF INTERNATIONAL RIVERS: THE EUPHRATES AND TIGRIS RIVERS DISPUTE, 227 (Transnational Publishers, 2002). *See also* the Treaty Concerning the Construction and Operation of the Gabčíkovo-Nagymaros System of Locks, Budapest, Sept. 16, 1977, 1109 U.N.T.S. at 211, which articulates the project as a “joint investment.”

85. Gabčíkovo-Nagymaros Project, *supra* note 83, para. 33.

the Slovak territory.⁸⁶ In 1993, Hungary and Slovakia submitted their dispute to the ICJ.

The Court recognized the principle that parties to an international water-course conflict have a “duty to cooperate” in order to achieve an equitable and reasonable resolution.⁸⁷ The Court heavily relied upon state obligations, rights and responsibilities based on the law of treaties. As Former ICJ President Schwebel later concluded, “international water disputes and international environmental disputes may be imbedded in wider disputes over the law of treaties and the law of state responsibility. Environmental norms and water norms are important, but they are not of themselves necessarily pre-emptive or dispositive.”⁸⁸ The Court found that Hungary was not entitled to abandon the dam project or unilaterally terminate the 1977 Treaty based on the Vienna Convention on the Law of Treaties.⁸⁹ The Court further found that Slovakia had breached the 1977 Treaty because it unilaterally assumed control over a shared resource, thus depriving “Hungary of its right to an equitable and reasonable share of the natural resources of the Danube.”⁹⁰

Additionally, the Court held that the 1977 Treaty “must be regarded as establishing a territorial regime,” so that the 1977 Treaty “could not be affected by a succession of states.”⁹¹ The Court also held that the parties were under an obligation to “negotiate in good faith in the light of the prevailing situation, and must take all necessary measures to ensure the achievement of the objectives of the Treaty of 16 September 1977.”⁹² To date the parties have not yet reached a settlement, but the parties regularly inform the Court of their settlement progress.⁹³ The ICJ’s judgment has been called a “masterpiece” because it resolved an international transboundary water conflict on the basis of international law, according to dispute resolution mechanisms found within the parties’ treaty.⁹⁴

In summary, there is a growing body of international water law, which though still evolving, provides a number of principles for the settlement

86. *Id.* para. 23.

87. *Id.* paras. 85 and 147.

88. Stephen Schwebel, *The Judgment of the International Court of Justice in the Case Concerning the Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, in 2002 RESOLUTION OF INTERNATIONAL WATER DISPUTES, THE PERMANENT COURT OF ARBITRATION/PEACE PALACE PAPERS 258.

89. Gabčíkovo-Nagymaros Project, *supra* note 83, para. 155(1)(A).

90. Schwebel, *supra* note 88, at 253.

91. *Id.* at 256.

92. Gabčíkovo-Nagymaros Project, *supra* note 83, para. 155(2)(B).

93. Schwebel, *supra* note 88.

94. *Id.* See also ELVER, *supra* note 84, at 225 & 233.

of transboundary water disputes. They include: 1) transboundary surface waters and groundwaters are subject to international water laws; 2) there must be an equitable and reasonable utilization of water by riparian states based upon consideration of a wide range of factors; 3) parties have a duty to cooperate, including notification, consultation, and communication; and, 4) states have an obligation to not cause significant harm to the watercourse.

IV. THE JORDAN RIVER BASIN DISPUTE

The Jordan River basin dispute between Israel, Jordan, Syria, Lebanon and the Palestinians is far more complicated than the Mountain Aquifer dispute, primarily because there are so many (adverse) parties sharing the transboundary waters. For example, two of these parties, Syria and Lebanon have been unwilling to date to participate in any multilateral or bilateral talks to address the possibility of peace let alone a joint management water project. In addition to these serious obstacles, there is no single agreement between all the riparians that covers the basin as a whole.

In essence, the dispute concerns the amounts of water taken out of the basin by the riparians. Israel controls the vast majority of the waters of the Jordan River basin and utilizes the largest share. The other riparians also utilize water from the basin, but essentially complain that Israel's consumption is not equitable. In addition, nearly all the parties are engaged in hydro-projects that have or will have impacts on the basin.

For example, Lebanon is currently diverting water from the Jordan River basin via the Wazzani springs between Lebanon and Israel. Lebanon claims that it is entitled to continue pumping water from the springs under international law, and that the diversion supplies water for up to 60 villages.⁹⁵ Israel claims that Lebanon's diversion from the Wazzani springs adversely impacts Israel's water supply, and in 2002, Israeli Prime Minister Ariel Sharon announced that the Lebanon's diversions represented a "*casus belli*."⁹⁶ Needless to say, tensions are high over these waters.

95. McCaffrey, *Water Disputes Defined*, in RESOLUTION OF INTERNATIONAL WATER DISPUTES, THE PERMANENT COURT OF ARBITRATION/PEACE PALACE PAPERS 55 (The Hague, 2002). See also, N. Blanford, *Heightened Israeli-Lebanese Tensions over Jordan's Headwaters*, MIDDLE EAST REPORT ONLINE, (Sept. 30, 2002) found at <<http://www.merip.org/mero/mero093002.html>>.

96. *Id.*

A. THE GEOGRAPHY OF THE JORDAN RIVER BASIN

Figure 1 shows the geography and principal water flows of the Jordan River basin. It starts in the north with the three headwater rivers: the Hasbani, which begins in the Golan Heights in Syria with a small part of its watershed in Lebanon; the Dan, which begins in Israel; and the Baniyas, which flows into Israel from the springs in the Golan Heights. These headwaters combine into the Jordan River in Israel. The Jordan River then flows south into and out of the Sea of Galilee. Another river, the Yarmouk, flowing east to west, converges with the Jordan River, south of the Sea of Galilee. Both rivers form international boundaries: the Jordan River separates Jordan to the east from Israel to the west, and, further south, separates Jordan from the West Bank; the Yarmouk river separates Jordan to the south and Syria to the north. The Jordan River then continues south through the Jordan Valley until it eventually flows into the Dead Sea.

B. APPLICATION OF INTERNATIONAL WATER LAW

As first established by the Helsinki Rules, the basic tenet of an international water resource settlement is that all riparians are entitled to a “reasonable and equitable share” of the drainage basin.⁹⁷ Today, the terminology would be slightly different but the meaning would still indicate that each of the riparians would be entitled to an “equitable and reasonable utilization” of the Jordan River basin.⁹⁸ Thus, when reaching a settlement for these parties, “all the relevant factors in each particular case”⁹⁹ would need to be addressed, including the fact that the Palestinians – even though they have no state – are still entitled to an equitable share because water flows through the West Bank.

Under the definitions of the Helsinki Rules and the U.N. Convention, the Jordan River basin would be considered an “international drainage basin” and “an international watercourse.” The riparians under those rules would be Israel, Jordan, Syria, Lebanon and the Palestinians. Each of the riparians relies significantly upon water drains from the Jordan River basin. Under the international water laws discussed above, none of these parties would be permitted to act in a way that caused significant harm to the watercourse or that disturbed an equitable utilization of the watercourse. Of course, at present, without a comprehensive agreement, each party would argue that there is not currently an “equitable utilization.”

97. Helsinki Rules, *supra* note 53, art. IV.

98. U.N. Convention, *supra* note 68, art. 6.

99. Helsinki Rules, *supra* note 53, art. V.

Regarding the Wazzani springs issue, Israel would argue that Articles 5 and 7 of the U.N. Convention indicate that Lebanon's diversions of the Jordan River is in violation of international water law. It would further argue that Lebanon's use is unreasonable and is creating inequity within the Jordan River basin.¹⁰⁰ Further, Israel would contend that Lebanon has failed in its obligation not to cause significant harm to the watercourse since the diversion has adversely impacted Israel's water utilization.¹⁰¹ In response, Lebanon would counter-argue that per Article 6, it is entitled to an equitable and reasonable utilization of the Jordan River because it has 60 villages depending on that water resource.¹⁰²

Thus, the principal application of international water law would be for all the parties to reach an equitable and reasonable utilization of the available water. Under the present, non-binding nature of these laws however, there is no one mechanism to compel such a result. Accordingly, a negotiated settlement remains the only way forward under the present legal framework.

V. MOUNTAIN AQUIFER DISPUTE

Of the several heated contentions in the conflict between the Palestinians and Israelis, utilization of the Mountain Aquifer in the West Bank is one of the most critical because of the scarcity of water. Since the 1990's, the Israelis and the Palestinians have been consuming more water annually than is naturally replenished.¹⁰³ It is estimated that Israel and the Palestinian territories annually consume 110% of their renewable water resources.¹⁰⁴ To date, there has been no comprehensive agreement (for that matter any agreement) between Israel and the Palestinians that relates specifically to the Mountain Aquifer.

Of Israel's total annual supply of fresh water, approximately one-third is derived from the Mountain Aquifer in the West Bank.¹⁰⁵ For the Palestinians, the Mountain Aquifer represents the primary source of fresh water in the West Bank, amounting to approximately 90% of their total annual consumption.¹⁰⁶ However, the Israeli government currently restricts the Palestinians to using only 20% of the available water.¹⁰⁷ This is the

100. U.N. Convention, *supra* note 68, art. 5.

101. *Id.* art. 7(1).

102. *Id.* art. 6(c).

103. ROUYER, *supra* note 18, at 25.

104. *Id.*

105. I. Ploss, and J. Rubinstein, *Water For Peace*, 207(11-12) THE NEW REPUBLIC 20 (Sept. 7, 1992). *See also*, Gleick, *supra* note 28, at 8; and, McCaffrey, *supra* note 96, at 59.

106. Benvenisti, et al., *supra* note 23, at 561.

107. P. Feuilherade, *Israel Bargains in Bad Faith*, 42(1) WORLD PRESS REVIEW 38 (Jan. 1995).

result of the Israeli authorities administering the West Bank and Gaza's waters via military control after the 1967 Six-Day War.¹⁰⁸

Palestinians have, and continue to maintain, that the diversion of most of the water from the Mountain Aquifer as well as the Jordan River has been unfair, leaving them with minimal water resources.¹⁰⁹ Palestinians claim that their rights are based on centuries of Palestinian existence in this region prior to Jewish immigration. Israel contends that, "Jewish settlers began exploiting this resource [in the 1920's] ...and therefore maintain historic rights to it."¹¹⁰ In Israel's view, the Palestinians formally neglected this resource.

A. THE GEOGRAPHY OF THE MOUNTAIN AQUIFER

Figure 2 shows that the Mountain Aquifer is divided into three smaller systems: the Eastern, Northeastern and Western aquifers. The Western aquifer flows toward the Mediterranean, and its natural drains are springs in the West Bank and Israel.¹¹¹ Both the Northeastern and Western aquifers are recharged from the West Bank and are tapped from within Israel and the West Bank. However, Israel "replaced" the springs draining both aquifers on its side of the border by hundreds of wells.¹¹² The Eastern aquifer flows toward the Jordan River and is replenished from the West Bank. A small fraction of its water discharges into the Jordan River and the Dead Sea, and a negligible amount leaks into Israel.¹¹³ The rest of the renewable aquifers are replenished and can be tapped only from Israel. They drain into both the Jordan River basin and the Mediterranean Sea.

B. APPLICATION OF INTERNATIONAL WATER LAW

As the Seoul Rules affirmed, an aquifer is subject to international water law.¹¹⁴ However as the Mountain Aquifer demonstrates, the location of underground water (if determinable) does not itself determine groundwater ownership.

Article 6 of the U.N. Convention supports arguments for both the Palestinians and Israelis over the Mountain Aquifer dispute. On the one hand,

108. Gleick, *supra* note 28, at 36.

109. Benvenisti, et al., *supra* note 23, at 559.

110. M. Keen, *Whose Water is it Anyway?* 231 THE MIDDLE EAST 27 (Feb. 1994).

111. THE INSTITUTE FOR PALESTINE STUDIES, A FINAL STATUS PAPER, NEGOTIATING WATER: ISRAEL AND THE PALESTINIANS, 7 (1996).

112. *Id.*

113. *Id.*

114. Seoul Rules, *supra* note 58, arts. 1 & 2.

Article 6 supports Israel's contention that international law protects developmental and existing uses as well as investments in water technology.¹¹⁵ It requires that equitable and reasonable utilization account for "all relevant factors and circumstances, including...population dependent on the watercourse...existing and potential uses of the watercourse...conservation, protection, development and economy use of the water resources..."¹¹⁶ On the other hand, the Palestinians can argue that Article 6 also requires consideration of such factors as "geographic, hydrographic, hydrological, climatic, ecological and other factors of natural character...population dependent on the watercourse...the availability of alternatives, or comparable value, to a particular planned or existing use."¹¹⁷ These factors should balance against Israel's claims because: (i) the Mountain Aquifer located in the West Bank helps supply Israel with water; (ii) the Palestinian population is dependent on the groundwaters; and, (iii) there is no other viable alternative available to the Palestinians.

Based upon the Case Concerning the Gabčíkovo-Nagymaros Project, it is clear that the treaties that are now in place which specifically detail a "territorial regime" places rights and obligations on the parties that cannot be derogated from. However, there are no historical treaties between the Palestinians and Israel that could be relied upon to determine state responsibilities or rights.

Further, since the signing of the Oslo Accords, there has been a legal debate questioning whether any of the peace agreements executed between Israel and the PLO are binding treaties.¹¹⁸ It is argued that under the Vienna Convention on the Law of Treaties¹¹⁹ and the Montevideo Convention on the Rights and Duties of States,¹²⁰ the treaties are not binding because the PLO is not a state; there is no Palestinian state; and, because the PA – which is not a signatory to any of the agreements – only has limited control over some Palestinian territories (the remainder

115. WATSON, *supra* note 39, at 304.

116. U.N. Convention, *supra* note 68, art. 6(1)(c)(e)(f).

117. *Id.* art. 6(1)(a)(c)(g).

118. See John Quigley, *The Israel-PLO Interim Agreements: Are They Treaties?* 30 CORNELL INT'L L. J. 717, 739 (1997). See also, WATSON, *Are the Oslo Accords Legally Binding?* in THE OSLO ACCORDS: INTERNATIONAL LAW AND THE ISRAELI-PALESTINIAN PEACE AGREEMENTS, *supra* note 39, at 55-102.

119. Vienna Convention, *supra* note 48, art. 2(1)(a), "A 'treaty' means an international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation..."

120. Article 1 of the Montevideo Convention on the Rights and Duties of States, entered into force Dec. 26, 1934, "The state as a person of international law should possess the following qualifications: (a) a permanent population; (b) a defined territory; (c) government; and (d) capacity to enter into relations with the other states."

82 ANNUAL SURVEY OF INT'L & COMP. LAW [Vol. XII]

of which Israel administers). Nonetheless, Article 3 of the Vienna Convention on the Law of Treaties provides that "agreements concluded between States and other subjects of international law" even though not subject to the Vienna Convention would still be subject to customary international law of treaties.¹²¹ So, it can be argued that the DOP, and the agreements executed after them should still be binding despite the lack of formal statehood.

Finally, while there are concerns that the emergence of a Palestinian state will further complicate the water conflict, the treaties currently in place can "not be affected by a succession of states."¹²² Thus, an ICJ decision on the Case Concerning the Gabcikovo-Nagymaros Project could have considerable impact on the resolution of these water conflicts.

VI. PROSPECTS FOR THE FUTURE

This section will briefly address some of the obstacles to be overcome and lessons learned relating to the Jordan River basin and Mountain Aquifer disputes if sustainable peace agreements are to be achieved. A need for joint management projects for both watercourses is described, and the international water law framework will be applied.

A. OBSTACLES, LESSONS AND THE PRINCIPLES OF INTERNATIONAL WATER LAW

While the Israel-Jordan Treaty of Peace of 1994 detailed mutually recognized water allocations between Jordan and Israel, it did not address any of the other riparians' rights or any other aspect of the Jordan River basin except the Yarmouk and Jordan Rivers. In order for a sustainable dispute settlement to be achieved for the Jordan River basin, the agreement must be inclusive of all the riparian parties and the parties must have a duty to cooperate with each other per Article 8 of the U.N. Convention.¹²³

While the Interim Agreement recognized mutual water rights of the Israelis and the Palestinians in the West Bank, it failed to define those rights or the waters those rights pertained to. As the Seoul Rules set forth, any water agreement should be all-inclusive and stipulate which waters, surface or groundwater or both, are affected by the agreement.¹²⁴ However, identifying the geography or extent of an aquifer alone does not determine ownership or control. Therefore, the agreement must also

121. Vienna Convention, *supra* note 48, art. 3.

122. Schwebel, *supra* note 88, at 256.

123. U.N. Convention, *supra* note 68, art. 5.

124. Seoul Rules, *supra* note 58, arts. 1 & 2.

stipulate equitable and reasonable allocations of the waters per Article 5 of the U.N. Convention.¹²⁵ “First the problem of inequity must be resolved, and then the problem of scarcity can be addressed and overcome.”¹²⁶

One of the initial successes of the Oslo Accords was based on the fact that a third party intervened. Norway hosted and was a facilitator to the peace talks. The advantage of having a small, independent non-major-power state (which was not directly involved with the dispute) host the talks proved immeasurable because it created a “trusted environment.”¹²⁷ Norway was able to provide, first and foremost, “absolute secrecy” regarding the development of the talks, which played a key role in preventing the negotiators from receiving political pressure.¹²⁸ It has been suggested that without any “outside power willing to exert pressure, the forces of compromise and democracy are crushed.”¹²⁹ Thus, as called for in Article 33 of the U.N. Convention, a third party – whether it is in the role of good offices, mediator, or conciliator – can facilitate discussion and help the riparian parties onto the road towards settlement.¹³⁰

B. JOINT MANAGEMENT AND SHARING OF INFORMATION

Even with the establishment of the Palestinian Water Authority (PWA) and the Joint Water Committee per the Interim Agreement, there is “no common pool of reliable data on water supply, consumption, salinity levels, recharge rates and so forth on which both sides agree.”¹³¹ The only jointly managed water sources are those within the limited jurisdiction of the PA.¹³² In fact, Israel has been reluctant for “national security purposes” to make data public on Israel’s utilization as well as the Israeli settlers’ uses of the groundwater resources in the West Bank.¹³³ This has created a deep distrust by not only Palestinian water scientists and peace negotiators, but also by academic scholars attempting to study the Palestinian-Israeli conflict.¹³⁴ Cooperation and information exchange among the users of this precious resource is crucial if peace is ever to be established and maintained. Joint management of shared water resources is

125. U.N. Convention, *supra* note 68, art. 8.

126. ROUYER, *supra* note 18, at 278.

127. DEINIOI JONES, COSMOPOLITAN MEDIATION? CONFLICT RESOLUTION AND THE OSLO ACCORDS 107 (Manchester Univ. Press, 1999).

128. *Id.* at 112.

129. *Id.* at 150.

130. U.N. Convention, *supra* note 68, Article 33(2).

131. ROUYER, *supra* note 18, at 15.

132. *Id.* at 257.

133. *Id.* at 16.

134. *Id.* at 17.

not an uncommon occurrence. International regimes govern the development and utilization of many of the major watercourses of the world, including the U.S. – Canada International Joint Commission regarding management of the Great Lakes¹³⁵ as well as the Nile Basin Initiative.¹³⁶ Further, Article 24 of the U.N. Convention requires that all watercourse states enter into consultation over joint mechanisms if any riparian state requests it.¹³⁷ Finally, there have been model international commissions proposed, including a joint Israeli-Palestinian research team that suggested a gradual formation of a joint water management system to build confidence and experience.¹³⁸

VII. CONCLUSION

There is a long history of water-related disputes in the Middle East region, from conflicts over access to adequate water supplies to intentional attacks on water systems during wars. The characteristics that make water likely to be a source of strategic rivalry are: the degree of its scarcity, the extent to which the water supply is shared by more than one party or state, the relative power of the parties concerned, and the ease of access to alternative fresh water resources.¹³⁹

Israel controls virtually all of the Jordan River and the Mountain Aquifer's major water resources, it has overpowering military superiority compared to its Arab neighbors, and it appears reluctant to yield significant portions (if any) of the territories it presently holds. So, the question remains: what incentives or power can the Palestinians and the Arab states use, individually or collectively, to persuade the Israeli government to accept substantial territorial and political changes in the status quo?

The most strategic option for the Arab states of Jordan, Syria, Lebanon, as well as the Palestinians would be to press forward with the negotiations with the aid of the international community. Though there has been a stall in the peace track, it is apparent that the Jordanians and the Pales-

135. ELVER, *supra* note 84, at 209.

136. The Nile River basin has 10 riparians, and there have been disputes between Egypt, Sudan and Ethiopia over water allocations. However, with the formation of the Nile Basin Initiative (NBI) there have been efforts by all riparians to develop projects of mutual benefit, and it is believed they might formalize a "basin-wide agreement containing principles and obligations, and establishing a permanent joint institution." McCaffrey, *supra* note 96, at 59.

137. U.N. Convention, *supra* note 68, art. 33(2).

138. Eran Feitelson & M. Haddad, *Joint Management of Shared Aquifers: Final Report*, 1995 HARRY S. TRUMAN INSTITUTE AND PALESTINE CONSULTANCY GROUP.

139. Peter Gleick, *Water and Conflict: Fresh Water Resources and International Security*, 18 INT'L SECURITY 84-85 (1993).

tinians are committed to negotiating with the Israelis concerning their common water resources. In this regard, the international water law framework offers guidance to what the parties should strive for: a detailed agreement that reflects the needs of all the riparian parties in order to achieve an equitable and reasonable utilization of the waters. The time may come when these principles become legally binding customary international law. Until then, international pressure and assistance can and should be brought to bear to facilitate renewed discussions and creative thinking. This is the only realistic option for the Arab parties since they do not share Israel's hydro-strategic location, nor do they possess the military strength to countervail Israel's power.

An additional factor that furthers the need for cooperation is that the limited water resources in the region are diminishing at a faster rate than can be replenished due to the significant (and projected) increase in the Palestinian and Israeli populations. This factor, coupled with the increasing demands on the individual economies of the parties to the Arab-Israeli conflict, has intensified the need for cooperation to avoid the high costs of wars.

Prospects for peace between the Israel, Jordan, Syria, Lebanon and the Palestinians demand that a new approach to policymaking and planning be addressed, so that equitable and reasonable water utilization can be achieved by all the riparians. However, the existence of disputes in the region unrelated to water makes the resolution of water disputes much harder to achieve, since they can rarely be dealt with in isolation. Therefore, cooperation in issues related to water resources will be dependent on both bilateral and multilateral specific international agreements. In other words, such cooperation must be secured by peace agreements. This condition arises because individual water rights continue to be regulated by states. All parties to the Jordan River basin and the Mountain Aquifer ought to participate in bilateral and multilateral negotiations, as well as use the input of specialists and scholars, and the international community in order to achieve a genuine and lasting resolution to the conflicts.