WATER AND THE TWO-STATE SOLUTION: A HOLISTIC LEGAL APPROACH TO OVERCOME THE PALESTINIAN ISRAELI WATER CONFLICT

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تعتمد كلية الدراسات العليا
هذه النسخة من الرسالة
التوقيع.....التاريخ.....

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List of Abbreviations

ARIJ	Applied Research Institute – Jerusalem
CESR	Center for Economic and Social Rights
cm	Cubic meter
cm/yr	Cubic meter per year
DoP	Declaration of Principles
EU	European Union
ICJ	International Court of Justice
IDI	Institute De Driot Interntional (International law Institute)
IEL	International environmental Law
ILA	International Law Association
ILC	International Law Commission
JWC	Joint Water Committee
l/day	Litre per day
mcm	Million cubic meter
mcm/yr	Million cubic meter per year
NGO	Non-governmental Organisation
NWC	National Water Council
NWP	National Water Policy / Plan
OPT	Occupied Palestinian Territories
PA	Palestinian Authority
PCIJ	Permanent Court of International Justice
PLC	Palestinian Legislative Council
PLO	Palestine Liberation Organisation
PWA	Palestinian Water Authority
UN	United Nations
UNEP	United Nations Environment Program
UNGA	United Nations General Assembly
UNSC	United Nations Security Council
US	United States
WHO	World Health Organization

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ABSTRACT

The Middle East is one of the most arid and semi–arid regions in the world; water is highly politicized and physically scarce in the region. The region's water crisis is not simply a question of supply. It has always been linked to control of territories and power structures in the region, which maintain inequality among those who share the water. The Water issue has generally played a peripheral role in formal and informal negotiations among other topics with higher priorities such as Jerusalem, borders, settlements, refugees and security in the Palestinian-Israeli negotiations since the early 1990's. 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 not been settled yet. The Agreements signed between both parties in the 1990s have not succeeded in improving the water situation; nor did they provide solutions that are reasonable and sustainable

for the long-term. In these agreements the water conflict has been dealt with separately from the principles of international law. Israel has committed itself along with the Palestinians and the international community, to the Road Map, which calls for the establishment of a viable, sovereign, democratic and independent Palestinian State. Water is very essential to the Palestinian people and the future of the Palestinian state if it is to be viable. In order to achieve the two sate solution with a sustainable and viable Palestinian state, this thesis emphasizes that the most efficient solution to the brewing water conflict is through application of international transboundary water laws and regulations, constructing sound binational and regional agreements. The study also constructs a path towards a more effective trans-boundary water management through a focus on the opportunities provided by cooperation. The Benefit share concept is proposed to achieve effective cooperation, especially in situations where there are political obstacles. The ultimate argument is that a more equitable distribution of available water resources and effective cooperation is in the long term interests of both parties.

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1. Introduction

The social, environmental and economical value of water resources cannot be underestimated. Water is a vital resource for sound ecosystems and healthy living circumstances. Drinking water, energy supply, food production, and industrial development are dependent on water availability. Yet, rising demands, coupled with rapid population growth and economic development, put growing pressure on this finite resource. This is evidenced at the international level by conflicts between countries sharing trans-boundary water resources. Effective and integrated trans-boundary water management is therefore urgently needed. Today, there are more than 263 international trans-boundary river basins that cross the political boundaries of two or more countries, where more than 45 per cent of the world's population lives in (UNDP, 2009). There are as well, so far, 273 trans-boundary aquifers (UNESCO, 2009).

The Middle East is mostly agricultural, and this agriculture is being practiced in an arid and semi arid region. Water is both highly politicized and naturally scarce in the region. The average annual rainfall range is between 400 to 600 mm in the northern and western part of the historical Palestine, and sharply declines to 30-200 mm in the south. The region's demand for water exceeds nature's capability to renew those resources. Israelis and Palestinians use 2,634 million cubic meters (mcm) of water per year jointly, while the recharge rate does not pass over 2,570 mcm of water per year (PASSIA 2004). Israel's disproportionate use of the Palestine's water supply exacerbates the present crisis in the region. The differences in annual per capita water consumption between the two populations testifies to such inequality; Israeli's water consumption is four times per capita higher than the Palestinians (World Bank 2009 and Amnesty International 2009).

Even with similarity in the size of both populations, Israelis and Israeli settlers make up 7, 2 million of the population[1] (CIA, 2009); in contrast Palestinians comprise 4.1 million of the region's population (CIA, 2009). In the Palestinian territories, groundwater is the primary source of renewable water, whereas surface water in the Jordan River and wadis (valleys) comprise a far less rechargeable supply. Studies by the sPalestine region occurs beneath Palestinians territories in the Mountain Aquifers, but Palestinians are only allotted 17% of groundwater, 10% of the runoff recharge, and none of the Jordan River recharge. That means that Palestinian get just 11% and Israel 89% from the shared water sources (PWA, 2009).

The Water issue has generally played a peripheral role in formal and informal negotiations among other topics with higher priorities such as Jerusalem, borders, settlements, refugees and security in the Palestinian-Israeli negotiations since the early 1990's, but so far, only modest steps forward have been completed (Bitar, 2005). 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 control over water by Israel, thus curtailing Palestine's legal entitlement to water resources shared with Israel. Instead, Israel has introduced several solutions for Palestinians to develop non-conventional water resources such as: desalination; wastewater reuse; and the importation of water from neighboring countries. These proposed solutions are untenable considering the highly unstable political environment and the required 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. The agreements signed between Israel and the Palestine Liberation Organization (PLO) such as Gaza Jericho Agreement 1994 and The Interim Agreement 1995

[1] This includes about 187,000 Israeli settlers in the West Bank, about 20,000 in the Israeli-occupied Golan Heights, and 177,000 in East Jerusalem (CIA Factbook, 2009)

has not succeeded in improving the water situation, nor have they provided solutions that are reasonable and sustainable for the long-term.

The water crisis in the Jordan River Basin region is alarming. The crisis is a consequence of Israel's water retention and curtailing of Palestine's legal entitlement to the shared water resources. Israelis and Palestinians 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 Northeastern, the Western, and the Eastern Mountain Aquifers) and the Coastal Aquifer. The Mountain Aquifer is shared by Israelis and the West Bank and the Coastal aquifer is shared by Israel and Gaza Figure (1). 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 (Eliewe, 2009). Major issues include the fact that Palestinians are not able to draw water from the shared Jordan River, and are thus denied access to it. In addition, the most productive zones in the West Bank are in the western section (i.e. the Western Aquifer), and the Palestinians have no access to that as well.

This crisis is not only a consequence of water scarcity and water retention by Israel, but also due to mismanagement of water resources linked to irrigation and overexploitation of water resources (Shuval, 2007). The mismanagement of water resources has caused degradation of Water quality extending through the entire Jordan River Basin, damaging the ecosystem, hindering production, and causing high salinity and pollution. Fresh water supplies have diminished and human health problems have arisen. Unfortunately, nowadays the Lower Jordan River is more or less dry; ecosystems are dying out. Recent studies show that over 90% of its water sources have been diverted by dams and pump-

ing stations installed along its basin. In place of fresh water, sewage, diverted saline springs and agricultural runoff are discharged.

Figure (1): Water Resources Map.
Source: Palestinian Academic Society for the Study of International Affairs (PASSIA), (2002).

The Dead Sea is diminishing at an alarming rate of over 1 meter a year. A third of its surface area has been lost. The southern basin today is composed entirely of industrial evaporation ponds. Sinkholes have appeared along the coastline, a dangerous phenomenon threatening the tourism industry, as well as the inhabitants themselves (Foeme, 2007). The water quality problem is especially pressing in the Gaza Strip, where water is becoming completely unhealthy for human consumption and even for irrigation. The already limited supplies of water in the Gaza Coastal Aquifer are threatened by saltwater intrusion from over-pumping, by the uncontrolled discharge of untreated sewage into the ground, and by the excessive use of fertilizer in agriculture. In the West Bank the unaccounted-for water reaches in some area about 45% of the total water supply is lost to leaks in old and deteriorating network infrastructure. Furthermore, more than 50% of the population continues to depend on cesspits and antiquated systems for wastewater disposal, creating dangerous environmental and health consequences.

1.2 The shared Water Resources

At average and sustainable rates, the finite amount of renewable shared freshwater available throughout the entire 'Jordan Valley Area' from rivers and renewable aquifers is only about 2,700 million cubic metres per year (mcm/yr), of which 1400 mcm/yr comes from groundwater and 1300 mcm/yr comes from surface waters (Hiniker, 1999). The main sources of water available to Israelis and Palestinians are the Jordan River and groundwater underlying the occupied West Bank and coastal areas (Figure 1).

1.2.1 The Jordan River

The Jordan River's three headwaters are the Hasbani River, the Dan River and the Banias River. The Hasbani, 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 originates in Israel, and the Banias river originates in the Golan Heights and flows into the Jordan River above Lake Tiberias with an average annual flow of 250 and 150 mcm/yr respectively (Diabes, 2003). These Rivers join to form the Upper Jordan River. After leaving Lake Tiberias, the Lower Jordan River forms the boundary between Israel and Jordan and then between the occupied West Bank and Jordan, before flowing into the Dead Sea, which is fed by groundwater and by the Yarmouk River (average flow of 467 mcm/yr) (Diabes, 2003). There are thus five riparian parties to the Jordan River: Lebanon, Israel, Jordan, Syria and Palestine.

Israel withdraws water from the north-western portion of Lake Tiberias and transports it out of the Jordan River Basin through its National Water Carrier to coastal cities and the Negev Desert. Importation of the Jordan in lake Tiberias allows very little water to flow naturally out of Lake Tabariyya. This means that only a trickle passes through 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 settler farmers have been permitted access (Husaini 2004).

1.2.2 Groundwater

Groundwater is the major source of the fresh water supply in Palestine. 95% of the trans-boundary groundwater resources originating in the West Bank are being used and over-exploited in Israel and by its settlements in the Occupied Palestinian Territories (OPT), leaving a small 5% of increasingly salinated water resources for the Palestinians.

Currently, more than 85% of the Palestinian water from the West Bank aquifers is taken by Israel, accounting for 25.3% of Israel's water needs (Isaac, 2002). The groundwater resources are the Mountain Aquifer and the Coastal Aquifer Basin (Figure 2).

The Mountain Aquifer is replenished by the winter rains that fall mainly in the West Bank territory. Then, a major quantity of the water flows underground across the Green Line, thus outside the West Bank, and moves gradually towards the slopes of hills mainly within the Israeli territory (ARIJ, 2007). Groundwater diverges towards three large basins along the structural slopes. These basins are the Western Aquifer, which lies westward towards the Coastal Plain; the Eastern Aquifer, which lies eastward towards the Jordan-Dead Sea trough, mostly in the occupied Palestinian Territories, and the North-eastern Basin, which lies northward draining towards the Jezreel (Esdraelon) and Beit Shean Valleys (Eckstein, 2007). According to Eckstein (2007), the pre-1967 Israeli territories are downstream from the Western and the Northern Aquifers. The Coastal Aquifer Basin underlies coastal areas of Israel and the occupied 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. It is partly replenished by shallow aquifers from the North-western Negev in Israel. It should be mentioned that Israel has an additional five groundwater aquifers located within its territory. These are: Lake Tiberias, the western Galilee, the coastal, the Naqev and the Carmel (PWA 2009).

Figure (2): Groundwater Resources Map
Sources: United Nations Environment Program (UNEP) 2002

1.3 Brief Historical Background of the Conflict

The development of water sources in the Jordan basin has been an issue with some conflict since early times, which go back to the end of the 19th Century when the Zionist Movement started its plans for creating a Jewish homeland in Palestine (Isaac and Sa-

lem 2007).In 1875, it was suggested that such a homeland should include Palestine and parts of Jordan, with their water resources, and so it can absorb Jews to be brought from all over the world (Isaac and Salem 2007). After the Balfour Declaration of 1917 [2] and declaration of the British Mandate in 1922, the Jewish Agency formed a special technical committee to conduct studies on utilization of water resources and irrigation of unarable and desert lands in Mandate Palestine. Most of the studies conducted were used to evaluate water plans designed by both the Jewish Agency and according to the 1947-United Nations' Partition Plan of Mandate Palestine (Isaac and Salem 2007).

In September 1953, the construction of the Israeli National Water Carrier began. The diversion originated at the Banat-Yacoub Bridge in the demilitarized zone between Israel and Syria (Isaac and Salem 2007). After Arab objections to the construction of the Carrier the United States (US) presented a plan in 1955. The Johnston plan, which was prepared under the supervision of the Tennessee-Valley Authority included water distribution quotas for the Jordan-Valley Basin, estimated at 1,287 MCM annually, among the riparian states (Table 1). The Plan did not win the endorsement of the Arab League; Israel proceeded to implement its own water projects. Arab reaction to the Israel's National Water Carrier project was to build dams on tributaries of the Jordan and Yarmouk Rivers, thus reducing the water flow to Israel. A West Ghor Canal was included in the Johnston's Plan to provide Palestinians with water from the Jordan-River System, which

[2] The 1917 Balfour Declaration states the following: "Dear Lord Rothschild, I have much pleasure in conveying to you, on behalf of His Majesty's Government, the following declaration of sympathy with Jewish Zionist aspirations which has been submitted to, and approved by, the Cabinet. "His Majesty's Government view with favour the establishment in Palestine of a national home for the Jewish people, and will use their best endeavours to facilitate the achievement of this object, it being clearly understood that nothing shall be done which may prejudice the civil and religious rights of existing non-Jewish communities in Palestine, or the rights and political status enjoyed by Jews in any other country." I should be grateful if you would bring this declaration to the knowledge of the Zionist Federation.
Yours sincerely, Arthur James Balfour ". Available at http://domino.un.org/UNISPAL.nsf/3822b5e39951876a85256b6e0058a478/e210ca73e38d9e1d052565fa00705c61!OpenDocument , (Last visited 6th December 2009)

translates into 250 MCM/yr. This project was, however, never implemented (Isaac and Salem 2007).

Table 1: Allocations of the Jordan-River System waters, according to the 1955-Johnston's Plan,

	First Johnston Plan (MCM/yr)	Revised Plan (MCM/yr)	Present Use (MCM/yr)
Syria	50	132	153
Lebanon	-	35	7
Jordan	829	720	480
Total Arab	**879**	**887**	**640**
Israel	426	375-475	675-700**

Source: Isaac and Salem 2007

It is important to note when considering the history of the Palestinian-Israeli water conflict that prior to the establishment of the State of Israel in 1948, a special UN Committee on Palestine provided evidence that the Jews owned only 7% of the land, whereas following the creation of the State, the percentage rose to 60% (UNISPAL, 1999). Also noteworthy is the fact that following the establishment of the State, the main objective of the water plan was to divert as much water as possible outside the Jordan River Basin into a central channel leading through the coastal plain down to the northern Negev (Diabes, 2003). The National Water Carrier, which was first operated in 1964, was consequently the result of many years of planning (Figure 1). Between 1967 and September 1995, when Israel signed an agreement with the PLO regarding the interim arrangements in the West Bank and Gaza Strip, and the allocation of an additional 70-80 million cubic meter (mcm) of water to the Palestinians, the utilization of groundwater within the Occupied Palestinian Territories was governed solely by Israeli legislation and Military Orders. Even prior to 1967 since 1955 Israel was tapping into the Western Mountain aquifer, (also called Yarkon- Taninim). Today, it relies on three aquifers -- the Northeastern, the Western, and the Eastern Mountain Aquifers all of which getting

recharged from the West Bank providing approximately 40% of Israel's water supply (Niehuss, 2005). As a result, the Palestinians have constantly been denied access to their share of the Jordan River waters creating a massive imbalance in terms of water consumption (Table 2). In 1992, and after many long years of struggle, the Palestinians and Israelis finally sat down to negotiate. The aim of the Israeli-Palestinian negotiations within the Middle East peace process was, among other things, to establish a Palestinian interim self-government authority for the Palestinian People in the West Bank and Gaza Strip for a transitional period not exceeding five years, and leading to a permanent settlement based on United Nation (UN) Security Council Resolutions 242[3] and 338[4]. Since the very beginning, the negotiations have been burdened by an inequality of power. During the last 18 years of negotiations, a very little progress has been made while a common agreement on the overarching principle for the future utilization of the transboundary water resources has yet to be achieved. Additionally, the Jordan River dispute was not a part of the previous negotiations relating to water.

1.4 Other Sensitive Water Related Issues

The Water issue has been central among other topics such as the border, settlements, refugees and security in the Palestinian-Israeli negotiations since the early 1990's, but so far, modest steps forward have been completed. These highly sensitive issues will have direct effects on future water demand, an issue which is yet not solved and has been left for the final negotiations.

[3] United Nation Security Council Resolutions 242 was adopted on November 22. 1967, the Resolution calls on Israel to withdraw its army from territories occupied in the course of the 1967 War.

[4]United Nation Security Council Resolution 338 adopted on 22 October 1973, the Resolution Calls upon the parties concerned to start immediately after the cease-fire the implementation of Security Council resolution 242 (1967) in all of its parts.

Table 2: Transboundary Water Resources: Palestine and Israel (MCM per year)

Shared Water (MCM per year)	Palestine	Israel
Ground Water		
Eastern Aquifer	54 (58%)	40 (42%)
Northeastern Aquifer	42 (29%)	103 (71%)
Western Aquifer	22 (6%)	340 (94%)
Coastal Aquifer	60 (17%)	300 (83%)
Surface Water		
Wadi Gaza	0	20
Jordan River Basin	0	801
TOTAL	**~ 178 (11%)**	**~1604 (89%)**

Source: Palestinian Water Authority (PWA) 2009

1.4.1 Water and Refugees

The issue of Refugees is linked to the absolute right of Palestinians to self-determination. In accordance with the principle of self-determination, people are entitled to freely determine their political status and to practice economic, social, and cultural development.[5] Whether the final agreement will allow only some or all the refugees to return will have direct consequences in terms of the future Palestinian water demand projections. Moreover, the decision concerning where the refugees will be settled will obviously have a direct bearing on the future utilization levels of the ground water resources. With the increase in demand, refugees will undoubtedly find them-

[5] Covenants on Civil and Political Rights and Economic, Social, and Cultural Rights, 1966. Article 1 states the following:
"1. All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development. 2. All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence. 3. The States Parties to the present Covenant, including those having responsibility for the administration of Non-Self-Governing and Trust Territories, shall promote the realization of the right of self-determination, and shall respect that right, in conformity with the provisions of the Charter of the United Nations"

selves carrying a much heavier burden than at present. This particular issue, therefore, must constitute a pivotal part of the negotiations pertaining to the refugees.

1.4.2 Water and Settlements

Israel began establishing Jewish settlements in the West Bank and the Gaza Strip following the 1967 War as a means of intensifying its control of Palestinian territories from both a security and an ideological standpoint. The construction of Jewish settlements in the West Bank and Gaza Strip is a clear violation of Article 49 of the Fourth Geneva Convention,[6] which states that the "occupying power shall not deport or transfer part of its own civilian population into the territory it occupies."[7] The 1993 and 1995 Oslo Agreements[8] did not specifically prohibit the expansion of settlements but rather delayed the negotiating of borders and settlements until the final status discussions, which were due to happen by 1996.[9] Of the settlements in the West Bank, many were strategically situated so as to direct access to the Mountain Aquifer. Most alarming is the fact that each settler consumes 600 litres of water per day, which is almost ten times as much as Palestinians and nearly twice as much as the average Israeli although Israeli settlers make up only 3% of the population.[10] The main issues that need to be addressed within the permanent status negotiations regarding settlements are the impact of past water use on the part of settlements on Palestinian access to water and the option of compensation, and the effect of water and waste disposal in the settlements on the quan-

[6] The Fourth Geneva Convention relative to the Protection of Civilian Persons in Time of War. Geneva, 12 August 1949. available at http://www.icrc.org/ihl.nsf/7c4d08d9b287a42141256739003e636b/6756482d86146898c125641e004aa3c5, (Last visted November, 28. 2009)

[7] Freijat, F, Impact of Jewish Settlements on Palestinian Water, Water in Palestine: Problems-Politics-Prospects P. 155, PASSIA publication 2003

[8] The Oslo agreements available at http://www.nad-plo.org/listing.php?view=nego_nego_SiAgreem, (Last visited November, 28. 2009)

[9] Article XXXXI (7) of the Interim Agreement requires both sides to refrain from initiating or taking any step that will change the status of the West Bank and the Gaza Strip pending the outcome of the permanent status negotiations.

[10] Niehuss, J. The Legal Implications of the Israeli-Palestinian Water Crisis, Sustainable Development Law and Policy, Vol. V, issue 1, P 13-18, 2005.

tity and quality of water that is accessible to the Palestinian, bearing in mind that the Israeli settlements are illegal under international law. The settlements violate United Nations General Assembly and Security Council resolutions and any activities in this regard also violate the Palestinian-Israeli agreements and the peace process.

Figure 3: Neveh- Daniel Settlement lies between Bethlehem and Hebron, West Bank- Palestine

Figure 4: Maali-Adomim Settlement, East Jerusalem – West Bank- Palestine

1.4.3 Water and Border

In fact, there has never been a settled boundary between Palestine and Israel, which means that the boundaries must be found in the permanent status negotiations. Indeed, land and water sovereignty should not be separated. The borders to be negotiated will be those that existed prior to 1967, which means that the Palestinian Government should ultimately have sovereignty in both the West Bank and Gaza Strip.[11]It is clear that any variations regarding the borders would have either negative or positive effects depending on the changes made on Palestinian accessibility to the transboundary groundwater. However it is beyond the scope of this thesis to elaborate in detail on these water related issues, but it is important to know that any solution for these central issues will clearly have a direct bearing on the future utilization levels of the water resources in the region.

In April 2003, the United States (US) offered the 'road map' for peace in the Middle East to the former Israeli Prime Minister Ariel Sharon and confirmed Palestinian Prime Minister Mahmoud Abbas with the goal of solving the conflict between Israel and the Palestinians. All together with the European Union (EU), the UN and Russia, the US identified the 'road map' intention as "a final and comprehensive settlement of the Israeli-Palestinian conflict by 2005." The 'road map' for Israeli-Palestinian peace expired in 2005, by which time there should have been a Palestinian state and peace.

The Israeli Cabinet, in the meantime, approved a "security concept" (Separation Wall), which called for the creation of a fence east of the Green Line and around Jerusalem, a

[11] See for the legal background of this principle UNSC Resolution 181 and the Declarations of principles (DOP), Article IV: "The two sides view the West Bank and the Gaza Strip as a single territorial unit, whose integrity will be preserved during the interim period." Available at http://www.mofa.gov.ps/key_decuments/Declaration_of_Principles_on_Interim_Self.asp (Last visited 22 October 2009)

buffer zone west of the Jordan, and the continued presence of Israeli security forces in the West Bank. One of the major problems in regard to the fence is that the deviations unilaterally decided by Israel results in the occupation of more Palestinian Land. Take note, the Wall is not being built along the 'Green Line' (the pre-1967 border between Israel and the West Bank) - but rather inside the West Bank. Approximately 80% of Israel's Wall will be routed inside the occupied West Bank upon completion. In 2004, the International Court of Justice reaffirmed that the Wall and all of Israel's settlements including those in occupied East Jerusalem are illegal. The Wall itself takes the West Bank's most valuable agricultural lands and water resources, along with Palestinian East Jerusalem. Settlement expansion to the east of the Wall, and Israeli control over the Jordan Valley, will take even more of the land and resources necessary for a future Palestinian state.[12] Israel, however, continues to build the Wall and to expand the settlements in the West Bank. More recently Israel has effectively annexed the Jordan Valley about a third of the occupied West Bank - by barring almost all Palestinians from entering the region, According to the Israeli human rights group B'Tselem[13].

It is certainly no surprise that the Palestinians regard the fence as a forced border with the potential for major effect on the future Palestinian economy and accessibility of the Palestinians to their natural resources. Similarly unsurprising is the fact that the continuation of its building is regarded as a real threat to all prospects of resolution between the Palestinians and the Israelis and a main obstacle in terms of the effort to carry out the "road map" or any possible solution of the conflict.

[12] Israelis Wall, Negotiation Affairs Department, Palestine Liberation Organization, available at http://www.nad-plo.org/facts/wall/WallMagazine%207-2005.pdf, (Last visited 13, November 2009)
[13] Israel excludes Palestinians from fertile valley, Chris McGreal in Jerusalem Tuesday February 14, 2006 The Guardian available at http://www.guardian.co.uk/israel/Story/0,,1709278,00.html (Last visited 15th September. 2009)

Figure 5: Section of the Separation Wall - East Jerusalem West Bank – Palestine

Figure 6: Section of the Separation Wall - Bethlehem – West Bank – Palestine,

1.5 Objectives

In light of the current situation and based on the fact that water is scarce and highly politicized in the region. It has always been linked to power structures in Palestine, which maintain inequality among those who share the water. The struggle over water involves, not just economic and distribution issues, but central political, legal, and territorial claims as well. The main objective of this study is to introduce a holistic legal approach to solve the Palestinian Israeli conflict over water, and to overcome one of the destabilizing factors between the parties; the solution must be just and sustainable over long term. Furthermore the research aims to contribute to the question of how to achieve the two state solution with a viable Palestinian state. Following are the questions, answers to which I will detail in subsequent sections:

1. What lessons could be learnt from the past agreements?
2. What is the role of international trans-boundary water laws and their application in solving the problem? And;
3. What is the role of the newly adopted Draft articles (December 2008) on trans-boundary aquifers in the Palestinian Israeli water context? Is there something new in it?
4. What are the modern instruments used to manage trans-boundary water resources?
5. What is the best way to come out of the current situation, and achieve a settlement of the conflict?

This thesis has three intentions: first, it presents a general insight into the historical and current hydro-political situation existing in Israel and Palestine and their influence on

politics in general; second, it presents the method used for accomplishing the objectives of the study, which is divided into four parts. The first part presents the Palestinian Israeli agreements and lessons acquired of them, the second part analyzes the implication of international law on resolving the trans-boundary water disputes, the third part introduces the benefit the sharing concept which could be integrated as a successful tool to achieve effective cooperation where there are political obstacles; this part highlights the development within international transboundary water law of the newly adapted draft articles on trans-boundary aquifers; the fourth part introduces the Palestinian Israeli position and claims on water.

The third intention is to present a holistic approach to resolve the Palestinian Israeli water conflict and to establish foundations for sustainable trans-boundary arrangements over water; it advocates the importance and the beneficial role of international trans-boundarie water law, as well as the benefit of the sharing concept in solving the Palestinian-Israeli conflict.

2. Legislations and Political Overview

2.1 Background

Throughout history, water policies and legislations in historical Palestine were introduced by different governments and occupying forces, including customary, Ottoman, Mandate, Jordanian, Egyptian and Israeli Military Orders. Both the West Bank and Gaza Strip have been under the jurisdiction of a number of rulers each of which enforced its laws with the intention of furthering their interests and control over the water sector (Husseini, 2004 and Diabes 2005).

The West Bank and Gaza Strip do not form a contiguous geographical unit and were, at times, also separate legal units. Both areas were under the Ottoman Rule until the end of the First World War, then came under British Military control (1918-1920), under a British Civil Administration (1920-1922) and subsequently became a part of the British Mandate proclaimed by the League of Nations in 1922. The West Bank and Gaza Strip were separated in May 1948 after the end of the British Mandate and the creation of the State of Israel. During the 1948 War, the West Bank came initially under the Jordanian Military Rule and was consequently incorporated in the Hashemite Kingdom of Jordan in 1950. After the 1967 War the West Bank was governed by an Israeli Military Commander as a separate entity from the Gaza Strip, which had its own Military Commander. The legal norms applied by the Israeli Military Commander were based upon laws, which were in force in the West Bank on 5 June 1967. Following the 1948 War, the Gaza Strip came under Egyptian Military Rule (PWA, 2009). The Egyptians did not view the Gaza Strip as part of Egypt, and refrained from incorporating the Gaza Strip into Egypt, maintaing it as a separate legal unit subject to Egyptian Military Rule and

Orders proclaimed by the Military Commander. Therefore the laws of Egypt were not applied to the Gaza Strip, and pre-existing legal norms, insofar as they were not amended by orders of the Egyptian Military Commander, remained in force in the Gaza Strip. Following the 1967 War when the Gaza Strip came under Israeli Military Rule, a Military Commander was appointed for the Gaza Strip, and the pre-existing legal norms were maintained. Thus the two areas were governed by seperate legal norms. Since June 1959, the Israeli government has ruled by taking full control over the Occupied Palestinian Territories (OPT) and their inhabitants through military orders. The legal framework that existed prior to 1967 was not kept, and existing institutions have also been modified or replaced to serve the Israeli water policies.[14]

2.2 Ottoman Legislation, 16th Century-1918

Since the beginning of the 16th century, the Ottomans ruled Palestine applying principles of the Shari´a (Muslim religious law) into the legislation regarding water (Diabes, 2003). The basic principle of Islamic water law is that water is public or a communal commodity, a 'gift of God' which can not be owned. It is one of the three things that every human is entitled to: grass (pasture for cattle), water, and fire (De Chatel, 2004).

1.3 British Mandatory Law in Palestine (1922-1948)

In fact the water legislation for the period of the British mandate did not repeal the Ottoman water legislation[15]. However several new laws were issued. In 1937, for example,

[14] 39th session of the UNGA, Permanent Sovereignty over National Resources in the Occupied Palestinian and other Arab Territories, Report of the Secretary General, A/39/326 E/1984/111, 29 June 1984

[15] Article 46 of the 1922 King's Order in Council proclaimed that "The jurisdiction of the Civil Courts shall be exercised in accordance with the Ottoman Laws in force in Palestine on 1st November 1914, and

the High Commissioner of Palestine passed Law No. 17, the 'Law of protecting projects of public water', which ruled that any operations related to groundwater abstraction or the construction and rehabilitation of wells would require a permit. Another law, Law No. 2 of 1938, titled "Law on water resources inspection", which gave the High Commissioner the authority to enter land and conduct the necessary tests for discovering groundwater.

1.4 Jordanian Legislation in the West Bank (1948-1967)

Ottoman water laws with the British Mandatory laws remained in force in all the areas in which the Jordanian army was present. The Jordanian Government issued between 1952 and 1966 a number of legislations in the field of water resources use, development and management. Some of these laws among others, Law No. 38 for 1946 and No. 40 for 1952 on Land and Water Settlement, Law No.31 for 1953 on water supervision, Law No.29 for 1955, and Law No.9 for 1966 on the Organisation of Matters of Drinking Water in Jerusalem.

2.5 Israeli Water Legislations

The management of Israel's water is governed by a number of laws, and water law 571-1959 is the core piece of legislation. Other laws include the Water Management Law, 5715-1955, the Water Drilling Law, 5715-1955, the Streams and Springs Authorities

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such Ottoman Laws as have been or may be declared in force by Public Notice, and such Orders in Council, Ordinances and Regulations as are in force in Palestine at the date of the commencement of this Order, or may hereafter be applied or enacted". League of Nations, The Palestine Order in Council, 10 August 1922. available at http://domino.un.org/UNISPAL.NSF/361eea1cc08301c485256cf600606959/c7aae196f41aa055052565f50054e656!OpenDocument, (Last visited October, 4. 2009)

Law, 5725-1965, and the Drainage and the Flood Control Law 5718-1957 (Deconinck 2002).

Additionally, there is no private ownership to water but only the private right to use water, with the right to water allotment being linked to one of the beneficial uses set out in Section 6 of the Water Law. The change in ownership does not effect the right to the water of the irrigated land. Moreover, the right to a water allotment is not a personal right; this implies that the land owner is not entitled to transfer the water entitlement from one area to another but a right that is attached to a particular use at a particular location (Dillman, 1989). According to the Water Law, there are various licenses required for various purposes, namely, the production license, the recharging license, the drilling license, and the construction license. In areas that have been declared rationing areas, the water commissioner has the authority to provide water to a consumer from a different source without any compensation to any person effected by his decision. In addition, according to the law, the Minister of the Infrastructure has the authority to declare any regional water supply system as state property, while the ministry is entrusted with the task of calculating the actual cost of supplying water (CESR, 2003).

It should be mentioned here that the rules and regulations governing the use and development of water resources and water related matters issued by Jordan prior to 1967 remained in effect even after 5 June 1967. But according to Israeli proclamations to that date, they could be subjected to changes introduced by the Military Commander (CESR, 2003).

2.5.1 Israeli Military Orders

From 1967 onward, Israel took control over all water resources in the OPT by a series of military orders that imposed new laws in the water sector, including the forbidding of new wells construction by Palestinians without permission from the area Israeli Military Commander. These military orders are illegal according to international humanitarian and human rights law.

Military Order 92 (15 August, 1967)

By this order, Israel transferred all administrative, executive, judicial and monitoring in the West Bank and Gaza Strip from the various governors, municipalities and village councils to a single person, an Israeli official appointed by the military commander who is appointed by the area military commander. This official is responsible for granting, stopping or monitoring water uses and setting quotas. Furthermore, he also has the power to stop the activities of all water entities, and form alternative ones with members who would be appointed by himself (CESR, 2003)

Military Order 158 (19 November, 1967)

This Military Order was adjusted from the existing Jordanian Water Monitoring Law, and it prohibited the construction of any new water infrastructure without a permit. Permits could be granted only upon approval from the official appointed by the area military commander. The order granted this official the right to refuse a permit and re-voke or amend existing licenses without justification. Furthermore, the order does not contain any mechanisms for appeal against the official's decisions (Hussaini, 2004)

Military Order 291 (19 December, 1968)

Concerning settlements of disputes over land and water, Military Order 291 brought all surface and groundwater under public ownership to be Israeli State property and stated that all prior and current water dispute settlements were invalid, thereby increasing the already considerable jurisdiction of the military commander. Worthy of mention in this

regard is the facts that the Israelis have granted themselves all rights for dealing with all aspects of water management and use in the OPT (ARIJ, 2005).

2.6 Palestinian Authority water legislation 1995-Present

Upon the signing of the Declaration of Principles (DOP) and the 1995 Interim Agreement, the Palestinian Authority (PA) inherited an extremely weak water sector characterized by serious institutional fragmentation following from decades of occupation. Deterioration in terms water access and quality are still common, and the legal framework and rights pertaining to relevant institutions are unclear (Hussaini, 2004). The increasing demand for this valuable resource has obligated the Palestinian government to secure additional quantities of water, increase the efficiency of the performance of water supply systems, and attempt to solve the obvious technical limitations to achieve sustainable development, all within a water situation which is politically unique. Accordingly, the demand will have to be, for the time being, tailor-made to fit water allocations that are compatible with the agreements in force (Diabes 2003). In order to face the above mentioned challenges, and to stand a chance of achieving sustainable development in the water sector, the PA has been obliged to take a number of measures aimed at minimizing the damaging effects of the current political situation on Palestinian water resources. As things stand at present, the enforcement of water legislation and policies depend on the adequacy and responsiveness of the regulations and on the administrative machinery required to ensure compliance. Parallel to the enforcement of the legislation concerned, due consideration must be given to alternative measures such as introducing incentives to encourage Palestinian users to comply with the various laws and regulations (Hussaini, 2004). Concerning the Palestinian access to water until 1995, only a few drilling and extraction licenses were granted to enhance the supply within Palestin-

ian communities, which meant that the natural increase in water demand due to population growth and industrial and agricultural expansion had to be satisfied from the wells that had already existed prior to occupation.

In 1992, after many long years of struggle, the Palestinians and Israelis finally sat down to negotiate. The main objective of the Israeli-Palestinian negotiations, within the current Middle East peace process, was to establish a Palestinian interim self-governed authority for the Palestinian People in the West Bank and Gaza Strip for a transitional period not exceeding five years. That self-governed entity should ultimately lead to a permanent settlement based on the United Nation (UN) Security Council Resolutions 242[16] and 338[17]. A very little progress has been made during the last 18 years of negotiations, while a common agreement on the overarching principle for the future utilization of the trans-boundary water resources has yet to be achieved. Worthy of mention is the fact that the Jordan River dispute was not a part of the previous negotiations relating to water.

2.7 Political Related Issues

2.7.1 Background

Israel occupied the West Bank including East Jerusalem and the Gaza Strip in the 1967 Six-Day War; from that time, Israel has taken control over all Palestinian territory. The international community regards the status of the territory in question as illegal occu-

[16] United Nation Security Council Resolutions 242 was adopted on November 22. 1967, the Resolution calls on Israel to withdraw its army from territories occupied in the course of the 1967 War.
[17] United Nation Security Council Resolution 338 adopted on 22 October 1973, the Resolution Calls upon the parties concerned to start immediately after the cease-fire the implementation of Security Council resolution 242 (1967) in all of its parts.

pied territories. The Hague Conventions of 1899[18] and 1907 (IV)[19] and the Geneva Convention of 1949[20]encompass the principal sources of the international law of belligerent occupation, which is obviously applicable to the present situation. No other state recognizes Israeli sovereignty over these territories; Israel is regarded as a belligerent occupant of these territories.

A variety of viewpoints exist regarding the capability of the existing laws of war in term of dealing with environmental matters. It is however beyond the scope of the thesis to elaborate on these views, but it is important to know that the codified customary laws, insofar as they have been environmental safeguards, have been mostly concerned with the priority to preventing damage.[21] It should be highlighted at this point that the adoption of these legal instruments does not reduce the role of international law.[22] Article

[18] The Hague Convention on land Warfare of 1899, American Journal of International Law, Vol. 1, 29 July, Treaty Series No. 9.

[19] Hague Convention (IV), Respecting the Laws and Customs of War on Land, and its annex: Regulation Concerning the Laws and Customs of War on Land (entered into force 26 January 1910). This Convention replaced the 1899 Convention on Land and Warfare.

[20] The Geneva Conventions: Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field; Convention (II) for the Amelioration of the Condition of the Wounded, Sick, and Shipwrecked Members of Armed Forces at Sea; Convention (III) Relative to the Treatment of Prisoners of War. Adopted in Geneva 12, August 1949, avialable at http://www.icrc.org/Web/Eng/siteeng0.nsf/html/genevaconventions (last visited 10, November 2009)

[21] Protocol I to the 1949 Conventions is also considered as representing customary international law, namely article 55 - Protection of the natural environment - 1. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population. 2. Attacks against the natural environment by way of reprisals are prohibited.

[22]In Article 1(2) of Protocol 1 of the Geneva Convention:" In cases not covered by this Protocol or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from dictates of public conscience" Available at http://www.icrc.org/ihl.nsf/7c4d08d9b287a42141256739003e636b/f6c8b9fee14a77fdc125641e0052b079 , (Last visited 12, November 2009). See also the opening of the 1910 Hague Convention: "Until a more complete code of the laws of war has been issued, the High Contracting Parties deem it expedient to declare that, in cases not included in the Regulations adopted by them, the inhabitants and the belligerents remain under the protection and the rule of the principles of the law of nations, as they result from the usages established among civilized peoples, from the laws of humanity, and the dictates of the public conscience. They declare that it is in this sense especially that Articles I and 2 of the Regulations adopted

1(2) of Protocol 1 of the Geneva Convention states the following: "In cases not covered by this Protocol or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience. "[23]

2.7.2 Palestinian Sovereignty

Modern international law presupposes the structure of co-equal sovereign States. Schreuer (1993) indicates

> "*Diplomatic relations are conducted between States. Official arenas, like international organizations and international courts, are largely reserved to states, ….central concepts of international law, like sovereignty, territorial integrity or permanent sovereignty over natural resources all rely on the exclusive or dominant role of the State*."

The sovereignty of a state is compromised when it is under the control of a belligerent occupation by enemy forces; its governmental institutions no longer operate or are subject to the orders of the occupying power. Governments in exile may be capable of continuing to carry out their state sovereignty; however effective governance depends on the efficiency of such an exercise given the specific circumstances (Encyclopaedia of International Law, 2000). Additionally, according to the 1910 Hague Convention, an occupier has limited authority over the occupied territory whereas sovereignty remains with the original people:

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must be understood", Available at http://www1.umn.edu/humanrts/instree/1907c.htm , (Last visited 12, November, 2009).

[23] Article 1(2) of Protocol 1 of the Geneva Convention , Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts, available at http://www.unhchr.ch/html/menu3/b/93.htm, (Last visited 02, November 2009)

> "*The authority of the legitimate power having in fact passed into the hands of the occupant, the latter shall take all the measures in his power to restore, and ensure, as far as possible, public order and safety, while respecting, unless absolutely prevented, the laws in force in the country"* (Article 43).

2.7.3 The United Nations' Role

The binding characters of the resolutions that are adopted by the United Nation General Assembly (UNGA) are greatly debated and are not generally considered a confirmation of the rules and principles that are internationally accepted as law. They may, however, be regarded as a possessing a "normative" (e.g. law-making) value (Vinogradav et al 2003). These acts can often serve as evidence of customary international law. There is also a strong presumption that if a resolution is a declaration of an already existing law, then it merely confirms the law, which, in any case, must be considered binding. Resolutions with less than unanimous support are obviously more questionable. In the Palestinian context, many of these resolutions confirm that the right to self-determination is an inalienable right that all people should be allowed to enjoy. This principle has been confirmed as such in Article 1(2) of the UN Charter and in numerous other international documents.[24] The numerous resolutions passed by the UNGA and the creation of the UN Committee on the Exercise of the Inalienable Rights of the Palestinian People by the Assembly in 1975 are consequently obvious evidence of the common recognition of the right of the Palestinians to self-determination.[25] Worthy of mention is the fact that

[24] Article 1(2) of the UN Charter, which interred into force on 24 October 1945, when there were 51 original members (today, 157), states the following: "To develop friendly relations among nations based on respect for the principle of equal rights and self-determination of peoples, and to take other appropriate measures to strengthen universal peace" Available at http://www.un.org/aboutun/charter/chapter1.htm, (Last visited 12, November 2009)

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[25] The relevant UNGA and UNSC resolutions are as follows: UNGA Resolution, A/RES/181(II) (A+B), 29 November 1947, Future Government of Palestine (Termination of Mandate and partition); UN GA/RES/194 (III), 11 December 1948, UNSC Resolution S/RES/242 (1967), 22 November 1967, and UNSC Resolution S/RES/338, 22 October 1973, UNGA Resolution A/RES/3376 (XXX), 10 November 1975, UNGA ResolutionA/RES/59/1793 May 2005, and UNGA Resolution A/RES/60/146, 14 February 2006. All these Resolutions found at United Nations Information System on the Question of Palestine , available at http://domino.un.org/UNISPAl.NSF/frontpage5!OpenPage,

the Secretary General of the UNGA produced several reports with regard to the Israeli practice in the Occupied Palestinian Territories (OPT) and Israelis obligations under International Law, particularly the Hague Convention IV (1907) and the Geneva Conventions of 1949.[26] Furthermore, many UNGA resolutions that were adopted reaffirmed the inalienable rights of the Palestinian people in relation to their natural resources, including land and water.[27] In its latest resolution of 14 February 2006,[28] the UNGA once again reaffirmed these inalienable rights and called upon Israel, the occupying power, not to exploit, to cause loss or depletion of or to endanger the natural resources in the OPT, including Jerusalem, and in the Occupied Golan Heights.[29] In the resolution, the Assembly also recognized the right of the Palestinian people to claim restitution[30] as a result of any exploitation, loss or depletion of, or danger to, their natural resources, and expressed the hope that the issue would be dealt with in the framework of the final

[26] UNGA Social and Economic Council, Documents A/40/381, June 1985, and A/55/84, June 2000.

[27] UNGA Resolutions Resolution No. 3175 (XXVIII) of 17 December 1973, 3336 (XXIX) of 17 December 1974, 3516 (XXX) of 15 December 1975, 31/186 of 21 December 1976, 32/161 of 19 December 1977, 34/136 of 14 December 1979, 35/110 of 5 December 1980, 36/173 of 17 December 1981, 37/135 of 1982, 38/144 of 198351/190 of 1996, and 52/207 of 1997.

[28] UN Doc. A/RES/60/146, which states the following "*Reaffirms* the right of the Palestinian people to self-determination, including the right to their independent State of Palestine; Urges all States and the specialized agencies and organizations of the United Nations system to continue to support and assist the Palestinian people in the early realization of their right to self-determination" available at http://domino.un.org/UNISPAL.NSF/a06f2943c226015c85256c40005d359c/ad2baf33e733f3348525712900571972!OpenDocument , (Last visited 15, November 200)

[29] Golan Heights is belonging to Syria, which was occupied by Israel in 1967

[30] UNGA Resolution A/RES/58/229 of 25 February 2004, which states the following "Recognizes the right of the Palestinian people to claim restitution as a result of any exploitation, loss or depletion of, or danger to, their natural resources, and expresses the hope that this issue will be dealt with in the framework of the final status negotiations between the Palestinian and Israeli sides" Available at http://domino.un.org/UNISPAL.NSF/0/dd75d43dbbd4c8a885256e67006bd2ee?OpenDocument, (Last visited 12, November 2009). See Also the International Law Commission (ILC) Draft articles of A/CN.4/L.600, 11 August 2000, Article 31 (1) States the following: "The responsible State is under an obligation to make full reparation for the injury caused by the internationally wrongful act". Article 36 go further "A State responsible for an internationally wrongful act is under an obligation to make restitution, that is, to re-establish the situation which existed before the wrongful act was committed, provided and to the extent that restitution: (*a*) Is not materially impossible; (*b*) Does not involve a burden out of all proportion to the benefit deriving from restitution instead of compensation http://daccessdds.un.org/doc/UNDOC/LTD/G00/632/25/PDF/G0063225.pdf?OpenElement, (Last visited 14, December 2009). The principle was also stated by the Permanent Court of International Justice (the predecessor to the International Court of Justice) in the *Chorzów Factory* case (Germany v. Polen), in which the PCIJ found, It is a principle of international law and even a general conception of law, that any breach of an engagement involves an obligation to make reparation […] Reparation is the indispensable complement of a failure to apply a convention and there is no necessity for this to be stated in the convention itself. PCIJ, *Chorzów Factory*, 13 September 1928, (Series A, No. 17).

status negotiations between the Palestinian and the Israeli sides. The resolution also reaffirmed the need for an immediate resumption of the negotiations within the Middle East peace process, on the basis of UN Security Council (UNSC) Resolutions 242 of 22 November 1967, 338 of 22 October 1973, the 425 of 19 March 1978, and the principle of land for peace, as well as the achievement of the final settlements on all tracks (PWA 2009). Unfortunately since resolutions 242 and 338, the United Nations Security Council has taken no major steps to end the Israel-Palestine conflict. US influence has, in general, kept the issue off the Council's agenda. When Council members have introduced resolutions, responding to the illegal Israeli actions, the US has time and again used its veto to protect Israel. The United Nation General Assembly has taken a more active role in the conflict, yet its resolutions are non-binding and have mainly symbolic weight.

2.7.4 The State of Israel in relation to the State of Palestine

The Partition Plan[31] was accepted by a majority vote of the United Nations General Assembly (UNGA) on 29 November 1947, mostly due to the influence of the United States. Israel agreed to the plan and was thus granted UN membership; the Arab States, on other hand, rejected it, and Palestine for that reason, was never proclaimed at the end of colonialism (Figure 3). In 1967, the strain between Israel and its neighbors erupted into the Six-Day War. Israel won the war and as a result, Israel now occupies the West Bank including East Jerusalem, the Gaza Strip, and the Golan Heights.

[31]In 1947, the British intended to give up the Mandate and requested that United Nations determine the future boundaries of Palestine, The UN Special Commission proposed the partition of Palestine into an Arab state on 43% of the land and a Jewish state on 56%, with Jerusalem in an international zone. See Map 2(annexes)

On 22 November 1967, the United Nations Security Council (UNSC) passed Resolution 242, which calls on Israel to withdraw from territories occupied in the Six-Day War of 1967. In addition UNGA Resolution 181 of 1947 provides the legal basis for Israeli and Palestinian statehood and mandates full equality and human rights for all citizens of both the State of Israel and the State of Palestine. On 12th March 2002, the UNSC adopted the Resolution Number 1397, stating " the Council affirmed a vision of a region where two States, Israel and Palestine, lived side by side within secure and recognized borders."[32] Although it is beyond the scope of this thesis to elaborate in detail on the issue of Palestinian statehood, it is important to know whether international law could actually serve as a basis for resolving the conflict since Palestine is not yet formally a state.

2.7.5 Palestinian Declaration of Independence

On 15th November 1988, the Palestine National Council meeting in Algiers proclaimed the existence of the new independent state of Palestine. The PLO,[33] the national liberation movement of the Palestinian people, acknowledged in its Proclamation of Independence[34] all UN Resolutions since 1967, while rejecting violence and recognising Israel's right to exist. As an affirmation of the PLO's intentions, the proclamation asserts the following:

> *The State of Palestine proclaims its commitment to the principles and purposes of the United Nations, and to the Universal Declaration of Hu-*

[32] Resolution 1397 (2002) Adopted by Vote of 14 in Favour to None against, with 1 Abstention (Syria)

[33] The PLO, the coordinating council for Palestinian organisations, founded in 1964 at the first Arab summit meeting, which is composed of different political groups and factions.

[34] PLO Proclamation of Independence, Algiers 1988. more than 114 States have already recognised the proclaimed state of Palestine, while only 93 maintain some diplomatic relations with Israel. Moreover UNGA Resolution 43/177 (December 15, 1988) acknowledges the 1988 Palestinian proclamation of a Palestinian state as consistent with UNGA Resolution 181, and according to its observer state status throughout the UN organisation. The Resolution was adopted by a vote of 104 in favour, with US and Israel apposing and 44 states abstaining.

> *man Rights. It proclaims its commitment as well to the principles and policies of the Non-Aligned Movement. It further announces itself to be a peace-loving State, in adherence to the principles of peaceful co-existence. It will join with all states and peoples in order to assure a permanent peace based upon justice and the respect of rights so that humanity's potential for well-being may be assured, an earnest competition for excellence be maintained, and in which confidence in the future will eliminate fear for those who are just and for whom justice is the only recourse.*

Simultaneously, the State of Palestine committed itself to the principle and purpose of the UN and to the Universal Declaration of Human Rights as well as the principles and policies of the Non-Aligned Movement.

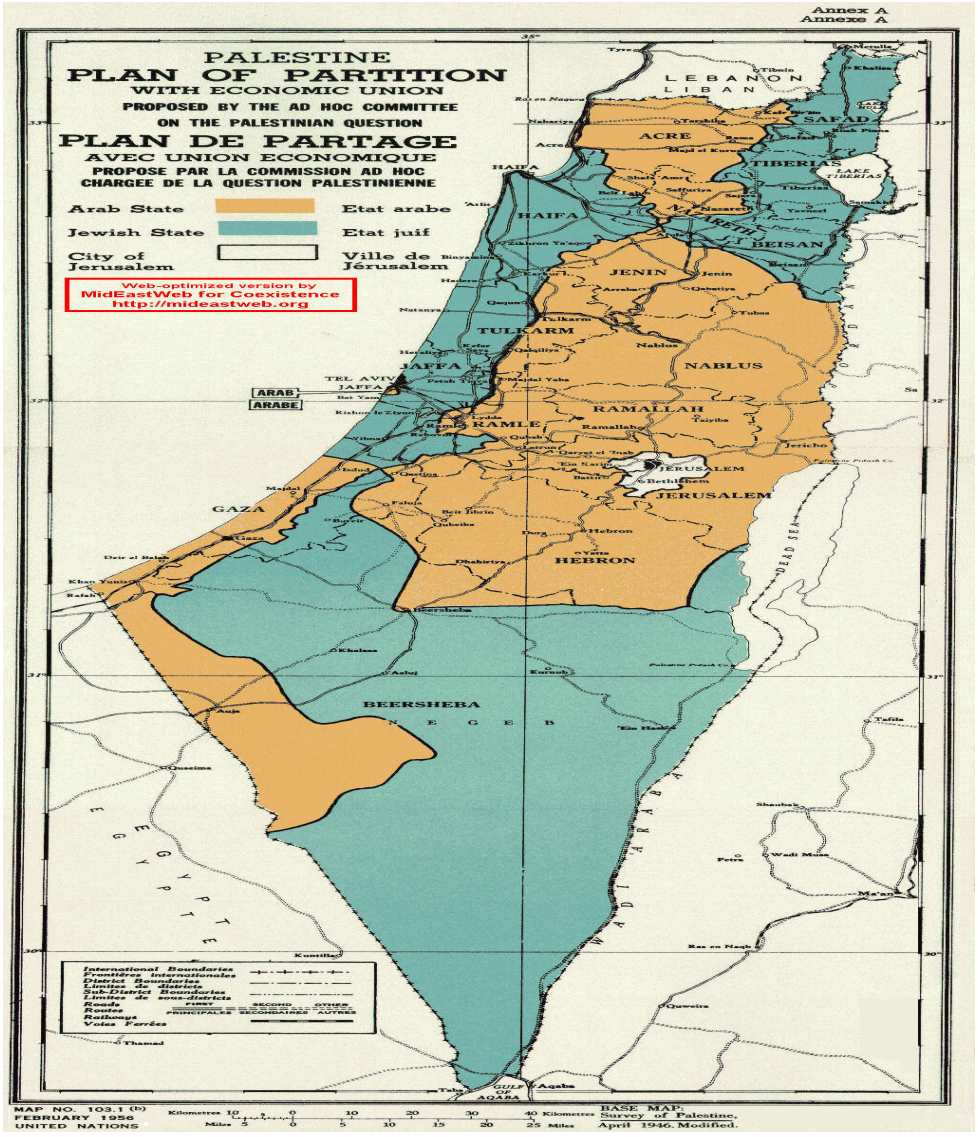

Figure (7): Partition Plan Map
Source: MidEast Web (2009)

The proclamation states that the state of Palestine believes in the settlement of regional and international disputes by peaceful means, in accordance with the UN Charter and the UN resolutions**.** In April 2003, the United States (US) offered the "road map" for peace in the Middle East to both sides with the goal of solving the conflict between Israel and the Palestinians. Together with the European Union (EU), the UN and Russia, the US designed the 'road map' as "a final and comprehensive settlement of the Israeli-Palestinian conflict by 2005." The 'road map' for Israeli-Palestinian peace expired in 2005, by which time there should have been a Palestinian state, and peace.

The Israeli Cabinet, in the meantime, approved a "security concept" (Separation Wall), which called for the creation of a barrier east of the Green Line and around Jerusalem, a buffer zone west of the Jordan, and the continued presence of Israeli security forces in the West Bank. One of the major problems in regard to the barrier is that the deviations unilaterally decided by Israel result in the occupation of more Palestinian Land. To reiterate, the Wall is not being built along the 'Green Line' (the pre-1967 border between Israel and the West Bank), but rather inside the West Bank. Approximately 80% of Israel's Wall will be routed inside the occupied West Bank upon completion. In 2004, the International Court of Justice reaffirmed that the Wall and all of Israel's settlements including those in occupied East Jerusalem are illegal. The Wall itself takes the West Bank's most valuable agricultural lands and water resources, along with Palestinian East Jerusalem. Settlement expansion to the east of the Wall and Israeli control over the Jordan Valley will take more of land and resources necessary for a future Palestinian state (PWA, 2009). Israel, however, continues to build the Wall and to expand the settlements in the West Bank. More recently Israel has effectively annexed the Jordan Valley - about a third of the occupied West Bank - by barring almost all Palestinians from entering the region, according to the Israeli human rights group B'Tselem.

3. Methodology

The method used for accomplishing the objectives of the work was divided into three main parts. The first part addresses the past agreements and to highlights lessons learnt. Part two indicates the international trans-boundary water law application and how this governs the utilization of water. Part three presents the benefit sharing concept which integrates international law to achieve the desired outcome of the objectives.

3.1 Water and Israeli-Palestinian Agreements

On 10th September 1993, Israel and the PLO exchanged letters of mutual recognition. The PLO recognized Israel's right to exist, and Israel recognized the PLO as the representative of the Palestinian people. Three days later, on the 13th September 1993, at the White House in Washington D.C., in the presence of US President Bill Clinton and Russian Foreign Minister Andrei V. Kozyrev, Israeli and PLO representatives signed the Declaration of Principles on Interim Self-Government Arrangements (Obidallah, 2006).[35] Following the signing, Israeli Prime Minister Itzhak Rabin and PLO Chairman Yasser Arafat shook hands.[36]

The Accord stated, among other things, that the aim of the Israeli-Palestinian negotiations was to establish a Palestinian Interim Self-Government Authority, an and elected Council for the Palestinian people in the West Bank and the Gaza Strip for a transitional period not exceeding five years, and leading to a permanent settlement based on the Security Council Resolutions 242 (1967) and 338 (1973). The issues of Jerusalem, refugees, settlements, security arrangements, borders, relations and cooperation with other

[35] Appendix 1 : Declaration of Principles on Interim Self-Government Arrangements 13 September 1993

[36] UN, Chapter 7, Search for peace settlement and the role of the United Nations

neighbours, were deferred to the permanent status negotiations phase, which should start no later than the beginning of the third year of the interim period.

3.1.1 The Declaration of Principles (DOP), 1993

Under the Declaration of Principles (DOP) of the Oslo Accords,[37] the issue of water was included under Annex III: The Protocol on Israeli-Palestinian cooperation in economic and development programs. Through the creation of the Israeli-Palestinian Committee for Economic Co-operation, a joint water development program was called for in order to "specify the mode of cooperation in the management of water resources in the West Bank and Gaza Strip," and was to be responsible for the preparation of proposals for studies and plans on water rights of each party, as well as on the equitable utilization of joint water resources for implementation in and beyond the interim period.[38] The DOP provided an introductory framework for cooperation and coordination and clearly brought to the fore the need of "equitable utilization" of joint resources. To enable this, a Joint Water Committee was established to be the main vehicle for water co-operation. The Economic Development Programme of the West Bank and Gaza Strip includes the development of water infrastructures. At the regional level, the program involves the development of a joint Israeli-Palestinian-Jordanian Plan for coordinated exploitation of the Dead Sea area, the Mediterranean Sea (Gaza) - Dead Sea Canal, Regional desalinization and other water development projects.[39]

[37] DOP called also as Oslo Agreement

[38] Annex III paragraph 1 states the following: "Cooperation in the field of water, including a Water Development Programme prepared by experts from both sides, which will also specify the mode of cooperation in the management of water resources in the West Bank and Gaza Strip, and will include proposals for studies and plans on water rights of each party, as well as on the equitable utilization of joint water resources for implementation in and beyond the interim period."

[39] Annex IV of the DOP: "Protocol on Israeli Palestinian Cooperation Concerning Regional Development Programs"

The significance of the DOP lies in its reference to the necessity for cooperation and coordination on water issues within and beyond the interim period. It was considered the benchmark for future negotiations (Diabes 2005). Theoretically, the institutional mechanism that was proposed within the DOP allows for dialog between the two parties on crucial matters pertaining to water. The DOP is the only official document wherein both parties agreed to undertake studies and prepare proposals on the "equitable utilization" of joint resources form the implementation in and beyond the Interim Agreement discussed below.

3.1.2 The Gaza-Jericho Autonomy Agreement, 1994

This Agreement[40] dealt with the water issue in the context of environmental protection and prevention of environmental risks, hazards and nuisances. The Agreement allowed for new wells to be drilled on condition that they cause no harm for existing Israeli utilization.[41] The Agreement applies only to the water and wastewater resources and systems in the Gaza Strip and Jericho Area. It clearly confirms the need for Israel and the Palestinians to adopt, and ensure compliance with internationally recognized standards concerning acceptable levels of land, air, water, and sea pollution, and acceptable levels of treatment and disposal of solid and liquid wastes. The two parties agreed to establish a subcommittee to deal with all issues of mutual interest including the exchange of all data relevant to the management and operation of the water resources and systems, and the mutual prevention of harm to water resources. The Agreement focuses on the "no harm principle," and the continuation of the current Israeli water entitlement

[40] This agreement also called Cairo Agreement or Oslo I Agreement

[41] Annex II of the Interim Agreement, Protocol Concerning Civil Affairs, Article 2, paragraph 31 states the following: "Without derogating from the powers and responsibilities of the Palestinian Authority, the Palestinian Authority shall not adversely affect these quantities. Israel shall provide the Palestinian Authority with all data concerning the number of wells in the Settlements and the quantities and quality of the water pumped from each well, on a monthly basis."

more than any other international water law's substantive or procedural rules. The institutional mechanism established is an "Environmental Expert Committee" for coordination of environmental issues, and is to be convened as the need arises.

3.1.3 The Interim Agreement on the West Bank and the Gaza Strip, 1995

Within the Interim Agreement[42] on the West Bank and Gaza Strip, both parties recognized the need to protect the environment and utilize natural resources on a sustainable basis. The sphere of cooperation includes sewage, solid waste and water. Both parties agreed to strive to utilise the natural resources, pursuant to their own environmental and developmental policies, in a manner, which shall prevent damage to the environment, and shall take necessary measures to ensure that activities in their respective regions do not cause damage to the environment of the other party.

The Agreement explicitly states that Israel recognizes Palestinian water rights, which will be negotiated in the permanent status negotiations.[43] The nature of these rights was not identified, nor were the overarching principles governing the rights and obligations of both parties set out in the text. Appendix I of Annex III Article 40 of the Interim Agreement deals with water allocation only to fulfill the immediate needs of the Palestinians, and gives no due consideration to the principle of equitable and reasonable utilisation of the water resources by Palestine and Israel. The two parties agreed to establish a Joint Water Committee (JWC) as an institutional mechanism for the interim period. The main aim of the JWC is to undertake the implementation of Article 40. It was further agreed that decisions of the JWC should be reached by consensus including the agenda, the procedures, and other matters. At this point it is important to note that under

[42] This agreement also called as Taba Agreement or Oslo II Agreement. See Appendix tow
[43] See Annex 2: Oslo II Interim Agreement; Annex III, Article 40: Sewage and Water Washington; D.C., 28 September 1995

this agreement the West Bank was divided into three areas, each with varying degrees of Israeli and Palestinian responsibility, Area A consists of the seven major Palestinian towns, Jenin, Kalkiliya, Tulkarem, Nablus, Ramallah, Bethlehem and Hebron, in which Palestinians will have complete authority for civilian security; this area comprises 17.2 % of the West Bank. Area B, which comprises all other Palestinian population centres (except for some refugee camps), and 23.8%, which remained under Israeli military occupation, however, the PA became responsible for services and civil administration. Area C has 59% and includes all settlements, military bases and areas, which remained under exclusive Israeli civil and military administration (PWA 2009). Areas A, B and C were considered operational until late 2001, after which Israeli military incursions and reoccupations eroded the currency of the juridical divisions. Israel had retained overall security responsibilities for all areas including the right to 'hot pursuit' into Area A throughout the Oslo process

3.1.4 Summary

So far the water conflict has been addressed with no reference to the principles of international water law. The existing inequitable utilization of the international water resources has been considered to "de facto" establish water rights, and the "no harm principle" is the overarching principle applied by at least the Israeli negotiators. The international legal rule of equitable and reasonable utilization is not the leading principle in any of the signed agreements, and is not found specifically in the Interim Agreement. The Israeli-Palestinian agreements do not include the obligation for Watercourse States to recognize the integrity of the drainage basin as an integrated whole that should be equitably and reasonably utilized by all Watercourse States. Mutual understanding and cooperation are also key issues which were ignored in the current agreements. Instead, cooperation agreements were designed to ensure that the status quo of current utilization

is maintained. Only additional supplies to serve the urgent water needs were allocated for the Palestinians in Article 40; these will be delivered from the Eastern Aquifer Basin and any other agreed sources. The agreement emphasises Israeli recognition of Palestinian water rights in the West Bank, but gives no definition of these rights. Furthermore, there is no agreement on the overarching legal principles that will govern the rights and obligations of both parties. The negotiations on these rights were postponed for the permanent status agreement negotiations. The signed agreements have shown the difficulty of the situation and the dissimilarity in the power arrangement that has favoured the Israelis. Decision-making within the JWC was unilateral, always dependent on the impact of the proposed Palestinian projects to the status quo of the current Israeli utilization. The "no harm principle" was the dominant factor applied in the Israeli evaluation, and resulted in the rejection of the Palestinian projects and plans. In the past, the Palestinians developed only 12 mcm out of 80 mcm (Minutes of Meetings of the JWC between 1996-2000). The repeated Israeli claim that these projects cause harm to current Israeli utilization is a major obstacle for the successful implementation of the agreement. The Israeli-Palestinian agreements on water are unjust and inequitable and do not go beyond temporary solutions for these crises, nor do they create a sustainable and permanent solution.

3.2 International Law Application

3.2.1 Brief Review of International Law

International law is defined as a system of principles and rules of general application governing the conduct and relations of states (UNESCO, 2005). International law lacks the vertical command and power structure governing domestic policies within nation,

which have primarily a horizontal or non-hierarchical order. In the context of international law, power or authority is based on co-equal sovereign states (Gurusmawy et, al 1997). Domestic (national) law applies to problems that occur within one nation's borders, and are hence resolved through the sovereignty of that particular state. International law, when compared to national law, regulates state–state relations. An important objective of international law is to find peaceful and sustainable resolutions to conflict.[44]

3.2.2 Sources of International Law

International law includes the rules that have developed through many centuries of interstate relations and practices. The primary sources of international law are international treaties, international customary laws, and general principles of law. [45] The decisions of international courts and arbitral tribunals, and the teachings of the "most highly qualified publicists" are also used to determine the applicable rules of law, as "subsidiary" sources (Guruswamy, 2003). The range of sources for international law is too great to be comprehensively covered in this thesis, and thus, only the most important sources will be dealt with here.

International Treaties are written agreements governed by international laws, entered into between two or more states, creating or restating legal rights and duties. Treaties may have different names such as conventions, agreements, protocols, charters, accords, and statutes, etc. (Guruswamy, 2003). Treaties, unlike customary rules and general

[44] UN Charter, CHAPTER IV Article 33 (1)

[45] Article 38(1) states the following: "The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply: a. international conventions, whether general or particular, establishing rules expressly recognized by the contesting states; b. international custom, as evidence of a general practice accepted as law; c. the general principles of law recognized by civilized nations; d. subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law."

principles, provide an advanced framework for dealing with environmental issues by allowing flexibility of the law-making process, creating compliance/non-compliance and dispute resolution mechanisms for targeted laws, thus allowing a tailored approach to the problems at hand. International custom refers largely to unwritten law inferred from the conduct of practice of states, and can be applied in cases where signed agreements and treaties governing the utilization and development of resources are absent, as it is the case for international watercourses (Guruswamy, 2003). As a result, agreements may incorporate rules of customary law. Article 38(1) ICJ defined custom as "evidence of a general practice accepted as law". General principles are used to determine rights and obligations of states. These are derived from the domestic practice of the majority of legal systems around the world and generally include rules that are accepted by all. This source of international law applies when a customary law or treaty law are lacking or inadequate (Coscrove, 2003). Judicial decisions and the writings of jurists are considered as subsidiary sources of international law. Declarations of principles, codes of practice, recommendations, guidelines, standards, charters, resolutions, etc are considered as soft law which are non binding instruments. Guruswamy indicates that international environmental law (IEL) had significant growth and increasing body of declarations and resolutions which will play an even more important role in influencing its new contours (Posey Darrell and and Dutfield 1996).

3.2.3 Application of international law

To resolve international disputes, international law offers a variety of legal mechanisms including arbitration and adjudication, a range of diplomatic mechanisms, which include negotiations, consultations, mediation, fact-finding, inquiry, conciliation, and the use of joint bodies and institutions. As a legal body international law, as already mentioned, has no international legislature or government. International law is a voluntary

legal system where there is primarily horizontal or non-hierarchical order among formally equal enters of legal authorities, and where few centralized command and enforcement structures are capable of compelling parties to comply with the rules. The applicability of international law decisions that are rendered in an adjudicative arena of third party decision-making are in distinct minority, not that such decision-making is unimportant or unusual, but the facts remains that the application of international law goes forward in an arena characterized by processes of unilateral determination and reciprocal response. However, international law sometimes goes forward despite the limitation upon third party decision makers or jurisdiction on international and national plane (Guruswamy, 1997). The absence of overarching pyramid institutions in international law does not mean a complete void in international implementing institutions. Many international organizations facilitate the implementation of international law through compliance mechanisms, diplomatic avenues and judicial remedies.

3.2.4 International law Constitution

The United Nation (UN) was founded in 1945 and its charter creates seven principal organs, the General Assembly, the Security Council, the Economic and Social Council (ECOSOC) the International Court of Justice (ICJ), etc.[46] ICJ is the principal judicial legal organ of the UN system and exercises jurisdiction by consent. Another international institution is the ILC, which was created by UN General Assembly to work toward the codification and development of the international law and it has a significant role of the international environmental law reporting such as international watercourse and state responsibilities. There are more international organization represented in re-

[46] UN Charter, CHAPTER III Article 7 states the following: They are established as the principal organs of the United Nations: a General Assembly, a Security Council, an Economic and Social Council, a Trusteeship Council, an International Court of Justice and a Secretariat. Such subsidiary organizations as may be found necessary may be established in accordance with the present Charter. Available at http://www.un.org/aboutun/charter/ (Last visited November 29. 2009)

gional organizations, treaty organisation and non -governmental organisations (NGOs). However it is beyond the scope of the thesis to elaborate the details about these organizations, but it is important to know that there is no such thing as an international legislature, and therefore no such thing as an international government. The UN makes only resolutions, not legislation, and the ICJ has jurisdiction by consent only, for instance some countries have refused the compulsory ICJ jurisdiction even though they are members of the UN. Russia, for example, never agreed to the jurisdiction of the ICJ, even though it is a member of the UN. In 1985, Israel informed the UN Secretariat that it would no longer accept compulsory ICJ jurisdiction (CIA, 2009).[47]

3.2.5 International Water Law

Water is the source of all life on Earth, and a vital resource for agriculture, manufacturing, transportation, and a variety of other human activities. Both national and international laws concerning riparian rights or the "right to use water" have been induced by climate, topography, economic necessity, as well as the political institutions and the legal conditions within a governing state. The right to use water is an important topic because water is not confined to political boundaries, yet the right to use water is often determined by the political and legal institutions within those boundaries. Water resources and the hydrological cycle are by their very nature international. Neither evaporation nor precipitation, or the course of the river respects the boundaries between states and nations. When a source of water extends beyond the boundaries of political jurisdiction of more than one nation, problems of defining entitlements to water can generate serious conflict among neighboring riparian states. Several attempts have been made to

[47] These information taken from CIA fact book publication available at https://www.cia.gov/library/publications/the-world-factbook/geos/is.html , (Last visited November 2. 2009)

develop general rules to guide nations about the sharing of water in the trans-boundary setting.

Legal instruments for water allocation in international environmental law generally rely on three principles: equity, reasonableness, and the avoidance of harming one's neighbor (Obidallah, 2008). Determining who has the right to use water however includes examining ecological problems that interfere with those rights. But how should a group determine if they have a right to use water, Conversely, how does one know when rights to water use have been violated? And what if any remedies or legal instruments will provide a resolution to the problem? Historically, most international agreements focused on the allocation of water, determining how much water each nation or country may be entitled to. Modern international agreements, however, include not only water quantity issues but include the issue of water quality (MacCaffrey, 2000). International law is still perceived by many as being the basis for amicable and peaceful solutions for the utilization, development and protection of shared water resources (Vinogradav and Wouters, 2003). 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 specific. 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 in the last 50 years (Diabes, 2003). The increasing concern of the international community in terms of the development and proper management and legal frameworks governing international water resources has been reflected in the work of international governmental 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 (Institut de Droit International, IDI), the International Law Association (ILA), and the International Law Commission (ILC) can be cited in this regard (Obidallah, 2008).

The development of the law in the field of international watercourses demonstrates an increased awareness with regard to the current and emerging water crises, risk associated with the uncontrolled use of waters that cross borders between two or more states and the importance of international cooperation in the resolving conflicts over international waters. Coscrove and Wouters (2003) notes that

> *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* (Coscrove and Wouter, 2003).

When trying to solve the problem of water rights between countries and institutions, the primary issue that needs to be resolved is which theory sovereignty is acceptable in defining water rights. National laws apply to problems that occur within one nation. Issues pertaining to the entitlement to water can sometimes be controlled and often more easily resolved by common and acceptable definitions of "water rights." As well, within nations, there is no question concerning the acceptance the governing institutions that devise laws or policies to develop and use the water resources. In the international setting, the notion of property rights is considerably different. When attempting to solve the problem of water rights between countries and institutions, the first issue that needs to be resolved is which theory sovereignty is acceptable in defining water rights. Prob-

lems arise among various states because each state or governing body allocating riparian rights may use a different theory than a neighboring state or governing body. In international law the following theories have developed:

3.2.6 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.[48] In international law some theories have developed, Absolute Territorial Sovereignty Doctrine, 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 (Eckstein, 2005). 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.

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.[49] The theories of territorial sovereignty and that of territorial integrity are not suited to

[48] 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 o0f 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 Gabcikovo-Nagymaros Project (Hungary v. Slovakia), ICJ, 25 September 1997.

[49] 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 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 Gabcikovo-Nagymaros. 19 Suffolk Transnat'l L.R. 67 (1995)

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 some 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 uses in a water-course (Suffolk 1995). Limited Territorial Sovereignty Doctrine accepts the principle of riparian rights, 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 pro-vided 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 sov-ereignty 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 (Suffolk 1995).[50]

The Equitable Utilization Doctrine is employing 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 conse-quences 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 cus-

[50] 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.

tomary 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 competing social and economic factors of interested riparian states and by considering the physical aspects of an entire water resource system. 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 (Eckstein, 1995).

The Prior Appropriation Doctrine "Prior Use" which favors neither the upstream nor the downstream state but rather the state that puts the water to use first, thereby protecting those uses which existed prior in time. Consequently, this doctrine for the allocation of water resources has also received little international support (Lazerwitz,1995 from Topkaya 1998). In contrast to Prior Appropriation, Riparian doctrine states that the owner of land with a waterway running through it is entitled to the waterway 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's 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 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.

3.2.7 The Helsinki Rules

The Helsinki Rules on the Uses of the Waters of International Rivers ("Helsinki Rules") establish that a "basin state" is "entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin." The Helsinki Rules were formulated and adopted by the ILA in 1966 (Niehuss, 2005). One primary principle of the Helsinki Rules suggests that a riparian state, a state occupying land adjacent to a river system, must obtain a "reasonable and equitable share" of that state's water sources, including equal use of its rivers, drainage basins, aquifers, and other ground- and sub-surface sources. Article V (II) of the Helsinki Rules lists eleven factors that must be considered when determining if a riparian state possesses "a reasonable and equitable share" of their water sources, including the past utilization of the waters, the economic and social needs of the Basin State, the population dependent on the waters and the availability of other resources (Arnold et al, 2001). The Helsinki Rules also affirm that "a basin State may not be denied the present reasonable use of the waters of an international drainage basin to reserve for a co-basin State future use of such waters." Interpreted broadly, this principle supports the concept that Israel cannot reject Palestinian access to water for Israel's own future needs, both by preventing well drilling or by diverting Jordan River flow. However, as well-known, the Helsinki Rules were drafted by the ILA, a private non-governmental organization, and although re-

spected within the international community, are not legally binding on Israel's actions. While some demonstrate that Israel is bound by the principles of customary international law, whether or not it has signed or ratified international agreements to this effect. This includes customary international law on water. Three instruments, all of which constitute evidence of customary international law, are of particular note in the latter respect: the Helsinki Rules on the Uses of the Waters of International Rivers, adopted by the International Law Association in 1966, the Seoul Rules on International Groundwater, adopted by the International Law Association in 1986, and the Convention on the Law of the Non-Navigational Uses of International Watercourses adopted by the United Nations General Assembly and opened for signature in 1997.

3.2.8 The UN Convention on the Non-Navigational Uses of International Water courses 1997

The 1997 Watercourses Convention is to date the most authoritative statement relating to non-navigational uses of international watercourses.[51] However, it is yet not in force.[52] 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.[53] The Convention has a number of key principles. The most im-

[51] 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

[52] Article 36 (1) states the following: The present Convention shall enter into force on the ninetieth 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.

[53] 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

portant is the equitable and reasonable allocation of shared watercourses;[54] the 'No Harm Rule'; and the need for communication (notification, consultation and negotiation) 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"[55]. 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.[56] In special situation 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;[57] Negotiation requires a dialogue with an obligation to compromise in good faith,[58] parties "enter into consultations and, if necessary, negotiations with a view to arriving at an equitable resolution of the situation".[59] In case consultations and negotiations do not succeed to settle dispute, the Convention offers provisions for impartial fact-finding if requested by one party, and mediation or conciliation if agreed to by both parties.[60]

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[54]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.

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

[56] See Articles 12, 13, 15 16 and 18

[57] See Articles. 4, 6, 7, 17, 18, 19, 24, 26 and 30

[58] See Articles. 4, 17, 18, 19, 30 and 33

[59] Article 17(1)

[60] Article 33 (3), (4).

The Convention requires that "watercourse States shall . .. utilize an international watercourse in an equitable and reasonable manner". [61]The Convention further require the resource be used "with a view to attaining optimal and sustainable utilization thereof and benefits therefore, taking into account the interests of the watercourse States concerned and consistent with adequate protection of the watercourse". The Convention 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:

(a) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;

(b) The social and economic needs of the watercourse States concerned;

(c) The population dependent on the watercourse in each Watercourse State;

(d) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;

(e) Existing and potential uses of the watercourse;

(f) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;

(g) 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",

[61]Article 5(1)

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. 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.[62]

The Convention provides additional obligations for watercourse states for further protection to watercourses.[63] 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 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, the UN General Assembly adopts Resolution on December 11th 2008 on the Law of Trans-boundary Aquifers (Draft Articles) to optimize and sustain utilization and development of trans-boundary groundwater. At this point it worthy to mention that UN Convention covers all shared surface water and groundwater but not the confined aquifers "fossil Aquifers" which is not connected hydrological to any surface water. Thus there was a need to include the confined aquifers in the UN Convention. Thus at this point two questions would rise, first, whether the shared aquifers between the Israelis and the Palestinians fall under the 1997 UN Convention or not? Second what could the draft article add to the trans-boundary shared aquifers and specifically to the shared aquifers within the Palestinian Israeli water conflict?

[62] Article 7(1)-(2)
[63] Articles 20, 27

3.2.9 Draft articles on the Law of Trans-boundary Aquifers, 2008

At its 2008 session the United Nations International Law Commission (ILC) completed work on a set of nineteen draft articles on the law of trans-boundary aquifers and transmitted the draft to the General Assembly (MacCaffrey, 2009). The ILC recommended that the Assembly take note of the draft articles and that all states review these articles by 2011 to elaborate a convention based upon them (Eckstein, 2009). These draft articles represent six years of work by the ILC and constitute a landmark event for the protection and management of groundwater resources, which have been neglected as a subject of international law despite the social, economic, environmental, and strategic importance of groundwater. The ILC's draft on the law of trans-boundary aquifers consists of nineteen articles arranged in four parts: Introduction; General Principles; Protection, Preservation and Management; and Miscellaneous Provisions. MacCaffrey (2009) indicates that scientifically, the trans-boundary aquifers draft is an important development of international ground water law and reflects the hydrology of aquifers. Legally, on the other hand, the draft is not yet perfect to integrate within the UN Convention and it introduces confusion to the water trans-boundary law. When it adopted the final version of its draft articles on the law of the non-navigational uses of international watercourses in 1994, the ILC also adopted a resolution on confined trans-boundary groundwater (groundwater that was unrelated to this system of surface) (MacCaffrey, 2009). The newly trans-boundary aquifers draft seeks to apply the principles of the UN Convention to trans-boundary groundwater. However the physical scope of the draft would cover all groundwater that is hydrologic-ally related to surface water. (The only form of groundwater not covered by the 1997 UN Convention is that which does not interact with surface water, that is, water contained in what are sometimes referred to as "confined aquifers." or “fossil aquifers”. Initially, when the UNILC embarked on its present effort to clarify and codify the international law applicable to trans-boundary ground water re-

sources, it limited its work to address those ground water resources not covered by the Watercourse Convention, namely ground water resources unrelated to surface waters. Yet the newly adopted draft articles (December 2008) would regulate not just shared freshwater that the UN Convention does not cover, but also that which it does cover. This overlap will certainly add confusion and possible conflicts. It is likely to lead to confusion as to which instrument should apply to a situation that they both cover. According to MacCaffrey (2009), the ILC's Drafting Committee decided not to include the draft Article 20, Relation to Other Conventions and International Agreements. That article reads as follows:

> *The present draft articles shall not alter the rights and obligations of the States parties which arise from other conventions and international agreements compatible with the present draft articles and which do not affect the enjoyment by other States parties of their rights or the performance of their obligations under the present draft articles.*

The Article 3 of the draft articles supports the sovereignty doctrine "sovereignty of aquifer states." Unfortunately, Article 3 does not take Principle of “No Harm Rule” not to cause damage to other states. Article 3 of the ILC's aquifers draft provides as follows: "Each Aquifer State has sovereignty over the portion of a trans-boundary aquifer or aquifer system located within its territory. It shall exercise its sovereignty in accordance with international law and the present draft articles. The modern international instruments do not give the sovereignty concept any place in solving water conflicts as it was discussed before, this could be included but should be together with No harm rule. Litfin (1997) has indicated that sovereignty should no longer be taken for granted as the defining feature of world politics. This is because ecological problems are transnational

in nature, and traditional notions of sovereignty in world politics are no longer relevant in our transnational world (Litfin, 1997).

According to Bateh (2009), if the aquifers are fed by rainfall then percolate through even a single surface stream, then it seems obvious that they are not contained aquifers and would thus fall under the legal scope of the 1997 Convention. These aquifers are in fact interconnected to surface water to surface water (Bateh, Messerschmid and Mac-Caffrey, 2009). Bateh (2009) also has indicated that there are links between the western wadis flowing from the West Bank into Israel. And If there are no links, then Israelis wouldn't be concerned about Palestinian and settlement waste water permeating into the Western Aquifer which is one of their major sources of water (Bateh, 2009).

The West Bank aquifer is open to direct rainfall recharge in the mountains but in the foothills and plains (coastal plain and Jordan Valley plain 'al-Ghor') only very indirect flow connections from surface to groundwater are possible and in fact, there are inter-connections between the Mountain aquifers and surface water through springs. The tanninim springs, where the western aquifer drains into shallow gravels that feed a stream (Tanninim stream or Timsah stream) flowing to the sea, there is the Yarkon River that is entirely fed by the Western aquifer springs at Yarkon (Ras Al-Ein or Al-Auja, formerly). Western aquifer is also connected to the coastal aquifer (near Qalqili-yah) (Messerschmid, 2009).

Western Aquifer and Northeastern Aquifer are by nature flowing and by geographical distribution stretching over the Green Line. The Western and Northeastern aquifer emerge from the Mountains in the West Bank, where the bulk of recharge takes place

and naturally drain into Israel, and where large springs existed prior to the heavy pumping by Israel there. Historically, the Western Aquifer has springs like the Yarkon that flowed to the surface for capture and use (Bateh, 2009 and Messerschmid, 2009).

The Eastern Aquifer emerges exclusively from the West Bank (all recharge in the West Bank Mountains). Most of it discharges inside the West Bank. Messerschmid (2009) had indicated that the only exception here is Ein Gedi spring which is located a few km inside Israel south of the West Bank (near Arad). There is only 1.4 mcm of water are pumped inside Israel (Hydrological Service of Israel, HSI, 2008), and no other springs emerge (Messerschmid, 2009). Its worthy to mention at this point that some would say the aquifer is basically (overwhelmingly) unshared autochthonous Palestinian as it is considered by many. Lawyers would argue that even one drop flowing into Israel makes it shared and this is how international water law works. On the other hand Tiberias basin, the Western Galilee basin, the Coastal basin and the Negev aquifers have indirect flow connections to these shared basins, but do not physically (by rock formation) stretch into the West Bank. For example the Negev aquifer is partly (not exclusively) recharged deep below the ground from the Western Aquifer (which in turn emerges from the West Bank). Thus, even the Negev aquifer is qualified as shared (Messerschmid, 2009).

3.3 Palestinians and Israeli Claims on Water

Israeli legal experts have usually relied on the legal concepts of "Prior Use" and "Historical Rights" when analyzing the regional water resources issues (Shuval 2005; Obidallah 2008). Moreover, they have persistently referred to all "existing uses" as

non-negotiable and constantly raised the issue of the availability of "alternative of comparable value" (desalination, wastewater reuse, and the importing of water from neighboring countries) as a means to supply Palestinian needs. Diabes (2005) see that this means Israel's official position in term of its water dispute with its Palestinian neighbor is based on an objection to sharing the available water resources in a fair and equitable manner, as it has been revealed several times in the Israeli negotiating tactics over the past years. In short, although Israel is prepared to discuss the need to meet some of the immediate Palestinian needs, it nevertheless does not appear seeking a mutually agreed upon solution to the water issue. Israel's proposed solutions for Palestinians are to develop non-conventional resources. In general, Israel tries to avoid the international law as a reference to solve the disputes of water with Palestinians.

Palestine position on water, It is essential to enter a clear and mutual understanding about the political and legal aspects of water negotiations that cover Palestinian water rights in terms of quantities, quality and sovereignty before signing a final agreement as well as to accept the international law and UN resolutions (PWA, 2009). Furthermore each party should develop required plans that allow it to develop, utilize its water within its international borders without causing harm to the other side after signing agreements not before that. Palestine considers that all actual, administrative and legal actions taken by Israel about the water resources within the borders of Palestine, can not in any case impact negatively on the Palestinian water rights which are the subject for the final status negotiations. Israel should admit that its present control and utilization of the Palestinian water resources has caused significant harm and losses to the Palestinians and therefore Israel must pay damages for the Palestinians over this harm and losses. All interim measures agreed in the interim agreement of Oslo II should remain interim and should not in any case influence the Palestinian water rights. Palestine is a riparian

country in the Jordan River and its basin including all its groundwater aquifers. Thus, the utilization and management of the Jordan River and its basin should involve the Palestinians as an equal partner and in accordance to the International law (PWA, 2009).

3.4 Benefit Sharing Concept

Benefit sharing arrangements is proposed as an effective tool to build effective cooperation. Due to the absence of an overarching governing mechanism in international transboundary water law, the power state has no incentives to cooperate. Thus, the concept is proposed in building effective cooperation and consequently more effective transboundary water management. 'Benefit sharing' has been projected as one approach to avoid the debatable issue of property rights (Qaddumi, 2008). The idea is to switch from physical volumes of water to the various values derived from optimizing benefits of cooperation recognizing that collective action may be driven as much by common goals to reduce risk as it is to share benefits (Sadoff and Grey, 2009). The first and obvious questions when applying the concept are why countries cooperate? What are the benefits and how cooperation can be achieved? Countries do cooperate when the net benefits of cooperation are perceived to be greater than the net benefits of non-cooperation. In other words, states work together when doing so offers special economic and political advantages over unilateral development, and when these larger benefits are shared. Benefits themselves go beyond the obvious, and take different forms (Connors et al. 2009). Sadoff and Grey (2005 and 2009) indicate four types of benefits: benefits to the river (environmental benefits); benefits from the river (economic benefits); the reduction in costs because of the river; and benefits beyond the river. Any one of these four

benefit types can promote cooperation. The broader the case of benefits, the greater is the scope for structuring mutually beneficial cooperation.

Other than the previous benefits states also cooperate to manage better their growing common risks. For example, in the latest years, there have been growing concerns worldwide about the uncertainties of the impact of climate change on water resources. Co-riparian states can manage these risks that they face by pooling their resources to enhance information and early warning systems on their changing hydrologic variability and by fostering system-wide river basin management. Effective cooperation in trans-boundary basin management could become a singularly effective risk management strategy. History suggests that a perception of common risks can be particularly compelling motivation to manage and share these risks through cooperation (Connors et al. 2009). Cooperation between Canada and the Unites States on the Columbia River, for example, was catalyzed in large part by recurring and sometimes devastating floods. Energy was the other key driver of the 1961 Columbia River Treaty and the new storage dams, constructed under the Treaty and cooperatively operated, enabled significantly more power generation than could otherwise have been produced by unilateral action (Yu, 2008 from Connors et al. 2009). Future risks are undoubtedly high and could potentially be mitigated through cooperation. Joint institutions for information sharing could help predict and monitor the basin's changing hydrology and underpin early warning systems, thus enhancing both agricultural productivity and disaster preparedness.

In order to achieve effective cooperation, there are various degrees of cooperation, ranging from simple information and data sharing to a fully integrated approach for developing (infrastructure) and managing (institutions capacity) basin-wide trans-boundary wa-

ter resources (Figure 8). In practice, cooperative arrangements develop in continuous stages conceived from unilateral action represent in national planning and management, to coordination by means of sharing information, to collaboration in other words adaptation of national plans for mutual benefits to joint action (joint planning, management or investment). (Mostert, 2005, Sadoff and Grey, 2006). According to them, "*Effective cooperation on an international watercourse is any action or set of actions by riparian states that leads to enhanced management or development of the watercourse to their mutual satisfaction*".

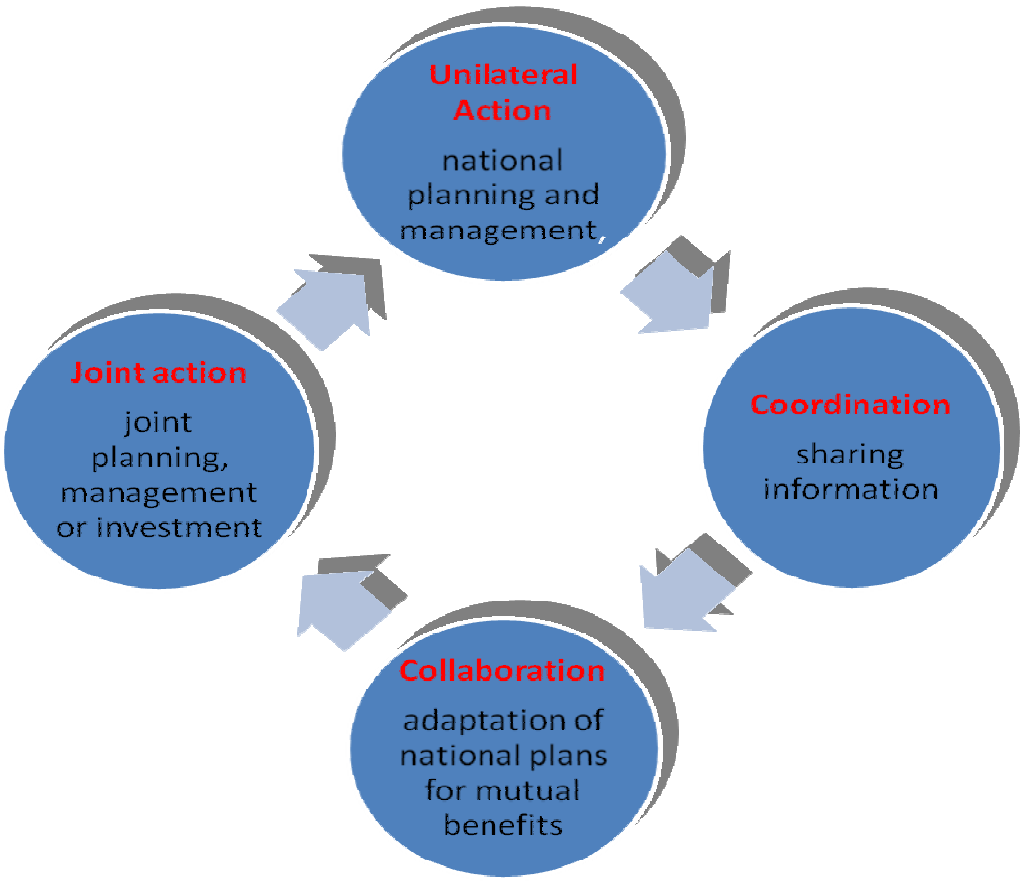

Figure 8: Effective Cooperation Achievement

Building the enabling environment – and in particular knowledge, trust and confidence among co-riparian states – is usually the first step in building cooperative trans-

boundary institutions. The ownership of the cooperation agenda must be entirely with concerned riparian countries, in order to ensure commitment and endurance. However, practice in international law suggests that invited third-party facilitation can be valuable, third party facilitation by trusted brokers and conveners can help generate impartial knowledge and analyses, create a neutral space for dialogue, and ultimately help secure financing for cooperative investment (Qaddumi, 2008). Process is almost as important as product, at least in the early days, and can be costly. Time spent building effective communications, working relationships and a level playing field of knowledge and skill is an essential investment for reaching sound negotiation outcomes. The process can be as diverse as necessary; shared experience, joint learning, round tables, cooperative assessments can all be component of the process(Connors et al. 2009). Starting from a low base might mean negotiating a "shared vision", which sets a goal of a better future, and then builds shared knowledge to provide the evidence to change the perceptions of benefits and catalyze cooperation.

So, states that are cooperating on international trans-boundary water will almost invariably have worked long and hard together to build trust, knowledge and institutions – often, but not always committed external support. Their analysis, explicit or implicit, individual or collective, will have demonstrated that the benefits of cooperation are greater than the benefits of non-cooperation. The choices that they have made will therefore have been rational. They may still have much work to do to ensure that planned benefits are actually being derived and being shared fairly. But they have had the courage to change, moving from a past of non-cooperation towards a future of effective cooperation

4. The Holistic Approach on the Palestinian-Israeli Context

The approach relies on diplomatic mechanism of international law. As mentioned before, to resolve international disputes, international law offers on one side legal mechanisms which include arbitration and adjudication, and on the other side, a range of diplomatic mechanisms which include negotiations, consultations, good offices, mediation, fact-finding, inquiry, conciliation, and the use of joint bodies and institutions. While this study seeks a peaceful mean for solving the water dispute, the diplomatic mechanism is proposed to resolve the water as well as the Palestinian Israeli conflict. The adoption of the UN Watercourses Convention constitutes an important step towards co-management of international watercourses. The UN Convention provides framework for establishing cooperation between states. It also contains binding rules, namely those regarding the water sharing principles, the protection of the environment and the obligation of cooperation. However, cooperation remains to be developed further towards an effective co-management of international watercourses in line with the concept of integrated water resources management. This takes account of social, economic and environmental factors and integrates surface water, groundwater and the ecosystems through which they flow. Benefit sharing arrangement would add and integrate an important of cooperation tool, and effective cooperation, to UN convention. The use of both instrument is proposed as an effective mechanism to achieve integrated trans-boundary water management and thus would encourage parties to reach an agreement. Such an approach is feasible where joint management would generate additional water supplies through, for example, the construction of desalinization plants.

States that are cooperating on international trans-boundary water will almost invariably have worked long and hard together to build trust, knowledge and institutions – often, but not always committed external support (Connors et al. 2009). Their analysis, explicit or implicit, individual or collective, will have demonstrated that the benefits of cooperation are greater than the benefits of non-cooperation. The choices that they have made will therefore have been rational. They may still have much work to do to ensure that planned benefits are actually being derived and being shared fairly. But they have had the courage to change, moving from a past of non-cooperation towards a future of effective cooperation.

Within a Palestinian-Israeli context the approach for solving the problem is to establish a solid foundation for long term sustainable arrangement; mutual acknowledgement to the need for a common base in the interest of the resource development and management for the current as well as for future generations is required. The key at this juncture is to have a common vision to which all stakeholders can aspire to and work towards achieving. This vision should be translated into actions at the national, regional and international levels. Governments and international bodies who are willing to be involved in Palestinian–Israeli water conflict resolution need commit to this vision and develop a proper sharing out of responsibilities and tasks.

The approach would then start with building the enabling environment – and in particular knowledge, trust and confidence among the parties to demonstrate tangible benefits and progress. This approach relies on equity at all time, in all circumstances. A precondition for effective cooperation is the mutual acknowledgment of the need for common base in the interest of the international water resources management and establishing

appropriate mechanisms for utilizing the shared resources in an optimal manner for the present as well as for the future generations. The future water agreement may go beyond the reallocating trans-boundary water and establish the basis for cooperative development and the implementation of common projects and plans. Cooperation is very essential with respect to their shared water resources. Thus they should reconsider their position toward the future relationship to their shared surface and ground water. The approach is based on the hypothesis that first, there is very schematic knowledge about the shared trans-boundary surface and groundwater especially on the Palestinian side; and second both parties need guidance on the variety of existing options for international cooperation. This would then generate the required national willingness to enter into arrangements of sustainable solution for long run.

The approach would then start with consensus of Israel and Palestine 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 share 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 expansion. Hence, a new assessment of all joint water resources becomes necessary. The second step is to create 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 region. The source of data for the fact finding team will be the hydro-geological investigation carried out by Israelis and Palestinians. The fact finding team members should be based on just qualified criteria, and might comprise Palestinians and Israelis in addition to international experts. The two parties shall do their best to recognize the conclusions of the fact finding team, or in any case develop a common agreement. The recommendations of the fact finding team shall outline as the basis for further discussion on how to implement the equitable and reasonable

utilization of shared water resources. 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 together developed. This would need accurate and reliable information and data to be shared by the two sides. An International Legal Experts Committee could be figured to be involved in assigning weight to the factors in consultation with the fact finding team. These weights have to be determined by their importance in contrast with that of all other relevant factors. All relevant factors are to be considered together and a conclusion achieved on the basis of the whole, in shaping what is an equitable and reasonable utilize. Effective cooperative mechanisms might be achieved based on international law and on the theory of good faith and benefit sharing 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. A mechanism of joint cooperation would have to be established within the agreement to assure the exchange of complete data and information on agricultural, industrial and domestic water use. Concerning groundwater the treaty has to be bilateral as these waters are only shared by the Israelis and Palestinians. As for the Jordan River Basin it has to be with the five countries sharing the waters of the basin: Jordan, Lebanon, Syria Palestine and Israel. The new agreements should consequently ensure each of the obligations to cooperate as well as to an efficient coordination.

Yet resolving conflicts over water rights will necessitate 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 as a result beneficial to both Israel and Palestine to jointly manage the important regional water resources to ensure their sustainable development. The parties could also cooperate in developing non-conventional water resources. Whereas there is an obligation in general international law to settle disputes peacefully, a mechanism for possible dispute settlement should be an element of the agreements adopted by the two.

5. Results and Discussion

This study demonstrates the current situation is neither equitable nor sustainable for the long run; the water crises would be greater if the situation continue like this.

It also confirms that, to date, there is no common agreement on the overarching principles for the future utilization of the shared water resources. The water-related arrangements established through the Oslo peace process justify its complete failure in addressing the needs of the population under the stressed political situation. Other reasons for this failure include the asymmetry between the two parties at the technical, political and financial levels. Moreover water conflict has been dealt with apart from the principles of international law. The existing inequitable utilization of the international water resources has been considered "de facto" as establishing water rights and the "no harm principle" is the overarching principle applied by at least the Israeli negotiators.

Cooperation between the parties was ignored in the existing agreements. Instead, cooperation agreements were designed to ensure that the status quo of current utilizations is maintained. The agreement emphasises Israeli recognition of Palestinian water rights in the West Bank, but gives no definition of these rights. Furthermore, the negotiations on these rights were postponed for the permanent status agreement negotiations. Decision-making within the JWC was unilateral, always dependent on the impact of the proposed Palestinian projects to the status quo of the current Israeli utilization. The "no harm principle" was the dominant factor applied in the Israeli evaluation and resulted in the rejection of the Palestinian projects and plans. However, since these agreements were signed by both parties, it indicates further that there is a possibility to achieve a final agreement.

The study suggests that the shared surface and the ground water (the aquifers) between the Palestinians and Israelis fall under the 1997 UN convention and cover it legal implication with surface water, since these aquifers are interconnected to surface water.

The ILC's draft articles on the law of trans-boundary aquifers can potentially build important contribution to the codification and development of the law and provide positive bear to states sharing groundwater. However, the draft articles would regulate not just shared freshwater that the UN Convention does not cover (confined aquifers), but also that which it does cover. This overlap will certainly add confusion and possible conflicts. The draft also introduces general principle of "sovereignty of aquifer states." This doctrine as mentioned before should have no place in any set of rules governing the use, protection, and management of shared freshwater resources. The General Assembly ultimately will negotiate the draft in 2011, hoped is the integrity of the legal regime thus established will significantly depend on removing or editing both the overlap between the draft and the UN Convention, and the notion of "sovereignty" over shared 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.

The study also demonstrates that international trans-boundary water laws and regulations are the appropriate tool to achieve desired agreements; the 1997 Watercourses Convention is, to date, the most authoritative statement relating to non-navigational uses of international watercourses. 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. The Convention has a number of key principles. The most important is the equitable and reasonable allocation of shared watercourses; 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.There are two remarkable international cases regarding the application of riparian principles to disputes over river usage. A recent case between Hungary and Slovakia under the ICJ affirmed the principle of "equitable utilization" as presented in the Helsinki Rules. The other case involved a 1957 dispute between France and Spain over France's use of Lake Lanoux.

However, it also indicates that benefit sharing arrangement offer effective cooperation tool that contributes to overcome political obstacles, it focus in environmental, social and economical benefits create incentives for states to cooperate. The integration of both instruments would highly contribute to resolve the water conflict as well as to contribute to the two state solutions. There are indeed benefits to gain for both parties; such

a solution would develop mutual opportunity of the social and economical benefits of managing the shared water resources jointly, some of these benefits also as a result, legalizing water usage of surface and groundwater, define Israel's water rights and assure "Water Security", defining Palestinian's Water Rights to assure viable Palestinian State for economical development, encourages agreement on Jordan River Basin ; and gaining efficiency through integrated water resource management (jointly managing shared water resources). Thus there are enough good reasons to cooperate. For example, in the Senegal River Basin, the parties Mali, Mauritania and Senegal developed a clear methodology and framework through the Senegal River Basin Development Authority to first quantify and subsequently allocate the benefits and costs of multi-use investments across the whole basin (Saddof, 2009). The Manantali Dam, for instance, which is located completely inside western Mali, was built through the River Authority in the 1980s for hydropower, irrigation and navigation benefits to be used by the three countries. The scale of benefits derived and the perceived fairness of the benefit sharing arrangement together with the political ideal of solidarity between the three countries have sustained substantive cooperation and a strong river basin organization on the Senegal River (Yu, 2008).

Getting the process started is, ultimately a question of political willingness and feasibility. Mediator supports and helps the process to start and to even conclusion of a formal agreement. There are many cases indicate the importance f a third party in such circumstance as the Palestinian Israeli one. For example, arrangements on the Mekong, which is commonly taken as a success story, would not go on if the UNDP and other donors did not support. Similarly, the cases of failure the Ganges and the implementation of the Zambezi Action Plan can to some extent attributed to the ineffectiveness of third parties. Even though third parties can not alone create a conducive, political environment,

they can offer direct and indirect incentives to cooperate through financial help in providing technical competence, assisting in negotiation, including the provision of legal and other water experts; and facilitating investments in transboundary settings. (Phillips, et al, 2006).

Successful cases also confirm of "how" the path to genuine cooperation has been explored. Two cases help to shed light on this point, one based on informal dialogue, the other embedded in high level institutional structures. Among the countries that share the Rivers of the Greater Himalayas and where cooperation today is very narrow, the current Abu Dhabi Dialogue provides a path of informal consultation. Every year it brings jointly senior political, government, and non-government participants from seven countries. Through non-representative, non-formal, and non attributable dialogue around the themes of "common problems seeking common solutions", participants build knowledge, relationships and trust. Together they have defined a *shared vision* of "a knowledge-based partnership of states fairly managing and developing the Rivers of the Greater Himalayas from the summits to the seas". To materialize this vision, the ADD Knowledge Forum has been launched in parallel to bring together key knowledge institutions and to finance collaborative research.

The Nile Basin Initiative (NBI) illustrates on other path. Since 1999 the NBI has been guided by a Council of Ministers and supported by a dedicated NBI Secretariat in Uganda. More recently, offices were established for two sub-basins in the Nile: the Eastern Nile Technical Regional Office in Ethiopia, and the Nile Equatorial Lakes Coordination Unit in Rwanda. These offices, working in a coordinated manner, are undertaking cooperative regional assessments and analyses, capacity building and investments in the Nile Basin. In both examples, shared knowledge and patient dialogue are

the common themes. Knowledge is essential to make out the common opportunities and risks of trans-boundary water management, and to structure equitable benefit sharing arrangements. Sustained, information-based dialogue is essential to build a shared understanding, to enable productive negotiations, and to achieve robust cooperative outcomes.

The study demonstrates also that the struggle over water involves, not just economic and distribution issues, but central political, legal, and territorial claims as well. The water resources should be reallocated in equitable manner in order to be able to create viable Palestinian state, without reallocation of these water resources among both parties, there will be no viable Palestinian state, furthermore, in the long run there is not enough water to meet the long term needs of Palestine and Israel together and both nations will have to increase the production of new water. This true when concerning the final negotiation issue, for instance the refugee, whether the future agreements would allow all or part of the refugees to come back, this fur sure would put more pressure on the water resources.

6. Conclusions and Recommendations

Water has consequently contributed peripherally 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 different 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. Furthermore, in spite of the clear disparity between the stages of development and various strengths of Israel and Palestine, solving the dispute is feasible and the proposed international trans-boundary water mechanism offer an advanced approach to achieve desired agreement converting the future vision into a thorough understanding of the mutual benefits to be derived from cooperation. An important observation in this study is that political willingness is a decisive factor in the entire process of international cooperation. The inability on the part of politicians to acknowledge 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. At this point third international neutral party would bring this into realization, such mediation is very essential and could induce the cooperation between both parties. A main remark in this study is that benefit sharing arrangement is an appropriate tool to build effective cooperation in dispute where are there political obstacles.

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 manage the water resources 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. Sharing Data and interference of third party with benefit analysis are core issues to start building share vision gathering all stakeholders. This vision should be translated into actions at the national, regional and international levels. Governments and Ministries of Foreign Affairs who are willing to be involved in Palestinian–Israeli water conflict resolution need commit to this vision and develop a proper division of responsibilities and tasks. The core contested issues within the problem have to be put on the table for resolving. 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.

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Appendices

2. Appendix 1: Declaration of Principles on Interim Self-Government Arrangements 13 September 1993

The Government of the State of Israel and the P.L.O. team (in the Jordanian-Palestinian delegation to the Middle East Peace Conference) (the "Palestinian Delegation"), representing the Palestinian people, agree that it is time to put an end to decades of confrontation and conflict, recognize their mutual legitimate and political rights, and strive to live in peaceful coexistence and mutual dignity and security and achieve a just, lasting and comprehensive peace settlement and historic reconciliation through the agreed political process. Accordingly, the, two sides agree to the following principles:

ARTICLE I

AIM OF THE NEGOTIATIONS

The aim of the Israeli-Palestinian negotiations within the current Middle East peace process is, among other things, to establish a Palestinian Interim Self-Government Authority, the elected Council (the "Council"), for the Palestinian people in the West Bank and the Gaza Strip, for a transitional period not exceeding five years, leading to a permanent settlement based on Security Council Resolutions 242 and 338. It is understood that the interim arrangements are an integral part of the whole peace process and that the negotiations on the permanent status will lead to the implementation of Security Council Resolutions 242 and 338.

Article VII - INTERIM AGREEMENT

1. In order to enable the Council to promote economic growth, upon its inauguration, the Council will establish, among other things, a Palestinian Electricity Authority, a Gaza Sea Port Authority, a Palestinian Development Bank, a Palestinian Export Promotion Board, a Palestinian Environmental Authority, a Palestinian Land Authority and a Palestinian Water Administration Authority and any other Authorities agreed upon, in accordance with the Interim Agreement, that will specify their powers and responsibilities.

ANNEX III - Protocol on Israeli-Palestinian Cooperation in Economic and Development Programmes

The two sides agree to establish an Israeli-Palestinian Continuing Committee for Economic Cooperation, focusing, among other things, on the following:

1. Cooperation in the field of water, including a Water Development Programme prepared by experts from both sides, which will also specify the mode of cooperation in the management of water resources in the West Bank and Gaza Strip, and will include proposals for studies and plans on water rights of each party, as well as on the equitable utilization of joint water resources for implementation in and beyond the interim period.

3.

4.

5. APPENDIX 2: Oslo II Interim Agreement; Annex III Washington; D.C., 28 SPTEMEPR 1995

ARTICLE 40: Water and Sewage

On the basis of good-will, both sides have reached the following agreement in the sphere of Water and Sewage:

Principles

1. Israel recognizes the Palestinian water rights in the West Bank. These will be negotiated in the permanent status negotiations and settled in the Permanent Status Agreement relating to the various water resources.

2. Both sides recognize the necessity to develop additional water for various uses.

3. While respecting each side's powers and responsibilities in the sphere of water and sewage in their respective areas, both sides agree to coordinate the management of water and sewage resources and systems in the West Bank during the interim period, in accordance with the following principles:

a. Maintaining existing quantities of utilization from the resources, taking into consideration the quantities of additional water for the Palestinians from the Eastern Aquifer and other agreed sources in the West Bank as detailed in this Article.

b. Preventing the deterioration of water quality in water resources.

c. Using the water resources in a manner which will ensure sustainable use in the future, in quantity and quality.

d. Adjusting the utilization of the resources according to variable climatological and hydrological conditions.

e. Taking all necessary measures to prevent any harm to water resources, including those utilized by the other side.

f. Treating, reusing or properly disposing of all domestic, urban, industrial, and agricultural sewage.

g. Existing water and sewage systems shall be operated, maintained and developed in a coordinated manner, as set out in this Article.

h. Each side shall take all necessary measures to prevent any harm to the water and sewage systems in their respective areas.

i. Each side shall ensure that the provisions of this Article are applied to all resources and systems, including those privately owned or operated, in their respective areas.

Transfer of Authority

4. The Israeli side shall transfer to the Palestinian side, and the Palestinian side shall assume, powers and responsibilities in the sphere of water and sewage in the West Bank related solely to Palestinians, that are currently held by the military government and its Civil Administration, except for the issues that will be negotiated in the permanent status negotiations, in accordance with the provisions of this Article.

5. The issue of ownership of water and sewage related infrastructure in the West Bank will be addressed in the permanent status negotiations.

Additional Water

6. Both sides have agreed that the future needs of the Palestinians in the West Bank are estimated to be between 70 - 80 mcm/year.

7. In this framework, and in order to meet the immediate needs of the Palestinians in fresh water for domestic use, both sides recognize the necessity to make available to the Palestinians during the interim period a total quantity of 28.6 mcm/year, as detailed below:

a. Israeli Commitment:

1. Additional supply to Hebron and the Bethlehem area, including the construction of the required pipeline - 1 mcm/year.
2. Additional supply to Ramallah area - 0.5 mcm/year.
3. Additional supply to an agreed take-off point in the Salfit area - 0.6 mcm/year.
4. Additional supply to the Nablus area - 1 mcm/year.
5. The drilling of an additional well in the Jenin area - 1.4 mcm/year.
6. Additional supply to the Gaza Strip - 5 mcm/year.
7. The capital cost of items (1) and (5) above shall be borne by Israel.

b. Palestinian Responsibility:

1. An additional well in the Nablus area - 2.1 mcm/year.
2. Additional supply to the Hebron, Bethlehem and Ramallah areas from the Eastern Aquifer or other agreed sources in the West Bank - 17 mcm/year.
3. A new pipeline to convey the 5 mcm/year from the existing Israeli water system to the Gaza Strip. In the future, this quantity will come from desalination in Israel.
4. The connecting pipeline from the Salfit take-off point to Salfit.
5. The connection of the additional well in the Jenin area to the consumers.
6. The remainder of the estimated quantity of the Palestinian needs mentioned in paragraph 6 above, over the quantities mentioned in this paragraph (41.4 - 51.4 mcm/year), shall be developed by the Palestinians from the Eastern Aquifer and other agreed sources in the West Bank. The Palestinians will have the right to utilize this amount for their needs (domestic and agricultural).

8. The provisions of paragraphs 6-7 above shall not prejudice the provisions of paragraph 1 to this Article.
9. Israel shall assist the Council in the implementation of the provisions of paragraph 7 above, including the following:
   a. Making available all relevant data.
   b. Determining the appropriate locations for drilling of wells.
10. In order to enable the implementation of paragraph 7 above, both sides shall negotiate and finalize as soon as possible a Protocol concerning the above projects, in accordance with paragraphs 18 - 19 below.

The Joint Water Committee

11. In order to implement their undertakings under this Article, the two sides will establish, upon the signing of this Agreement, a permanent Joint Water Committee (JWC) for the interim period, under the auspices of the CAC.

12. The function of the JWC shall be to deal with all water and sewage related issues in the West Bank including, inter alia:

a. Coordinated management of water resources.
b. Coordinated management of water and sewage systems.
c. Protection of water resources and water and sewage systems.
d. Exchange of information relating to water and sewage laws and regulations.
e. Overseeing the operation of the joint supervision and enforcement mechanism.
f. Resolution of water and sewage related disputes.
g. Cooperation in the field of water and sewage, as detailed in this Article.
h. Arrangements for water supply from one side to the other.
i. Monitoring systems. The existing regulations concerning measurement and monitoring shall remain in force until the JWC decides otherwise.
j. Other issues of mutual interest in the sphere of water and sewage.

13. The JWC shall be comprised of an equal number of representatives from each side.
14. All decisions of the JWC shall be reached by consensus, including the agenda, its procedures and other matters.
15. Detailed responsibilities and obligations of the JWC for the implementation of its functions are set out in Schedule 8
.

Supervision and Enforcement Mechanism

16. Both sides recognize the necessity to establish a joint mechanism for supervision over and enforcement of their agreements in the field of water and sewage, in the West Bank.

17. For this purpose, both sides shall establish, upon the signing of this Agreement, Joint Supervision and Enforcement Teams (JSET), whose structure, role, and mode of operation is detailed in Schedule 9.

Water Purchases

18. Both sides have agreed that in the case of purchase of water by one side from the other, the purchaser shall pay the full real cost incurred by the supplier, including the

cost of production at the source and the conveyance all the way to the point of delivery. Relevant provisions will be included in the Protocol referred to in paragraph 19 below.

19. The JWC will develop a Protocol relating to all aspects of the supply of water from one side to the other, including, inter alia, reliability of supply, quality of supplied water, schedule of delivery and off-set of debts.

Mutual Cooperation

20. Both sides will cooperate in the field of water and sewage, including, inter alia:

a. Cooperation in the framework of the Israeli-Palestinian Continuing Committee for Economic Cooperation, in accordance with the provisions of Article XI and Annex III of the Declaration of Principles.

b. Cooperation concerning regional development programs, in accordance with the provisions of Article XI and Annex IV of the Declaration of Principles.

c. Cooperation, within the framework of the joint Israeli-Palestinian-American Committee, on water production and development related projects agreed upon by the JWC.

d. Cooperation in the promotion and development of other agreed water-related and sewage-related joint projects, in existing or future multi-lateral forums.

e. Cooperation in water-related technology transfer, research and development, training, and setting of standards.

f. Cooperation in the development of mechanisms for dealing with water-related and sewage related natural and man-made emergencies and extreme conditions.

g. Cooperation in the exchange of available relevant water and sewage data, including:

1. Measurements and maps related to water resources and uses.

2. Reports, plans, studies, researches and project documents related to water and sewage.

3. Data concerning the existing extractions, utilization and estimated potential of the Eastern, North-Eastern and Western Aquifers (attached as Schedule 10).

Protection of Water Resources and Water and Sewage Systems

21. Each side shall take all necessary measures to prevent any harm, pollution, or deterioration of water quality of the water resources.

22. Each side shall take all necessary measures for the physical protection of the water and sewage systems in their respective areas.

23. Each side shall take all necessary measures to prevent any pollution or contamination of the water and sewage systems, including those of the other side.

24. Each side shall reimburse the other for any unauthorized use of or sabotage to water and sewage systems situated in the areas under its responsibility which serve the other side.

25

The Gaza Strip

26. The existing agreements and arrangements between the sides concerning water resources and water and sewage systems in the Gaza Strip shall remain unchanged, as detailed in Schedule 11.

SCHEDULE 8 - Joint Water Committe

Pursuant to Article 40, paragraph 15 of this Appendix, the obligations and responsibilities of the JWC shall include:

1. Coordinated management of the water resources as detailed hereunder, while maintaining the existing utilization from the aquifers as detailed in Schedule 10, and taking into consideration the quantities of additional water for the Palestinians as detailed in Article 40. It is understood that the above-mentioned Schedule 10 contains average annual quantities, which shall constitute the basis and guidelines for the operation and decisions of the JWC:

a. All licensing and drilling of new wells and the increase of extraction from any water source, by either side, shall require the prior approval of the JWC.

b. All development of water resources and systems, by either side, shall require the prior approval of the JWC.

c. Notwithstanding the provisions of a. and b. above, it is understood that the projects for additional water detailed in paragraph 7 of Article 40, are agreed in principle between the two sides. Accordingly, only the geo-hydrological and technical details and specifications of these projects shall be brought before the JWC for approval prior to the commencement of the final design and implementation process.

d. When conditions, such as climatological or hydrological variability, dictate a reduction or enable an increase in the extraction from a resource, the JWC shall determine the changes in the extractions and in the resultant supply. These changes will be allocated between the two sides by the JWC in accordance with methods and procedures determined by it.

e. The JWC shall prepare, within three months of the signing of this Agreement, a Schedule to be attached to this Agreement, of extraction quotas from the water resources, based on the existing licenses and permits.

The JWC shall update this Schedule on a yearly basis and as otherwise required.

2. Coordinated management of water and sewage systems in the West Bank, as follows:

a. Existing water and sewage systems, which serve the Palestinian population solely, shall be operated and maintained by the Palestinian side solely, without interference or obstructions, in accordance with the provisions of Article 40.

b. Existing water and sewage systems serving Israelis, shall continue to be operated and maintained by the Israeli side solely, without interference or obstructions, in accordance with the provisions of Article 40.

c. The systems referred to in a and b above shall be defined on Maps to be agreed upon by the JWC within three months from the signing of this Agreement.

d. Plans for construction of new water and sewage systems or modification of existing systems require the prior approval of the JWC.

SCHEDULE 9 - Supervision and Enforcement Mechanism

Pursuant to Article 40, Paragraph 17 of this Appendix:

1. Both sides shall establish, upon the signing of this Agreement, no less than five Joint Supervision and Enforcement Teams (JSETs) for the West Bank, under the control and supervision of the JWC, which shall commence operation immediately.

2. Each JSET shall be comprised of no less than two representatives from each side, each side in its own vehicle, unless otherwise agreed. The JWC may agree on changes in the number of JSETs and their structure.

3. Each side will pay its own costs, as required to carry out all tasks detailed in this Schedule. Common costs will be shared equally.

4. The JSETs shall operate, in the field, to monitor, supervise and enforce the implementation of Article 40 and this Schedule, and to rectify the situation whenever an infringement has been detected, concerning the following:

a. Extraction from water resources in accordance with the decisions of the JWC, and the Schedule to be prepared by it in accordance with sub- paragraph 1.e of Schedule 8.

b. Unauthorized connections to the supply systems and unauthorized water uses;

c. Drilling of wells and development of new projects for water supply from all sources;

d. Prevention of contamination and pollution of water resources and systems;

e. Ensuring the execution of the instructions of the JWC on the operation of monitoring and measurement systems;

f. Operation and maintenance of systems for collection, treatment, disposal and reuse, of domestic and industrial sewage, of urban and agricultural runoff, and of urban and agricultural drainage systems;

g. The electric and energy systems which provide power to all the above systems;

h. The Supervisory Control and Data Acquisition (SCADA) systems for all the above systems;

i. Water and sewage quality analyses carried out in approved laboratories, to ascertain that these laboratories operate according to accepted standards and practices, as agreed by the JWC. A list of the approved laboratories will be developed by the JWC;

j. Any other task, as instructed by the JWC.

5. Activities of the JSETs shall be in accordance with the following:

a. The JSETs shall be entitled, upon coordination with the relevant DCO, to free, unrestricted and secure access to all water and sewage facilities and systems, including those privately owned or operated, as required for the fulfillment of their function.

b. All members of the JSET shall be issued identification cards, in Arabic, Hebrew and English containing their full names and a photograph.

c. Each JSET will operate in accordance with a regular schedule of site visits, to wells, springs and other water sources, water works, and sewage systems, as developed by the JWC.

d. In addition, either side may require that a JSET visit a particular water or sewage facility or system, in order to ensure that no infringements have occurred. When such a requirement has been issued, the JSET shall visit the site in question as soon as possible, and no later than within 24 hours.

e. Upon arrival at a water or sewage facility or system, the JSET shall collect and record all relevant data, including photographs as required, and ascertain whether an infringement has occurred. In such cases, the JSET shall take all necessary measures to rectify it, and reinstate the status quo ante, in accordance with the provisions of this Agreement. If the JSET cannot agree on the actions to be taken, the matter will be referred immediately to the two Chairmen of the JWC for decision.

f. The JSET shall be assisted by the DCOs and other security mechanisms established under this Agreement, to enable the JSET to implement its functions.

g. The JSET shall report its findings and operations to the JWC, using forms which will be developed by the JWC.

SCHEDULE 10 - Data Concerning Aquifers

Pursuant to Article 40, paragraph 20 and Schedule 8 paragraph 1 of this Appendix:

The existing extractions, utilization and estimated potential of the Eastern, North-Eastern, and Western Aquifers are as follows:

Eastern Aquifer:

In the Jordan Valley, 40 mcm to Israeli users, from wells;
24 mcm to Palestinians, from wells;
30 mcm to Palestinians, from springs;
78 mcm remaining quantities to be developed from the Eastern Aquifer;
Total = 172 mcm.

North-Eastern Aquifer:

103 mcm to Israeli users, from the Gilboa and Beisan springs, including from wells;
25 mcm to Palestinian users around Jenin;
17 mcm to Palestinian users from East Nablus springs;
Total = 145 mcm.

Western Aquifer:

340 mcm used within Israel;
20 mcm to Palestinians;
2 mcm to Palestinians, from springs near Nablus;

Total = 362 mcm.

All figures are average annual estimates. The total annual recharge is 679 mcm.

SCHEDULE 11 - The Gaza Strip

Pursuant to Article 40, Paragraph 25:

1. All water and sewage (hereinafter referred to as "water") systems and resources in the Gaza Strip shall be operated, managed and developed (including drilling) by the Council, in a manner that shall prevent any harm to the water resources.

2. As an exception to paragraph 1., the existing water systems supplying water to the Settlements and the Military Installation Area, and the water systems and resources inside them shall continue to be operated and managed by Mekoroth Water Co.

3. All pumping from water resources in the Settlements and the Military Installation Area shall be in accordance with existing quantities of drinking water and agricultural water.

Without derogating from the powers and responsibilities of the Council, the Council shall not adversely affect these quantities. Israel shall provide the Council with all data concerning the number of wells in the Settlements and the quantities and quality of the water pumped from each well, on a monthly basis.

4. Without derogating from the powers and responsibilities of the Council, the Council shall enable the supply of water to the Gush Katif settlement area and Kfar Darom settlement by Mekoroth, as well as the maintenance by Mekoroth of the water systems supplying these locations.

5. The Council shall pay Mekoroth for the cost of water supplied from Israel and for the real expenses incurred in supplying water to the Council.

6. All relations between the Council and Mekoroth shall be dealt with in a commercial agreement.

7. The Council shall take the necessary measures to ensure the protection of all water systems in the Gaza Strip.

8. The two sides shall establish a subcommittee to deal with all issues of mutual interest including the exchange of all relevant data to the management and operation of the water resources and systems and mutual prevention of harm to water resources.

9. The subcommittee shall agree upon its agenda and upon the procedures and manner of its meetings, and may invite experts or advisers as it sees fit.

6. Appendix 3: 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

7.

The Parties to the present Convention, Conscious of the importance of international watercourses and the non-navigational uses thereof in many regions of the world, Having in mind Article 13, paragraph 1 (a), of the Charter of the United Nations, which provides that the General Assembly shall initiate studies and make recommendations for the purpose of encouraging the progressive development of international law and its codification, Considering that successful codification and progressive development of rules of international law regarding non-navigational uses of international watercourses would assist in promoting and implementing the purposes and principles set forth in Articles 1 and 2 of the Charter of the United Nations, Taking into account the problems affecting many international watercourses resulting from, among other things, increasing demands and pollution, Expressing the conviction that a framework convention will ensure the utilization, development, conservation, management and protection of international watercourses and the promotion of the optimal and sustainable utilization thereof for present and future generations Affirming the importance of international cooperation and good neighbourliness in this field, Aware of the special situation and needs of developing countries, Recalling the principles and recommendations adopted by the United Nations Conference on Environment and Development of 1992 in the Rio Declaration and Agenda 21, Recalling also the existing bilateral and multilateral agreements regarding the non-navigational uses of international watercourses, Mindful of the valuable contribution of international organizations, both governmental and non-governmental, to the codification and progressive development of international law in this field, Appreciative of the work carried out by the International Law Commission on the law of the non-navigational uses of international watercourses, Bearing in mind United Nations General Assembly resolution 49/52 of 9 December 1994,

Have agreed as follows:

PART I. INTRODUCTION

Article 1

Scope of the present Convention 1. The present Convention applies to uses of international watercourses and of their waters for purposes other than navigation and to measures of protection, preservation and management related to the uses of those watercourses and their waters. 2. The uses of international watercourses for navigation is not within the scope of the present Convention except insofar as other uses affect navigation or are affected by navigation.

Article2

Use of Terms

For the purposes of the present Convention: (a) "Watercourse" means a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus; (b) "International water-

course" means a watercourse, parts of which are situated in different States;(c) "Watercourse State" means a State Party to the present Convention in whose territory part of an international watercourse is situated, or a Party that is a regional economic integration organization, in the territory of one or more of whose Member States part of an international watercourse is situated; (d) "Regional economic integration organization" means an organization constituted by sovereign States of a given region, to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorized in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it.

Article3

Watercourse Agreements

1. In the absence of an agreement to the contrary, nothing in the present Convention shall affect the rights or obligations of a watercourse State arising from agreements in force for it on the date on which it became a party to the present Convention. 2. Notwithstanding the provisions of paragraph 1, parties to agreements referred to in paragraph 1 may, where necessary, consider harmonizing such agreements with the basic principles of the present Convention. 3. Watercourse States may enter into one or more agreements, hereinafter referred to as "watercourse agreements", which apply and adjust the provisions of the present Convention to the characteristics and uses of a particular international watercourse or part thereof. 4. Where a watercourse agreement is concluded between two or more watercourse States, it shall define the waters to which it applies. Such an agreement may be entered into with respect to an entire international watercourse or any part thereof or a particular project programme or use except insofar as the agreement adversely affects, to a significant extent, the use by one or more other watercourse States of the waters of the watercourse, without their express consent. 5. Where a watercourse State considers that adjustment and application of the provisions of the present Convention is required because of the characteristics and uses of a particular international watercourse, watercourse States shall consult with a view to negotiating in good faith for the purpose of concluding a watercourse agreement or agreements. 6. Where some but not all watercourse States to a particular international watercourse are parties to an agreement, nothing in such agreement shall affect the rights or obligations under the present Convention of watercourse States that are not parties to such an agreement.

Article4

Parties to Watercourse Agreements

1. 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. 2. A watercourse State whose use of an international watercourse may be affected to a significant extent by the implementation of a proposed watercourse agreement that applies only to a part of the watercourse or to a particular project, programme or use is entitled to participate in consultations on such an agreement and, where appropriate, in the negotiation thereof in good faith with a view to becoming a party thereto, to the extent that its use is thereby affected.

PART II. GENERAL PRINCIPLES

Article5

Equitable and Reasonable Utilization and Participation

1. Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse. 2. Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present Convention.

Article6

Factors Relevant to Equitable and Reasonable Utilization

1. 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: (a) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character; (b) The social and economic needs of the watercourse States concerned; (c) The population dependent on the watercourse in each watercourse State; (d) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States; (e) Existing and potential uses of the watercourse; (f) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect; (g) The availability of alternatives, of comparable value, to a particular planned or existing use. 2. In the application of article 5 or paragraph 1 of this article, watercourse States concerned shall, when the need arises, enter into consultations in a spirit of cooperation. 3. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

Article7

Obligation 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. 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, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.

Article8

General Obligation to Cooperate

1. Watercourse States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse. 2. In determining the manner of such coop-

eration, watercourse States may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate cooperation on relevant measures and procedures in the light of experience gained through cooperation in existing joint mechanisms and commissions in various regions.

Article9

Regular Exchange of Data and Information

1. Pursuant to article 8, watercourse States shall on a regular basis exchange readily available data and information on the condition of the watercourse, in particular that of a hydrological, meteorological, hydrogeological and ecological nature and related to the water quality as well as related forecasts. 2. If a watercourse State is requested by another watercourse State to provide data or information that is not readily available, it shall employ its best efforts to comply with the request but may condition its compliance upon payment by the requesting State of the reasonable costs of collecting and, where appropriate, processing such data or information. 3. Watercourse States shall employ their best efforts to collect and, where appropriate, to process data and information in a manner which facilitates its utilization by the other watercourse States to which it is communicated.

Article10

Relationship between Different Kinds of Uses

In the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses. 2. In the event of a conflict between uses of an international watercourse, it shall be resolved with reference to articles 5 to 7, with special regard being given to the requirements of vital human needs.

PART III. PLANNED MEASURES

Article11

Information Concerning Planned Measures

Watercourse States shall exchange information and consult each other and, if necessary, negotiate on the possible effects of planned measures on the condition of an international watercourse.

Article12

Notification Concerning Planned Measures with Possible Adverse Effects

Before a watercourse State implements or permits the implementation of planned measures which may have a significant adverse effect upon other watercourse States, it shall provide those States with timely notification thereof. Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, in order to enable the notified States to evaluate the possible effects of the planned measures.

Article13

Period for Reply to Notification

Unless otherwise agreed: (a) A watercourse State providing a notification under article 12 shall allow the notified States a period of six months within which to study and evaluate the possible effects of the planned measures and to communicate the findings to it; (b) This period shall, at the request of a notified State for which the evaluation of the planned measures poses special difficulty, be extended for a period of six months.

Article14

Obligations of the Notifying State during the Period for Reply

During the period referred to in article 13, the notifying State: (a) Shall cooperate with the notified States by providing them, on request, with any additional data and information that is available and necessary for an accurate evaluation; and (b) Shall not implement or permit the implementation of the planned measures without the consent of the notified States.

Article15

Reply to Notification

The notified States shall communicate their findings to the notifying State as early as possible within the period applicable pursuant to article 13. If a notified State finds that implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7, it shall attach to its finding a documented explanation setting forth the reasons for the finding.

Article16

Absence of Reply to Notification

1. If, within the period applicable pursuant to article 13, the notifying State receives no communication under article 15, it may, subject to its obligations under articles 5 and 7, proceed with the implementation of the planned measures, in accordance with the notification and any other data and information provided to the notified States. 2. Any claim to compensation by a notified State which has failed to reply within the period applicable pursuant to article 13 may be offset by the costs incurred by the notifying State for action undertaken after the expiration of the time for a reply which would not have been undertaken if the notified State had objected within that period.

Article17

Consultations and Negotiations Concerning Planned Measures

1. If a communication is made under article 15 that implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7, the notifying State and the State making the communication shall enter into consultations and, if necessary, negotiations with a view to arriving at an equitable resolution of the situation. 2. The consultations and negotiations shall be conducted on the basis that each State must in good faith pay reasonable regard to the rights and legitimate interests of the other State. 3. During the course of the consultations and negotiations, the notifying State shall, if so requested by the notified State at the time it makes the communication, refrain from implementing or permitting the implementation of the planned measures for a period of six months unless otherwise agreed.

Article18

Procedures in the Absence of Notification

1. If a watercourse State has reasonable grounds to believe that another watercourse State is planning measures that may have a significant adverse effect upon it, the former State may request the latter to apply the provisions of article 12. The request shall be accompanied by a documented explanation setting forth its grounds. 2. In the event that the State planning the measures nevertheless finds that it is not under an obligation to provide a notification under article 12, it shall so inform the other State, providing a documented explanation setting forth the reasons for such finding. If this finding does not satisfy the other State, the two States shall, at the request of that other State, promptly enter into consultations and negotiations in the manner indicated in paragraphs 1 and 2 of article 17. 3. During the course of the consultations and negotiations, the State planning the measures shall, if so requested by the other State at the time it requests the initiation of consultations and negotiations, refrain from implementing or permitting the implementation of those measures for a period of six months unless otherwise agreed.

Article19

Urgent Implementation of Planned Measures

1. In the event that the implementation of planned measures is of the utmost urgency in order to protect public health, public safety or other equally important interests, the State planning the measures may, subject to articles 5 and 7, immediately proceed to implementation, notwithstanding the provisions of article 14 and paragraph 3 of article 17. 2. In such case, a formal declaration of the urgency of the measures shall be communicated without delay to the other watercourse States referred to in article 12 together with the relevant data and information. 3. The State planning the measures shall, at the request of any of the States referred to in paragraph 2, promptly enter into consultations and negotiations with it in the manner indicated in paragraphs 1 and 2 of article 17.

PART IV. PROTECTION, PRESERVATION AND MANAGEMENT

Article20

Protection and Preservation of Ecosystems

Watercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses.

Article21

Prevention, Reduction and Control of Pollution

1. For the purpose of this article, "pollution of an international watercourse" means any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from human conduct. 2. Watercourse States shall, individually and, where appropriate, jointly, prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the watercourse. Watercourse States shall take steps to harmonize their policies in this connec-

tion. 3. Watercourse States shall, at the request of any of them, consult with a view to arriving at mutually agreeable measures and methods to prevent, reduce and control pollution of an international watercourse, such as: (a) Setting joint water quality objectives and criteria; (b) Establishing techniques and practices to address pollution from point and non-point sources; (c) Establishing lists of substances the introduction of which into the waters of an international watercourse is to be prohibited, limited, investigated or monitored.

Article22

Introduction of Alien or New Species

Watercourse States shall take all measures necessary to prevent the introduction of species, alien or new, into an international watercourse which may have effects detrimental to the ecosystem of the watercourse resulting in significant harm to other watercourse States.

Article23

Protection and Preservation of the Marine Environment

Watercourse States shall, individually and, where appropriate, in cooperation with other States, take all measures with respect to an international watercourse that are necessary to protect and preserve the marine environment, including estuaries, taking into account generally accepted international rules and standards.

Article24

Management

1. Watercourse States shall, at the request of any of them, enter into consultations concerning the management of an international watercourse, which may include the establishment of a joint management mechanism. 2. For the purposes of this article, "management" refers, in particular, to: (a) Planning the sustainable development of an international watercourse and providing for the implementation of any plans adopted; and (b) Otherwise promoting the rational and optimal utilization, protection and control of the watercourse.

Article25

Regulation

1. Watercourse States shall cooperate, where appropriate, to respond to needs or opportunities for regulation of the flow of the waters of an international watercourse. 2. Unless otherwise agreed, watercourse States shall participate on an equitable basis in the construction and maintenance or defrayal of the costs of such regulation works as they may have agreed to undertake. 3. For the purposes of this article, "regulation" means the use of hydraulic works or any other continuing measure to alter, vary or otherwise control the flow of the waters of an international watercourse.

Article26

Installations

1. Watercourse States shall, within their respective territories, employ their best efforts to maintain and protect installations, facilities and other works related to an international watercourse. 2. Watercourse States shall, at the request of any of them which has reasonable grounds to believe that it may suffer significant adverse effects, enter into consultations with regard to: (a) The safe operation and maintenance of installations, facilities or other works related to an international watercourse; and (b) The protection of installations, facilities or other works from wilful or negligent acts or the forces of nature.

PART V. HARMFUL CONDITIONS AND EMERGENCY SITUATIONS

Article27

Prevention and mitigation of harmful conditions

Watercourse States shall, individually and, where appropriate, jointly, take all appropriate measures to prevent or mitigate conditions related to an international watercourse that may be harmful to other watercourse States, whether resulting from natural causes or human conduct, such as flood or ice conditions, water-borne diseases, siltation, erosion, salt-water intrusion, drought or desertification.

Article28

Emergency situations

1. For the purposes of this article, "emergency" means a situation that causes, or poses an imminent threat of causing, serious harm to watercourse States or other States and that results suddenly from natural causes, such as floods, the breaking up of ice, landslides or earthquakes, or from human conduct, such as industrial accidents. 2. A watercourse State shall, without delay and by the most expeditious means available, notify other potentially affected States and competent international organizations of any emergency originating within its territory. 3. A watercourse State within whose territory an emergency originates shall, in cooperation with potentially affected States and, where appropriate, competent international organizations, immediately take all practicable measures necessitated by the circumstances to prevent, mitigate and eliminate harmful effects of the emergency. 4. When necessary, watercourse States shall jointly develop contingency plans for responding to emergencies, in cooperation, where appropriate, with other potentially affected States and competent international organizations.

PART VI. MISCELLANEOUS PROVISIONS

Article29

International watercourses and installations in time of armed conflict

International watercourses and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in international and non-international armed conflict and shall not be used in violation of those principles and rules.

Article30

Indirect Procedures

In cases where there are serious obstacles to direct contacts between watercourse States, the States concerned shall fulfill their obligations of cooperation provided for in the present Convention, including exchange of data and information, notification, communication, consultations and negotiations, through any indirect procedure accepted by them.

Article31

Data and Information Vital to National Defence or Security

Nothing in the present Convention obliges a watercourse State to provide data or information vital to its national defence or security. Nevertheless, that State shall cooperate in good faith with the other watercourse States with a view to providing as much information as possible under the circumstances.

Article32

Non-discrimination

Unless the watercourse States concerned have agreed otherwise for the protection of the interests of persons, natural or juridical, who have suffered or are under a serious threat of suffering significant transboundary harm as a result of activities related to an international watercourse, a watercourse State shall not discriminate on the basis of nationality or residence or place where the injury occurred, in granting to such persons, in accordance with its legal system, access to judicial or other procedures, or a right to claim compensation or other relief in respect of significant harm caused by such activities carried on in its territory.

Article33

Settlement of disputes

1. In the event of a dispute between two or more Parties concerning the interpretation or application of the present Convention, the Parties concerned shall, in the absence of an applicable agreement between them, seek a settlement of the dispute by peaceful means in accordance with the following provisions. 2. If the Parties concerned cannot reach agreement by negotiation requested by one of them, they may jointly seek the good offices of, or request mediation or conciliation by, a third party, or make use, as appropriate, of any joint watercourse institutions that may have been established by them or agree to submit the dispute to arbitration or to the International Court of Justice. 3. Subject to the operation of paragraph 10, if after six months from the time of the request for negotiations referred to in paragraph 2, the Parties concerned have not been able to settle their dispute through negotiation or any other means referred to in paragraph 2, the dispute shall be submitted, at the request of any of the parties to the dispute, to impartial fact-finding in accordance with paragraphs 4 to 9, unless the Parties otherwise agree. 4. Fact-finding Commission shall be established, composed of one member nominated by each Party concerned and in addition a member not having the nationality of any of the Parties concerned chosen by the nominated members who shall serve as Chairman. 5. If the members nominated by the Parties are unable to agree on a Chairman within three months of the request for the establishment of the Commission, any Party concerned may request the Secretary-General of the United Nations to appoint the Chairman who shall not have the nationality of any of the parties to the dispute or of any riparian State

of the watercourse concerned. If one of the Parties fails to nominate a member within three months of the initial request pursuant to paragraph 3, any other Party concerned may request the Secretary-General of the United Nations to appoint a person who shall not have the nationality of any of the parties to the dispute or of any riparian State of the watercourse concerned. The person so appointed shall constitute a single-member Commission. 6. The Commission shall determine its own procedure. 7. The Parties concerned have the obligation to provide the Commission with such information as it may require and, on request, to permit the Commission to have access to their respective territory and to inspect any facilities, plant, equipment, construction or natural feature relevant for the purpose of its inquiry. 8. The Commission shall adopt its report by a majority vote, unless it is a single-member Commission, and shall submit that report to the Parties concerned setting forth its findings and the reasons therefore and such recommendations as it deems appropriate for an equitable solution of the dispute, which the Parties concerned shall consider in good faith. 9. The expenses of the Commission shall be borne equally by the Parties concerned 10. When ratifying, accepting, approving or acceding to the present Convention, or at any time thereafter, a Party which is not a regional economic integration organization may declare in a written instrument submitted to the Depositary that, in respect of any dispute not resolved in accordance with paragraph 2, it recognizes as compulsory ipso facto and without special agreement in relation to any Party accepting the same obligation: (a) Submission of the dispute to the International Court of Justice; and/or (b) Arbitration by an arbitral tribunal established and operating, 'unless the parties to the dispute otherwise agreed, in accordance with the procedure laid down in the annex to the present Convention.

A Party which is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with subparagraph (b).

PART VII. FINAL CLAUSES

Article34

Signature

The present Convention shall be open for signature by all States and by regional economic integration organizations from 21 May 1997 until 20 May 2000 at United Nations Headquarters in New York.

Article35

Ratification, Acceptance, Approval or Accession

1. The present Convention is subject to ratification, acceptance, approval or accession by States and by regional economic integration organizations. The instruments of ratification, acceptance, approval or accession shall be deposited with the Secretary-General of the United Nations. 2. Any regional economic integration organization which becomes a Party to this Convention without any of its member States being a Party shall be bound by all the obligations under the Convention. In the case of such organizations, one or more of whose member States is a Party to this Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently. 3. In their instruments of ratification, acceptance, approval or accession, the regional eco-

nomic integration organizations shall declare the extent of their competence with respect to the matters governed by the Convention. These organizations shall also inform the Secretary-General of the United Nations of any substantial modification in the extent of their competence.

Article 36

Entry into Force

1. The present Convention shall enter into force on the ninetieth 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. 2. For each State or regional economic integration organization that ratifies, accepts or approves the Convention or accedes thereto after the deposit of the thirty-fifth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession. 3. For the purposes of paragraphs 1 and 2, any instrument deposited by a regional economic integration organization shall not be counted as additional those deposited by States.

Article37

Authentic Texts

The original of the present Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned plenipotentiaries, being duly authorized thereto, have signed this Convention.

DONE at New York, this _____ day of one thousand nine hundred and ninety-seven.

ANNEX

ARBITRATION

Article 1: Unless the parties to the dispute otherwise agree, the arbitration pursuant to article 33 of the Convention shall take place in accordance with articles 2 to 14 of the present annex.

Article 2: The claimant party shall notify the respondent party that it is referring a dispute to arbitration pursuant to article 33 of the Convention. The notification shall state the subject matter of arbitration and include, in particular, the articles of the Convention, the interpretation or application of which are at issue. If the parties do not agree on the subject matter of the dispute, the arbitral tribunal shall determine the subject matter.

Article 3: 1. In disputes between two parties, the arbitral tribunal shall consist of three members. Each of the parties to the dispute shall appoint an arbitrator and the two arbitrators so appointed shall designate by common agreement the third arbitrator, who shall

be the Chairman of the tribunal. The latter shall not' be a national of one of the parties to the dispute or of any riparian State of the watercourse concerned, nor have his or her usual place of residence in the territory of one of these parties or such riparian State, nor have dealt with the case in any other capacity. 2. In disputes between more than two parties, parties in the same interest shall appoint one arbitrator jointly by agreement. 3. Any vacancy shall be filled in the manner prescribed for the initial appointment.

Article 4: 1. If the Chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the President of the International Court of Justice shall, at the request of a party, designate the Chairman within a further two-month period. 2. If one of the parties to the dispute does not appoint an arbitrator within two months of receipt of the request, the other party may inform the President of the International Court of Justice, who shall make the designation within a further two-month period.

Article 5: The arbitral tribunal shall render its decisions in accordance with the provisions of this Convention and international law.

Article 6: Unless the parties to the dispute otherwise agree, the arbitral tribunal shall determine its own rules of procedure.

Article 7: The arbitral tribunal may, at the request of one of the Parties, recommend essential interim measures of protection.

Article 8: 1. The parties to the dispute shall facilitate the work of the arbitral tribunal and, in particular, using all means at their disposal, shall: (a) Provide it with all relevant documents, information and facilities; and (b) Enable it', when necessary, to call witnesses or experts and receive their evidence. 2. The parties and the arbitrators are under an obligation to protect the confidentiality of any information they receive in confidence during the proceedings of the arbitral tribunal.

Article 9: Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the costs of the tribunal shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its costs, and shall furnish a final statement thereof to the parties.

Article 10: Any Party that has an interest of a legal nature in the subject matter of the dispute which may be affected by the decision in the case may intervene in the proceedings with the consent of the tribunal.

Article 11: The tribunal may hear and determine counterclaims arising directly out of the subject matter of the dispute.

Article 12: Decisions both on procedure and substance of the arbitral tribunal shall be taken by a majority vote of its members.

Article 13: If one of the parties to the dispute does not appear before the arbitral tribunal or fails to defend its case, the other party may request the tribunal to continue the proceedings and to make its award. Absence of a party or a failure of a party to defend its case shall not constitute a bar to the proceedings. Before rendering its final decision, the arbitral tribunal must satisfy itself that the claim is well founded in fact and law.

Article 14: 1. The tribunal shall render its final decision within five months of the date on which it is fully constituted unless it finds it necessary to extend the time limit for a

period which should not exceed five more months. 2. The final decision of the arbitral tribunal shall be confined to the subject matter of the dispute and shall state the reasons on which it is based'. It shall contain the names of the members who have participated and the date of the final decision. Any member of the tribunal may attach a separate or dissenting opinion to the final decision. 3. The award shall be binding on the parties to the dispute. It shall be without appeal unless the parties to the dispute have agreed in advance to an appellate procedure. 4. Any controversy which may arise between the parties to the dispute as regards the interpretation or manner of implementation of the final decision may be submitted by either party for decision to the arbitral tribunal which rendered it.

3. Appendix 4: Draft articles on the Law of Transboundary Aquifers 2008

Text adopted by the International Law Commission at its sixtieth session, in 2008, and submitted to the General Assembly as a part of the Commission's report covering the work of that session. The report, which also contains commentaries on the draft articles, appears in Official Records of the General Assembly, Sixty-third Session, Supplement No. 10 (A/63/10).

The law of transboundary aquifers

Conscious of the importance for humankind of life supporting groundwater resources in all regions of the world,

Bearing in mind Article 13, paragraph 1 (a), of the Charter of the United Nations, which provides that the General Assembly shall initiate studies and make recommendations for the purpose of encouraging the progressive development of international law and its codification,

Recalling General Assembly resolution 1803 (XVII) of 14 December 1962 on permanent sovereignty over natural resources,

Reaffirming the principles and recommendations adopted by the United Nations

Conference on Environment and Development of 1992 in the Rio Declaration on

Environment and Development and Agenda 21,

Taking into account increasing demands for freshwater and the need to protect groundwater resources,

Mindful of the particular problems posed by the vulnerability of aquifers to pollution,

Convinced of the need to ensure the development, utilization, conservation, management and protection of groundwater resources in the context of the promotion of the optimal and sustainable development of water resources for present and future generations,

Affirming the importance of international cooperation and good neighbourliness in this field,

Emphasizing the need to take into account the special situation of developing countries,

Recognizing the necessity to promote international cooperation,

PART ONE

INTRODUCTION

Article 1

Scope

The present draft articles apply to:

(a) Utilization of transboundary aquifers or aquifer systems;

(b) Other activities that have or are likely to have an impact upon such aquifers or aquifer systems; and

(c) Measures for the protection, preservation and management of such aquifers or aquifer systems.

Article 2

Use of terms

For the purposes of the present draft articles:

(a) “aquifer” means a permeable water-bearing geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation;

(b) “aquifer system” means a series of two or more aquifers that are hydraulically connected;

(c) “transboundary aquifer” or “transboundary aquifer system” means respectively, an aquifer or aquifer system, parts of which are situated in different States;

(d) “aquifer State” means a State in whose territory any part of a transboundary aquifer or aquifer system is situated;

(e) “utilization of transboundary aquifers or aquifer systems” includes extraction of water, heat and minerals, and storage and disposal of any substance;

(f) “recharging aquifer” means an aquifer that receives a non-negligible amount of contemporary water recharge;

(g) “recharge zone” means the zone which contributes water to an aquifer, consisting of the catchment area of rainfall water and the area where such water flows to an aquifer by runoff on the ground and infiltration through soil;

(h) “discharge zone” means the zone where water originating from an aquifer flows to its outlets, such as a watercourse, a lake, an oasis, a wetland or an ocean.

PART TWO

GENERAL PRINCIPLES

Article 3

Sovereignty of aquifer States

Each aquifer State has sovereignty over the portion of a transboundary aquifer or aquifer system located within its territory. It shall exercise its sovereignty in accordance with international law and the present draft articles.

Article 4

Equitable and reasonable utilization

Aquifer States shall utilize transboundary aquifers or aquifer systems according to the principle of equitable and reasonable utilization, as follows:

(a) They shall utilize transboundary aquifers or aquifer systems in a manner that is consistent with the equitable and reasonable accrual of benefits therefrom to the aquifer

States concerned;

(b) They shall aim at maximizing the long-term benefits derived from the use of water contained therein;

(c) They shall establish individually or jointly a comprehensive utilization plan, taking into account present and future needs of, and alternative water sources for, the aquifer States; and

(d) They shall not utilize a recharging transboundary aquifer or aquifer system at a level that would prevent continuance of its effective functioning.

Article 5

Factors relevant to equitable and reasonable utilization

1. Utilization of a transboundary aquifer or aquifer system in an equitable and reasonable manner within the meaning of draft article 4 requires taking into account all relevant factors, including:

(a) The population dependent on the aquifer or aquifer system in each aquifer

State;

(b) The social, economic and other needs, present and future, of the aquifer States concerned;

(c) The natural characteristics of the aquifer or aquifer system;

(d) The contribution to the formation and recharge of the aquifer or aquifer system;

(e) The existing and potential utilization of the aquifer or aquifer system;

(f) The actual and potential effects of the utilization of the aquifer or aquifer system in one aquifer State on other aquifer States concerned;

(g) The availability of alternatives to a particular existing and planned utilization of the aquifer or aquifer system;

(h) The development, protection and conservation of the aquifer or aquifer system and the costs of measures to be taken to that effect;

(i) The role of the aquifer or aquifer system in the related ecosystem.

2. The weight to be given to each factor is to be determined by its importance with regard to a specific transboundary aquifer or aquifer system in comparison with that of other relevant factors. In determining what is equitable and reasonable utilization, all relevant factors are to be considered together and a conclusion reached on the basis of all the factors. However, in weighing different kinds of utilization of a transboundary aquifer or aquifer system, special regard shall be given to vital human needs.

Article 6

Obligation not to cause significant harm

1. Aquifer States shall, in utilizing transboundary aquifers or aquifer systems in their territories, take all appropriate measures to prevent the causing of significant harm to other aquifer States or other States in whose territory a discharge zone is located.

2. Aquifer States shall, in undertaking activities other than utilization of a transboundary aquifer or aquifer system that have, or are likely to have, an impact upon that transboundary aquifer or aquifer system, take all appropriate measures to prevent the causing of significant harm through that aquifer or aquifer system to other aquifer States or other States in whose territory a discharge zone is located.

3. Where significant harm nevertheless is caused to another aquifer State or a State in whose territory a discharge zone is located, the aquifer State whose activities cause such harm shall take, in consultation with the affected State, all appropriate response measures to eliminate or mitigate such harm, having due regard for the provisions of draft articles 4 and 5.

Article 7

General obligation to cooperate

1. Aquifer States shall cooperate on the basis of sovereign equality, territorial integrity, sustainable development, mutual benefit and good faith in order to attain equitable and reasonable utilization and appropriate protection of their transboundary aquifers or aquifer systems.

2. For the purpose of paragraph 1, aquifer States should establish joint mechanisms of cooperation.

Article 8

Regular exchange of data and information

1. Pursuant to draft article 7, aquifer States shall, on a regular basis, exchange readily available data and information on the condition of their transboundary aquifers or aqui-

fer systems, in particular of a geological, hydrogeological, hydrological, meteorological and ecological nature and related to the hydrochemistry of the aquifers or aquifer systems, as well as related forecasts.

2. Where knowledge about the nature and extent of a transboundary aquifer or aquifer system is inadequate, aquifer States concerned shall employ their best efforts to collect and generate more complete data and information relating to such aquifer or aquifer system, taking into account current practices and standards. They shall take such action individually or jointly and, where appropriate, together with or through international organizations.

3. If an aquifer State is requested by another aquifer State to provide data and information relating to an aquifer or aquifer system that are not readily available, it shall employ its best efforts to comply with the request. The requested State may condition its compliance upon payment by the requesting State of the reasonable costs of collecting and, where appropriate, processing such data or information.

4. Aquifer States shall, where appropriate, employ their best efforts to collect and process data and information in a manner that facilitates their utilization by the other aquifer States to which such data and information are communicated.

Article 9

Bilateral and regional agreements and arrangements

For the purpose of managing a particular transboundary aquifer or aquifer system, aquifer States are encouraged to enter into bilateral or regional agreements or arrangements among themselves. Such agreements or arrangements may be entered into with respect to an entire aquifer or aquifer system or any part thereof or a particular project, programme or utilization except insofar as an agreement or arrangement adversely affects, to a significant extent, the utilization, by one or more other aquifer States of the water in that aquifer or aquifer system, without their express consent.

PART THREE

PROTECTION, PRESERVATION AND MANAGEMENT

Article 10

Protection and preservation of ecosystems

Aquifer States shall take all appropriate measures to protect and preserve ecosystems within, or dependent upon, their transboundary aquifers or aquifer systems, including measures to ensure that the quality and quantity of water retained in an aquifer or aquifer system, as well as that released through its discharge zones, are sufficient to protect and preserve such ecosystems.

Article 11

Recharge and discharge zones

1. Aquifer States shall identify the recharge and discharge zones of transboundary aquifers or aquifer systems that exist within their territory. They shall take appropriate measures to prevent and minimize detrimental impacts on the recharge and discharge processes.

2. All States in whose territory a recharge or discharge zone is located, in whole or in part, and which are not aquifer States with regard to that aquifer or aquifer system, shall cooperate with the aquifer States to protect the aquifer or aquifer system and related ecosystems.

Article 12

Prevention, reduction and control of pollution

Aquifer States shall, individually and, where appropriate, jointly, prevent, reduce and control pollution of their transboundary aquifers or aquifer systems, including through the recharge process, that may cause significant harm to other aquifer States. Aquifer States shall take a precautionary approach in view of uncertainty about the nature and extent of a transboundary aquifer or aquifer system and of its vulnerability to pollution.

Article 13

Monitoring

1. Aquifer States shall monitor their transboundary aquifers or aquifer systems. They shall, wherever possible, carry out these monitoring activities jointly with other aquifer States concerned and, where appropriate, in collaboration with competent international organizations. Where monitoring activities cannot be carried out jointly, the aquifer States shall exchange the monitored data among themselves.

2. Aquifer States shall use agreed or harmonized standards and methodology for monitoring their transboundary aquifers or aquifer systems. They should identify key parameters that they will monitor based on an agreed conceptual model of the aquifers or aquifer systems. These parameters should include parameters on the condition of the aquifer or aquifer system as listed in draft article 8, paragraph 1, and also on the utilization of the aquifers or aquifer systems.

Article 14

Management

Aquifer States shall establish and implement plans for the proper management of their transboundary aquifers or aquifer systems. They shall, at the request of any of them, enter into consultations concerning the management of a transboundary aquifer or aquifer system. A joint management mechanism shall be established, wherever appropriate.

Article 15

Planned activities

1. When a State has reasonable grounds for believing that a particular planned activity in its territory may affect a transboundary aquifer or aquifer system and thereby may have a significant adverse effect upon another State, it shall, as far as practicable, assess the possible effects of such activity.

2. Before a State implements or permits the implementation of planned activities which may affect a transboundary aquifer or aquifer system and thereby may have a significant adverse effect upon another State, it shall provide that State with timely notification thereof. Such notification shall be accompanied by available technical data and information, including any environmental impact assessment, in order to enable the notified State to evaluate the possible effects of the planned activities.

3. If the notifying and the notified States disagree on the possible effect of the planned activities, they shall enter into consultations and, if necessary, negotiations with a view to arriving at an equitable resolution of the situation. They may utilize an independent fact-finding body to make an impartial assessment of the effect of the planned activities.

PART FOUR

MISCELLANEOUS PROVISIONS

Article 16

Technical cooperation with developing States

States shall, directly or through competent international organizations, promote scientific, educational, legal and other cooperation with developing States for the protection and management of transboundary aquifers or aquifer systems, including, inter alia:

(a) Strengthening their capacity-building in scientific, technical and legal fields;

(b) Facilitating their participation in relevant international programmes;

(c) Supplying them with necessary equipment and facilities;

(d) Enhancing their capacity to manufacture such equipment;

(e) Providing advice on and developing facilities for research, monitoring, educational and other programmes;

(f) Providing advice on and developing facilities for minimizing the detrimental effects of major activities affecting their transboundary aquifer or aquifer system;

(g) Providing advice in the preparation of environmental impact assessments;

(h) Supporting the exchange of technical knowledge and experience among developing States with a view to strengthening cooperation among them in managing the

transboundary aquifer or aquifer system.

Article 17

Emergency situations

1. For the purpose of the present draft article, “emergency” means a situation, resulting suddenly from natural causes or from human conduct, that affects a transboundary aquifer or aquifer system and poses an imminent threat of causing serious harm to aquifer States or other States.

2. The State within whose territory the emergency originates shall:

(a) Without delay and by the most expeditious means available, notify other potentially affected States and competent international organizations of the emergency;

(b) In cooperation with potentially affected States and, where appropriate, competent international organizations, immediately take all practicable measures necessitated by the circumstances to prevent, mitigate and eliminate any harmful effect of the emergency.

3. Where an emergency poses a threat to vital human needs, aquifer States, notwithstanding draft articles 4 and 6, may take measures that are strictly necessary to meet such needs.

4. States shall provide scientific, technical, logistical and other cooperation to other States experiencing an emergency. Cooperation may include coordination of international emergency actions and communications, making available emergency response personnel, emergency response equipment and supplies, scientific and technical expertise and humanitarian assistance.

Article 18

Protection in time of armed conflict

Transboundary aquifers or aquifer systems and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in international and non-international armed conflict and shall not be used in violation of those principles and rules.

Article 19

Data and information vital to national defence or security

Nothing in the present draft articles obliges a State to provide data or information vital to its national defence or security. Nevertheless, that State shall cooperate in good faith with other States with a view to providing as much information as possible under the circumstances.

قضية المياه و حل الدولتين : نهج قانوني شامل للتغلب على النزاع الفلسطيني الإسرائيلي حول المياه

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ملخص

الشرق الأوسط يعد من أكثر المناطق في العالم جفافا أو شبه جاف . المياه نادره في المنطقة و تستخدم كاداة سياسية من قبل الإسرائيليين للسيطرة على الأراضي بحيث أن توزيع المياه بين دول غير عادل و كذلك غير متكافئ . فقضية المياه في المفاوضات الفلسطينة الإسرائلية في أول أعطيت الأهمية للقضايا الأخرى كقضية التسعينيات لعبت دورا ثنائيا في قضايا الحال الدائم و القدس، قضية اللاجئين ، الحدود والمستوطنات

منذ بدء المفاوضات و حتى الآن لم يجرأ إي تقدم في إي هذه القضايا والتي كان من المفروض أن تحل في عام ١٩٩٩ كحل دائم. عمليا فشلت المفاوضات في التعامل مع قضية المياه و من هذ الأسباب هو عدم التطرق إلى القانون الدولي لتوزيع المياه

في عام ٢٠٠٤ إتفق الإسرائيليون و الفلسطينيون مع المجتمع الدولي بإقامة دولة فلسطينية مستقلة قابله للحياه، فحتى أن تكون هذه الدولة قابله للحياه ، تحتاج الدولة الفلسطينية إلى قدر كافي من المياه حتى تنمو و توفر العيش الوفير لي أبنائها

تهدف هذه الدراسة إلى إقتراح تطبيق القانون الدولي للمياه للنزاع بين الطرفين لحل مشكلة المياه و الذي يتطلب توزيع عادل و متكافئ . و تهدف أيضا هذه الدراسه إلى تقديم مفهوم مشاركة الأرباح والفوائد من أجل الوصول إلى إتفاقية عدله و مستدامة لمصلحة هذه الموارد الشحيحة و كذلك لمصلحة الأجيال القادمة