

Water and the Palestinian-Israeli Conflict

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Introduction

Economically, the Middle Eastern region is primarily agricultural, which is being practiced in an arid and desert-like environment. Water is a highly politicized and naturally scarce resource in the region, and there have always been conflicts over the ownership and use of water resources. Modern history has shown that even as water supplies in the Middle East are limited, unequal use and overuse of water resources by Israel has hindered development and peace between Israel and Palestine, as well as in the region as a whole. Specifically, the Israeli-Palestinian conflict can be attributed, to some extent, to disputes over the scarce and valuable water resources of the Jordan River basin and its aquifers. Israel and Palestine share the Jordan River with three other riparian countries, Jordan, Syria, and Lebanon, and both also share four groundwater aquifer basins: the Mountain Aquifers (the North-eastern, the Western, and the Eastern Mountain Aquifers) and the Coastal Aquifer. The Mountain Aquifer is shared by Israel and the West Bank and the Coastal aquifer is shared by Israel and Gaza. Since 1967 Israel has controlled both of these water resources where it allocates and sells water to the Palestinians on its terms and without due regard to their needs.²

The key problem is the lack of water for Palestine that impedes its development and jeopardizes the long-term survival of its population. The current Palestinian water supply is restricted and limited by Israel; Israel refuses to acknowledge Palestinian water rights and adherence to international laws on

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² Hussein, H., *The Palestinian Water Authority: Developments and Challenges involving the Legal Framework and the Capacity of the PWA*, available at <http://www.ipcri.org/watconf/papers/hiba.pdf>, (Last visited 21 April 2008).

water. The differences in annual per capita water consumption between the two populations testify to such inequality: Israeli's water consumption is four to six times per capita higher than the Palestinians. This disparity may be compared with population ratios where Israelis and Israeli settlers number 6.4 million people.³ In contrast, Palestinians number some 3.9 million,⁴ and yet Israel uses 83% of Palestinian water in the West Bank, leaving only 17% to Palestinians.⁵

Water has been central, together with such issues as Jerusalem, final frontier placement, Israeli settlements, Palestinian refugees and security, in Palestinian-Israeli negotiations since the early 1990s. To date, only modest steps towards reconciling conflicting views have been taken. In the September 1995 Oslo II Agreement, Israel recognized Palestinian water rights, which should have been negotiated in the permanent status negotiations that were to begin in May 1996 and settled by May 1999, but have yet to begin.

The failure to remedy the water situation has led to a water crisis. This crisis is not only a consequence of water scarcity in the region, but also of water retention, by Israel, thus curtailing Palestine's legal entitlement to water resources shared with Israel. Indeed, Israel, instead of acknowledging Palestinian water rights in adherence to international law on water, has introduced several solutions for Palestinians to develop non-conventional water resources such as: desalination; wastewater reuse; and the importation of water from neighbouring countries. These proposed solutions are untenable considering the highly unstable political environment and the level of development in water infrastructure and services existing in Palestine compared to Israel, even if certain responsibilities and authorities have been transferred to the Palestinian Water Authority (PWA) from 1995. Agreements signed between Israel and the Palestine Liberation Organisation (PLO) in the 1990s have not succeeded in improving the water situation, neither did they provide solutions that are reasonable and sustainable for the long-term.

In light of the above, and based on the fact that the water issue is highly politicized, this research emphasizes that the most efficient solution to the brewing water conflict is not simply through integrating water-related technological measures, but also through the application of international trans-boundary water laws and regulations, constructing a sound binational environmental

³ This includes about 187,000 Israeli settlers in the West Bank, about 20,000 in the Israeli-occupied Golan Heights, and fewer than 177,000 in East Jerusalem. CIA World Fact Book, July 2006, <https://www.cia.gov/cia/publications/>, (Last visited 21 April 2008).

⁴ This includes 2.5 million in the West Bank and 1.4 million in the Gaza Strip. CIA World Factbook, July 2006, <https://www.cia.gov/cia/publications/>, (Last visited 12 April 2008).

⁵ World Health Organisation (WHO), Fifty-Eighth World Healthy Assembly, Health Conditions of and Assistance to, the Arab Population in the Occupied Arab Territories, including Palestine. Agenda item 15, A58/INF.DOC./5 17 May 2005. See also Centre for Economic and Social Rights (CESR), The Right to Water in Palestine: A Background, FACT SHEET 1 (CESR, Brooklyn, NY), 2003 available at <http://cesr.org/node/view/451> (12 April 2008).

management policy, and through political stabilisation. The ultimate argument is that a more equitable distribution of available water resources is in the long-term interests of both parties.

Water Resources

At an average sustainable rate, the amount of renewable shared freshwater available throughout the entire ‘Jordan Valley Area’ from rivers and renewable aquifers is rests at roughly 2700 million cubic metres per year (mcm/yr), of which 1400 mcm/yr comes from groundwater and 1300 mcm/yr from surface waters.⁶ The main sources of water available to Israelis and Palestinians are the Jordan River and groundwater underlying the West Bank and coastal areas (see Figure 1).

The Jordan River

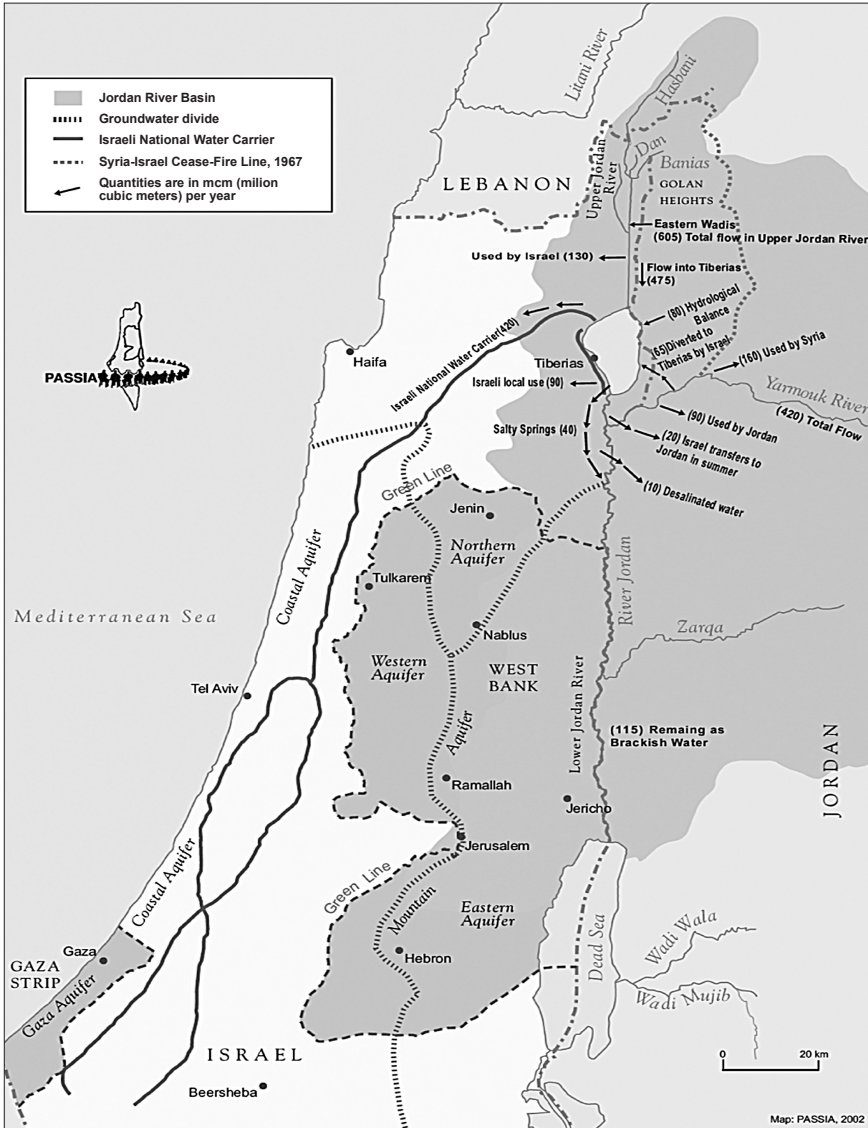
The Jordan River’s three headwaters are the Hasbani River, the Dan River, and the Baniyas River, which is part of the Hasbani River flow in Lebanon. The latter, which has an average flow of 140 mcm/yr, was, until June 2000, incorporated into the occupied Israeli ‘security zone’ in Southern Lebanon. The Dan and Baniyas rivers originate in the Golan Heights and flow into the Jordan River above Lake Tabariyya, with an average annual flow of 250 and 150 mcm/yr respectively. These rivers join to form the Upper Jordan River. After leaving Lake Tabariyya, the Lower Jordan River forms the boundary between Israel and Jordan and then between the West Bank and Jordan, before flowing into the Dead Sea, which is fed by groundwater and by the Yarmouk River (average flow of 420 mcm/yr). There are thus five riparian parties to the Jordan River: Lebanon, Israel, Jordan, Syria and Palestine.⁷

Israel draws water from the north-western portion of Lake Tabariyya and transports it out of the Jordan River Basin through its National Water Carrier to coastal cities and the Negev Desert. The amount of water extracted allows very little water to flow naturally out of Lake Tabariyya. This means that only a trickle passes along the West Bank in the bed of the Lower Jordan River. In addition, Israel has denied Palestinians access to the entire Lower Jordan River since 1967. After the start of Israel’s military occupation in 1967, Israel declared West Bank land adjacent to the Jordan River a “closed military zone,” to which only Israeli settlers and soldiers have access.

⁶ Sustainable Solutions to Water Conflicts in the Jordan Valley, Mike Hiniker Programs’ Coordinator Green Cross International, 24 January 1999 (Up-dated in September 1999) available at <http://www.greencrossinternational.net/en/programs/confprevention/wfp/archives/sustain.pdf>, (Last visited March,10.2008).

⁷ Diabes, F. Water in Palestine: Problems-Politics- Prospects , Water –Related Politics and legal aspects, PASSIA publication 2003.

Figure 1: Water Resources Map



Source: Palestinian Academic Society for the Study of International Affairs, PASSIA (2002). Adapted from: 'Water and War in the Middle East' Info Paper no.5, July 1996, Centre for Policy Analysis on Palestine/ The Jerusalem Fund, Washington D.C

Groundwater

Groundwater is the major source of fresh water in Palestine. 95% of the trans-boundary groundwater resources originating in the West Bank are being

used by Israel and its settlements in Palestinian Territories (OPT), leaving a small 5% of increasingly saline water resources to the Palestinians.⁸ Currently, more than 85% of Palestinian water from the West Bank aquifers is taken by Israel, accounting for 25.3% of Israel's total water needs.⁹ Groundwater resources are the Mountain Aquifer and the Coastal Aquifer Basin (see Figure 1 above).

The Mountain Aquifer is replenished by winter rains which mainly fall in the West Bank. Also, a significant quantity of the water flows underground across the so-called 'Green Line,'¹⁰ outside the West Bank, and moves gradually towards the slopes mainly within Israeli territory. Groundwater diverges towards three large basins along the structural slopes. These are the Western Aquifer which lies west towards the Coastal Plain; the Eastern Aquifer, which lies east towards the Jordan-Dead Sea trough, mostly in the Palestinian Territories, and the North-eastern Basin, which lies north draining towards the Jezreel (Esdraelon) and Beit Shean Valleys. According to Eckstein, the pre-1967 Israeli territories are downstream of the Western and the Northern Aquifers.¹¹

The Coastal Aquifer Basin underlies the coastal areas of Israel and the Gaza Strip (the Gaza Aquifer is part of this basin). In the Gaza Strip, apart from rainwater, the endogenous Gaza Aquifer is the only source of fresh water in the territory. It is partly replenished by shallow aquifers from the North-western Negev in Israel. There, while seawater intrusion from the Mediterranean Sea is permitted to pollute the fresh water in Gaza, Palestinians are prevented from fully contributing in controlling the water quality of the Mediterranean Sea and using their share of its natural resources.¹² It should

⁸ Water Resources of the Occupied Palestinian Territory United Nations, New York, 1992, Prepared for, and under the guidance of, the Committee on the Exercise of the Inalienable Rights of the Palestinian People available at <http://domino.un.org/UNISPAL.NSF/cf02d057b04d356385256ddb006dc02f/296ee705038ac9fc852561170067e05f?OpenDocument> (last visited 29 March 2008).

⁹ Isaac, J. The role of groundwater in the water conflict and resolution between Israelis and Palestinians, International Symposium on Groundwater Sustainability (ISGWAS), ARIJ, available at <http://aguas.igme.es/igme/ISGWAS/Ponencias%20ISGWAS/18-Isaac%20Jad.pdf>, (last visited 06 April 2008).

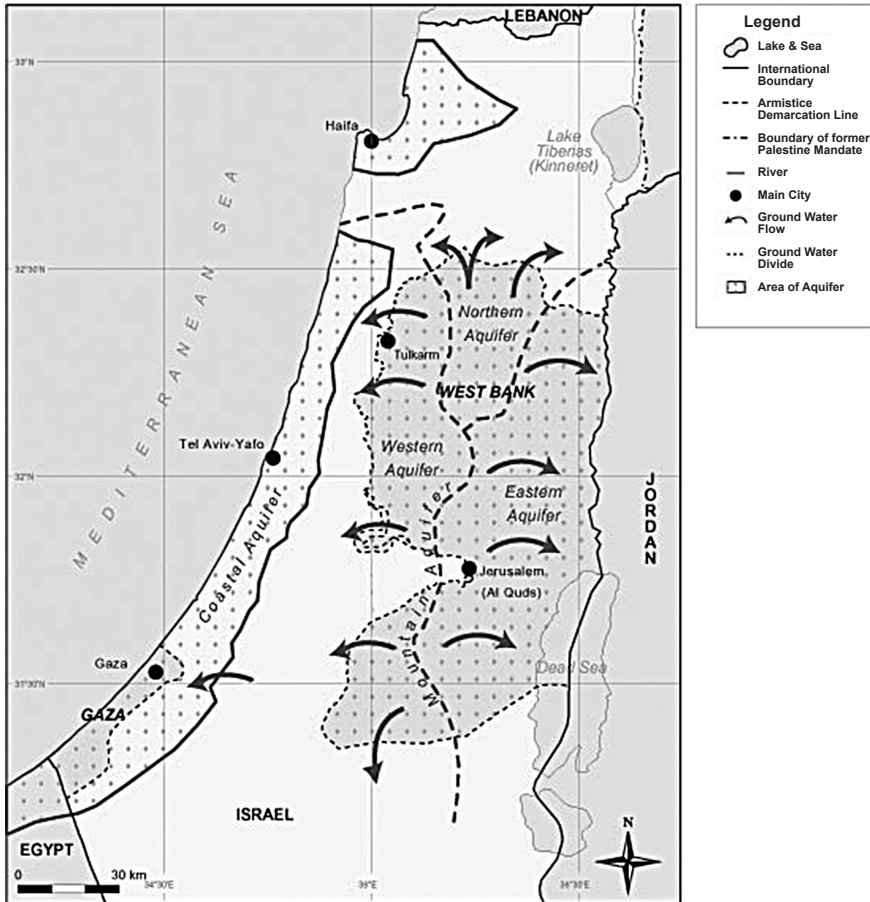
¹⁰ Green Line Term used following Israel's occupation of the West Bank and Gaza Strip in 1967 to refer to the post-1948 War ceasefire line (proper name is 1949 Armistice Line), i.e., the border separating pre-1967 Israel from OPT. The demarcation line is internationally recognized border. (Israel itself has yet to specify the boundaries of the State of Israel).

¹¹ Eckstein, G. E., and Eckstein, Y., "Groundwater Resources and International Law in the Middle East Peace Process", 155, available at <http://www.internationalwaterlaw.org/Articles/Eckstein-IntlWater.pdf> (last visited 02 April 2008).

¹² Division for Palestinian Rights Study: "Water Resources of the Occupied Palestinian Territory", United Nations New York, 1 June 1992, Prepared for, and under the guidance of, the Committee on the Exercise of the Inalienable Rights of the Palestinian People, can be found at <http://domino.un.org/unispal.nsf/0/296ee705038ac9fc852561170067e05f?OpenDocument>, (last visited 12 April 2008).

Figure 2: Groundwater Resources Map

Mountain and Coastal Aquifers



Sources: United Nations Environment Program (UNEP), December 2002, available at <http://www.grid.unep.ch/product/map/index.php> (March 2008)

be noted that Israel has another five groundwater aquifers located within its territory. These are: Lake Tabariyya, the western Galilee, the coastal, the Naqab, and the Carmel.¹³

¹³ B'Tselem – The Israeli Information Center for Human Rights in the Occupied Territories, Thirsty for a Solution, The Water Crisis in the Occupied Territories and its Resolution in the Final-Status Agreement, Jerusalem, July 2000.

Occupation and Water Resources

In order to understand which instruments of international law, regarding water, are applicable to Palestine, it is important to review some of the main aspects of international water law and apply it to the case of Palestine. Thus, the rest of this research is devoted to presenting a legal framework for water rights and distribution and then turns to the specificity of the Palestinian-Israeli conflict to demonstrate that Palestinian rights to water are being severely constrained by Israel.

International Water Law

International law is still perceived by many as being the basis for amicable and peaceful solutions to the utilization, development and protection of shared water resources.¹⁴ The driving force behind the codification and progressive development of international law in this specific field is the consensus, among international organizations, that relevant customary international law was not especially advanced or consolidated. There is accordingly a long and influential history of international legal development in the international water resources field, the pace of which has accelerated noticeably over the past 50 years. The increasing concern of the international community in terms of the development, proper management and legal frameworks governing international water resources has been reflected in the work of inter-governmental (IGOs) and non-governmental organizations (NGOs) and in the writings of scholars and publicists keen to focus attention on the question of the development and management of water resources. In the context of the determination of international customs with respect to the use of international waters, several non-governmental and governmental institutions have attempted the codification of these rules of customary international law whilst progressively developing an international legal instrument that governs the non-navigational uses of international watercourses. The work of the international law institute (Institute de Droit International, IDI), the International Law Association (ILA), and the International Law Commission (ILC) can be cited in this regard.

The development of the law in the field of international watercourses demonstrates an increased awareness with regard to the current and emerging water crises, the risks associated with the uncontrolled use of waters that cross borders between two or more states, and the importance of international cooperation in resolving conflicts over international waters.

¹⁴ Vinogradav S., Wouters P., Jones P, TRANSFORMING POTENTIAL CONFLICT INTO COOPERATION POTENTIAL: The Role of International Water Law, UNESCO, WAAP, IHP-VI, No. 2 Technical Documents in Hydrology, PPCP Publication SC-2003/WS/67.

According to Coscrove,

International water law identifies those legal rules that regulate the use of water resources shared by two or more countries. The primary role of international water law is to determine a state's entitlement to the benefits of the watercourse and to establish certain requirements for states' behaviour while developing the resource.¹⁵

When trying to solve the problem of water rights between countries and institutions, the primary issue that needs to be resolved is which theory of sovereignty is acceptable in defining water rights.

Theories of Water Rights

Legal instruments for water allocation in international environmental law in general rely on three principles: equitable and reasonable utilization and the avoidance of harming one's neighbour.¹⁶ In international law some theories have been developed: Firstly, the Absolute Territorial Sovereignty Doctrine,¹⁷ which gives states complete freedom to act with regard to the quantity of an international watercourse that is placed within its territory, irrespective of any adverse effects that may occur to other riparian states. Under this doctrine a nation may utilize any quantity of water flowing into its territory or for disposing of pollutants. This doctrine asserts the right of an upstream nation to use and pollute with no regard for affected downstream nations.¹⁸ Secondly, the Absolute Territorial Integrity Doctrine gives a downstream nation a right to an uninterrupted flow of a fixed quantity of usable water from upstream states. That is, a state may do nothing that might affect the natural flow of water into a downstream state.¹⁹

¹⁵ Coscrove, W. J., *Water Security and Peace: A synthesis for Study Prepared under the PCCP-Water for Peace Process, UNESCO-IHP-WWP, IHP IV*, Technical Documents in Hydrology. PCCP Series No. 29.

¹⁶ Several primary sources cite the reasonable and equitable utilization rule as the governing rule of Customary International Law. These include article 5, UN Watercourses Convention on the Law of Non-navigational Uses of International Watercourses, 21 May 1997, and the UNGA Resolution 51/229, (not yet in force). The 1997 International Court of Justice (ICJ) decision also refer to the rule as guiding principle of law in obiter dicta, paragraphs 85 and 147 of the Case Concerning the Gabčíkovo-Nagymaros Project (Hungary v. Slovakia), ICJ, 25 September 1997.

¹⁷ Also known as the Harmon doctrine: An example of this doctrine is the opinion of Attorney General Harmon 1895 response to Mexico's protest over U.S. diversions from the Rio Grande River.

¹⁸ Eckstein, G., *Application of International Water Law to Trans-boundary Groundwater Resources, and the Slovak-Hungarian Dispute Over Gabčíkovo-Nagymaros*. 19 *Suffolk Transnational L.R.* 67 (1995).

¹⁹ An example of the application of this doctrine is the Lake Lanoux case regarding France's plans to divert water from the Carol River and replace it downstream with water from another

The theories of territorial sovereignty and that of territorial integrity are not suited to serve as the basis for formulating rules governing international watercourses. Adherence to Absolute Territorial Sovereignty would allow uncontrolled actions irrespective to harm caused in neighbouring states; and Absolute Territorial Integrity provides veto power over actions in neighbouring states. The rejection of these principles stems from the recognition of the need of a state to accept limited sovereignty in order to achieve resolution of problems that can only be overcome through regional cooperation.

The clear need for a compromise between these two principles leads to the notion of equitable utilization, or a balanced approach to allocating water among users in a watercourse.²⁰ The Limited Territorial Sovereignty Doctrine accepts the principle of riparian rights, and that every nation bordering a watercourse has a right to use the water. Under this doctrine every nation has the right to use water flowing in its territory provided that the use does not harm the territory or interests of other nations. The doctrine recognizes the reciprocal rights and obligations of nations in the use of water. The sovereignty of a state over its territory is said to be limited by the obligation not to use that territory in such a way as to cause significant harm to other states.²¹

The Equitable Utilization Doctrine employs a cost-benefit analysis which attempts to maximize the beneficial use of limited water resources while limiting the burdens. It is based on the principle of *sic utere tuo ut alienum non laedas*, where damaging consequences are not prohibited but rather weighed against the benefits gained. Under it, each riparian state is entitled to a reasonable and equitable share in the beneficial uses of an international water resource. This principle is widely accepted as a general rule of customary international law and applies to groundwater resources.

Significantly, the principle of reasonable and equitable utilization is an amalgamation of the principles of absolute territorial sovereignty and territorial integrity in that it recognizes and evaluates the shared and competing interests of all states embracing the watercourse. The use of the resource is determined by balancing the competing social and economic factors of interested riparian states and by considering the physical aspects of an entire water resource system.

basin. Spain claimed that the interbasin transfer would be inferior and subject to human control and thus not equivalent in quantity and quality to the original flows in the basin. Ultimately, Spain lost the argument in the International Court of Arbitration. Eckstein, G., Application of International Water Law to Transboundary Groundwater Resources, and the Slovak-Hungarian Dispute Over Gabčíkovo-Nagymaros. 19 Suffolk Transnational L.R. 67 (1995).

²⁰ Ibid.

²¹ An example of the application of this doctrine is in the case of the 1959 treaty between Sudan and Egypt on the Nile. Another example of the application of this doctrine is in the dispute between Argentina and Brazil in the Parana basin.

The Community of Interest Doctrine states that no nation may use waters in its jurisdiction without consultation and cooperation with downstream nations. A community of interests in the water is created by the natural, physical unity of a watercourse. All freshwater is something to be shared by the community as common property or public good.²²

The Prior Appropriation Doctrine, which favours neither the upstream nor the downstream state but rather the state that puts the water to use first, thereby protecting those users which existed prior in time. Consequently, this doctrine for the allocation of water resources has also received little international support.²³

Israel has usually relied on the theory of “Prior Appropriation” (“first in time, first in right”) rights to water, arguing that Israel has been pumping that water since 1955 when addressing water rights over the shared water resources.²⁴ Palestinians assert that the claim is invalid due to the illegality of the occupation and the fact that the Israeli military authorities have expropriated wells belonging to absentee owners, as well as those within the boundaries of confiscated Palestinian land. The sometimes-invoked argument that Israel inherited water resources that had been under British Mandate control is simply untrue. Palestinians, as the indigenous inhabitants of the region, are the party with historical prior use rights and Palestine is a riparian to the Jordan River and its aquifers.²⁵

In contrast to Prior Appropriation, the Riparian doctrine states that the owner of land with a waterway running through it is entitled to the flow through his land unpolluted and undiminished by others. Riparian states are states that “arise as an incident of ownership to land adjacent to a river”. Riparian law is an internationally recognized principle that riparians own or occupy land adjacent to rivers, and therefore have a say in how its waters are used. There are two main principles at the core of riparian law: Riparians have rights to the use of “unaltered water.”, and riparians do not have sovereign or absolute rights to use common waters in any manner they wish. These principles have been incorporated into the Convention on the Non-Navigational Use of Watercourses. In the Convention, the term “riparian” was replaced with the expression “watercourse state.”

There are two remarkable international cases regarding the application of riparian principles to disputes over river usage. A recent case between Hungary

²² Supra note 11.

²³ (Lazerwitz,1995) from TOPKAYA, B. , WATER RESOURCES IN THE MIDDLE EAST: FORTHCOMING PROBLEMS AND SOLUTIONS FOR SUSTAINABLE DEVELOPMENT OF THE REGION, July 1998.

²⁴ Wolf Aron. T., *Hydropolitics along the Jordan River, Scarce Water and its Impact on the Arab-Israeli Conflict*, United Nations University Press TOKYO · NEW YORK · PARIS, 1995.

²⁵ Dr. Jad Isaac, the Director of the Applied Research Institute- Jerusalem (ARIJ) was quoted in Bethlehem by the Author on 11 March 2006.

and Slovakia under the International Court of Justice (“ICJ”) affirmed the principle of “equitable utilization” as presented in the Helsinki Rules. The other case involved a 1957 dispute between France and Spain and applied the *sic utere tuo* doctrine to an arbitral dispute over France’s use of Lake Lanoux.

The UN Convention on the Non-Navigational Uses of International Watercourses, 1997

The 1997 Watercourses Convention is, to date, the most authoritative statement relating to non-navigational uses of international watercourses.²⁶ However, it is yet not in force.²⁷ The Convention embodies a set of customary international rules and principles that are relevant to the utilization, development and management of international water courses including transboundary groundwater. Considered a framework, it guides states in concluding treaties particular to their international watercourse, including groundwater and surface water.²⁸ The Convention has a number of key principles. The most important is the equitable and reasonable allocation of shared watercourses;²⁹ the ‘No Harm Rule’; and the need for communication (notification, consultation and negotiation) on any development plans which could affect shared watercourses.

Article 8 of the Convention reinforces the need for communication by institutionalizing a general obligation to cooperate. As an overriding objective, the Convention mandates communication and thus cooperation between watercourse states, requiring that they “shall, at the request of any of them, enter into consultations concerning the management of an international watercourse”³⁰. The duty to cooperate describes the need to exchange information and data, notify regarding planned measures, and consult and negotiate in the case of conflicts. Notification requires providing information without a mutual exchange.³¹

²⁶ United Nations Convention on the Law of the Non-navigational Uses of International Watercourses Adopted by the UN General Assembly in resolution 51/229 of 21 May 1997

²⁷ Article 36 (1) states the following: The present Convention shall enter into force on the ninth day following the date of deposit of the thirty-fifth instrument of ratification, acceptance, approval or accession with the Secretary-General of the United Nations.

²⁸ The Convention requires the adoption of «watercourse agreements» among watercourse states and further stipulates that «every watercourse State is entitled to participate in the negotiation of and to become a party to any watercourse agreement that applies to the entire international watercourse, as well as to participate in any relevant consultations» Article 4 (1) of the Convention

²⁹ The doctrine of equitable utilization has been confirmed by the ICJ in the case of Hungary v. Slovakia. The IJC's opinion firmly establishes that international rivers are shared resources and all riparian states have equal rights to enjoy both the commodity and noncommodity ecological benefits of the river, hydrologically connected groundwater, and the riparian corridors.

³⁰ See Appendix four: Article 24(1); see also articles 4(2), 5(2), 6(2), 8 and 11 of the Convention.

³¹ See Articles 12, 13, 15 16 and 18.

In special situations where a notification relates to possible infractions of the principle of equitable distribution, consultations further require a dialogue among participants without an obligation of reasonable compromise:³² Negotiation requires a dialogue with an obligation to compromise in good faith,³³ and parties “enter into consultations and, if necessary, negotiations with a view to arriving at an equitable resolution of the situation”.³⁴ In case consultations and negotiations do not succeed in settling dispute, the Convention offers provisions for impartial fact-finding if requested by one party, and mediation or conciliation if agreed to by both parties.³⁵

The Convention requires that “watercourse States shall ... utilize an international watercourse in an equitable and reasonable manner”.³⁶ The Convention further requires the resource be used “with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned and consistent with adequate protection of the watercourse”.³⁷ The Convention also defines what is equitable and reasonable: The Utilization of an international watercourse in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances, including:

- Geographic, hydrographical, hydrological, climatic, ecological and other factors of a natural character;
- The social and economic needs of the watercourse States concerned;
- The population dependent on the watercourse in each watercourse State;
- The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;
- Existing and potential uses of the watercourse;
- Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;
- The availability of alternatives, of comparable value, to a particular planned or existing use.

Another key principle of the Convention is the duty not to cause “significant harm”:

1. Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States.

³² See Articles. 4, 6, 7, 17, 18, 19, 24, 26 and 30.

³³ See Articles. 4, 17, 18, 19, 30 and 33.

³⁴ Article 17(1).

³⁵ Article 33 (3), (4).

³⁶ Article 5(1).

³⁷ Id.

2. Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures ... in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.³⁸

The Convention provides additional obligations for watercourse states for further protection of watercourses.³⁹

Given its framework character, the UN Watercourse Convention fails to address the specific needs of the optimal and sustainable utilization and development of trans-boundary groundwater. Additionally, it does not adequately and comprehensively respond to the specific regulatory needs of ground water, nor can it respond to the regulatory and management needs of confined trans-boundary groundwater. To compensate for this gap, it is envisaged that the detail procedures, mechanisms and required institutions can be borrowed from the already existing agreements on groundwater such as the Bellagio Draft Treaty. The Bellagio Draft Treaty for example offers mechanisms and procedures for the protection, utilization, development and management of water resources. These include the adoption of a declaration of critical zones for joint administration, whereby measures such as those regulating the spacing of wells and pumping rates could be instituted to control withdrawals and thereby guarantee each country its share of water. The draft suggests mechanisms for dealing with uncontrolled lowering in the water levels, planned depletion, drought reserves, water quality, the protection of recharge areas, and public health emergencies. Among other things, it suggests the establishment of a joint institution for overseeing and administration and sets procedures for settling disputes.

It is therefore proposed that an agreement that is based on a combination of substantive strengths in the Convention and the procedural strength found in already existing agreements be formulated to provide an ideal legal solution for the problems associated with trans-boundary groundwater.

The Application of International Law on the Palestinian-Israeli Conflict over Water

In reviewing the above implications and the UN Convention guidance, the proposal for solving the problem within a Palestinian-Israeli context is to establish a solid basis for long term sustainable arrangements. In light of the historical and current political background, there are valid reasons to suggest that in the short term at least, the attaining of a binding arrangement is impossible given the volatile political situation. Therefore it is suggested that both sides, without the formality of treaties, reach an understanding or administrative

³⁸ Article 7(1)-(2).

³⁹ Articles 20, 27.

agreements that are sufficient to allow the desired work to progress. They could then generate the required national willingness to enter into arrangements of a more formal nature.

The settlement of the water dispute starts with a non-binding flexible arrangement that can serve short term needs, which gradually builds up into a final, legally binding arrangement based on international law. In between these two solutions lies an international mediated proposal, a combination of coordination and collaboration, being an output of the first arrangement and input as far as the final one is concerned. In light of the highly stressed political environment that exists in the region, it is advisable to aid the decision-making process by clarifying the various steps that states should take before committing themselves to implementing international law. To end up with a binding treaty is only realistic when the parties collectively agree to commit themselves entirely to the rigours of a formal treaty regime. Under such circumstances, it can be shown that international cooperation efforts are more efficient and allow for greater options.

Acceptance of Common Principles

Together Israel and Palestine should agree on the core principles of international law governing watercourse states' rights, recognizing that each of the nations on an international watercourse has a right to an equitable portion of the water. The first thing would be to assess how much water is needed by each side to meet the domestic needs with those of economic development. Therefore, a new assessment of all joint water resources becomes essential. The second step is to develop a fact finding team, with the intention to examine the reliability of data pertinent to the availability and utilization of the water resources of the area. The source of data for the fact finding team will be the hydro-geological investigation carried out by Israelis and Palestinians in the West Bank and Gaza Strip. The fact finding team members should be based on merely qualified criteria, and might comprise Palestinians and Israelis in addition to international experts. The two parties shall do their best to accept the conclusions of the fact finding team, or in any case develop a common arrangement. The recommendations of the fact finding team shall figure as the basis for further talks on how to implement the equitable and reasonable utilization of shared water resources.

Equitable and Reasonable Utilization Identification

As mentioned above, Articles 5 and 6 of the 1997 UN Convention incorporate an important guide to the identification of what constitutes an "equitable and reasonable" use in each case. It identifies the key factors that should be

applied, even though the list is not exhaustive, owing to the framework character of the Convention. Specific criteria based on the basics of Article 5 and 6 of the Convention and any other accepted factors for the allocation of the beneficial uses of water resources should be jointly developed. This would require precise and reliable information and data to be shared by the two sides. An International Legal Experts Committee could be created to be involved in assigning weight to the factors in consultation with the fact finding team. These weights have to be determined by their significance in contrast with that of all other relevant factors. All relevant factors are to be measured together and a conclusion achieved on the basis of the whole, in determining what is an equitable and reasonable use.

The Development of Future Cooperation

Cooperative mechanisms may be achieved based on international law and on the theory of “good faith” to govern relationships between the parties. In theory, if both parties agree to apply the principle of equitable and reasonable utilization based on the above implementation procedures, a water agreement could be founded on equal balance. The principle of “equitable utilization” is a basic footing for such an agreement. A mechanism of joint cooperation would have to be established within the agreement to guarantee the exchange of complete data and information on agricultural, industrial and domestic water use. A new agreement regarding the Jordan River will be easier to achieve than in the West Bank groundwater resources case. A treaty concerning the last could however gain from applying the form of existing international water treaties concerning the uses of surface watercourses. The new agreements should consequently ensure each of the obligations to cooperate as well as to adequate coordination. Yet resolving conflicts over water rights will require a major effort of political willingness to agree to changes in the status quo. Based on the available existing water resources and the proposed needs for development, it is assumed that there will always be a regional shortage. It is therefore advantageous to both Israel and Palestine to jointly manage the valuable regional water resources to ensure their sustainable development. The parties could also cooperate in developing non-conventional water resources. While there is an obligation in general international law to settle disputes peacefully, a mechanism for future dispute settlement should be an element of the agreements adopted by the two sides.

Conclusions

Water in the Middle East is highly politicised and has consequently contributed to past conflicts and continues to amplify the present Palestinian-Israeli dispute. It is also deemed to have bearings on any future political settlements.

This paper demonstrated that Israel has flouted international law in various actions in the Palestinian territories, and the United Nations has provided symbolic weight on Palestinian rights but could not resolve the central disputed issue. According to the rules and principles of international law, Palestine is entitled to an equitable and reasonable share of the international water resources, as well as the trans-boundary groundwater shared with Israel. Additionally, despite the marked disparity between the stages of development and various strengths of Israel and Palestine, the challenge now is how to convert this into a thorough understanding of the mutual benefits to be derived from cooperation.

An important observation in this paper is that political willingness is a decisive factor in the entire process of international cooperation. The inability on the part of politicians to accept the consequences of international cooperation is reflected in a lack of willingness to place confidence in joint or international institutions willing to coordinate and cooperate.

The Palestinian-Israeli water conflict reveals that in the absence of real intentions to cooperate, even legally binding treaties will not help to solve the dispute. Despite the signed protocols, declarations and agreements and the emerging joint mechanisms established because of them, reality proves that Israeli control over the groundwater resources is absolute and that water resources are still legally controlled by Israeli military orders that forbid the development of groundwater resources without the prior consent of the Israeli Water Commissioner. As to the Palestinians, they are merely the administrator of some infrastructure and a number of projects that only serve Palestinian communities.

In spite of the many obstacles mentioned above, past agreements confirm that there is a strong foundation for cooperation, assuming that both parties are willing to work hand in hand for the benefit of the resources and future generations. Mutuality and the necessity to cooperate are very important concepts, which unfortunately are not addressed in the existing agreements. The two fundamental substantive rules governing the development and utilization of trans-boundary ground water are the equitable and reasonable utilization principles and the “No Harm Rule”. Only if these two principles are adhered to that, can a desirable outcome be reached.