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Prospects for Cooperation and Dispute Over Water in the Middle East

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INTRODUCTION

Water scarcity and pollution in the Middle East is a highly propelling and complex issue. In particular, in light of the intensively negotiated Middle East peace process, water scarcity and pollution, stands out as one of the most pressing issues from both environmental and political perspectives, and unlike other environmental problems, the depletion and degradation of this source strikes as a major cause for

political instability in the region.¹

While considerations in this study will be limited to only one part of the Middle East region, the Jordan River, rather than the entire region's drainage basins, it is hoped that this limitation will not detach the applicability of the results to other controversies, such as between Iraq, Syria and Turkey over the Euphrates and Tigris Rivers, or the potential conflict between Egypt and Sudan, or even the upper Nile States. Indeed, transference of the results from this study to other water basins would not affect the overall analysis of this study. Yet, the potential Peace Negotiations with the states neighboring Israel, that would most practically ensure resolving the water apportionment issue, makes the application of the Watercourse Convention, particularly on the Jordan River, desirable.² It is also suggested that the negotiations to settle water

* Associate Professor of Law at Qatar University College of Law. Dr. Khalaileh's areas of research include environmental protection, human rights, international humanitarian law, and international criminal law. Dr. Khalaileh is also a practicing advocate, and a legal consultant for the European Environmental Program in Jordan and for the National Resources Authority in Amman.

1. However, the bilateral interaction between Israel and both the Palestine Liberation Organization (PLO) and Jordan, has had for the first time the potential to be ruled by cooperation rather than conflict. This was clear in the signing of the 1993 Declaration of Principles between Israel and the PLO and the 1994 Washington Agreement between Jordan and Israel. See the agreements and its preparation in the *Bulletin of Regional Co-operation in the Middle East*, (Search for Common Ground, 1995). Also, even the issue of the Golan Heights has attracted both Israel and Syria to engage in peace treaty negotiations through Turkish mediation. See Allegra Stratton, Assad Confirms Turkish Mediation with Israel, *Guardian* (April 24, 2008), available at <http://www.guardian.co.uk/world/2008/apr/24/syria.israelandthepalestinians> (last visited Feb. 26, 2012). The Israeli government has announced that it would be willing to withdraw from the Golan Heights as part of a comprehensive peace treaty. See Ethan Bronner, Israel Holds Peace Talks With Syria, *N.Y. TIMES* (May 22, 2008), available at http://www.nytimes.com/2008/05/22/world/middleeast/22mideast.html?_r=0 (last visited Jan. 18, 2013); see also Timeline: Israel and Syria - Conflict and Negotiation, available at

http://www.nytimes.com/interactive/2008/05/21/world/middleeast/20080521_MIDEAST_PRIMER.html. (last visited Feb. 26, 2012), [hereinafter Timeline]. See generally, Babriel Eckstein, *Water Scarcity, Conflict, and Security in a Climate change World: Challenges and Opportunities for international Law and Policy*, 27 *WIS. INT'L L.J.*, 409-62 (2010). One, however, should consider the expected conclusions of the 'Arab Spring' and the direct effect that may have on any forthcoming understanding.

2. Raed Mounir Fathallah, *Water Disputes in The Middle East: An International Law Analysis of the Israel-Jordan Peace Accord*, 12 *J. LAND USE & ENVTL. L.* 119-59 (1994). In this paper, Fathallah outlined the historical background of the peace process in the Middle East over the Jordan River and the concluded treaties' effect on the allocation of water resources in the region. He presented a rather solid survey of the water

disputes, so as to provide an equitable distribution of the water resources, will either become a source of contention, if not more catastrophic wars, or be a base for mutual cooperation and co-existence. This paper seeks to provide some guidance on settling these issues in the region's future peace negotiations.

This paper addresses the prospects of the applicability of the Watercourse international regime to achieve cooperation in the Middle East region. In doing so, an assessment of the environmental status of the water medium in the Middle East, and the main reasons for its deterioration, is made; an illustration of the basic international law rules, as are now known in the twenty-first century, that are specifically related to the use of international watercourses is deciphered; the extent of protection afforded to this medium under international law is then analyzed; and an attempt is made to discuss the available possibility for applying international watercourse laws to the situation in the Middle East.

In general, water related problems in the Middle East can be attributed to three factors: natural, economic, and political.³ Annual water supply in the region is neither reliable nor plentiful.⁴ The climate is largely arid or semi-arid with average rainfall levels of less than 250

allocation, storage, water quality and protection and prospects for cooperation in the region, in light of the developed international water law in the 1990s. However, various cases were presented since then, and therefore one can consider an empowered perspective on the extent of state responsibilities towards the water medium and towards the environment as a whole. As such, this study is made on the hope that it would be a continuing effort in making a sound progression, basing the conclusion on the reflection of case law and indeed the extent of customary rules.

3. Whilst there are specific factors behind the water crisis in the Middle East, estimates disclose that over 50% of the population in this region, excluding the Maghreb, depend either on water from rivers which cross an international boundary, or upon desalinated water and water drawn from deep wells. See J. Kolars, *The Course of Water in the Arab Middle East*, 33 AM. ARAB AFFAIRS 57-68 (1990). Millions of people face daily problems obtaining water for drinking, cooking, bathing, and washing. More than 25% of the population of Egypt, Sudan, Algeria, and Yemen are estimated to be without access to uncontaminated water, and a large unknown proportion of people have to spend hours each day collecting water. Cholera and typhoid related to contaminated drinking water are common in Egypt, Sudan, and Yemen. See S. al-Qudsi, *Water Resources: Use, Constraints and Potential for Cooperation in the Middle East*, in PRACTICAL PEACE-MAKING IN THE MIDDLE EAST, vol. II, 171-91 (Spiegel & Pervin, 1995).

4. Strategic agendas in the Middle East made water resource management and allocation highly sensitive issues and hence water-related data has become politically sensitive too. Therefore, precise figures for water availability or consumption are disputed and are not presented to a satisfactory extent. As a result, figures quoted in this paper should be treated accordingly and are used to illustrate only general trends.

millimeters per year, except on the Mediterranean coast and upland areas of Lebanon, Syria, and Iraq.⁵ Over 70% of water supplies in the Middle East are allocated to irrigated agriculture to increase crop yields, and farmers in particular have tended to enjoy substantial water subsidies or even, as with farmers on the Nile valley and delta in Egypt, receive water virtually free of charge.⁶ The importance of the agriculture sector to national income generation and employment is declining steadily in most Middle East countries.⁷ Yet, despite falling productivity in most cases and widespread drought, government investment in dam and irrigation projects and in the cultivation of cereal crops increased throughout the 1980s, motivated by fears of growing dependence on food imports.⁸

Moreover, for political reasons, certain policies and objectives favoring specific lobbying groups and private ends, has made use of the term 'food security,' disregarding poor economic returns. As such, farmers in Israel form a strong political pressure group. Also, the Iraqi government during the late Saddam domination had planned to build a 'third river' between the degraded agricultural land, draining marshland areas that have provided a haven for opponents to Saddam Hussein's regime. In Libya, one of the principle objectives of the Great Man-Made River project is to supply water for irrigation and other uses in the Sirte region, though outside the traditionally cultivated zone, simply because it is the home area of the late Libyan leader Colonel Gaddafi's family.⁹

5. Only Turkey and Iran enjoy a relative water surplus.

6. See P. Bereck & J. Lipow, *Water and an Israeli-Palestinian Peace Settlement*, in SPIEGEL & PERVIN, *supra* note 3, at 139-56. The difficulty of creating non-agricultural jobs and the fear of desertification spread are one of many reasons for the reluctance of governments to commit themselves to the reallocation of water resources despite visible attraction. For an extensive analysis of all reasons, see M. J. Haddadin, *Water Management: A Jordanian Viewpoint*, in WATER, PEACE AND THE MIDDLE EAST: NEGOTIATING RESOURCES IN THE JORDAN BASIN 64 (J.A. Allan ed., 1996).

7. See e.g. tables produced by the Food and Agricultural Organization, *FAO Production Yearbook, 1991* (State of Israel, Central Bureau of Statistics).

8. Many Middle East countries have been promoting a policy of food security and self-reliance as a national economic goal.

9. In Natasha Beschorner, *Water Instability in the Middle East 4* (1992), similar water related issues are found in more than 260 international watercourses and countless international aquifers which cross the political boundaries of two or more states. Many of these have concluded specific cooperation agreements starting from the Treaty of Versailles 1919, giving water use to France but paying half the value of the produced energy to Germany, The Barcelona Convention of 1921, The Kunene River Agreement of 1926 between South Africa and Portugal, followed by the Cunene River Basin Agreement of 1969 between the same parties, The Rhine Chlorides Agreement of 1977 between Netherland and France, The Lesotho Highlands Project Treaty of 1986 between

Such corrupt political achievements, now inherited by the National Transitional Committee, have led to an incompatibility of these projects with emerging environmental standards.

Water related problems are also worsened by the nature of the cross-boundary course of the rivers in the region. Characterized as 'international waters,' due to their passage through two or more boundaries, rivers have not been efficiently managed. It seems that there is no structure of communication between the neighboring states to formulate an integrated policy towards water management. Despite the intensive efforts, no formal protocols existed among all riparian states for the Nile, Yarmouk, Orentes, Al-Kabir, Jordan, Tigris, and Euphrates rivers. It is likely that if current circumstances persist, most of the downstream riparian states in this region will experience a severe deficiency in the quantity and/or quality of water resources.¹⁰

On the other hand, concern over decreasing water supplies in the Middle East has been widely viewed as the next cause of conflict in the region.¹¹ For instance, the mere idea of a Jordanian/Syrian plan to divert

South Africa and Lesotho, Babcikovo-Nagymaros Treaty of 1977 between Slovakia and Hungary, and the Columbia River Basin Treaty of 1961 between Canada and the USA. Negotiating parties to these treaties have bargained to reach win-win outcomes instead of the traditional confrontational win-lose approach. *See also* Alex Grzybowski, et al., *Beyond International Law: Successful Negotiating Mutual Gains Agreements for International Watercourses*, 22 PAC. MCGEORGE GLOBAL BUS. AND DEV. L. J. 139-54 (2009), from conference entitled "Critical Intersections for Energy & Water Law: Exploring New Challenges and Opportunities, Calgary, Alberta, May 20-21, 2009; Shlomi Dinar, *Power Asymmetry and Negotiations in International Rivers Basins*, 14 INT'L NEGOTIATION, 329 (2009); *see also* Neda A. Zawahri & Andrea k. Gerlak, *Negotiating International River Disputes to Avert Conflict*, 14 INT'L NEGOTIATION 281 (2009).

10. United Nations Economic and Social Commission for Western Asia (ESCWA), *Survey of Economic and Social Development in the ESCWA Region 1990-1991*, (Amman: UN ESCWA/DPD/1992/8, 1992); *see generally* T. Naff and R. C. Maston, ed., *Water as a Source of Cooperation or Conflict in the Middle East?* (1984).

11. *See e.g.*, T. Naff and R. Matson, *id.* at 1-21; J. Starr and D. Stoll, *US Foreign Policy on Water Policy in the Middle East*, 11 (1987); and J. Starr and D. Stoll, *Water for the Year 2000*, in J. Starr and D. Stoll, eds. *The Politics of Scarcity*, 149 (1988). Leading political figures such as the late King Hussein of Jordan, former President Turgut Ozal of Turkey, former president Anwar Sadat of Egypt and former UN Secretary-General Dr. Boutros Ghali (when he was Deputy Foreign Minister of Egypt) have all referred to water in the Middle East as a *casus belli*, while at other times these same figures have described water as an excellent focus for inter-state co-operation. *See Jerusalem Post*, November 16, 1991, and *Arabies*, July/Aug. 1990, p. 47. In 1990, King Hussein delivered a speech of solemn public warning to Israel saying that "the only issue that will bring Jordan into war is water", *Al-Dostour Newspaper* (Amman-Jordan), May 9, 1990, p. 7.

the head-waters of the River Jordan was probably one main cause for the 1967 war between Israel and the Arab World.¹² Israel's systematic exploitation of water resources in the Golan Heights and the West Bank¹³ is probably the reason for the Israeli reluctance to consider a peace agreement based on the exchange of land for peace, and control over the flow of the River Litani could well be the reason for Israel's recurrent occupation of southern Lebanon.¹⁴

It is not only in the context of the Arab-Israeli confrontation that the issue of water resources serves as a potential cause for further conflict. In October 1991, Egyptian Leader Anwar el-Sadat threatened military action against Ethiopia if it "touches the waters of the Nile River". This threat was made to Ethiopia, which controls 85% of the Nile's higher flow, and implicitly to Sudan, through which the Nile passes.¹⁵ Elsewhere, Syria has in the past threatened to attack dam facilities in Turkey, while its own use of water from the Euphrates River has been a source of dispute with Iraq.¹⁶

In sum, water related issues in the Middle East are distinctly complicated and further aggravated by characteristics that distinguish it from other affairs. The essential nature of water and its impact makes it an encompassing issue. Certainly, where two or more hostile actors

12. See J. Bulloch & A. Darwish, *Water Wars: Coming Conflicts in the Middle East*, 33-58 (1993); Frederic C. Hof, *The Line of June 4, 1967*, 14 *Middle East Insight* 17, 18-19 (Sept.-Oct. 1999); Tom Segev, *1967: Israel, the War, and the Year that Transformed the Middle East*, 192 (2007); and Timeline *supra* note 1. See also Fathallah for a broad historical overview of the military and political events of the Arab-Israeli conflict and the main elements at stake in the conflict that affected foreign and strategic policies, *supra* note 2, at 122-27.

13. In 1984 Israel's total water resources were 230 mcm, and by 1964 this figure increased to 1288 mcm and by the end of 1980s rose to well over 2000 mcm. In 1982, the water resources of the West Bank were completely incorporated with Israel's water company Mikarot. See various figures in A. Tamimi, *A Factor for Conflict or Peace in the Middle East*, Arab Studies Society: Israeli-Palestinian Peace Research Project, Working Paper Series, no. 20, 1991-1992.

14. F. El-Refoue, *The Water Role in the Arab-Israeli Peace Talks* (Arabic), 3 The Political File / Al-Dostour, Aug. 4, 1996; K. Ebrahim, *Arabs and Eater*, (Arabic), 4 The Political File / Al-Dostour, Aug. 4, 1996.

15. See *Al-Dostour Newspaper* (Amman-Jordan), October 25, 1991, p. 12. Note, however, the establishment of the Nile Basin Initiative (NBI) by the Nile Basin states in 2002, attempting to develop a Benefit Sharing framework in 2009 to promote regional power trade through coordination in the context of multi-purpose water resources development. See analysis on this made by Robert O. Collins, *The Nile*, 24 (2002); and John Waterbury, *The Nile Basin* 71, 83 (2002).

16. *Id.*

compete for the same water resources, water dependency and security become innately intertwined.¹⁷

I. INTERNATIONAL LAW RELEVANT TO INTERNATIONAL RIVERS

In order to determine the current legal position of Middle East countries to their water crisis and to decipher possibilities for future reform on national and regional levels, it is imperative to reiterate the relevant international laws on the utilization of shared water resources between two or more states.¹⁸ This, however, should always be viewed in light of the claims conceived by basin states so as to underline the ones that are correct in perception.

A. Possible State Claims Over the Utility of a Shared Water Resource

To begin with, it should be noted that international law on the use of shared water resources is still open to a variety of interpretations. Developing international water law acceptable to all nations has proven to be extremely difficult and has evolved over years of effort by the various organizations. The main factors affecting any successful negotiation between states sharing river basins, and therefore the implementation of any executed international agreement, are whether a state is upstream, downstream, or sharing a river as a border, as well as the military and economic strength of adjacent state, and even the availability of other water supply sources.

Since the beginning of the twentieth century, scholars have debated the utilization of shared water resources in four main theories:¹⁹ absolute territorial sovereignty, absolute territorial integrity, limited territorial sovereignty or integrity, and community of interests in the waters.

Traditionally, and to some extent even now, states exercised

17. See T. Naff, *Water in the International Relations of the Middle East: Israel and the Jordan River System*, in PROBLEMS OF THE MODERN MIDDLE EAST IN HISTORICAL PERSPECTIVE 189 (J.P. Spagnolo, ed., 1992).

18. For a comprehensive analysis of this, see KATAK B MALLA, THE LEGAL REGIME OF INTERNATIONAL WATERCOURSE: PROGRESS AND PARADIGMS REGARDING USES AND ENVIRONMENTAL PROTECTION (2005); Aaron T. Wolf, et al., *International River Basins of the World*, 15 INT'L J. OF WATER RESOURCES DEV. 387-92 (1999); STEPHEN C. MCCAFFREY, THE LAW OF INTERNATIONAL WATERCOURSES (2nd ed., 2007).

19. For a detailed examination of these theories, see B.A. GODANA, AFRICA'S SHARED WATER RESOURCES: LEGAL AND INSTITUTIONAL ASPECTS OF THE NILE, NIGER AND SENEGAL RIVER SYSTEMS 32 (1985).

exclusive sovereignty over their natural resources.²⁰ This notion has been applied particularly to portions of international drainage basins belonging to the state, irrespective of the prejudice it might cause beyond the national frontiers. This is the ‘absolute territorial sovereignty’ theory, where a state is deemed the ‘master of its own territory.’²¹ This theory is also known as the *Harmon Doctrine*, named after the declaration first made by the U.S. Attorney-General Judson Harmon in 1896,²² and later reaffirmed by the United States Department of State.²³ This doctrine, however, has proven unachievable due to the competing and irreconcilable water demands. Also, because international watercourses are basically moving water that does not respect political boundaries, making a claim of absolute sovereignty over it is strikingly difficult. Hence, present state practice, including that of the United States,²⁴ a great majority of scholars, and judicial decisions by international tribunals, have all abandoned this theory as having any legal value.²⁵

In a similar fashion, a call for an ‘absolute territorial integrity’ has also been vigorously rejected. Being the direct opposite of absolute territorial sovereignty, this theory meant that a riparian state may not exploit a section of an international waterway in a way that would cause injury to the interests of a lower-basin state. The obvious weakness in this theory is that it allocates rights to one state (the lower riparian state) without conferring any corresponding duties upon it, and therefore places the upper riparian state in an unfavorable position.²⁶

As a consequence, a doctrine of ‘restricted sovereignty’ emerged,

20. This indeed included water found within their territories. It was within many state’s policies that national rivers running exclusively within their frontiers should form part of their territories, and are therefore subject to their exclusive sovereignties. See Oppenheim, L., 1 INT’L LAW 361 (5th ed. 1937).

21. See P. K. Menon, *Water Resources Development of International Rivers with Special Reference to the Developing World*, 9 INT’L LAWYER 441, 445 (1975).

22. This declaration concerns the waters of the Rio Grande which forms the boundary between the United States of America and Mexico but for the most important part is located on the American side of that frontier. See Harmon statement in John Bassett Moore, *International Law Digest*, Vol. 1, 654 (1906).

23. See U.S. Department of State statement quoted in GODANA, *supra* note 19, at 33.

24. The Harmon Doctrine has been subsequently disapproved by the U.S. State Department, *Memorandum of the Legal Advisor*, Nov. 23, 1942, in M. Whiteman, *Digest of International Law*, vol. III, 950-54 (1964).

25. GODANA, *supra* note 19.

26. *Id.*; see also Jonathan E. Cohen, *International Law and the Water Politics of the Euphrates*, 24 N.U.U.J. INT’L L. & POL., 503, 522 (1991).

whereas each state recognizes the rights of all riparian states, and the mutual obligation to manage the use of the available water without interference. Being widely conceived as the dominant trend among riparian states, this theory has been seen as a customary rule of international law.²⁷

One possible theory greatly supported and sought after by environmentalists is the ‘community of interests theory.’ This view stresses the importance of the drainage basin as an economical and geographical unit. Accordingly, states with shared boundaries should be given a collective right to act in a manner where no one state harnesses the water crossing their territory without prior *consultation* with and the positive *cooperation* of other states sharing the same source. State practices in support of this theory include the early Decree of the Provisional Executive Council of the French Republic of November 16, 1792, which provided that “the watercourse of a river is the common inalienable property of all countries watered by it.” However, despite the attractions of this theory, the “idea has yet to develop into a principle of international law governing international water relations in the absence of treaties.”²⁸

It may well be argued that, as it stands today, state practice has not yet abandon the doctrines of limited territorial sovereignty or integrity,²⁹ and although it is concluded in this study that signs of customary rules are now emerging in the corpus of public international law for a more cooperative use based on an ecosystem conception, and that any feasible successful arrangement of use of the Jordan River water would be particularly successful if only it entails maxims of community of interests theory, it is still worth agreeing here that the assertion that every state is free to use the waters flowing on its territory, on the condition that such utilization does not prejudice the territory or interests of other states, is sound in state practice and international jurisprudence, who indeed still passes support to this theory. As early as 1911, the Institute of International Law declared that, as regards international rivers, contiguous or successive,

[N]either of these riparian states may without the consent of the other . . . make or allow individuals, corporations, etc., to make alterations therein detrimental to the bank of the other state. On the other hand neither state

27. GODANA, *supra* note 19 at 524.

28. GODANA, *supra* note 19 at 49.

29. In support of this theory, see J. L. Brierly, *The Law of Nations*, 204-05 (1955), and GODANA, *supra* note 19; see also FATHALLAH, *supra* note 2, at 141.

may on its own territory, utilize or allow the utilization of the water in such a way as seriously to interfere with its utilization by the other or by individuals, corporations, etc., thereof.³⁰

In support of this are statements provided by the International Law Association,³¹ Article 4 of the 1966 Helsinki Rules,³² the Declaration of Montevideo³³ and many other international and national bodies.³⁴ All suggest that the theory of limited territorial sovereignty is now a well-established doctrine in international law when the matter concerns state claims over shared international watercourse.

B. *The Duties of Riparian States Under International Law*

Having discussed the sort of claims states would normally deploy in respect of their shared watercourses, and asserting that a doctrine of limited territorial sovereignty seems to be prevalent, it becomes essential to explore the state's obligations with respect to water utilization in the realm of customary international law, and hence binding upon all states. In other words, the duties which sovereign states must comply with even in the absence of a mutual treaty regulating the subject matter.³⁵

30. Article 1 of the Resolution adopted by the Institute of International Law at Madrid on April 20, 1911 on *International Regulations Regarding the Use of International Rivers for Purposes Other than Navigation*, M. Whiteman, *supra* note 24.

31. Resolution of the ILA adopted on Sept. 6, 1958, *A Statement of Some Principles of International Law Governing, and Recommendations Respecting the Use of the Waters of Drainage Basins within the Territories of Two or More States as to Which the Members of the Committee Present at the New York Conference Have Reached Unanimous Agreement*, I.L.A Report of the Forty-Eighth Conference, New York, p. 99 (1958).

32. 1966 Helsinki Rules, 52 I.L.A 1967 (Aug. 20, 1966).

33. See paragraph 2 of the Declaration on the Industrial and Agricultural Use of International Rivers adopted by the Seventh International Conference of American States at Montevideo, 1933. Text in Marjouri M. Whiteman, *Digest of International Law*, vol. 3, Washington, DC, Department of State, 929-30 (1964).

34. See *General Survey of Studies Made or Being Made by Non-Governmental Organizations Concerned with International Law*, Doc.A/CN.4/Ser.A, 1974, Add.1 (Part 2), in the Yearbook of the International Law Commission, 1974, Vol. II, Part II, Par. 199.

35. The law governing international watercourses will take either of two general forms: treaty law or customary international law. In this respect, certain established norms govern the creation process of customary law rules should be born in mind. For this, see *North Sea Continental Shelf* cases, I.C.J Reports, 1969, p. 3, 32-43; see also the case of *Nicaragua v. United States* (Merits), I.C.J Reports, 1986, p. 14, 207. To say the least, in referring to its judgment in the *North Sea* cases, the Court in the latter case observed that: "for a new customary rule to be formed, not only must the acts concerned 'amount to a settled practice', but they must be accompanied by the *Opinio juris sive necessitates* . . . 'evidence of a belief that this practice is rendered obligatory by the

The bulk of international rules regulating the use of freshwater resources (including rivers, lakes, groundwater, and reservoirs) and its contamination by pollution have long been set forth in bilateral and regional treaties. For instance, agreements have been concluded between the States of Mekong River,³⁶ the Plate River,³⁷ the Niger River,³⁸ and the Senegal River³⁹ all testifying that a trend of mutual cooperation and joint development of international watercourse is preferred. As a result, a plethora of international water management institutions are operating today in all the main regions of the world. It follows, therefore, that where no agreements have been established in a specific region, the legal principles and rules, as developed and established in general international law, should be relied upon.

To begin with, it should be noted that explicit in the limited territorial sovereignty doctrine is a general obligation upon states to ‘equitably utilize their shared watercourse.’ As early as 1974, Article 3 of the Charter of Economic Rights and Duties of States stated that “In the Exploration of natural resources shared by two or more countries each state must *co-operate* on the basis of a system of *information* and *prior consultations* in order to achieve the optimum use of such resources without causing damages to the legitimate interests of other states.”

The 1992 Helsinki Convention (on the Protection and Use of Transboundary Watercourses and International Lakes) specifies the scope of the general obligation to not cause damage to the environment of other states in this particular field.⁴⁰ Long before that, in 1966 the ILA

existence of a rule of law requiring it.” See Richard Kyle Paisley & Timothy L. McDaniels, *International Water Law, Acceptable Pollution Risk and the Tatshenshini River*, 35 NAT. RES. J., 111, 117-18 (1995); Ian Brownlie, *Principles of Public International Law* (7th ed., 2008).

36. See P. K. Menon, *Institutional Mechanisms for the Development of International Water Resources*, 3 REVUE BELGE DE DROIT INT’L, 80, 80 (1972).

37. See International Law Commission, Stephen Schwebel, *Second Report on the Law of Non-Navigational Uses of International Watercourses*, 43. UN Doc. A/CN.4/332 (Apr. 24, 1980).

38. Act Regarding Navigation and Economic Co-operation between the States of the Niger Basin, Oct. 26, 1963, 587 U.N.T.S. 26 (1964).

39. The Convention Establishing the Organization for the Development of the Senegal River (Convention Portant Création de l’Organisation pour la Mise en Valeur du Fleuve Sénégal) (“OMVS Convention”), signed in Nouakchott, Mauritania on March 11, 1972, p. 997. See Convention Establishing the OMVS (Organisation pour la Mise en Valeur du Fleuve Senegal), signed at Noukachott on December 17, 1972.

40. UN Doc E/ECE/1267, *reprinted* in 31 I.L.M. 1312 (1992). It states that:

1. The Parties shall take all appropriate measures to prevent, control and

produced the non-binding Helsinki Rules on the Uses of the Waters of International Rivers,⁴¹ providing that each basin state is entitled to “a reasonable and equitable share in the beneficial use” of the waters, in accordance with the relevant factors in each case.⁴² States are obliged to prevent new forms of water pollution or any increase in the degree of existing pollution which would cause ‘substantial injury’ in the territory of other basin states, and to take all reasonable measures to decrease existing pollution.⁴³ However, it should be noted that these rules are supposed to govern the use of waters of international drainage systems *except* as otherwise provided by applicable treaty or custom.⁴⁴

Moreover, the 1997 Convention on the Law of the Non-Navigational Uses of International Watercourses (hereinafter the 1997 Convention),⁴⁵

reduce any transboundary impact.

2. The Parties shall, in particular, take all appropriate measures:

(a) To prevent, control and reduce pollution of waters causing or likely to cause transboundary impact;

(b) To ensure that transboundary waters are used with the aim of ecologically sound and rational water management, conservation of water resources and environmental protection;

(c) To ensure that transboundary waters are used in a reasonable and equitable way, taking into account their transboundary character in the case of activities which cause or are likely to cause transboundary impact;

(d) To ensure conservation and, where necessary, restoration of ecosystems.

41. *Supra* note 31, at 484. The approach of these rules was generally followed by the subsequent work of the IDI on pollution of rivers and lakes. *See* the Resolution on Pollution of Rivers and Lakes and International Law, Athens, ANNUAIRE OF THE INSTITUTE DE DROIT INTERNATIONAL, 193 (1979). *See also* subsequent rules adopted by the ILA on Water Pollution in an International Drainage Basin, Montreal, Sept. 4, 1982, 60 I.L.J. 535 (1983); and Rules of International Groundwaters, Seoul, August 30, 1986, 62 I.L.J. 252 (1987).

42. *See* Articles III, IV and V(1), Helsinki Rules, *Id.* On this see also, Richard Paisley, *Adversaries Into Partners: International Water Law and the Equitable Sharing of Downstream Benefits*, 3 MELB J. INT’L LAW, 280-83 (2003).

43. Article X (1), Helsinki Rules, *id.*

44. Article I, Helsinki Rules, *id.*

45. Adopted by the United Nations on May 21, 1997, *see* GA Res. 51/229 (May 21, 1997), 36 I.L.M. 700 (1997). For a discussion of this, *see* Stephen C. McCaffrey, *The International Law Commission Adopts Draft Articles on International Watercourses*, 89 AM. J. OF INT’L LAW 395 (1995); John R. Crook & S. C. McCaffrey, *The United Nations Starts Work on a Watercourses Convention*, 19 AM. J. OF INT’L LAW, 374 (1997); and S. C. McCaffrey & Mpazi Sinjela, *The 1997 United Nations Convention on International Watercourses*, 92 AM. J. OF INT’L LAW 97 (1998). This Convention establishes general principles for the use and management of international watercourses and assists in the resolution of disputes. It encourages states to enter into specific agreements concerning

drafted by the International Law Commission, has been set to regulate “the uses of international watercourses and of their waters for purposes other than navigation and measures of protection, preservation and management related to the uses of those watercourses and their waters.”⁴⁶ Part II of the Convention document stipulates the general obligations upon states in this respect. These include the utilization of watercourses in an *equitable and reasonable* manner (Article 5(1));⁴⁷ the *obligation to co-operate* in the protection and development of watercourse systems (Article 5(2));⁴⁸ an *obligation not to cause significant harm* (Article 7(1));⁴⁹ and finally the *procedural duties* consisting of the exchange of data and information, the pre-notification of other riparian states of any planned activities, replying to any notification made by the state of planned measures, and consultation and negotiation (Articles 9, 12 and 19).⁵⁰

While it is generally accepted that the procedural duties in the international law system have not yet been considered as reflecting a customary rule,⁵¹ they nevertheless might do so when the matter relates

the watercourses they share (Article 3). Such agreements may alter or adjust the principles contained in the Convention to suit particular conditions. This Convention is of a particular value because it is the only convention of a universal character on international watercourses. To ensure wider participation, the negotiations in the working group of the Sixth (Legal) Committee of the General Assembly were open to participation by all UN member states, as well as states that are members of specialized agencies of the United Nations.

46. See *supra* note 45, at Article 1.

47. In this respect, the Convention sets out some factors relevant to the equitable and reasonable utilization including social and economic needs and conservation, protection and development of the watercourse, *supra* note 45, at Article 6(1)(b). See next section for a detailed discussion on this.

48. A more explicit requirement to cooperate in good faith is produced in Article 8 under the title ‘General obligation to co-operate.’ The manner of such cooperation can be determined by the states concerned by establishing joint mechanisms or commissions to facilitate the required cooperation. This states that “Watercourse States shall co-operate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilisation and adequate protection of an international watercourse.” See *supra* note 45, at Article 8(2).

49. This states that states ‘shall . . . take all appropriate measures to prevent the *causing of significant harm* to other watercourse states,” *supra* note 48.

50. For a comprehensive discussion of the procedural duties in international law, see Phoebe N. Okowa, *Procedural Obligations in International Environmental Agreements*, *The British Year Book of International Law*, 275 (1996).

51. In an earlier opinion, Fathallah asserted that “certain procedural requirements of notification and consultation, as well as the sharing of data involved . . . beneficial in the current world situation, it remains a rather utopian concept in light of the scarcity

to the protection of international watercourses in particular. The procedural duties, which mostly precede the progress on any new activity on the watercourse systems, have been widely adhered to by the state parties to the 1997 Convention. The duty of prior notification, for instance, was accepted as a part of the Convention by most delegations to the 1997 Convention. This particular duty is therefore part of customary international law and binding upon all states.⁵² The international community as a whole seems to deliberately reject the notion that a state has unfettered discretion to do as it wishes in relation to international watercourse within its territory.⁵³ Consequently, the “Harmon Doctrine” can no longer benefit its claimants.

Further, scholars supplemented the above suggesting that the procedural obligations must be considered as part of customary international law when considering disputes over international watercourses.⁵⁴ Phoebe Okowa, for instance, rejects that there is a general customary law of procedural duties, and suggests that in most cases the evidence as to whether a customary law of procedural obligations has taken place “is in fact patchy, equivocal, and inconclusive.”⁵⁵ However, when the matter involves an international watercourse, the same scholar reverses her position by agreeing that the procedural obligations have actually passed in the bulk of customary international law given the international watercourses *lex specialis* and the evidence of the extensive state practice in this regard.

Beside treaties and scholarly opinions, international law *vis-à-vis*

problem haunting the planet,” *supra* note 2, at 140, 152.

52. There are many other treaties and international instruments requiring states to notify potentially affected states of any of the projects on their territories that may carry a risk of serious environmental harm. See for instance Article 14(d) of the Convention on Biological Diversity, 31 I.L.M. 822 (1992); OECD Principles, Council Recommendation C (74) 224 (1974), Annex, Part F, in Organization for Economic Cooperation and Development and the Environment 1986 (Paris, 1986).

53. See Stephan C. McCaffrey, *The Harmon Doctrine One Hundred Years Later: Buried, Not Praised*, 36 NAT. RESOURCES J. 725 (1996).

54. See e.g., Phoebe N. Okowa, *supra* note 50, at 317-32. See also Birnie and Boyle, *International Law and the Environment* 103 (Oxford, 1992); F.L. Kirgis, Jr., Prior Consultation in International Law: A Study of State Practice, ch. 2 (University Press of Virginia, 1983); 2 *Quentin-Baxter, Second Report on International Liability for Injuries Consequences Arising out of Acts not Prohibited by International Law*, Yearbook of the International Law Commission, part 1, para. 69, p. 119 (1981); G. Handl, *Proceedings of the American Society of International Law* 223-24 (1980); Kiss and Shelton, *International Environmental Law* 115 (1991); and P. Sands, *Principles of International Environmental Law* 604-07 (1995).

55. P. Okowa, *supra* note 50, at 317.

state practice seems to be relatively well developed in respect of international rivers.⁵⁶ Examples can also be derived from international tribunal decisions. In 1929, the Permanent Court of International Justice (PCIJ) held that the utilization of international rivers, including their flow, was subject to international law; the Court identified the “community of interests in a navigable river [which] becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian states in the *use* of the whole course of the river and the exclusion of any preferential privilege of any one riparian in relation to the other.”⁵⁷ While endorsing the principle of limited territorial sovereignty, explicit in this statement is a focus on the manner of use of shared water resources. This is based on the prohibition of any limitation imposed on other riparian states to make full use of their right of access to shared natural resource.

Furthermore, the above legal approach can also be found in the *Lake Lanoux* arbitration.⁵⁸ Although the Court has legitimized the proposed French works of constructing a barrage to channel water through a hydro-electric power plant, it held that the Spanish claim to an infringement of rights might have been more successful if it could have shown that the proposed works would pollute the waters in such a way as to injure its interests.⁵⁹ It also declared that in undertaking works on an international waterway, one ought to take into account interests which risk being affected, even if such interests may not correspond to a right. Moreover, the decision went on to say that the upper basin state has an obligation to take into account, in good faith, the different interests present and to seek to accommodate all of them in a willingness to reconcile the interests of one riparian with those of another.

Also, the case concerning the Gabčíkovo-Nagymaros Project was partly decided by the ICJ to include issues related to the environment.⁶⁰ This case arose out of the signature by Hungary and Czechoslovakia on a September 16, 1977 treaty concerning the construction of the Gabčíkovo-Nagymaros System of Locks of the Danube River for both countries as a

56. See P. Sands, *supra* note 54, at 347.

57. Case concerning the *Territorial Jurisdiction of the International Commission of the River Oder*, Judgment No. 16 (1929), PCIJ, Ser. A, No. 23, p. 27.

58. 24 INT'L L LEGAL REP. 101 (1957).

59. *Id.* at 123.

60. Case concerning Gabčíkovo Nagymaros Project (Hungary v. Slovakia), 37 I.L.M. 162 (1998).

“joint investment.”⁶¹ The original Hungarian application to the ICJ in October 1992 relied on a claim of territorial sovereignty and at least nine general principles and rules of customary international law related to freshwater pollution and the diversion of international rivers.⁶² This included the obligations to maintain ecosystems, conserve flora and fauna, participate in good faith negotiation, prevent transnational environmental interference, to not cause significant harm to other watercourse states, to make reasonable and equitable use of transboundary resources, give prior notification of activities, engage in consultations, and to anticipate, prevent, and minimize damage to transboundary resources.⁶³

The legal arguments in this case were based on the view that the ‘provisional measures’⁶⁴ would deprive Hungary of its due share of water quantity, water quality, and power potential, and would impair the quality and quantity of other natural resources, including forests, groundwater reserves, and genetic diversity.⁶⁵

61. The treaty also obliges the contracting parties to ensure that the quality of water in the Danube was not impaired as a result of the Project, and that compliance with the obligation for the protection of nature arising in connection with the construction and operation of the System of Locks would be observed. See the Memorial of the Republic of Hungary submitted to the ICJ on 2 May 1994, p. 120. *See also* the Special Agreement between Hungary and the Slovak Republic for Submission to the ICJ for the differences between them, 32 I.L.M. 1294 (1993).

62. Original Hungarian Application (Oct. 22, 1992) in 32 I.L.M. 1260 (1992).

63. *Id.* at 268, 1273, 1274, 1275, 1276 and 1287.

64. The ‘provisional solution’ was adopted by the Czechoslovak government, pending the exchange of an extensive diplomatic notes with Hungary, where it decided to continue the construction works on the diversion of the Danube to the Slovak territory unilaterally. *See* Declaration of Hungary on the Termination of the 1977 Treaty on the Construction and Operation of the Gabčíkovo-Nagymaros Barrage System, May 16, 1992, 32 I.L.M. 1260 (1992), in SANDS, *supra* note 54, at 691.

65. Similarly, under the Special Agreement, Hungary stressed, in its memorial to the ICJ, the value of (and that Czechoslovakia had violated) Article 15 of the 1977 treaty, concerned with the protection of water quality in the Danube River, Article 19, concerned with the protection of nature, and Article 20 concerned with the protection of fishing interests. See the Memorial of the Republic of Hungary submitted to the ICJ on May 2, 1994, at 184-196. Moreover, Hungary claimed that Czechoslovakia violated rules of general international law in its approach to the concerns raised by Hungary about the project, specifically the obligation of prevention of environmental damage in the light of the precautionary principle, and the obligation to cooperate in mitigating environmental damage. *Id.* at 189-209. Also, in respect of the diversion of the Danube River, Hungary maintained that Czechoslovakia violated principles of customary international law such as the obligation not to cause damage to the environment of other states; that it did not provide Hungary with timely and adequate information on its plan to proceed to this act;

The International Court of Justice, whilst ruling that Hungary was not entitled to suspend and subsequently abandon work on the Nagymaros Project for which the 1977 Treaty and related instruments attributed responsibility,⁶⁶ expressly acknowledged that the concerns expressed by Hungary for its natural environment in the region, affected by the Gabčíkovo-Nagymaros Project, related to an essential interest of Hungary. It also stated that “the existence of the general obligation of states to ensure that activities within their jurisdiction and control respect the environment of other states or of areas beyond national control is now part of the corpus of international law relating to the environment.”⁶⁷ Moreover, it has stated that newly developed norms of environmental law were relevant for the implementation of the treaty. That new norms and standards had now been developed in many instruments and should be properly considered. The effect of this approach is to render treaty arrangements already undertaken between states susceptible to modification in order to make them environmentally sound.

What can be concluded from the above description is twofold. On the one hand, the Gabčíkovo case brings us to the particular conclusion that an application of a ‘community of interests’ approach is probably the best way of avoiding disputes over international watercourses. In the long run, this may emerge as a customary rule for regulating riparian states’ different claims upon an international river, especially when the water therein is barely sufficient for the basic needs of all riparian states. Just as with the limited territorial sovereignty approach, this theory contrasts with other competing claims, such as the absolute sovereignty (or Harmon Doctrine) and the territorial integrity of the basin system, which have been, and are still, pressed into service by some states especially those who are in a favored position.⁶⁸

Finally, what can be deduced from the various provisions of the

it did not accept meaningful consultations with it; that it did not observe the principle of equitable use of shared natural resources; and that it did not respect the principle of the permanent sovereignty of Hungary over one of its main natural resources. *Id.* at 219-32.

66. 37 I.L.M. 162 (1998).

67. *Id.* at para. 53.

68. See *Jordan River Basin Study*, study submitted to the International Bank for Reconstruction and Development (IBRD), Regional Office for Integrated Development (ROID), 1993, (Draft); and B. Al-Kloub and J. Radaideh, *State of the Environment in Jordan for Natural Resources: Land, Water and Pollution from Industrial Activities*, A paper presented at the First Arab Conference on Environmental Problems, (Yarmouk University, Jordan, 1993).

1997 Convention is quite straightforward: the most important elements of the Convention, particularly the ‘no harm’ principle, the duty to cooperate and prior consultation, are just codifications of already existing norms. In this respect, Professor McCaffrey stated that “Even the provisions of the Convention that do not reflect current law are likely to give rise to expectations of behavior on the part of riparian states that may, over time, ripen into international obligations.”⁶⁹

C. *The Criteria for “Equitable” and “Reasonable” Utilization*

The foremost obligation in international law to utilize in an equitable and reasonable manner an international watercourse is introduced in Article 5 of the 1997 Convention.⁷⁰ Article 5(1) provides that: “Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner.” In commenting on this rule, the ILC has provided that it is a crystallized rule of international law and a ‘well established rule’ of international law for the determinations of rights and obligations of states in this field.⁷¹ However, the same comment made a delicate distinction by adding that water use must be “optimal and sustainable, and should take into account the interests of the concerned watercourse states, consistent with adequate protection of the watercourse.” A regime of equitable utilization of an international watercourse system cannot be achieved solely through unilateral action by one riparian state in isolation from the others. Accordingly, Article 6(1) of the Convention specified some non-exhaustive factors to be observed by state parties in this respect to include natural factors (e.g. climate, hydrography), and human-related (e.g. social and economic needs of the riparian states, effects of uses in

69. See S.C. McCaffrey & Mpazi Sinjela, *The 1997 United Nations Convention on International Watercourses*, 92 AM. J. OF INT’L L. 106 (1998).

70. Note that similar obligation has been introduced in the 1966 ILA Helsinki Rules which provides that a state is entitled to “a reasonable and equitable share in the beneficial use” of the waters, in accordance with the relevant factors in each case. See Articles III, IV, and V(1), *supra* note 31, at 484.

71. This is on the basis that ‘treaty provisions, positions taken by States in specific disputes, decisions of international courts and tribunals, statements of law prepared by intergovernmental and non-governmental bodies, the views of learned commentators, and decisions of municipal courts in cognate cases’ all reveals an evidence that there is overwhelming support for the doctrine of equitable utilization as a general rule of law for the determinations of rights and obligations of States in this field. See *Report of the International Law Commission to the General Assembly on the Work of its Forty-Sixth Session*, ILC Report, 222, U.N. GAOR, Doc. A/49/10/1994, available at <http://untreaty.un.org/ilc/sessions/46/46docs.htm>.

one state on co-riparians, existing and potential uses).⁷²

These factors, although dependent on one another, may vary in their weight for establishing a standard of an equitable use. Of course, the relative weight of each factor in deciding each case remains an open question. According to the 1994 ILC Report on this subject, “the weight to be accorded to individual factors, as well as their relevance, will vary with the circumstances.”⁷³ Thus, an important element for any sound decision regarding the equitable utilization of a shared watercourse would depend on agreeing upon the potential weight of each factor.

This study will not attempt to discuss all these factors and the relevant weight of each one;⁷⁴ rather, it considers only the potentially most relevant factor to the Jordan River water crisis, the core example of this study. Here, the most important and difficult factor seems to be the social and economic needs of the states concerned.⁷⁵ This is because the nature of this criterion⁷⁶ is susceptible to manipulation since states tend to conceal the real identity of their water-related needs on the hope that a larger portion of the water is allocated to them. Accordingly, it is imperative for the resolution of any dispute over shared watercourse, or a normal agreement for the allocation of their shared water, to identify the real needs of each state and then attempt to prioritize these needs according to their vitality. In so doing, international law has reflected few guidelines to be followed by the states concerned. First, the question of equitable apportionment should not mean that only the needs of the basin area should be considered.⁷⁷ There is no territorial limit for the consideration of the states’ needs other than the territorial extent of the respective states,⁷⁸ and accordingly, diversion of water could be a

72. MCCAFFREY, *supra* note 18, at 16.

73. The 1994 ILC Report, *supra* note 71, at 235.

74. For a comprehensive discussion of this, see X. Fuentes, *The Criteria for the Equitable Utilization of International Rivers*, 67 BRIT. Y.B. OF INT’L L. 337 (1996).

75. Note that a simple reading of the various factors envisaged by Article 6(1) reveals that some of these factors are in fact connected to each other. For instance, the social and economic needs of the states concerned (6.1*b*) should be understood in connection with the independence of each state’s population on the watercourse (6.1*c*) and the availability of alternatives for each state in their usage of the watercourse (6.1*g*).

76. The ILC commentary to Article 6 does not provide any explanation of the application of this criterion.

77. See 2 THE REPORT OF THE KRISHNA WATER DISPUTES TRIBUNAL 126-29 (New Delhi, 1973), and THE REPORT OF THE NARMADA WATER DISPUTES TRIBUNAL 123 (New Delhi, 1978). See also FATHALLAH, *supra* note 2, at 143-48.

78. Article VI of the Helsinki Rules states that each basin State is entitled *within its territory* to the equitable and reasonable use of an international drainage basin.

significant factor in the process of equitable apportionment. In other words, “the relevant consideration is the interest of the State as a whole and all its inhabitants and not merely the interest of the basin areas of the State.”⁷⁹

Secondly, in identifying the real needs of each state, it has been suggested that non-pertinent socio-economic needs should not be taken into account to establish a regime of equitable utilization of international rivers.⁸⁰ For example, the relative poverty of one state in terms of the absence of natural resources like agriculture or minerals, compared with the relative abundance of these resources in the other is not a relevant factor when deciding upon the issue of equitable utilization.⁸¹ Also, an argument based on the fact that the state is economically under developed, and thus needs a larger portion of the shared natural resource to improve the situation, is not acceptable.⁸² Factors relevant to the determination of the real social and economic water-related needs of the states would be the extent of dependence of each state’s population on the shared watercourse,⁸³ the extent of irrigated and irrigable land,⁸⁴ the

79. *The Report of the Krishna Water Disputes Tribunal*, *supra* note 77. However, the same report maintains that the needs of the drainage area are given priority over the needs of the zones located outside the basin. The latter needs should only be fulfilled by the surplus waters left after the satisfaction of the needs of the drainage area. *Id.* at 128.

80. FUENTES, *supra* note 74, at 343.

81. See the ICJ decision in the *Tunisia/ Libya* case where it dismissed a Tunisian argument of the relevance of its relative poverty vis-à-vis Libya in the delimitation process of their shared sea. *ICJ Reports*, para. 106, p. 77 (1982). It should be noted here that an analogy with the experience of the ICJ maritime delimitation cases in applying the equitable utilization rule is imperative. The suggestion here is that this experience may shed some light on the examination of the criteria applicable to the equitable utilization of international watercourses.

82. See on this the ICJ decision in the *Malta/Libya* case where it rejected similar argument by Malta. *ICJ Reports*, para. 50, p. 41 (1985).

83. On this, see a statement in 1 THE REPORT OF THE NARMADA WATER DISPUTES TRIBUNAL 110-12, para. 9.5.1 and 9.6.1, also in *The Report of the Krishna Disputes Tribunal*, vol. 1, p. 94, and the Argentine Supreme Court decision in the dispute between the Argentinean provinces La Pampa and Mendoza concerning the waters of the Atuel river, 3 *Fallos de la Corte Suprema de Justicia de la Nación*, 310, 2577 (1987).

84. Irrigated land refers to the existing use of the watercourse for irrigation (land already under irrigation and cultivation), while irrigable land includes existing as well as prospective irrigation. Note that the question of which of these two norms to be favored in a given case has created inconsistency in the different courts’ decisions. While both the Indian Narmada Water Disputes Tribunal and the Argentine Supreme Court have favored the ‘irrigable land’ norm in the apportionment of shared watercourses, the Krishna Tribunal, also in India, has favored the ‘irrigated land’ norm, *id.* at vol. 2, p. 174-75.

economy of the state's dependent on the watercourse,⁸⁵ and the existence of alternative means for satisfying the water-related needs of the states concerned.⁸⁶ These needs, and others, may serve as a basis for a proportional division of international watercourses.

Thirdly, as to the issue of prioritizing the water-related needs according to their vitality to humans, it is worth mentioning that the 1997 Convention states in Article 10(1) that "in the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses." Nevertheless, Article 10(2) provides that in case of conflicts over the uses of shared watercourse the matter "shall be resolved with reference to articles 5 to 7, with special regard being given to the requirements of *vital* human needs." Here, water uses for domestic and sanitary purposes seem to have always been given preference in vitality over and above all other uses such as energy generation or irrigation.⁸⁷ In fact, history reveals that there have been several treaties and courts' decisions over shared rivers which implicitly recognized the need to priorities the water-related needs giving uses for domestic and sanitary purposes, once a genuine dependence is established, a prime vitality.⁸⁸

Fourthly, the existence of prior uses is not attributed any higher

85. On the basis of this criterion, a state could be allocated more water than its neighbors as a result of the high degree of dependence of its economy on the utilization of a given watercourse. This is so even if this state is with less population and irrigable land than the others. This effect is stated in Principle V(b), provided by the International Law Association in its 'Statement of Principles upon which to base Rules of Law governing the Use of International Rivers,' adopted at its Dubrovnik Conference in 1956, *ILA Report of the Forty-Seventh Conference*, p. 242 (Dubrovnik, 1956).

86. This is read as either the existence of alternative water-resources or alternative means, other than water-resources, for the satisfying of the needs of the states concerned. As to the former, it should be noted that the ILC has pointed that the alternative water supplies should be of a 'corresponding value' where a comparable feasibility, practicability and cost-effectiveness are all relevant factors. The 1994 *ILC Report*, *supra* note 73, at 233. As to the latter, the ILC commentary on Article 6(1)(g) stated that alternative means would entail 'alternative sources of energy or means of transport.' *Id.*

87. The ILC commentary to Article 10 of the 1997 convention explains that the requirement if vital human needs include the supply of drinking water and the provision of the water required for the production of food so as to prevent starvation. *Ibid.*, p. 257.

88. See for example Article VIII of the 1909 Boundary Waters Treaty between the United States and Great Britain, text in Bloomfield and Fitzgerald, *Boundary Waters Problems of Canada and the United States* (Toronto, 1958), p. 211. See also the 2 *Report of the Indus (Rau) Commission* 138 (1942), and 2 *Report of the Krishna Disputes Tribunal* 138 (1969).

status in the listing of the relevant factors.⁸⁹ In fact, the relevance of existing and potential uses of the watercourse (6(1e)), the second relevant factor for establishing an equitable and reasonable use, can only be counted in connection with the state's economic dependence on the shared waters and on the notion of their vital needs.⁹⁰

Fifthly, the relevance of local customs – another factor for establishing an equitable utilization of an international watercourse – can be invoked as a direct basis for the allocation of water to a state as well as evidence of the economic and social needs of the concerned riparian states.⁹¹

Before the discussion returns to considering the relevance and implications of the duty to utilize an international watercourse in an equitable manner in the Middle East, a final analysis into the quality and scope of obligations contained in the 1997 Convention merits attention. First, the parties to the 1997 Convention are allowed to depart from the general principles of the Convention where necessary,⁹² for they do not rise to the level of containing *jus cogens* provisions.⁹³ This Convention is considered a framework, indicating that parties to it may 'apply and adjust' its general principles through specific agreements. Yet, parties are encouraged to 'consider harmonizing' existing agreements by taking into account the 'basic principles' of the Convention.⁹⁴ Also, watercourse states are to consult one another "with a view to negotiating in good faith for the purpose of concluding a watercourse agreement or agreements."⁹⁵

Secondly, and of particular importance to the Middle East, is the

89. The ILC commentary to Article 6 provides that neither uses is given priority, *the 1994 ILC Report, supra note 73*, at 233. For a comprehensive analysis on this, see Fuentes, *supra note 74*, at 356-73.

90. Several decisions of international tribunals have made clear that, in a dispute over apportionment of natural resources, the historic argument by the parties ought to be accompanied by and evaluated on the basis of other criteria, such as economic dependence and the vital needs of the population, and should not operate independently from them. See for instance the *Gulf of Maine case*, 6 *ICJ Pleadings 381* (1984). Also see analysis in 1 O'Connell, *The International Law of the Sea*, 438 (1982).

91. For a comprehensive analysis on this see X. Fuentes, *supra note 74*, at 373-78.

92. Since the uses of shared watercourses vary from one to another, it could be argued that a framework convention at this stage is preferable to that of a specific treaty. A framework convention will have the effect of attracting the ratification of more states.

93. Cited in S. C. McCaffrey and Mpazi Sinjela, *supra note 69*, at 98.

94. *Supra note 45*, at Article 3(2).

95. *Supra note 45*, at Article 3(5).

wide scope of application embedded in the 1997 Convention. For many years, international water law has evolved mainly concerning surface water issues while ignoring other main sources of water, such as groundwater.⁹⁶ The trend has changed however with the emergence of the 1997 Convention. The most important among the definitions of Article 2 'Uses of Terms' is the one defining the term 'watercourse' as "a system of [both] surface waters and ground-waters constituting by virtue of their physical relationship a unitary whole."⁹⁷ The significance of this inclusion is seen most pertinently in arid regions, such as the Middle East where groundwater is proving increasingly important and a potential source of conflict.⁹⁸

What can be concluded from the above analysis is twofold: first, an obligation to utilize equitably an international watercourse is well-established and crystallized into a rule of international law; and secondly, the equitable utilization rule has a normative content and its application requires weighing all the prospective factors that create equities in favor of the states concerned. While states are free to agree on any solution they consider equitable, international tribunals, if asked to settle a dispute concerning the utilization of an international river, should follow certain guidelines in the selection of the criteria so as to take into consideration the process of establishing an equitable regime for water utilization.

II. APPLYING INTERNATIONAL RIVER LAW TO THE MIDDLE-EAST WATER CRISIS

The previous section concludes that there are rules specifically introduced and embodied in the bulk of customary international law that have a binding force upon all states, and are applicable to the situation in the Middle East. We now turn to the issue of the real implication of these principles and the extent they have been applied to the Middle East water crisis.

Notable at this stage is the fact that in comparison with other

96. However, according to an early argument, the legal principles and practice which have evolved mainly for questions of surface water disputes apply by extrapolation to questions of groundwater. See D. Caponera and D. Alheritiere, *Principles for International Groundwater Law*, Natural Resources Forum, DC-749, (United Nations, 1978).

97. *Supra* note 45, at para. (a).

98. In November 1992 the Jordanian Minister of Agriculture accused Saudi Arabia of using more than its share of the common aquifer that straddles the boundaries of both countries. Al-Raiy, Nov. 21, 1992.

regional arrangements to preserve international rivers in the manner stated above, the position in the Middle East region seems to be behind.⁹⁹ This is despite the fact that most governments in the Middle East are aware that the problem of increasing the availability of water for agriculture, industry and to meet the needs of a growing population cannot be solved without a variety of bilateral and regional agreements.¹⁰⁰ Of course, in this context, the argument is that disputes arising over international rivers are best resolved through bilateral and regional agreements, and are best supplemented by the general principles of international law. Regrettably, the limited scope of this research does not allow for a study of all the region's international watercourse systems. The following analysis will be specifically related to the Jordan River Basin system, although outcomes could be applied to all neighboring basins.

A. Jordan River Basin Paradigm

The water crisis in the Middle East is worse than anywhere else in the world due to the long-standing political unrest in the region. This applies most to the Jordan River basin which is shared by Jordan, the Palestinians in the occupied territories, Syria, Lebanon and Israel. This example offers an almost perfect case study of the growing relationship between vital natural resources and international security issues. Hence, and in order to understand the legal status of the riparian states on the Jordan River basin, it is essential to grasp the history behind their current positions.¹⁰¹

Before the destruction of the Ottoman Empire in 1918, Jordan River remained a unified basin encompassed by the empire for four centuries. When after World War I, the French and British mandates over Syria,

99. For discussion concerning the bilateral and regional arrangements in Europe, the Americas, and Africa, see P. Sands, *supra* note 54, at 354-363.

100. Note for example some comments by leading figures in the region such as former Director of the Israeli Agriculture Ministry, Rafael Eiten saying "joint exploitation and sharing of water resources based on regional agreements will aid in postponing a water crisis for many years to come." However, he also acknowledged that "Co-operation between Israel and Jordan in solving the most immediate problems will postpone but not prevent a water crisis at the beginning of the next century." Cited in J. Bulloch and A. Darwish, *Water Wars: Coming Conflicts in the Middle East* 34-35 (Victor Gollancz, 1993).

101. See Fathallah for a historical overview of water dispute over the Jordan River and the conclusion of the Peace Treaty between the contesting parties, *supra* note 2, at 122-27.

Lebanon, and Transjordan (later Jordan) divided the region's river basin, no serious international disputes were made. Even though treaties set boundaries along a Middle East river, the agreements were bilateral and rarely included terms for sharing the water among users. Only when the mandatory countries achieved independence and the State of Israel was created, did competing claims to the Jordan basin's surface and groundwater become serious and complex. The water resource initially satisfied the demands of the countries within the basin system but since the sixties it began to fall short of demand.¹⁰² The 1967 Arab-Israeli war, and the Lebanese conflict a few years later, added new complications to the situation, not only by altering the boundaries among the riparian states and thereby engendering another unresolved dispute, but also by altering the riparian status of the four countries that have water use rights in the various parts of the Jordan River basin,¹⁰³ and of the Palestinians, who also have significant claims to Jordan's waters.

Syria was initially an upper riparian on the Upper Jordan by virtue of its unfettered control of the main springs of the Banias River and Syria's abutment on the main branch of the Jordan above Lake Tiberias. However, after 1967 the Banias River was removed from Syria's control after Israel's occupation of the Golan Heights. Syria remains the upper riparian on the Yarmouk River.

Lebanon was upper riparian on the Upper Jordan by controlling the Hasbani River branch. In 1978, when Israel occupied southern Lebanon, most of the river became part of the Israeli security zone in Lebanon and is controlled by Israel. As a result, Lebanon has fully lost any control on the Jordan River to Israel.

Jordan was, and is, the middle riparian on the Yarmouk and the lower riparian on the trunk of the Jordan River below Lake Tiberias. Due to the events mentioned above, Jordan is left with no usable water from both the Yarmouk and Jordan Rivers since it is the lower riparian state.

Israel, prior to 1967, was the lower riparian *vis-à-vis* the Hasbani and Banias Rivers, but is now the effective sole riparian on the Upper Jordan. Additionally, since its creation, Israel was, and still is the sole

102. See Elias Salameh, *Water Resources of the Jordan River System* (University of Jordan, Water Research and Study Centre, 1985).

103. The per capita consumption of water in Jordan is the least in the region, estimated at 240 mcm per year compared to 370 mcm for Israel and 3500 mcm for Turkey. See B. Al-Kloub, *Sustainable Development of Water Resources and Possible Enhancement Technologies and Application of Water Supplies for Jordan* (GCEP, Jordan, 1995).

riparian on the Dan River branch of the Jordan system. Moreover, it was, and remains, the lower riparian on the Yarmouk (although its occupation of the Golan Heights has extended its control of the north bank of the Yarmouk by about six miles). As a result, Israel's current position (backed by its military strength) has elevated it to having the lion's share of control in the region.

b. The Legal Claims of the Jordan River Riparian States

Not surprisingly, with the exception of Lebanon, the various legal claims made by the Jordan basin riparian states have been changing from time to time, following changes in their perceived interests or their military capabilities. Lebanon, however, has always embraced, in contradiction to the general rules of international law, a claim of absolute sovereignty over the Hasbani River and has never abandoned this position. Of course, if enforced this would deprive Israel of a considerable amount of its alleged waters since Lebanon is the upper riparian state in the region.

As for Syria, it has adopted an ambiguous attitude that has differed from time to time and from one situation to another. For instance, being the upper riparian state, it has, in contradiction with international law, asserted the traditional upper riparian precept of absolute riparian sovereignty over the Banias River, and it continues to do so today. This position however, if entirely upheld, does not favor Syria when the issue in question relates to another international river such as the Euphrates River which is generated in Turkey and passes through Syria forming its main water supplies therein. For the former situation, Syria tends to follow the 'riparian community of property' precept.

Jordan, prior to 1967, assumed a stance of 'absolute integrity of the river system,' and also insisted that other states could not divert water outside the watershed of the Jordan. If enforced, this Jordanian position would either preclude consumptive use by any other state in the basin or allow only in-basin uses of the Jordan River. This means that Israel could not have used the Jordan River for its National Water Carrier or any of its development plans for the vast out-of-basin districts in the Coastal Plain and Negev Desert.¹⁰⁴ Since 1976, however, Jordan has taken the

104. For an overview of the environmental consequences of the unilateral uses of the basin water which has resulted in a deteriorating effects for the users of Jordan River basin countries, see B. Al-Kloub & T. T. Al-Shammari, *An Overview of Water Resources, and Riparian Legal Issues Related to the Jordan River Basin System*, (GCEP, Jordan, 1997).

position of ‘a riparian community of property’ when it was deprived of using almost all the river basins in the region.

Israel has also adhered to the ‘riparian community of property’ stance during the first years of its formation as a state. But after 1969, having greatly improved its riparian status by occupying most of the river basins in the region, Israel began to insist on the absolute territorial sovereignty rule. Ironically, this right was and is still denied for the Palestinians in relation to the groundwater in the Mountain Aquifer in the West Bank territory. Over this source, Israel claims that it was the first to develop the water exploitation projects in the area and therefore could claim a strict historical use of its waters.¹⁰⁵

All of the above juridical precepts have been applied at one time or another to the Jordan River basin, but more often in the political arena than in a court of law.¹⁰⁶ Only in respect to the 1959 agreement between Egypt and Sudan, which includes mandatory arbitration, has there been a resort to law for the mediation or resolution of a water dispute.¹⁰⁷ However, in this atmosphere of mixed attitudes in the region, it is practically impossible to suggest that a regional customary rule on the use of the watercourse system basins has evolved. Without treaty agreements in place, and without adequate agreed upon legal structures for settling international riparian disputes based on those treaties, the law presently lacks the capacity of being an effective instrument. Consequently, the next discussion turns to whether there are any treaty arrangements in place to tackle this problem in this region. At this point, it should be noted that in the absence of specific treaty arrangements or regional customary law, the general principles of international law should continue to apply.

c. Prospects of Cooperation and Dispute on the Jordan River Basin

Mutual suspicion among the states in the region – especially

105. See argument by H. I. Shuval, *Towards Resolving Conflicts Over Water Between Israel and its Neighbours: The Israeli-Palestinian shared use of the Mountain Aquifer as a Case Study*, in ALLAN, *supra* note 6, at 137-68 (J. A. Allan, eds., 1996). For comments on the validity of this claim see section below.

106. See NAFF, *supra* note 17, at 249-69; NAFF, *supra* note 10, at 5f and 157-67 (Thomas Naff & Ruth C. Matson eds., 1984)

107. See Raj Krishna, *The Legal Regime of the Nile River Basin*, in POLITICS OF SCARCITY: WATER IN THE MIDDLE EAST 23-40 (Joyce Starr & Daniel C. Stoll eds., 1988); NAFF, *supra* note 106.

between Israel and its neighbors – has led some to observe that the issue of water resources in the region is caught in a vicious circle. There can be no basic agreement on an equitable distribution of water resources until a formal Middle Eastern Peace Settlement has been concluded, but no such settlement can be concluded until an arrangement in the equitable distribution of water resources, among *all* riparian states, has been reached. As Thomas Naff puts it:

[B]ecause of its sheer complexity in physical, practical, ideological, and symbolic terms, the issue of water [in the Middle East] has been difficult for scholars (and policy makers) to grasp holistically.¹⁰⁸

To date, no comprehensive agreement between the neighboring countries has been concluded. However, this must not mislead us into overlooking the efforts that are being made to avoid a conflict; something Middle East governments agree cannot resolve the water crisis in the long term. The water issue, while the reason for major conflicts, has also been the motivation for cooperation. Even scholars who have seen the water issue as difficult for policy makers to grasp were optimistic that cooperation is inevitable. Thomas Naff stated that:

Precisely because it is essential to life and so highly charged an issue, water, unlike most other volatile problems in international relations, can – perhaps tends to – produce co-operation even in the absence of trust between the concerned actors. The operation of what can be called ‘superordinate goals or interests’ appears to have had considerable influence in the past in avoiding water-based conflict in the Middle East. When hostile actors are compelled, for whatever reason, to share essential common goals – that is, overriding superordinate goals – and when co-operation clearly benefits all concerned, the hostile actors tend to co-operate rather than fight.¹⁰⁹

Since the beginning of the past century, a plethora of international schemes, for water allocation and a region-wide water management plan on the Jordan River basin, have been proposed with the aim of achieving greater regional stability. All of these required some degree of inter-riparian acquiescence and cooperation.

Between 1913 and 1964 some twenty-one such proposals were put forth, over half of them between 1950 and 1957. Since 1948 there have been no less than fourteen schemes put forward by the United Nations, Israel, Jordan, the United States, the World Zionist Organization and the

108. See NAFF, *supra* note 17, at 189.

109. *Id.* at 191. See also James Kraska, *Sustainable Development is Security: The Role of Transboundary River Agreements as Confidence Building Measure (CBM) in South Asia*, 28 YALE J. INT’L L. 481 (2003).

Arab League, for sharing and developing the waters of the Jordan basin.¹¹⁰ However, none of these, regardless of how workable or how sensible, have been formally adopted.¹¹¹ The perennial obstacles to negotiations have been primarily based on differing perceptions of 'needs' and 'historic rights.' In the 1950s Israel's priorities were the greening of the Negev desert and the settlement of new immigrants, a matter of 'national economic importance.' The Arab States, particularly Jordan, claimed that the Jordan basin waters were needed primarily for the resettlement of Palestinian refugees, especially the 800,000 living in both banks of the Jordan.¹¹²

The best-known plan is the 1955 Unified Plan, popularly called the Johnston Plan.¹¹³ On October 16, 1953, President Eisenhower appointed Eric Johnston as special ambassador to mediate a comprehensive plan for regional development for the Jordan River system. This plan, of all the schemes proposed, was the most important and comprehensive and has been the most successful in the region.¹¹⁴ The assumption of the Johnston mission was that the benefit of cooperation in the region, by achieving economic development and political stability desired by all antagonist parties, would override belligerence and make the resolution of a peaceful water-sharing settlement and other regional issues more

110. The oldest ideas could be traced to the Zionist thinking in the preparation for the creation of Israel and after World War I where there was intense Zionist lobbying to have the borders of Palestine to include the entire Jordan River basin with a bank on the Litani river. There was Zionist attempts to convince the Egyptian government in 1902 to agree to divert part of Nile water in Sinai and the Najev. Beside this there has been bilateral development plans in all riparian states which resulted in the following water shares: Israel 60%, Jordan, 25%, Syria 13%, and the Palestinian 2%. See *Jordan River Basin Study*, a study submitted to the International Bank for Reconstruction and Development (IBRD), Regional Office for Integrated Development (ROID), 1993, http://exact-me.org/publications/publications_jor_105.htm.

111. For a comprehensive summary treatment on the various plans, see NAFF, *supra* note 10, at 30-44; Selig A. Taubenblatt, *The Jordan River Basin Water Dilemma: A Challenge in the 1990s* in POLITICS OF SCARCITY: WATER IN THE MIDDLE EAST 41-52 (Joyce Starr & Daniel C. Stoll, eds., 1988); and NAFF, *supra* note 17, at 249-269.

112. SAMIR N. SALIBA, THE JORDAN RIVER DISPUTE 9 (1968).

113. On the Johnston Plan (Unified Plan), see Samir Saliba, *The Jordan River dispute*, The Hague, Martinus Nijhof, 1968. (See also State Department Documents obtainable under the Freedom of Information Act) of September 30, 1955, October 11, 1955, and January 31, 1956; see also 1 *The Jordan Water Issue: Development of the Jordan Valley*, ch. 4, section H, part 2 -*Johnson Administrative History of the Department of State*, 1-10 (White House, Declassified Documents); Eric Johnston, *Report to the President on Near East Mission*, 1-8 (N.P., Nov. 17, 1953).

114. For more details of this Plan (also known as the Maine Plan), see FATHALLAH, *supra* note 2, at 123-27.

possible. This was, putatively, the rational objective.¹¹⁵ The Johnston Plan, based on an idea originally elaborated by the U.S. Tennessee Valley Authority, would establish a system of water quotas for the riparian states using Lake Tiberias as the principle storage reservoir. Storage dams would also be built on the Hasbani, Dan and Banias to irrigate Galilee in northern Israel, and at the Maqarin and Adisiyeh to serve the Jordan Valley. Johnston's aim was that the division of waters be 'equitable, economic and efficient.' The plan was to be implemented by the parties under the supervision of an international commission set for that purpose. And interestingly, under the Johnston Plan, despite the difficult negotiations over the sensitive issues, there was a reduction in tension and a compromise worked out over even the toughest issues, such as allocation of water and international supervision.¹¹⁶ The best proof was that the technical teams, representing the negotiating parties, accepted the plan.

Unfortunately the rational objectives of the Johnston Plan did not achieve a formal agreement. On the one hand, political problems and implacable hostilities between certain Arab and Israeli factions prevented final acceptance. Lebanon, Syria and Jordan were reluctant to enter into a cooperative agreement with a state they did not recognize. Lebanese press, for instance, saw the plan as a means of diverting the attention from the problem of Palestinian refugees.¹¹⁷ Israel disliked the exclusion of the Litani River in the plan since it could bring much higher yields to Israel. On the other hand, the committee proposed in the plan was loosely defined, which led to some confusion to the impartiality of the actual implementation of the plan. For instance, the Arab States were anxious about the U.S. offering Israel guarantees on border security in return for acquiescence regarding water allocation to Jordan.¹¹⁸

115. Department of Defense, Joint Chiefs of Staff, *Meeting with General Eisenhower, Memorandum of the Record*, p. 1-4 (Washington, D. C., Declassified Documents Quarterly Service, Sept. 6, 1976); and John K. Cooley, *Behind the News – The Hydraulic Imperative*, 205 MIDDLE E. INT'L, 10-11, July 22, 1983.

116. As incentives, the United States held out financial assistance for an atomic-powered desalination facility and favorable consideration for more weapons that Israel has requested. See *Telegram to the Secretary of State re U.S.-Israel Cooperation on Desalination, Jordan Waters, and Salt Pans*, 1-4 (May 15, 1954) (Department of State, U.S. Embassy, Tel Aviv, Declassified Documents).

117. D. Wishart, *The Breakdown of the Johnston Negotiations over the Jordan Waters*, 26 MIDDLE E. STUD. 536-46 (1990).

118. Vol. XIV, *Foreign Relations, Memo of Conversation 1953-55, Department of State*, July 11, 1955.

Nevertheless, in the context of their unilateral water planning, Israel and Jordan have adhered to the resultant outcome of the Johnston Plan informally in so far as the technical details of the plan are concerned.¹¹⁹ This included acceptance, in terms of an order of magnitude, of the water quotas proposed by Johnston. Approaching the year 1967 however, this informal agreement started to deteriorate as a result of Israel forging ahead with creating its National Water Carrier (NWC) in 1964, which diverted a significant quantity of water from Lake Teberias for out-of-basin use leading to the 1967 war.¹²⁰ Of course, the matter could have taken a different vein had the Johnston plan had formal legal status binding both Jordan and Israel.

Besides these proposed plans, a few bilateral agreements were also proposed. Amongst these was the 1987 Syrian-Jordanian Agreement to Utilise the Yarmouk River.¹²¹ Under this agreement all Yarmouk water at elevations fewer than 250 meters above sea level would be at the disposal of Jordan. A proposed new dam (Al-Wehdah dam on the Yarmouk River) was included in the agreement but it was not implemented since the approval of Israel was a prerequisite before building the dam. The World Bank postponed its agreement to finance the project until satisfactory agreement between the riparian states was reached.¹²²

Another proposal was made by Israeli engineers in 1980 for a construction of a canal from the Mediterranean to the Dead Sea (Med-Dead) to generate hydraulic electricity plant, but this was opposed by Jordan on the grounds that raising the level of the Dead Sea would flood tourist facilities and roads and destroy potash production installations.¹²³ Jordan subsequently submitted an alternative proposal, which was then opposed by Israel, for a canal to the Dead Sea from the Red Sea at Aqaba

119. BESCHORNER, *supra* note 9, at 20.

120. NAFF & MATSON, *supra* note 10.

121. Syrian-Jordanian Agreement (1987). Al Wehdah [Unity] Dam Agreement, November 23, 1987. Syrian Law No. 32, Official Gazette of 09 December 1987.

122. Jordan's application for funds from the World Bank (\$300 million) was rejected because Israel vetoed the project saying it would adversely affect Israel's use of 15% of Yarmouk waters. See Jad Isaac, *Core Issues of the Palestinian-Israeli Water Dispute*, Applied Research Institute- Jerusalem (ARIJ), p. 3, <http://www.nad-plo.org/userfiles/file/Reports/core.pdf>.

123. See E. Salameh, *Effects of the Mediterranean-Dead Sea Canal Project on Jordan's Groundwater Resources*, in ISRAEL AND ARAB WATER (A. Farid & M. Sirriyeh, eds., 1985).

(Red- Dead).¹²⁴ These objections were ultimately political rather than economic or environmental.

Currently, there are halted bilateral and multilateral peace negotiations aimed at regional cooperation on the Jordanian-Israeli level and the Palestinian-Israeli level and the water issue is a factor in both negotiations.¹²⁵ The 1993 Israeli-Palestinian Declaration of Principles is one outcome in response to this problem.¹²⁶ Annex III of the declaration outlines a joint water development program to promote cooperation between the Israelis and the Palestinians. It also sets a duty upon the states parties to research demands in each riparian nation to determine allocation and means to coordinate water development projects. In addition, the declaration calls for defining water rights and equitable use of available resources to avoid future conflict. Finally, the declaration calls for the creation of Palestinian Water Administration Authority (PWA).¹²⁷

Following the Declaration of Principles, an Israeli-PLO Interim Agreement has been concluded, in which Article 40 is solely devoted to the water issues.¹²⁸ Principle 3 of this agreement states some valuable principles relating to water conservation and prevention of pollution; principle 3(a) calls for maintaining existing quantities of utilization from the resources; principle 3(b) states the international legal perception of preventing the deterioration of water quality in water resources; principle 3(c) calls for using the water resources in a manner that will ensure sustainable use in the future, in quantity and quality; principle 3(e) provides for taking all necessary measures to prevent any harm to water resources including those utilized by the other side; principle 3(f) mandates the treating, re-using or properly disposing of all domestic,

124. See A. M. GARFINKLE, *ISRAEL AND JORDAN IN THE SHADOW OF WAR: FUNCTIONAL TIES AND FUTILE DIPLOMACY IN A SMALL PLACE* 81 (1992).

125. HADDADIN, *supra* note 6.

126. Israel Ministry of Foreign Affairs documents, published in <http://www.mfa.gov.il/mfa/peace%20process/guide%20to%20the%20peace%20process/declaration%20of%20principles>.

127. The major challenges facing the PWA are: "(a) the need to streamline . . . existing water laws, (b) to establish, implement and enforce . . . legislation, and (c) to build . . . institutional structure." Y. Nasser, *Palestinian Management Options and Challenges within an Environment of Scarcity and Power Imbalance*, in *WATER, PEACE AND THE MIDDLE EAST: NEGOTIATING RESOURCES IN THE JORDAN BASIN* 53 (J.A. Allan ed., 1996).

128. The Israeli-PLO Interim Agreement, Sept. 28, 1995, *reprinted in* J.A. Allan, *supra* note 127, at Appendix 3, 227.

urban, industrial and agricultural sewage; and finally principle 3(h) provides that each side shall take all necessary measures to prevent any harm to the water system in their respective areas. Moreover, Principle 4 of the Interim Agreement provides for the establishment of the Palestinian Water Authority and a Joint Water Committee.¹²⁹

Also, the 1994 Jordanian-Israeli agreement is another result of the peace process. This agreement guarantees Jordan about 215 mcm per year as an additional amount of water and sets the rules for rehabilitating the Jordan River water and for protecting the quality of shared water resources in both states.¹³⁰ A few years later, under the sponsorship of the Norway Government, a Jordanian-Israeli-Palestinian Declaration on Co-operation on Water-Related Matters and new and additional water resources was produced.¹³¹ In its joint statement, the Declaration stated:

Although there are still problems related to water which need to be resolved, the Declaration looks to the future with a view to provide a foundation, through its *voluntary* implementation, for multilateral co-operation to bring additional water resources to the people in the

129. Principles 11 and 12, *Id.* For the obligations and responsibilities of the Joint Water Commission *see* Schedules 8, 9, 10, and 11 of the 1995 Interim Agreement. *Id.* at 237.

130. Treaty of Peace Between the State of Israel and Jordan, art. 6, 18, 20, 22, Oct. 26, 1994, 34 I.L.M. 46 (1995). The settlement of the issue of shared water resources was addressed in Article 6 of the Treaty, entitled “Water” as follows: “With the view to achieving a comprehensive and lasting settlement of all the water problems between them:

1. The Parties agree mutually to recognize the rightful allocations . . . in accordance with the agreed acceptable principles, quantities and quality . . . , which shall be fully respected and complied with.
2. The Parties, . . . for the advancement of co-operation between them, jointly undertake to ensure that the management and development of their water resources do not, in any way, harm the water resources of the other Party.
3. The Parties recognize that . . . more water should be supplied for their use through various methods, including projects of regional and international co-operation.
4. . . the Parties agree to search for ways to alleviate water shortage and to co-operate in the:
 - a. development of existing and new water resources . . . ;
 - b. prevention of contamination of water resources;
 - c. mutual assistance in the alleviation of water shortages;
 - d. transfer of information and joint research and development in water-related subjects, . . .”

131. Declaration on Cooperation on Water-Related Matters, Feb. 13, 1996, 36 I.L.M. 761 (1997).

region.¹³²

Obviously, political decisions play a candid role in reflecting the fact that sovereignty is not an absolute concept, and that the best treatment for water deficiency is through multilateral arrangements rather than hostility. However, as it can be realized, the produced agreements and declarations were either not binding or did not include all *core parties* to the water crisis, making the agreements to some extent futile. For instance, the 1996 Declaration stated that:

Although the Core Parties in the Middle East Peace Process are considered to be Jordan, Syria, Israel, Lebanon, and the PLO . . . for the purpose of this Declaration, the term the *Core Parties* means those Core Parties who are signatories to the Declaration [that is Israel, Jordan and the PLO].¹³³

In this respect, the parties to the declaration and the co-sponsors of the Middle East Peace Process expressed “their hopes that the other Core Parties will join to this Declaration”¹³⁴ in the near future.

In general, the initial bilateral agreements and declarations suggest that a stance of cooperation is generally the overwhelming trend in the Middle East.¹³⁵ While the many political, ideological, and economic questions are all intertwined, there is some hope that interim agreements can be worked out on a permanent basis on the water issue in the region and that this will make way to a more comprehensive agreement joining all concerned parties. The bilateral nature of the peace talks, however worthy, will not end the water crisis if other unwilling riparian states keep on disregarding international law of environmental protection.

d. International Law and the Jordan River Basin

It is imperative at this stage, before entering into any specific details

132. *Id.* at 763.

133. *Id.*

134. *Id.*

135. Both Article 6 and Annex II of the Jordan-Israel Treaty makes clear that the parties agree (1) to maintain allocations in accordance with Annex II; (2) to exchange technology and research regarding the development of new sources of water; (3) to create new sources of water; and (4) to jointly ensure the quality of the shared water resources. Article 6 serves to remove disputes over water resources as a source of disagreement between the parties and prevent unilateral actions that otherwise may lead to military skirmishes or full scale armed conflict. Article 6 has proved effective up until the present, as no armed conflicts over water have been reported. *But see* Alia Shukri Hamzeh, *Ten-year Anniversary of Jordan-Israel Peace Treaty*, JORDAN TIMES, Oct. 26, 2004, available at <http://www.jordanembassyus.org/10262004007.htm> (last visited Feb. 26, 2012).

about how far the riparian states of the Jordan Basin respect international law, to review the most notable features of the 1997 Convention in the context of the Middle East.

First, notwithstanding the customary law of the obligation prescribed in Article 6, the Convention is implicitly a framework agreement that can be adjusted to the specific characteristics and uses of particular international watercourses through specific agreements between watercourse states. Whereas flexibility and compatibility in having an umbrella agreement for such a complicated issue is desirable, it could be that the real reason for adopting such provision had more to do with political reality than physical phenomena. Political pressure brought by upstream riparian states, and states that enjoy military or geographic advantage, went against the very idea of codification in this field. Israel, for instance, due to its military advantage, tends to oppose any codification that may curb its freedom of action.¹³⁶ While the 1997 Convention makes undertaking watercourse agreements the center of the provisions as provided for in Articles 3 and 4, in practice, this is not always an easy task to achieve. A model of “agreement achieving” may be meritorious in the context of highly integrated homogeneous societies such as the European Union or the United States, but in a “fragmented area like the Middle East, where political symbolism and nationalism are often more important than substance, entitlement to ‘butt’ into a water agreement between other states is not likely to receive overwhelming support.”¹³⁷ The vast amount of conducted but not concluded arrangements and agreements over the Jordan Basin is just one example.

Secondly, the elastic nature of the normative rules introduced in the Convention will most likely hinder their application in practice. This will naturally prejudice those states that are at an economic, military, or geographic disadvantage. The three main obligations stipulated in the Convention are the duty not to cause appreciable harm, the duty to equitable and reasonable utilization of the watercourse, and the general duty to cooperate. Of these obligations, only the duty not to cause appreciable harm appears the easiest to understand and prove, being a matter of fact, and hence provides legal certainty.¹³⁸

Yet, in contrast to the ILC Draft Articles, the 1997 Convention

136. Awn Khasawneh, *The International Law Commission and Middle Eastern Waters* 21-28, in *WATER IN THE MIDDLE EAST: LEGAL, POLITICAL AND COMMERCIAL IMPLICATIONS* 23 (J.A. Allan and Chibli Mallat ed., 1995).

137. *Id.* at 25.

138. This is even clouded with the ambiguity entailed in the term ‘significant.’

seems to favor the 'equitable utilization' of a watercourse over the 'no-harm' principle. The second paragraph of Article 7 implicitly acknowledges that harm may be caused without engaging the harming state's responsibility. All the harming state needs do is to take measures "in consultation with the affected state to eliminate or mitigate the harm."¹³⁹ In this regard, it could be argued that by having the least contentious obligation to prevent harm be outweighed by the obligation to equitably utilize the shared watercourse as being heinous and unwarranted. Several reasons can be argued for this conclusion. First, utilization of an international watercourse is simply not equitable if it causes other watercourse states appreciable harm. Second, it would be irregular to speak of the right to pollute within equitable shares when, in a limited watercourse like the Jordan Basin, the fact that significant harm to the environment is almost impossible to rectify.

Thirdly, this dictum is static and unduly advantageous to those who were first to develop it. Moreover, this may have the effect of re-introducing the old-fashioned controversy over absolute sovereignty (Harmon Doctrine) and the absolute territorial integrity of the shared river system. And finally, it is anomalous to have such a theory override or replace one classical maxim of Islamic law, which is followed by the majority in the Middle East region which states that avoidance of harm has priority over the acquisition of benefits.

Finally, the 1997 Convention does not have any provisions dealing with artificial, large-scale out-of-basin alteration of international watercourses. This problem is specifically important to redress as it is the most problematic for the Jordan River Basin and this problem could well be addressed under the category of significant harm or equitable utilisation. However, a direct consideration of the issue in the Convention would have been more preferable.

In general, however, applying the various customary rules of international law¹⁴⁰, especially those reflected in the Helsinki and the 1997 Convention, to the Jordan basin reveals the following:

First, all the Jordan River riparian states can only rely on the 'limited

139. On this point, see *Statement of Understanding Pertaining to Certain Articles of the Convention*, in REPORT OF THE SIXTH COMMITTEE CONVENING AS THE WORKING GROUP IF THE WHOLE, 5 U.N. Doc. A/51/869/1997, reprinted in 36 I.L.M. 719 (1997).

140. See analysis by B. Al-kloub & T. T. Al-Shemmeri, *Application of Multicriteria Decision Aid to Rank the Jordan-Yarmouk Basin Co-riparians According to the Helsinki and ILC Rules*, in WATER, PEACE AND THE MIDDLE EAST: NEGOTIATING RESOURCES IN THE JORDAN BASIN 185-207 (J.A. Allan ed., 1996).

territorial sovereignty' doctrine in pressing their claims over their shared watercourse. Any other basis for their claims should be deemed invalid. Lebanon for instance cannot rely on an 'absolute sovereignty claim' over the Hasbani River any more, nor would any claim of 'absolute integrity' be of any help to its claimant. Nonetheless, because of the sensitivity of the water crisis in the Middle East, an application of the 'community of interest' approach, as reflected in the Gabčíkovo case, is probably the best way to avoid disputes in the region. Unfortunately however, there are no signs of consideration of this approach at this time.

Second, Syria could be in breach of its duty to participate good faith negotiations to prevent harm to the watercourse system by showing reluctance in entering into agreements, such as the 1996 Declaration on Co-operation on Water-Related Matters. Third, Israel seems to violate international law, under the principle of prohibition against appreciable harm, by using the Yarmouk to an extent that adversely affects the water supply of Jordan. It is also in violation of procedural obligations, which stress the value of consultation and notification, as Israel has not participated in any consultation with other co-riparian states regarding the diversion of the Jordan River water to the Negev desert, and has therefore never received an approval for such a transfer. Further, Israel violates international law, specifically the principle of equitable utilization, by dictating the quantity of water Palestinians can use in Gaza and the West Bank.

Moreover, the Jordan River riparian states seem to be in breach of the procedural obligations regarding information. While the obligation to share data is gaining widespread acceptance, data about water resources in the Middle East are still considered classified and are withheld from neighboring nations and users.¹⁴¹ Obviously, without shared, accurate data available to all parties, fair negotiations cannot be conducted or completed. One complication of concealing data is that unintentional changes in a river flow (perhaps due to natural variation or global climate change) could be perceived and misinterpreted by downstream nations as intentional manipulations rather than geophysical events. Thus, it is imperative for basin states to share hydrologic data and to develop a mechanism to assist in handling this data and ensuring access to all parties. International organizations under the umbrella of the United

141. For example, when Israel withdrew from the Gaza strip it left little data behind and in the West Bank the data continue to be exclusively in the hands of the Israelis where Palestinians are denied access to them on the pretext of security. See Y. NASSER, *supra* note 127, at 56.

Nations may play an important role in promoting this idea through the development of computer networks. Further, the state concerned could begin to abide by the procedural obligation to notify, inform, and consult other potentially affected states in order to make way for more effective preservation of the shared international watercourse of Jordan. These are international legal obligations formed as part of customary international law. Surprisingly, this has actually been followed by some basin states in the Middle East. For instance, prior to the closure of the Ataturk Dam on the Euphrates River, Turkey notified the downstream nations of its action, which effectively reduced the water flow in the river to zero.¹⁴² Although both Syria and Iraq complained, Turkey met its obligation to notify.

In sum, customary international law obligations, as reflected in the 1997 Convention, have been violated in one way or another by the Jordan River basin countries. The prime obligation to cooperate is massively abused since there have been no comprehensive regional treaty that binds all the affected states. In this regard, the peace process has played an essential role in generating a cooperative mode on a sub-regional level that is echoed through the inclusion of the above obligations into both the 1993 Agreement and the 1994 Treaty.¹⁴³ The parties to these agreements are now obliged to implement these duties according to both the customary international rules and the treaty provisions.

Amongst these obligations, the duty to utilize an international watercourse in an equitable and reasonable manner deserves close attention. Because the fulfillment of this obligation is dependent on the realization of several factors reflected in Article 6(1) of the 1997 Convention, it is imperative to examine the relevance of the 'equitable utilization' principle and its real implication to the Middle East region. In particular, we should answer the question relating to the scope and role of socio-economic factors and how they play out in the region. Indeed, the identification of the real needs of the concerned states and then the prioritization of these needs are the chief elements for resolving any dispute over the equitable utilization of the natural water resource.

It has been mentioned that the perennial obstacles to negotiations in the Middle East over water rights have been widely based on differing

142. See Peter H. Gleick, *Reducing the Risk of Water-Related Conflict in the Middle East* 99-116, in SPIEGEL & PERVIN, *supra* note 3, at 110.

143. Both documents available at http://avalon.law.yale.edu/20th_century/isrplo.asp, and <http://www.kinghussein.gov.jo/peacetreaty.html>.

perceptions of 'needs' and 'historic rights.' Israel's priority to green the Negev desert and the Settlement of new immigrants, a matter of 'national economic importance',¹⁴⁴ is opposed by their Arab neighbors who identify their needs primarily as the resettlement of Palestinian refugees and maintaining the supply of fresh drinking water. Here, it should be recalled that under international law, despite the reality that no one use of international watercourse enjoys inherent priority over other uses, according to Article 10(1) of the 1997 Convention, Article 10(2) provides that a special regard shall be given to the requirements of *vital* human needs. In this case, the need to resettle Palestinian refugees and to supply them with fresh drinking water takes priority over Israel's national economy. This factor should not only play a role in the identification of the real needs of the states concerned, but also in the prioritization of these needs and the resultant apportionment of the available water resource.

However, it should be remembered that the Arab riparian states on the Jordan River could not rely on the conviction that only the needs of the basin area should be considered. Although the Negev desert is not located on the basin area, Israel would still have the right to divert water to it on the basis that the relevant consideration, in an equitable utilization, is in the interest of the state as a whole and all its inhabitants and not merely the interests of the basin areas of Israel. Nonetheless, the other states could rely on a related but different hypothesis of 'preferential use.' That is the possibility of preferring the needs of the basin over the needs of areas located outside the drainage area. As such, Israel may be in violation of rules stressing that the water shared be used for the needs of the population inside the basin before it is transferred outside the basin;¹⁴⁵

144. Agricultural irrigation requirements account for 75%-80% of the water allocated to them from the Jordan River. World Bank, (Draft) *Israel Water Sector Study: Past Achievements, Current Problems, and Future Options*, Tel Aviv (October 1990); see also JAN SELBY, JOINT MISMANAGEMENT: REAPPRAISING THE OSLO WATER REGIME, IN WATER RESOURCES IN THE MIDDLE EAST: ISRAELI-PALESTINIAN WATER ISSUES FROM CONFLICT TO COOPERATION, 203, 205-06 (Hillel Shuval & Hassan Dweik eds. 2007), available at <http://www.ipcri.org/watconf/papers/jan.pdf>; and B 'Tselem, *Palestine: Israeli Water Policies Leave West Bank Dry*, 767 GREEN LEFT WEEKLY 19, Sept. 13, 2008, available at <http://www.greenleft.org.au/2008/767/39588> (last visited Feb. 26, 2012).

145. This also a dissent from the Permanent Court of International Justice (PCIJ) judgment in the *Territorial Jurisdiction of the International Commission of the River Oder*, where it held that there is no "exclusion of any preferential privilege of any one riparian in relation to the other." PCIJ, Ser. A, No. 23, at 27.

It is worth mentioning in this regard that there is no real disparity in the extent of each 'need' of the Jordan River basin states as much as their dependence on this medium. All these states rely to a large extent on the water of this watercourse for their welfare and approximately all shares an equal proportion of population. The real difference however lies in the direction their needs are focused, a matter that ultimately depends on the position or level of economic development each country possesses. Among all the Jordan River basin states, Israel is the most developed and the wealthiest state. It is also the one that retains the largest portion of the Jordan River water. Yet, under international law other states cannot focus on this factor for attaining any further portion of the river's water. As has been discussed before, a comparison between the levels of economic development among the disputing states has been regarded as immaterial to the process of watercourses apportionment. Relevant here is the degree of the state's dependence on the watercourse and not its stage of economic development. Accordingly, Syria, which currently utilizes a major part of the Yarmouk water, is violating international law, which stresses the importance of Jordan's climate, past and current utilization of the water, the economic and social needs of Jordan, and the population dependent on the Yarmouk water.

Secondly, as to Israel's claim of its 'historical use' over the groundwater in the Mountain Aquifer in the West Bank territory, international law and the 1997 Convention provide a clear answer. Israel claims that it was the first to develop the water exploitation projects in the area and hence could claim a strict historical use of its waters. This claim is known as the 'doctrine of prior appropriation' under which a permanent right to the water of an international river may be acquired by simple prior appropriation. Its inherent rationale is that "he who first invests labor on a stream deserves its benefit."¹⁴⁶

However, the argument against the doctrine of prior appropriation has always been strong in international law. A strict application of the rule might block beneficial uses or improvement of uses in the future. Secondly, as has been stated by the Supreme Court of the United States, a "...prior application is very frequently the accident of physical location, and were the rule to apply to states, their destiny will be determined not by their present or future necessities for the use of their natural resources, but rather by accident."¹⁴⁷ Further, as mentioned in the

146. S. C. Argawal, *The Establishment of the Chad Basin Commission*, 15 INT'L AND COMP. L. Q. 167 (1966).

147. *Wyoming v. Colorado*, 259 U.S. 419, 436 (1922).

previous section, the existence of prior uses is not attributed any higher status in the consideration of relevant factors for the equitable and reasonable use of international watercourse. The relevance of this factor can only be counted in connection to the state's economic dependence on the shared waters and on their vital needs.

Moreover, it is difficult to unequivocally accept the logic of this theory. In general, it presupposes two separate but related elements: social utility and engineering efficiency. That is, "a use is beneficial if it involves some socially accepted purpose and if it makes a reasonably efficient use of the water."¹⁴⁸ However, this is only effective when the issue involved clearly reveals the justice and fairness of a case, and when the litigants are disposed toward an agreement. In fact, the Statute of the International Court of Justice¹⁴⁹ permits decisions on this basis only if the parties specifically agree. Finally, state practice does not give any primacy to the doctrine of prior appropriation.¹⁵⁰ The limited treaty practice available suggests that "there is support for the proposition that prior appropriation creates only a qualified and not an absolute right."¹⁵¹

III. CONCLUSION AND RECOMMENDATIONS

It is obvious from the previous discussions that the water crisis in this part of the world is exacerbated by the use of military power, which also drove the current allocations and uses of the Jordan River. Hence, international law that regulates the use of force is bound to play a major role in the settlement of the conflict.¹⁵² But since there has been no achieved solution in that direction, it is better to now consider how to alleviate or reduce future risks of water-related conflicts.

Of course, the rules and principles of international law related to protecting the environment, specifically those outlined in the 1997

148. ERNEST A. ENGELBERT, *WATER SCARCITY: IMPACTS ON WESTERN AGRICULTURE* 55 (1984).

149. Statute of the International Court of Justice, Article 38(2), <http://www.icj-cij.org/documents/index.php?p1=4&p2=2&p3=0>.

150. But note the 1923 Agreement on the Full Utilization of the Niles Water which sought to protect Egypt's natural and historic rights in the waters of the Nile, *United Nations Legislative Texts and Treaty Provisions Concerning the Utilisation of International Rivers for Other Purposes than Navigation*, New York, U.N., Doc. ST/LEG/SER.B/1/1964 at p. 143.

151. Cited in GODANA, *supra* note 19, at 54.

152. See U.N. Charter, art. 2(3) and 2(4), 892 U.N.T.S. 119.

Convention and the Helsinki Rules, are significant factors in easing any future disputes. Accordingly, we can relate the following principles to the situation in the Middle East:

The entirety of obligations that reflect customary international law must be respected. Accordingly, no state can inflict environmental harm on another without being seen as breaching its international responsibility and each state is under an obligation to cooperate to prevent environmental harm and to equitably use a shared watercourse. The latter obligation stands as the prime source of contention in the Middle East, being exacerbated by the fact that water supplies have generally been an outcome of military gains. On the regional level, efforts in the twentieth century to devise and apply equitable schemes for sharing the waters of the Jordan Basin have been defeated by the variety, complexity, and persistence of political obstacles among the users of the river basin.

It should be noted, however, that the regional disharmony is not the sole reason behind the absence of an effective settlement of the crisis. International law itself could be characterized as a weak handling of the international watercourse disputes. For example, the equitable utilization principle in Article 6 of the 1997 Convention means that, in contrast with the Harmon Doctrine, each basin state is entitled to a reasonable and equitable share in the beneficial use of shared water. Equitable does not mean equal use. Rather, it means that a large variety of factors, including population, geography, availability of alternative resources, and so on, must be considered in the allocation of water rights. Nonetheless, this article does not provide a precise objective or operational distinction of what is 'reasonable' and what is 'equitable.' All that may have been offered is some general compilation of relevant factors to be considered case-by-case, as each factor does not fit perfectly in a hostile environment like the Middle East.¹⁵³

Leaving the important resolution of competing water claims to negotiations, mediations, or doctrines of basic fairness and justice have proven ineffective simply because the matter relates to the national security of the competing nations.¹⁵⁴ Indeed, in the current position of

153. See International Law Association, *The Helsinki Rules on the Uses of the Waters of International Rivers*, in 52 REPORTS OF PROCEEDINGS OF ANNUAL MEETINGS 447-533 (1966); and for a parallel stand taken by the United Nations, see U.N., *Statement on International Law Regarding Water*, A/5409, at p. 512-536; and Leslie C. Schmida, *Israel's Drive for Water*, in 17 THE LINK 12 (1984).

154. Note also the various weaknesses in the procedural obligations for

international law, Israel can insist, as it does, on a definition of equitable use that is based on a much lower per capita water consumption level for Palestinians and other Arabs than for Israel.¹⁵⁵

There is obviously a need for establishing treaty arrangements in the region. Without an agreed upon treaty, international law rules could not be expected to do more than provide a set of guidelines for potentially complex and difficult negotiations, and to govern the execution and maintenance of any resultant treaty. Having established that there exists no regional customary law applicable to the use of the watercourse system basins in the Middle East, comprehensive regional treaty governance of the situation is needed. Although in the past this proved difficult to achieve at a negotiation table,¹⁵⁶ it hopefully appears to be the next step in the on-going peace talks in the region. This should be carried out with specific weight and discretion given to a Committee that can weigh all the relevant factors of an equitable and reasonable utilization, bearing in mind those reflected in Article 6 of the 1997 Convention, and try to draw a list of the most relevant ones. Negotiations should then be made to agree upon a fair allocation of the shared water resource.

Once such regional arrangements are achieved, international supervision for the fulfillment of these agreements becomes most vital.¹⁵⁷ In this regard, while the theoretical possibility of international

environmental protection outlined in OKOWA, *supra* note 50.

155. SCHMIDA, *supra* note 153. There is thus an urgent need to define fair allocations of water in the Middle East before progressing on any environmental protection scheme related to the water sector in the region. This has not proved to be an easy task. For example, and though in a less volatile environment, lack of cooperation between the Nile delta countries has led to the water problem being exacerbated in that region. While Egypt has tried to mitigate the likelihood of reducing its allocated waters, which could have been reduced by up to 5,400 mcm if Ethiopia proceeded unilaterally in executing its own water projects, by convening a forum called Undugu Group, Ethiopia, which had about 85% of the headwaters, was not amongst the states invited to the discussion. Also the civil war in Sudan has side-tracked one key water scheme – the Jongelei Canal that was to drain Sudan's southern swamps and provide Egypt and Sudan each with two billion cubic meters of water a year. See Priit J. Vesilind, *Water – The Middle East's Critical Resource*, NATIONAL GEOGRAPHIC 38-71 (May 1993).

156. Consider for instance the Israeli Ministry of Agriculture advertisement in August 1990 announcing that: "it is difficult to conceive of any political solution consistent with Israel's survival that does not involve complete continued Israeli control of the [West Bank's] water and Sewerage systems, and of the associated structure. . . ." *JERUSALEM REPORTS*, 18 August 1990, available at <http://archive.unu.edu/unupress/unupbooks/80859e/80859E0m.htm>

157. There is a worldwide trend towards the establishment of river basin organizations as the best vehicle for the harmonious and optimal exploitation of shared

water resource institutions range from simple schemes which function as mere consultation groups to permanent, quasi-sovereign organizations enjoying far-reaching autonomous authority,¹⁵⁸ the latter example would be more fitting under the circumstances. Simple institutions such as the Egyptian-Sudanese Permanent Joint Technical Committee and the Informal Technical Committee of all Nile Basin States, for instance, has proven to be effective forums for inter-governmental cooperation and coordination between states lacking the executive power to manage the water system for the whole region.

Of course, Jordan, Lebanon, the West Bank and Gaza, and Syria can bring a claim to the International Court of Justice, relying on the same sort of general principles that Hungary put forth in the Gabcikovo Case. However, it should be noted that the matter differs in that the latter, although involving caustic political and geographical complexities, does not rise to the severity of an 'existence or non-existence' issue, which the former case entailed. While Hungary, in the Gabcikovo Case, had based its claim on some general principles of international environmental law aside from the claim of territorial sovereignty, it is not difficult to see that the Jordan riparian states' main concern and *political* claims have never been directed specifically to the water preservation, but rather on water allocation and sovereignty. For example, the recent claims by Palestinians are that any water extraction within the West Bank for Israel civilian settlements is illegal and in violation of the Geneva Convention concerning the rights and obligations of what is defined as a 'belligerent occupier.'¹⁵⁹ Under the Geneva Convention the utilization of a territory's natural resources by a 'belligerent occupier' for civilian purposes is not allowed.¹⁶⁰ In this case Israel will not be able to claim prior historic use since all of the wells were drilled under the authority of the Israeli Civil Administration after the 1967 occupation of the West Bank.¹⁶¹ However, from an environmental viewpoint, and although Israel has been perceived

water resources. See GODANA, *supra* note 19.

158. See *id.*

159. Jamal L. El-Hindi, *Note, The West Bank Aquifer and Conventions Regarding Laws of Belligerent Occupation*, 11 MICH. J. INT'L L. 1400-32 (1989-1990).

160. See E. Benvenisti, *International Law and the Mountain Aquifer*, in WATER AND PEACE IN THE MIDDLE EAST—PROCEEDINGS OF THE FIRST ISRAELI-PALESTINIAN INTERNATIONAL ACADEMIC CONFERENCE ON WATER 229-38 (J. Issac & H. Shuval, eds., 1994).

161. It is notable that the fate of these major Israel water extractions, mainly in the eastern basin of the Mountain Aquifer, will have to be determined as part of the final stage of the Israeli/Palestinian negotiations based on the 1993 Declaration of Principles.

as the prime transgressor of water rights in the region, it will be interesting to have the Jordan River case brought before an international tribunal on both sovereignty *and* environmental claims. All that had been initiated in the past was a complaint before the United Nations, by Syria and Jordan (in 1951 and 1952), against Israel in respect to the waters of the Jordan River Basin.¹⁶² These complaints, as imagined, could have been more productive had they been brought before the International Court of Justice or even to the attention of the Security Council, specifically if they had included an environmental dimension.

The water crisis in the Middle East is severe because of water scarcity, the economic dependence on this resource in the region, and the complexities of water's use as a political weapon. International law offers little assistance to solving these water disputes and state practices seem to lean heavily on attaining mutual agreements for their own resolutions. Nevertheless, international environmental law offers some customary international rules that must be adhered to by all states such as the equitable utilization of the shared watercourse and the procedural obligations, which precede any action with the potential to seriously affect other co-riparian states. Consequently, it is hoped that agreement, on questions of a just and equitable formulation for water allocations between all five riparian states in the Jordan River basin, will be reached within the framework of a comprehensive peace treaty. There is some confidence that an agreement is inevitable considering the severity of the problem and its realization by the riparian states. While providing a solution to the water conflicts in the Arab-Israel dispute is not itself sufficient for peace, it is undoubtedly a necessary condition.

Given the specific characteristics of the geography and the dispute of the shared waters of the Jordan River, it seems that a 'community of interests' approach is the only doctrine that presents an important opportunity for political benefits in the Jordan Valley. To achieve genuine success of any conclusive agreement in that direction, it should include provisions for the establishment of an International Joint Commission for the Jordan River Basin along the lines of the International Rhine Commission.¹⁶³ This commission should serve as a data bank, and be able to manage, monitor, and control water resources.

162. See M. G. Ionides, *The Disputed Waters of the Jordan*, 7 MIDDLE E. J. 153-64 (1953).

163. See W. Van del Kleij, R.H. Decker, H. Keratin & J.A.W de Wit, *Water Management of the River Rhine: Past, Present and Future*, 1 EUR. WATER POLLUTION CONTROL J. 9-18 (1991).

It should also be able to draft and promulgate environmental quality and pollution control regulations, which must be legally binding for both surface and groundwater resources. Also, it should include an agreed upon procedure for the adjudication of disputes based on various phases starting with negotiations, review by a higher level Joint board, mediation, arbitration, and finally by some agreed upon form of adjudication binding on all parties, either by arbitration or through an international court.