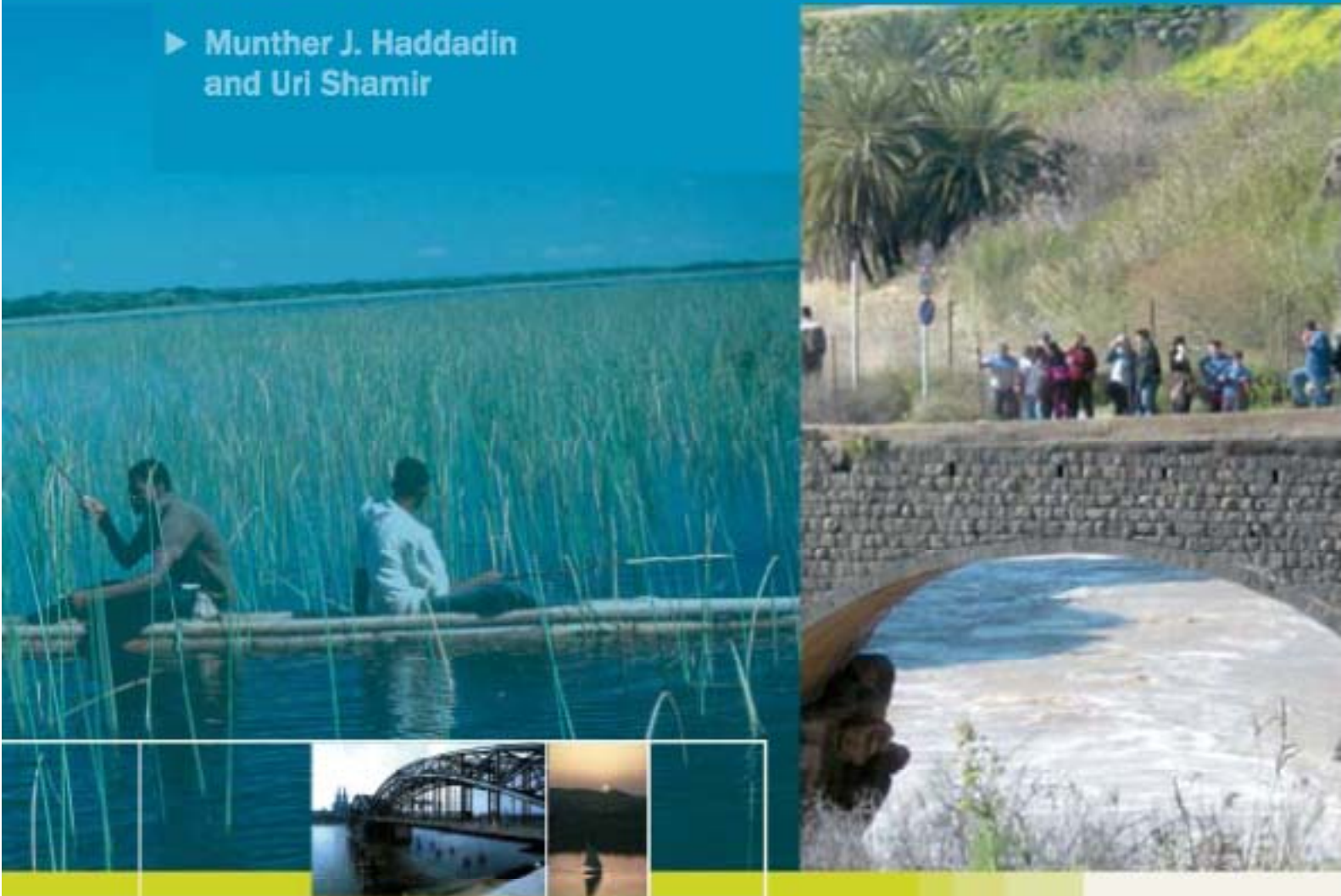


Jordan Case Study

► Munther J. Haddadin
and Uri Shamir



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THE JORDAN RIVER BASIN, PART I:

Water Conflict and Negotiated Resolution

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JORDAN RIVER CASE STUDY, PART II:

The Negotiations and The Water Agreement Between The Hashemite Kingdom of Jordan and The State of Israel

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THE JORDAN RIVER BASIN: WATER CONFLICT AND NEGOTIATED RESOLUTION

The conflict over the waters of the Jordan basin dates back to the late 1800s when the Zionist Organization chose Palestine to establish a national home for the Jews. Several water plans were prepared to harness those waters for the benefit of the side that prepared them. The Zionist Organization had plans prepared as early as 1899 and continued working until Israel was established and the new state took over the chores of more detailed planning and implementation. The indigenous societies, primarily the Hashemite Kingdom of Jordan, came up with competing plans starting in 1939 and had a Master Plan prepared for the development of the Jordan Valley.

The creation of Israel created a strong tremor in the region. Ever since its establishment, Israel had been rejected by the states of the region. The Jordan River waters became an additional reason for escalating the conflict between Israel and the other riparian parties. Border clashes became frequent at a time when the cold war was escalating, and the communist "threat" was becoming apparent in the Middle East. Added to the other conflicts in the world at the time, the Middle East conflict caused concern for the leader of the "Free World", the United States of America.

To counter the threat of communist infiltration in the Middle East, and to induce the Arab states to tacitly accept the new state of Israel, the President of the United States dispatched a presidential envoy to the Middle East equipped with a water plan for the utilization of the waters of the Jordan basin by the riparian parties including Israel. The water plan was prepared by US consultants, Chas T. Main, under contract with the Tennessee Valley Authority. Ambassador Johnston made four separate trips to the region between October 1953 and October 1955. During these trips he conducted "shuttle diplomacy" between Israel and a technical committee formed by the Arab League. In each of the four shuttle trips, Johnston met with technical and political representatives of the countries in the region, and introduced amendments to his original water plan. His mission was made more difficult by political developments in the region, and, more importantly, by Arab fears that the water plan had covert objectives such as Arab recognition of and cooperation with Israel, and the resettlement of the Palestinian refugees, victims of the creation of Israel, in the host countries.

Ambassador Johnston reached agreement with the Arab Technical Committee in September 1955, and with the Israelis. Although he put a good defense of the final water plan to the concerned Arab Ministers, the Arab League Council decided, in October 1955, to have more detailed studies done and did not issue the approval that Ambassador Johnston was hoping for.

The final water plan that Johnston negotiated with the Arab Technical Committee and with Israel, known as the "Unified Plan for the Development of the Jordan Valley", became the basis for the implementation of water projects in the Jordan Valley thereafter. The United States made compliance with the provisions of that plan a condition for US financial support to the parties. The East Ghor Canal Project in Jordan (now the King Abdallah Canal) was started and extended with grant contributions from the United States, and so were the Tiberias-Beit Shean project and the National Water Carrier project in Israel. The provisions of the Unified Plan were, to some extent, observed by Jordan and Israel until the two riparian parties resolved their water conflict during the peace negotiations under the Middle East Peace Process. Major elements of the water agreement between the two countries were based on the Unified Plan worked out by Ambassador Johnston.

1. INTRODUCTION

The Jordan River basin, some 18,300 square kilometers in area, straddles the territories of four separate Arab political entities, and a Jewish one. These are respectively: Lebanon, Syria, the West Bank (represented by the Palestinian Authority), and the Hashemite Kingdom of Jordan on the Arab side, and Israel (see Map 1). Before these entities were created and became separate and independent of one another, unilateral designs for the utilization of the basin waters were laid down. The World Zionist Organization, in their first conference in Basel in 1897, formally targeted Palestine, then part of the Ottoman Empire, to become the lands of a national home for the Jews. Soon after that the Organization dispatched to Palestine a civil engineer, Abraham Bourcart, to study the Jordan basin and develop plans for the utilization of its waters for the benefit of the future homeland (Haddadin, 2001, p. 7–8). In 1913, the Ottoman Director of Works for Palestine, Mr. Georges Franghia, proposed the utilization of the river system for irrigation in the Jordan Valley and power generation (Naff and Watson, 1984).

Upon the collapse of the Ottoman Empire in 1918, the territories of the Jordan River basin came under the trusteeship of the League of Nations, which in turn entrusted the territories to a British and a French mandate. Borders were drawn to separate the once united territories in accordance with a British–French–Italian–Russian arrangement worked out in 1916, and Palestine and Transjordan along with Iraq were put under the British mandate, while Lebanon and Syria were put under the French mandate. Thus the territories of the Jordan River basin came under two separate foreign administrations. Britain, acting through her Foreign Minister Lord Balfour in November 1917, issued the declaration that carried his name, in which he expressed the support of His Majesty’s Government to the establishment of a national home for the Jews in Palestine. Jewish immigration to Palestine increased, as did the domestic tension because the Palestinians resented that immigration and were fearful of losing their country to the Jews.

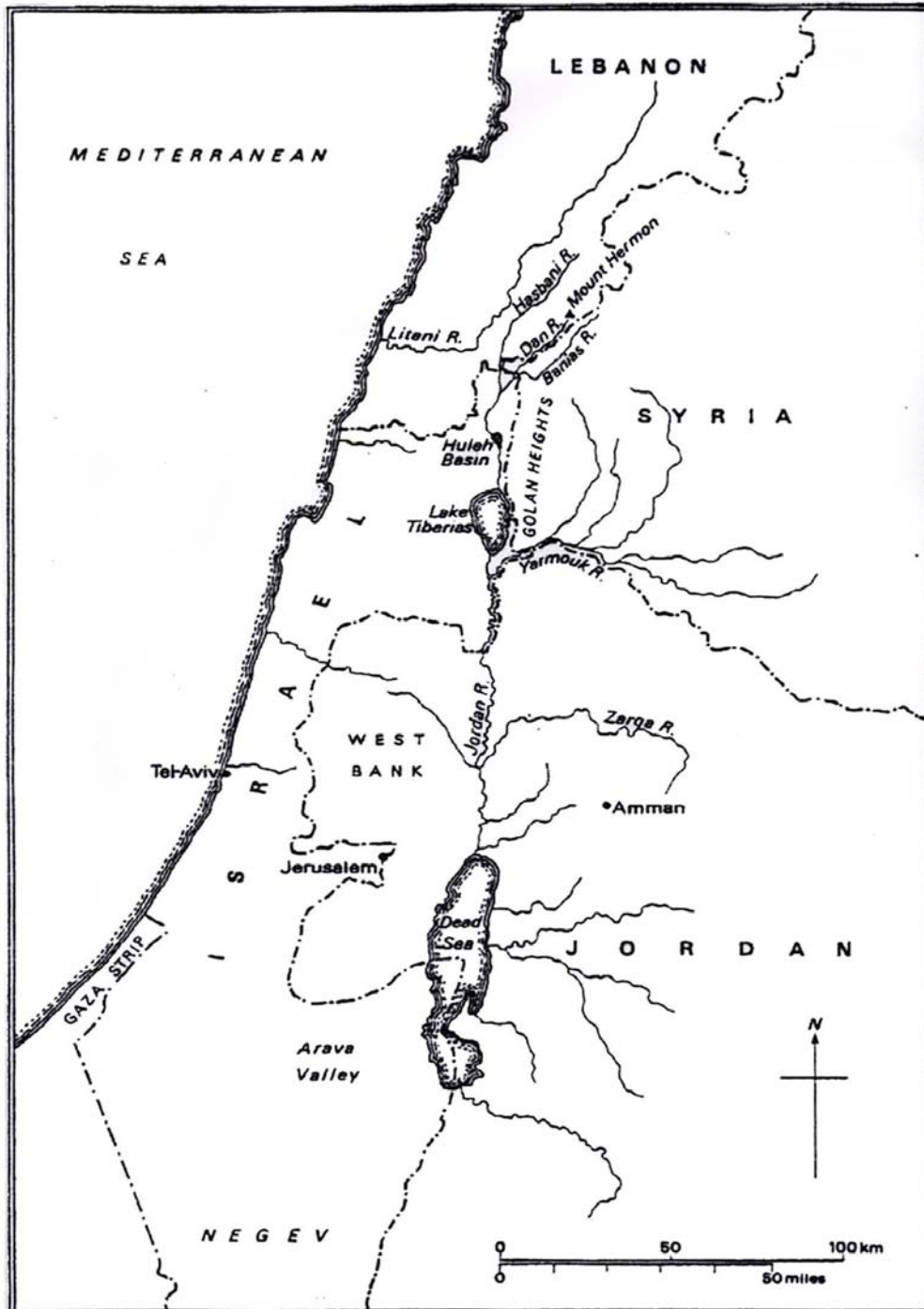
2. CONFLICTING WATER PLANS

Several water plans were prepared under the mandate to utilize the waters of the Jordan basin (Naff and Watson, 1984). Two plans were prepared by Mavromatis and by Henriques of Great Britain in 1922 and 1928 respectively. A concession was awarded by the Ministry of the Colonies in 1921 to the Jewish engineer Pinhas Rutenberg for the utilization of the Jordan and its major tributary the Yarmouk for power generation, and to drain the Huleh marshes. The power concession was sanctioned by the Transjordan Cabinet on January 8 1928 (Haddadin, 2001, p. 16), and a power station was put into operation in 1932. In 1935, the Palestine Land Development Company, an arm of the Zionist Organization, prepared a plan for the transfer of water from the Jordan to the Upper Galilee.

The tensions in Palestine exploded into an all-out Palestinian revolt in 1936 that lasted for six months, demanding a halt to the Jewish immigration and to the sale of lands to the new immigrants. The British government dispatched a commission headed by Lord Peel to find a solution for the mounting unrest in Palestine, and followed it with another headed by Mr Woodhead. The commissions recommended, among other measures, the partition of Palestine between the Palestinian Arabs and the Jews, and setting an upper limit for the quota of Jewish immigrants. In the wake of those missions, the government of Transjordan initiated a study for the utilization of the Jordan waters to determine their capacity to support three states: Jordan, Palestine, and a Jewish state. The study was conducted by a British engineer, Michael Ionedis, who had worked on the Tigris and the Euphrates in Iraq earlier, and later

became the Director of Development in the government of Transjordan. He published his study in 1939, and again in 1953 (Ionedis, 1937, 1953, cited by Lowi 1993, pp.: 43-4 and 226). He estimated, for the first time, the available water resources of the Jordan and the irrigable land in the Jordan Valley. His study focused on the irrigation of the East Jordan Valley but also contained ideas to irrigate the West Jordan Valley.

Map 1. The Jordan River Valley



More plans came into being thereafter. Walter Clay Lowdermilk, an American soil scientist, was commissioned by the Zionist Organization to study the utilization of the water resources in the region. He included in his study the Litani river, a totally Lebanese river discharging into the Mediterranean, and proposed the transfer of

Jordan River water to the arid south of Palestine, and the compensation of the Dead Sea with water transferred to it from the Mediterranean: a proposal originally advocated by Theodore Hertzl and adopted by Bourcart in 1899. He published his findings in his book, *Palestine: Land of Promise* (Lowdermilk, 1944). His plans were later elaborated by James B. Hays, an American engineer who worked as a consultant to the Jewish Agency and published it in his book, *TVA on the Jordan*, in 1948. Similar ideas had been proposed by the Jewish engineer Simcha Blass in 1944 (as cited by Kalley and Fishelson, 1993, p. 6–7) These ideas comprised the core of Jewish thinking for the utilization of the Jordan waters and extended into the water plans of Israel after the Jewish state was proclaimed on May 14 1948. The proclamation of the Jewish state was based on United Nations General Assembly resolution No. 181 of November 29 1947, adopting the partition of Palestine into a Jewish State and a Palestinian Arab State. The six independent Arab States, then members of the United Nations, objected to the resolution and the result was the outbreak of war between the proclaimed Jewish state and the adjacent Arab states, who rejected the creation of Israel in their midst at the expense of the Palestinians. Israel gained over 20 percent more territory from the war than was assigned to it under the partition resolution. Armistice agreements were concluded between Israel and the surrounding states in 1949. These did not end the state of war but drew demarcation lines between the warring parties.

In that same year, Jordan commissioned the services of the British consultants, Sir Murdoch MacDonald and Partners, to formulate a plan for the exploitation of the Jordan River waters. MacDonald's work relied heavily on the work of Ionedis but was more detailed. They decreed that the waters of the basin could not be taken out of it for the benefit of out-of-basin irrigation before all the lands in the basin were adequately irrigated. This notion was advocated by Jordan later on, and by the Arab parties who were involved in the development of the Jordan River Basin. Serious competition between Israelis and Arabs for the Jordan River waters commenced and would soon gain momentum, increasing the chances of renewed Arab–Israeli hostilities. The situation was complicated by the persistence of the state of war between the Arabs and Israel, and was further exacerbated by the pressing problem of the Palestinian refugees who took refuge in adjacent Arab states.

Water projects soon became a cause for military clashes as Israel attempted to implement unilaterally its National Water Carrier project, whose intake on the Jordan River was originally located in a demilitarized zone between Israel and Syria close to Jisr Banat Ya'coub (see map 2). The Israeli project was meant to transfer Jordan River waters to irrigate as much as possible of its arid south and make room for more Jewish immigrants to the new state, something that Arabs strongly resented; they gave priority to the return of Palestinian refugees over receiving more Jewish immigrants.

3. THE POST SECOND WORLD WAR ENVIRONMENT

The competition over the Jordan waters between Arabs and Israelis would soon command the attention of the United States, which emerged as leader of the Free World after the Second World War. On the Arab side, the independent Arab states had formed the Arab League in 1945, and it was through this organization that a decision was made to engage in a military campaign to prevent the establishment of a Jewish state in Palestine. All matters related to the conflict with Israel were referred to the Arab League, because it was of concern to all Arabs. However, there were alarming threats to the political stability of the region in the wake of the proclamation of the state of Israel and the military setbacks suffered by the Arabs. By 1953 Syria had witnessed four military coups led by Husni Za'im, Fawzi Silo, and Adeb Shishkli

(twice). Egypt woke up the morning of July 23 1952 to the slogans of a military coup, effectively led by Jamal Abdul Nasser who, a year later, abolished the monarchy that had ruled Egypt since the early nineteenth century. Lebanon witnessed a change in its presidency in 1952 when its President, Bishara al Khouri, resigned and another was elected to succeed him. The ethnic balance in that country formed a pillar of the state administration. Iraq witnessed the assumption of constitutional powers by its young king, Faisal II, and the events of 1953 were not conducive to Arab solidarity. Iraq was leaning towards an alliance that Britain promoted for the region to form a belt around the Soviet Union, and Nasser of Egypt resented that idea. Syria oscillated between leaning towards Iraq and towards Egypt, depending on who ran Syria. Hashemite Jordan suffered a setback when her founder, King Abdullah I, was assassinated on July 20 1951. His son Talal succeeded him, but had to abdicate in 1952 for health reasons. The young king Hussein, barely 17 years of age, was proclaimed king of Jordan and assumed his constitutional powers in May 1953 when he came of age. Saudi Arabia, run by the Al Saud royal family, and Jordan had come closer together after decades of enmity between the two royal families on account of the Hijaz, the hub of the Hashemite family, which was overrun in 1924 by the Saudis. Yemen, the seventh member of the League, was a quasi-medieval state under the Hamid Eddin family who acted as Imams of that country. The south of the country was under British protection, as were the coastal territories around the peninsula.

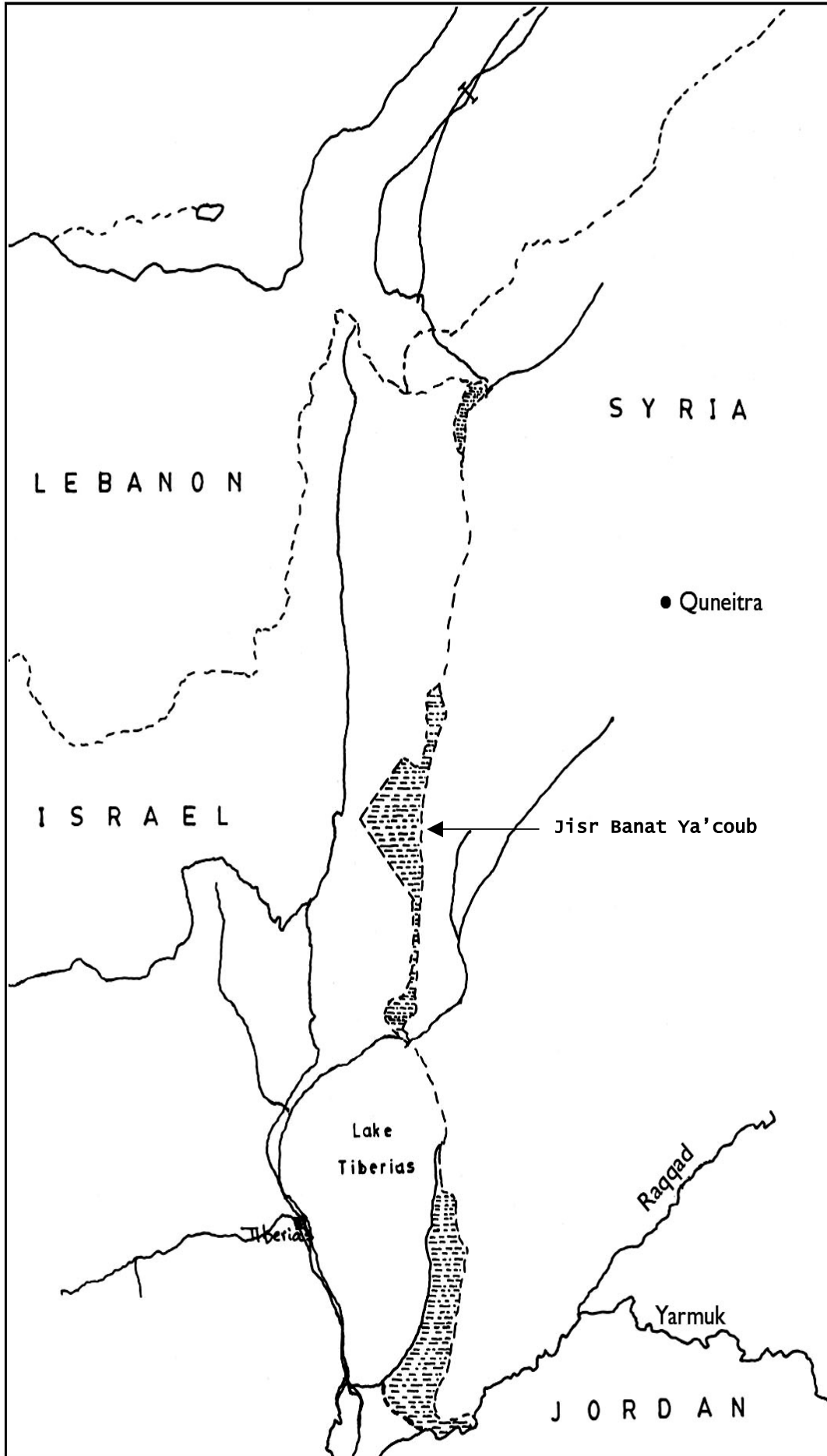
The world scene revealed a tense competitive environment as the cold war had just started. The western allies of the Second World War succeeded in forming a military alliance, the North Atlantic Treaty Organization (NATO) in 1949. The countries of the eastern block formed another military alliance led by the Soviet Union, the Warsaw Pact. The cold war was set in motion, and competition to win over countries and regions around the world intensified between East and West. There were serious efforts by both sides to bring other countries of the world to their side. China turned communist after the triumph of the Red Army, led by Chairman Mao Tse Tung, who routed the Nationalists out of mainland China to Taiwan; that was a serious setback for the West. The divisions in Korea led to hot confrontation between Western powers operating under the United Nations, and communists supported by China. Britain had departed from the Indian subcontinent, and France was facing trouble in Indo-China as the communist-led resistance dealt them a heavy blow at Dien Bien Phu in 1954.

The United States, leader of the Western World, was clearly on guard against communist infiltration in the developing world, the former colonies of Western countries. The Middle East was fertile ground for communist infiltration because of the blame the Arabs placed on the West for creating Israel, the plight of the Palestinian refugees, and the potential support the Arab countries were likely to receive from the Soviet Union. Communism, it was thought, would flourish in the environment of poverty, want and humiliation, and in the high expectation by the public of large-scale assistance from the Soviet Union in support for just causes.

4. THE MILITARY CLASHES OF THE EARLY 1950S

Military clashes were frequent in the early 1950s, especially on the Israeli fronts with Syria and with Jordan. Infiltration by irregulars from Jordan across the ceasefire lines triggered military responses from Israel. More serious were the clashes that erupted when the Israelis decided to start work on the intake of their major project, the National Water Carrier, on the Jordan River just south of Jisr Banat Ya'coub in a demilitarized zone (DMZ) (see map 2). The Israelis, who claimed sovereignty over the DMZ, moved construction equipment into the DMZ, drawing fire from the Syrian military dug in on the Golan Heights.

Map 2. The ceasefire line between Syria and Israel (1949)



On the ceasefire line with Egypt, which administered the Palestinian Gaza Strip, infiltrators, primarily Palestinian refugees, inflicted losses on Israeli lives and property, and caused problems to Israeli security forces. These infiltrations were to increase in frequency and organization in 1954 and 1955, prompting the Israeli army to wage military incursions inside the Gaza Strip and carry out retaliatory operations against refugee camps, triggering clashes with the Egyptian army protecting the strip.

All the above clashes were reported to the UN through official complaints by the assaulted party to the Security Council. The debates in the Security Council soon reflected the underlying cause of the hostilities: the takeover by the Jews of the Palestinian properties and territories as the Arab side explained it, and the hostilities that the Arab countries harbored for the Jewish State as the Israelis put it. This was happening as the cold war was picking up momentum. The United States kept a careful watch on the situation, and was eager to promote calm and stop the military clashes to serve its own purposes.

5. INVOLVEMENT OF THE UNITED STATES

The conflict between Arabs and Jews over Palestine dates back to the late nineteenth century. Competing plans for the water resources of the Jordan River basin were only one minor cause of conflict. The primary cause had been the opening of Palestine to Jewish immigration, ownership of land in Palestine, and the idea of establishing a state in the midst of the Arab Middle East. The establishment of the State of Israel represented the beginning of a new era of military confrontation that lasted for decades, broken in 1979 with a peace treaty between Egypt and Israel, and in 1994 with another between Jordan and Israel.

The frequent clashes across the ceasefire lines on the Jordanian, Syrian and Egyptian fronts commanded attention from the United States, which feared possible communist infiltration into the region. Communist parties were active underground in the Arab states that hosted the Palestinian refugees. Furthermore, the unstable situation in the newly independent Arab countries, and the level of need associated with low economic and social development in the region caused political conflict and social discontent. In addition to containing communism, United States interests included:

- the desire to forge the integration of Israel in the Middle East
- the assurance of Israel's continued existence and security
- the protection of Western influence and interests in the oil fields and the extensive oil reserves in the region.

One early Western response was the establishment of a new agency in the United Nations, UNRWA, in 1949 to care for the welfare of the Palestinian refugees who took refuge in the West Bank, Gaza and neighboring states. The United States joined forces with UNRWA to implement a rural development plan in the Jordan Valley for the benefit of Palestinian refugees in Jordan to help in their resettlement. Water, it appeared to the United States, would serve as a reasonable starting point for collective regional economic development. On the one hand, it could stop the violent clashes over water that had been frequent in 1952 and 1953, and on the other hand, it could be used as a vehicle for some sort of social and economic cooperation between the Arab states and Israel.

6. THE UNIFIED JORDAN VALLEY PLAN

The UNRWA plan would depend on the use of the Yarmouk waters and called for the construction of a high dam on the river at Maqarin, also known as the Bunge Dam after the American engineer who discovered the site. Responding to Israeli protests as a riparian party on the river over not including her as a party in the plan, the United States withdrew its support to the Bunge Dam project in 1953 and UNRWA froze its involvement. However, as military clashes persisted between Israel and its neighbors, the United States had to come up with an alternative. United States President Dwight D. Eisenhower appointed Ambassador Eric Johnston as his personal envoy to the Middle East on October 7, 1953. His mission was to work out a unified plan for the development of the Jordan Valley among rivals.¹

Prior to Johnston's appointment, and in parallel with the US slowdown of support to the Bunge Plan, UNRWA, upon recommendation of the British Foreign office and United States approval and tacit participation, moved to propose a plan for the sharing and utilization of the waters of the Jordan River basin.² They contracted the Tennessee Valley Authority (TVA) to conduct a study of the development of the Jordan Valley, ignoring political boundaries (Lowi, 1993). TVA, in turn, subcontracted the task to the American consulting firm, Chas T. Main, with the consent of the United States.³ Its goal was to provide incentives for projects that would aid in the resettlement of Palestinian refugees by creating viable and sustainable means of living in the Jordan Valley. Mounting congressional pressures to solve the Palestinian refugee problem encouraged the United States to contribute towards the financial cost of their resettlement in the host countries (Stevens, 1965).

No particular set of legal criteria was adopted to formulate the allocation of water quotas to the different riparian parties. The international law for the utilization of international watercourses in consumptive uses had not been fully developed. Certain doctrines had been in vogue since the nineteenth century, among which was the Harmon Doctrine. This was named after the American attorney who decreed that "a state was free to assume over the watercourse that traverses its territory absolute sovereignty as though the watercourse inside its territory is its own property." However, that doctrine was decreed for matters related to navigational uses of the watercourse, and could not possibly be applied to non-navigational uses. As a diagonally opposite principle considered for application on international watercourses was the principle of absolute integrity of the river basin, by which only in-basin uses of the waters of a natural drainage system (river) are allowed. Out-of-basin transfers of water for uses outside the basin are prohibited. Later, a third principle emerged and started to gather momentum: the principle of equitable utilization and avoidance of appreciable harm. However, none of these principles was adopted as the one applicable in any given case of international waters allocation.

The TVA Plan ignored political boundaries so as to avoid the political complications arising out of the non-recognition by Arab states of the new State of Israel, and to avoid the complications of adopting a common formula for water allocation. The course TVA followed was to determine the amount of water needed each year to cultivate arable lands in the basin, and to allocate water shares accordingly. This same principle was subsequently used by the technical aides of the US envoy, Ambassador Eric Johnston, as he started his shuttle diplomacy in the Near East. The allocation of water would therefore be sensitive to: a) the area of the arable land, b) the cropping pattern assumed, c) the cropping intensity, and, d) the water duty per unit cultivated area. These factors would prove substantial in Mr Johnston's mission.

Ambassador Johnston was provided with the Main/TVA Plan on his first visit to the Middle East. In terms of water sharing, the plan gave annual allocations to Israel

(394 MCM) from the Jordan and from groundwater to irrigate 416,000 dunums, Jordan (774 MCM) from the Yarmouk, the Jordan and the side wadis, to irrigate 490,000 dunums, and Syria (45 MCM) from the Yarmouk to irrigate 30,000 dunums, and did not allocate any quota for Lebanon.⁴ Lake Tiberias was to be used as a common reservoir for water, thus enhancing the possibility of cooperation among the riparian parties. A canal would run from the lake to irrigate the West Jordan Valley, the territories of which belonged to Israel and the Hashemite Kingdom, and another canal from the lake would irrigate the East Jordan Valley of the Hashemite Kingdom. Additionally, the Yarmouk floods would be diverted for storage in the lake.

Johnston was instructed to include several important points in his negotiations (Lowi, 1993, p. 86). First, the distribution of water should conform as closely as possible to the recommendations of the TVA/Main report. As a minimum, and as an incentive to subscribe to a cooperative plan, Jordan should receive a substantially greater volume than it would from its unilateral development of the Yarmouk, envisaged under the Bunge dam plan; and Israel (which had announced its plan to divert Jordan river water to irrigate the Negev) should renounce all rights to divert for irrigation more than a specified volume of water from the Jordan River and tributaries.⁵ Israel had attempted to build the intake of the National Water Carrier on the Jordan River bank inside the middle demilitarized zone with Syria, and had tried to start drainage of the Hule marshes inside that zone also. Secondly, armistice line adjustments should be affected, so that Israel would not exercise exclusive physical control over Lake Tiberias, the outlet from the lake, and the diversion canal from the Yarmouk to Tiberias. Thirdly, demilitarized zones in the Jordan Valley should be eliminated and, fourthly, development of the Litani River must not be considered in the present context.⁶ Ambassador Johnston was accorded full latitude to advocate variations in the TVA/Main Plan within the above terms of reference and was instructed to use future levels of military and economic aid, plus UNRWA contributions, as bargaining chips with the riparian states.

Ambassador Johnston's mission came at a time when feelings ran high on both Arab and Israeli sides because of military clashes over Israel's attempts to unilaterally implement its plans to drain the Huleh marshes and her attempts to build the intake structure of its National Water Carrier aimed at the diversion of the Jordan River waters; the mission came also just after a serious Israeli raid into the West Bank town of Qibyah in the Hashemite Kingdom of Jordan.⁷ In addition, the Arabs, especially Jordanians, were apprehensive and wondered why the United States was favoring the Main/TVA Plan when it had withdrawn its support from the Bunge Plan a few months before the Johnston mission started.

Ambassador Johnston was faced with the task of gaining a hearing among Arab officials. Three elements characterized the Arab attitude. First, they viewed Johnston's mission as yet another manifestation of American pro-Israel policy.⁸ Second, they viewed America's intention not as a humanitarian gesture to improve socio-economic conditions throughout the Jordan River basin, but rather as an attempt to promote Arab cooperation with Israel and seduce Arabs into recognizing the Jewish state. Third, they feared that America's intention was to resettle Palestinian refugees in the Jordan Valley in lieu of implementing United Nations Resolution 194 of December 11 1948, which called for their repatriation and compensation. Of primary concern to the Arabs was their commitment neither to recognize the State of Israel nor to cooperate with her at any time before the causes of conflict were adequately resolved. Only when the Arab parties were assured that they did not have to consider any direct dealings with Israel over water were they persuaded to listen to the Johnston proposals.

From the beginning of the talks it became clear that any water scheme involving Arab acquiescence would have to be carried forward under neutral United Nations

authority. Any other course implying cooperation with Israel or breaking the Arab boycott of that country was unacceptable.

6.1. Arab Reaction to Johnston's Proposals

The reaction in Jordan was the most indicative of the response to Johnston's Mission. He arrived in Jordan shortly after the Political Committee of the Arab League met in Amman on October 23 1953 and concluded that it: "utterly refuses consideration of any joint project to utilize the waters of this river (the Jordan) with the enemy Israel."⁹ The Foreign Minister of Jordan, in a long memo to the Prime Minister, concluded that the Unified Project that Johnston carried with him was not meant to benefit Jordan or the Arab refugees, but was intended to pressure and influence the Arab countries to share economic benefits with Israel, and eventually urge them to negotiate for peace. The memorandum was clearly critical of the Johnston Mission, the TVA, the United States Department of State, and the UNRWA. The attitude was not conducive to open cooperation with the Mission.

6.2. Reaction of Israel

Johnston tried to persuade the Israelis to ascribe their extensive water plans to some internationally approved formula for the sharing of the Jordan waters. The Israelis feared that their subscription to a regional plan could drag out the implementation of their projects indefinitely due to the Arab's reluctance to participate. The public position of the government of Israel, however, was announced by the Foreign Minister, Moshe Sharett (later Prime Minister), in a broadcast on November 30 1953 in which he expressed Israel's willingness to sit with her neighbors to agree on a regional water plan. "In absence of such plan," the Minister added, "Israel would be free to use the water of the rivers which flow in its territories as its own property." Clearly, although not explicitly cited by the Foreign Minister, such a pronouncement tied in with the aforementioned "Harmon Doctrine" that allowed a state to exercise absolute sovereignty over that stretch of the international watercourse that traverses its territories. The minister also stressed that Israel would not compromise its freedom of policy in exchange for American aid (Stevens, 1965, p. 20). Domestically and in much lower voice pitch, however, Sharett appeared to favor serious consideration of the Johnston proposals, possibly because it would foster improved relations with Israel's Arab neighbors and bring the international financing of water development Ambassador Johnston was able to offer.

On his part, Johnston maintained a low profile. In a television interview on December 1 1953, he cautiously described the objective of his trip to the Near East by saying: "I did not go to the Near East carrying a specific plan. I had in my little bag a proposal. This proposal aims at coordinating the development of the Jordan basin. I did not expect a (yes or no) answer to these proposals; to the contrary, I feel that an answer given without a comprehensive study will not be mature."¹⁰

6.3. Proceeding with the Proposals

Despite the tense environment, Johnston's initial plan was to overcome the apprehension of the concerned parties and stimulate the formulation of counterproposals to the Main/TVA Plan. In the Arab ranks, Egypt, recently transformed from the Kingdom to the Republic of Egypt, was anxious to assert her role as a leader of the Arabs and to gain American support over the Suez Canal conflict with Britain. The Egyptian leadership was able to convince the Arab League's Political Committee to establish, on January 12 1953, an Arab Technical Committee to continue the study of the utilization of the waters of the Jordan and come up with an

Arab counterproposal to the Main/TVA Plan.¹¹ The Committee held meetings in Cairo from January 14 to January 16, and laid down specifications for an Arab Project to counter the Main/TVA Plan. It made the following recommendations (Ghobashy, 1961, citing the Arab League, 1954):¹²

- The Arab project for the development of the resources of the Jordan River should preserve the irrigation of cultivated areas in the basin of the Jordan River and its tributaries, and these areas should benefit fully from the utilization of electric power generated from these waters.
- The Arab project should safeguard the full utilization of the Jordan River waters for the benefit of the Arabs.

The plan was completed in March 1954 and revised a few months later for submission to the Arab League. Reference to the preservation of cultivated lands in the basin meant the allocation of water shares for Israeli cultivated lands in the basin, an initial promising sign of Arab acceptance of Israeli shares in the waters. In its final form, the Arab Plan allotted water shares to all the riparian states, including Israel (see Table 1). The Arab Plan emphasized the irrigation of lands inside the River basin, and opposed the transfer of water outside it. Obviously, the Arab Plan adopted the then-emerging principle of "integrity of the river basin" that was advocated by the consultants, Sir Murdoch MacDonald and Partners, in their 1951 report on the Jordan waters. Compared to the TVA/Main Plan, which accounted for 1,213 MCM of surface and spring water, the Arab Plan accounted for 1,348 MCM from such sources. The difference in the total flow of the river and its tributaries is attributed to the absence of a reliable reference with accurate flow measurements.

The Arab Technical Committee recommended that maximum storage of the Yarmouk be made through a dam on the river at Maqarin and only the surplus water be stored in Lake Tiberias (about 60 MCM). Their decision was justified by the higher salinity in the lake, which would aggravate an already saline soil in the Jordanian side of the Jordan Valley, and by the higher evaporation losses from the wide lake compared to the narrow and deep Maqarin reservoir.

In Israel's response to the Main/TVA Plan, the American engineer J. S. Cotton (working as a consultant to Israel at the time) reviewed the plans and came up with another version.¹³ Contrary to the in-basin principle, stressed in the MacDonald Report of 1951 on which the Arab counterproposal was based, the Cotton Plan included out-of-basin water resources, the Lebanese Litani River, and out-of-basin water transfers to irrigate lands in the Negev. The water needs of the Jordan Valley in the Hashemite Kingdom of Jordan were to be met by drawing Yarmouk water through a canal system under Jordan's control. Cotton's estimates of the water resources available for use, including the Litani, amounted to 2,345.7 MCM (see Table 2 for allocation). Besides Israel's quantitative objection to the Main/TVA Plan that Johnston advocated, she objected to the involvement of the United Nations in the operation of joint water resources.

6.4. Johnston's Negotiations Through Shuttle Diplomacy

The differences among Arabs and Israelis in attitudes, objectives, allocated quantities, storage and water quality issues, supervision of implementation, and means of water conveyance were extensive. The reconciliation of these differences was quite a challenge to the diplomatic skills of Ambassador Johnston, and a technical challenge to his engineering escorts.

Johnston received counterproposals from both the Arab side and the Israeli side through diplomatic channels. He set out for his second round in Cairo on June 11 1954. The political environment in the Middle East and the rapid developments had

great impacts on Johnston's mission at the time.¹⁴ While the environment was tense, the strategy Johnston adopted was one of neutrality, appearing on the side of the party to which the Mission members were talking, and emphasizing the benefits his proposals would bring to them. With the help of Egypt, Johnston was able to achieve a change in the Arab mood that once ran high in rejecting the Johnston Mission and proposals. General Mahmoud Riyadh of Egypt's Ministry of War announced that the Arabs did not reject the Johnston proposals outright, but would not accept them as they were.¹⁵ Johnston met with the Arab Technical Committee and discussed with them the Arab Plan. Agreement was reached on four crucial points:¹⁶

- Storage: in principle, storage of the Yarmouk floods would be made in Arab lands for purpose of irrigation and power generation.
- Allocation of water: it was agreed that quantities allocated to Syria and Lebanon would be the same as indicated in the Arab Plan without affecting the share allocated to Jordan as stipulated in the Unified Plan.
- Supervision: after agreement with the American side on the general framework of the project, the concerned Arab States would take the necessary measures at the United Nations to form the International Committee stipulated in the Unified Plan and to define its scope of work.
- The American side suggested postponing a decision on the power plant on the Hasbani at Al Ghajar until a detailed study of that proposal was completed.

Table 1. Details of water Allocation in the Arab Counterproposal (Arab Plan, 1954)

Riparian	Site of Irrigation	Area (1,000 dunum)	Water MCM	From River	From side- Wadis	From Ground- water
Lebanon	Hasbani Basin	35	35	35	-	-
<i>Total</i>		<i>35</i>	<i>35</i>	<i>35</i>	<i>-</i>	<i>-</i>
Syria	Banyas Basin	20	20	20	-	-
	Boteiha	22	22	22	-	-
	Upper Yarmouk	68	80	80	-	-
	Lower Yarmouk	6	10	10	-	-
<i>Total</i>		<i>119</i>	<i>132</i>	<i>132</i>	<i>-</i>	<i>-</i>
Israel	Upper Huleh	78	66	66	-	-
	Hashahar	30	30	30	-	-
	Y?Bavneil	22	22	-	3	19
	Yarmouk Triangle	26 78	45 126	45 41	- 85	- -
	Biesan Ghor (no allocation)					
<i>Total</i>		<i>234</i>	<i>298</i>	<i>182</i>	<i>88</i>	<i>19</i>
Jordan	N.E Ghor	74	120	51	-	-
	M.E Ghor	127	229	158	-	-
	S.E Ghor	95	225	187	-	-
	Total East Bank	296	574	396	142	36
	N.W Ghor	29	49	45	-	-
	M.W Ghor	67	119	64	-	-
	S.W Ghor	98	233	193	-	-
	<i>Total West Bank</i>	<i>194</i>	<i>401</i>	<i>302</i>	<i>71</i>	<i>28</i>
<i>Total</i>		<i>490</i>	<i>975</i>	<i>698</i>	<i>213</i>	<i>64</i>
<i>Grand total</i>	<i>All riparians</i>	<i>878</i>	<i>1 431</i>	<i>1 047</i>	<i>301</i>	<i>83</i>

Source: The Arab Plan for Utilization of the Jordan River and Its Tributaries, Arab League files, Cairo, Egypt, 1954.

Table 2. Annual Allocations Under the Different Plans (MCM)

	Lebanon	Syria	Jordan	Israel	Total
Main/TVA Plan	Nil	45	774	394	1213
Arab Plan ¹	35	132	975 ³	289	1431
Cotton Plan ²	450.5	30	575	1 290	2345.7

1. Includes 64 MCM of groundwater in Jordan and 19 MCM of groundwater in Israel.

2. Includes 911 MCM of surface water and 64 MCM of groundwater.

3. Includes all the Litani River water

Points of disagreement remained as follows:

- Water duty: the American side wanted to have the figures of the Unified Plan adopted while the figures of the Arab Plan were about 15 percent higher.
- Israel's share: the American side insisted that Israel be allocated approximately the overall share as stipulated in the Unified Plan.
- In-basin use: the American side insisted that the use of water by Israel not be limited while the Arab side insisted that Israel use the water inside the basin.
- Yarmouk storage: the American side insisted that the additional cost that the Yarmouk storage will bring about must not exceed \$10 million over what was estimated in the Unified Plan that specified 95 meters for the height of the Yarmouk dam.
- Adassiya diversion: the American side insisted to have the Adassiya diversion built promptly while the Arab side insisted that no implementation would be made in the Yarmouk basin before the whole basin project is decided.

The Arab Technical Committee realized that the negotiations were working to their advantage and that they should try to formulate a project that would bring the maximum benefit to the Arab countries. Failure to continue the negotiations, they correctly thought, would give Israel the chance to implement her own project, which would divert all the waters of the Jordan River outside the basin to the coastal plain and the Negev. Most importantly, the Arab Technical Committee agreed to consider the diversion of Yarmouk floods for storage in Lake Tiberias, a provision contained in the Chas T. Main Plan that Johnston carried to the parties in the first round (see above.) The Arab political reaction to that was negative at the outset because it meant that Arab waters would be stored in the lake, which is totally controlled by their enemy.

After his meetings with the Arab Technical Committee, Johnston proceeded to Israel for talks with the Israeli committee headed by Sharette. His challenge was no less complicated than the one he confronted with the Arabs. He alluded to more development assistance and cooperation in the use of atomic energy in desalination of seawater. More importantly, Johnston elaborated on the role the Unified Plan on the resettlement of Palestinian refugees as a big plus for Israel.¹⁷ Ambassador Johnston then presented his argument to drop the Litani out of the considered resources. He remarked that asking Lebanon to give up the Litani, a Lebanese river, for the benefit of the region was like asking Israel to give up the Israeli Yarmouk–Jordan Triangle for the benefit of the region. Johnston stressed that the division of water in the Unified Plan was a fair one and assured Israel of her right to utilize her share anywhere she wanted, a notion the Arab side did not share.

Ambassador Johnston noted that Israel's need for the Litani water would be years away and that time was on Israel's side if she succeeded in integrating herself into the region. He used American preparedness to finance the projects to lure Israel into agreeing to the plan. Despite the fact that Israel had to give up the immediate prospect of the Litani and relinquish a minor quantity of water, he noted that Israel

would have a measure of Arab cooperation immediately and a solution to the refugee problem.¹⁸ He urged the Israeli team to accept three principles: a prior claim to water lay with the Kingdom of Jordan for the resettlement of refugees; Lake Tiberias would be used as a common storage reservoir, and allocations for Israel and Jordan would be withdrawn therefrom; and a neutral body would supervise the distribution of water. Israel had a negative response to the first two principles, and a provisional positive response to the third.

At the end of the second round, Johnston described the situation as hopeful. Although no agreement had been reached, both sides had indicated acceptance of the principle of unified development. The most difficult issue outstanding was the division of the waters.¹⁹

The third round of shuttle diplomacy began on January 27 1955. An interim report submitted in mid-January by the Baker–Harza consultants entrusted by Jordan to study the development of the Jordan Valley (Michael Baker Inc., and Harza Engineering Company) helped Johnston adjust Jordan's water requirement figures downwards.²⁰ That enabled the Ambassador to increase Israel's share to 448 MCM (up from 394 MCM stipulated in the proposal he first carried) at Jordan's expense, which was still far from Israel's hopes. Another difficulty Johnston still had to face was Israel's insistence that she use the whole of Lake Tiberias for her own purposes. The report stipulated the withdrawal of 160 MCM per year from the lake to Jordan. Israel feared Arab claims of sovereignty over the lake if their water was stored there. The most he was able to extract from Israel was the possibility of leaving the question of Lake Tiberias open.

Ambassador Johnston then returned to talk with the Arab side in Cairo over the Baker–Harza Interim Report. The Arab Technical Committee expressed their rejection of the consultants' proposals for a small dam on the Yarmouk and insisted that a 400 MCM capacity dam be built at Maqarin to maximize storage in Arab lands and minimize storage in Lake Tiberias. They also disagreed with the cropping pattern and water duty assigned to Jordan's arable lands, and with the irrigation efficiency, all of which reduced the estimated irrigation requirements in Jordan.

It is interesting to note that neither side, Israeli or Arab, was in favor of common storage in Lake Tiberias. All had their own reasons that were different from the others, but all shied away from the measure, which could have triggered cooperation between the parties. Johnston, on the other hand, favored it to induce cooperation among adversaries.

While in Cairo, Johnston received a memorandum from the Israelis demanding an increase in their shares and refusing any limitation on their freedom to use the waters as they wished. He informed the Israelis that they could proceed with their diversion scheme (called the Banat Ya'qub) of the Jordan only after they approved the Unified Plan; otherwise any attempt to implement the diversion would prompt the United States to revive the Security Council Resolution of November 27 1953 ordering Israel to stop work. That was the leverage the United States had over Israel short of using economic aid as a means of pressure.

After Cairo, Johnston proceeded to Amman where he lobbied for his plan. He told King Hussein that Jordan would benefit most from the plan, which would decrease Israel's water basin use by almost half and give Jordan 52 percent of the waters, with the rest going to the other Arab parties. He handed the Jordanians a Draft Memorandum of Understanding and asked them to sign it with him, but the Jordanians opted to wait for the other Arab states. The political environment was such that for Jordan to act alone would be unthinkable. Johnston then approached the Syrian Government, which was in transition. They agreed to Syria's water shares, storage in Lake Tiberias (in general terms), and on international supervision. The issue of the Maqarin Dam, its size and financing, was postponed until a Syrian government was in place. Jordan, obviously, was careful not to go it alone with

Johnston for fear of being tagged as siding with the United States (and Israel), and did not want to suffer again the hostility she had had to face from Egypt and Syria on account of the Baghdad Pact. She opted to act collectively with the other Arab states to avoid negative criticism.

After Damascus, Johnston proceeded to Lebanon where he had a landmark meeting with the Arab ministers, who converged on Beirut by invitation of Lebanon's Prime Minister. The Memorandum of Understanding produced at the meeting contained the following:

The waters of the Jordan and Yarmouk Rivers are to be stored and regulated primarily through reservoir facilities to be constructed on the Yarmouk River and through the operation of Lake Tiberias as a reservoir. Yarmouk flood waters, which [are] exceeding the storage capacity of a 300 MCM reservoir and irrigation needs, [are] to be spilled into Lake Tiberias for release to the Hashemite Kingdom of Jordan. A neutral body, acceptable by all parties, will be established to oversee withdrawals and releases of water. Regarding water sharing, Jordan [will] be allotted 537 MCM from the Jordan and Yarmouk Rivers (in addition to internal resources of wells, springs and wadis within the Kingdom of Jordan); Syria [will] be allowed to withdraw 132 MCM (20 MCM from the Banyas, 22 MCM from the Jordan and 90 MCM from the Yarmouk); and Lebanon [will] be allowed to withdraw 35 MCM annually from the Hasbani River. Israel will be allotted 25 MCM per year from the Yarmouk and the remainder of the Jordan after subtracting the above shares for Lebanon, Syria and Jordan.

With the Arab agreement in hand, Johnston proceeded to Israel in the hope that he could persuade the Israelis to accept the terms of the Draft Memorandum he had concluded with the Arab ministers. The Israelis agreed to the Syrian and Lebanese shares, but demanded that the Israeli share be increased and that the Jordanian share from Lake Tiberias (160 MCM as stipulated in the Baker-Harza Interim report) be reduced. Johnston was unable to reconcile the Israeli demands with the Draft Memorandum, and no agreement could be reached.

On July 5 1955, Israel gave Johnston in New York her own Memorandum of Understanding. It differed from the Arab Memorandum in that the share allotted to Israel from the Yarmouk was set at about 60 percent more than the 25 MCM stipulated in the Beirut memorandum. The share allotted to Jordan from Lake Tiberias was 37.5 percent less than the 160 MCM included in the Beirut Memorandum, and included 30 MCM of water from saline springs.²¹ The Israelis agreed to provide storage facilities for Yarmouk floods in Lake Tiberias and agreed to the formation of a neutral engineering board for supervision.²²

Ambassador Johnston made his fourth trip to the region on August 25 1955. He started with Jordan whose Cabinet had been changed on May 30 1955. Johnston briefed the new ministerial committee on the status of his negotiations and pointed out that Jordan had become the central party that would determine the fate of the agreement. He said that President Chamoun of Lebanon would not object if Jordan accepted it. Johnston also said that Prime Minister Nasser of Egypt expressed the same opinion when he met with him.

Hours before his second meeting with the Jordanians on August 27, US Secretary of State John Dulles made an announcement that renewed Arab apprehension. He said that in order to secure a lasting and stable peace in the Middle East, the United States would pay adequate compensation to the Arab refugees, underwrite some of the expenses for a regional water development project, and guarantee new and permanent political boundaries which would replace the old Armistice lines (Lowi, 1993, p. 100). By publicly linking Johnston's mission to the resettlement of Palestinian

refugees, Dulles reinforced Arab refusal to recognize the State of Israel or embark on any measure of cooperation with her.

The announcement made Johnston's task doubly difficult as it threw more political shadows on his mission than did the economic and technical aspects combined. After the announcement, Johnston's preaching to the Arabs of the economic benefits and his insistence that the political status quo would not be affected by his plan fell on deaf ears. An additional complication arose when a third assessment by Johnston's team (with consideration of Israeli views) indicated a further reduction could be made in the water share for Jordan. The team proposed to reduce Jordan's allocation from Lake Tiberias to 100 MCM (down from 160 MCM).²³ As a pre-emptive move, the Parliaments of Syria and Lebanon issued separate resolutions rejecting Johnston's proposals on political grounds.

Johnston proceeded to Cairo, Damascus and Beirut to make every effort to have his plan endorsed. He was met with deep suspicion. At a later meeting with the Arab Technical Committee, on September 8 1955 in Beirut, Johnston presented them with the Revised Unified Plan. It differed from the Beirut Memorandum on three issues. It accepted a higher dam with 300 MCM capacity (126 meters high) at Maqarin, with 50 percent more US financial support. Any further raising of the dam (which the Arab Committee favored) would be made at the expense of the Arabs. Also storage of Yarmouk water in Lake Tiberias would be deferred for five years, and the Jordan share from the Jordan River and the Yarmouk River would be decreased from 537 MCM in the Beirut Memorandum to 477 MCM, that is, by 60 MCM (thus the share to be drawn from Lake Tiberias would fall to 100 MCM). The Americans suggested that it would be necessary, to avoid loss of water, to compensate Jordan with an amount of 30 MCM of saline water for the decrease in its share.²⁴ Despite profound reservations, the Arab Technical Committee decided to approve the Revised Unified Plan and in late September recommended that the Arab League Council should accept it.

Johnston flew to Cairo and met on October 8 with Premier Jamal Abdul Nasser at his home in the presence of leading Egyptian officials. Nasser assured Johnston of his support and asked for time to convince the other Arabs. A meeting of the Arab Foreign Ministers was due to convene in Cairo the following day to look into the Johnston proposals as modified after the Beirut Memorandum, and into the positive recommendations of the Arab Technical Committee. Johnston was given the opportunity to defend his proposals in front of the ministers of the concerned parties (representatives of Egypt, Jordan, Syria, and Lebanon, and the Secretary General of the Arab League.) Johnston enumerated the virtues of his plan:

Acceptance of the plan will immediately place a ceiling on the amount of water Israel may take from the River Jordan. Except by force, there was no other way to impose a limitation on Israel.

The Plan will assure the Arab states and particularly Jordan of the right to store Yarmouk floods in Lake Tiberias. Without this guaranteed accommodation in Lake Tiberias, a large volume of water indispensable to Jordan's development will be lost.

The representatives of the states concerned debated the issue. The Jordanians felt that the best solution was the Revised Unified Plan, while the Syrian and Lebanese government rejected it.²⁵ Their intervention, especially that of the Prime Minister of Syria, and the lack of arguments by other delegates in favor of the Plan, proved to be the stumbling block that stopped the Arab League from accepting the recommendation of the Arab Technical Committee to accept the Revised Unified Plan. Any argument in favor of the plan would tarnish its advocate with the intention to cooperate with the enemy. The League concluded that the Unified Plan, as revised, could not be accepted and that further investigation and consideration of the issue

was necessary.²⁶ The resolution against the Revised Unified Plan was communicated to Ambassador Johnston by the Secretary General of the League (see text in Haddadin, 2001).

Nonetheless, Johnston was hopeful that Nasser would be able to bring the Arab parties to agree to the plan within two or three months. Johnston proceeded from Cairo to Israel and conducted meetings with Prime Minister Sharett and Minister of Finance Levi Eshkol. The Israelis agreed to share the 30 MCM of saline water that they suggested in their July 5 memorandum equally with the Arabs, and also accepted the figures for water division. The share of Jordan from Lake Tiberias would thus be 100 MCM, including 15 MCM of saline water. Israel's share from the Yarmouk would be 25 MCM, as stipulated by Johnston's proposal.²⁷

In its final version, the Unified (Johnston) Plan made the following allocations:²⁸

- From the Jordan River: Lebanon, 35 MCM from the Hasbani tributary; Syria, 42 MCM (20 from the Banyas tributary and 22 from the main course of the river); Jordan, 100 MCM (including a ceiling of 15 MCM of saline water, the balance to be drawn from Lake Tiberias);²⁹ Israel, the remainder of the flow.
- The Yarmouk: The total usable flow, including drainage water that returns to the river after irrigation, was estimated at 506 MCM (467+ 39): Syria, 90 MCM (with the assumption that 39 MCM would return to the river after Syrian use for use downstream – the Syrian net depletion is 51 MCM per year); Israel, 25 MCM for use in the Yarmouk Triangle, and 14 MCM would be lost to evaporation, mainly from the reservoir of the dam that would be built on the river; Jordan, the remainder of the flow (estimated at 377 MCM including 39 MCM of return flow from Syria).

It is interesting to note how the share of the Hashemite Kingdom that was given priority in allocation at the outset of Johnston's mission was eroded with the passage of time in Johnston's subsequent three rounds (indicated in Table 3).

Table 3. Time Profile of Jordan's Water Share

	TVA/Main (1953)	Arab Counterproposal (1954)	Johnston's 3rd Round (1955)	Johnston's Final Round (1955)
Jordan	774	975	760	705+15 saline = 720
Syria	45	132	132	132
Lebanon	None	35	35	35

Regarding the refusal of both the Israelis and the Arabs to use Lake Tiberias as a main storage reservoir, Johnston got the two sides to agree to the use of the lake as a storage facility for less Yarmouk floods (about 70 MCM) than originally envisaged.³⁰ As for the exercise of sovereignty by the concerned states over water shares, Johnston decreed that each riparian party could do with its share whatever it pleased. Absolute sovereignty was hence exercised over the water share after it had been allocated, not before.

In his attempts to make ends meet and please the respective parties, who were essentially adversaries, Johnston took account of an assumed rate of return flow back to the river system after water had been used upstream for irrigation. For example, the total flow of the Yarmouk: Johnston considered this was 506 cubic meters per year as compared with 467 cubic meters per year of natural average flow. The increase of 39 MCM per year is the return flow back to the river after upstream Syrian uses in irrigation within the basin. The rates of return flow were diminished over time through the abstraction of groundwater using submersible pumps. The inclusion of

return flows would have an environmental impact on the water of the river, as it brought with it more dissolved solids than the natural water normally carries.

The reason for Israeli acquiescence in the plan was clear. It would be to their advantage either way. If the Arabs accepted it, the Israeli share was fair and the Arabs would have implicitly waived their opposition to the establishment of the state of Israel. If the Arabs rejected the plan on political grounds, then the Israelis would be justified in resuming their work on the river diversion at Jisr Banat Ya'qub, which had been suspended since the beginning of Johnston's mission in October 1953. In view of the Israelis' position and the presentation to the Arabs by Ambassador Johnston, it would be hardly a surprise to the Arabs if Israel went ahead with its unilateral diversion of the Jordan River. Nasser did not deliver on his pledge to have the Arabs approve the Plan, and the atmosphere soon became clouded with the fallout from the Suez Campaign in 1956. Israel resumed her plans of diversion of the Jordan waters from, not from Jisr Banat Ya'qub as originally planned, but from the northwest corner of Lake Tiberias, and the diversion project became operational in 1964.³¹

NOTES

1. Israel's clashes with her neighbors, the continued border clashes, and Israel's defiance of a decision of the Chief of Staff of the Truce Supervision Organization (UNTSO) and refusal to stop work in the DMZ between Syria and Israel created an unusually tense situation. The Security Council who supported the decision of the Chief of Staff through a resolution on October 27 1953 took up the issue. It was at this point that the United States Secretary of State, John Foster Dulles, threatened Israel with cutting off United States aid if Israel did not promptly comply with the Security Council resolution; Israel complied on October 28 1953. This move on the part of the US helped reduce the Arab apprehension about the Johnston mission.
2. Georgiana Stevens (1965) reported in 1965 that the TVA sponsored study was under UNRWA and US auspices.
3. Letter of submittal of the study by TVA to UNRWA dated August 31 1953. Also a desk study was performed by Chas T. Main, and was known as the TVA/Main Plan, which served as an initial proposal to the adversaries in the Jordan River Basin. The Plan excluded the Litani River because it is not part of the Jordan watershed. It further described only in-basin use of the Jordan River, although it mentioned that each side may make different claims.
4. One dunum is 1,000 square meters, or one tenth of a hectare.
5. Israel's plan to divert Jordan River to the arid south constituted the building of a National Water Carrier to channel the water from north to south. The construction of the Carrier was started from its southern end, and the unilateral diversion of water by Israel, upon its completion, could claim volumes to Israel's choice.
6. These Demilitarized zones were drawn up in the Armistice Agreement with Syria. The zones were territories of Mandate Palestine extending between the lines demarcated in the Agreement for the Israeli Forces and those demarcated for the Syrian Forces (Syria's international borders with Palestine).
For development of the Litani River, see Secretary of State J. F. Dulles to Eric Johnston, Foreign Relations of the United States, 1952-1954, vol. 9, 13 October 1953, no. 686, pp. 1348-52.
7. That raid was led by Ariel Sharon and resulted in the massacre of sixty-nine Jordanian nationals in their homes. It was mounted as a retaliation to the losses Jordanian infiltrators were inflicting upon Israeli civilians across the cease fire lines.
8. Johnston was Vice-Chairman of the American Christian Palestine Committee, a pro-Zionist philanthropic organization.
9. Johnston had met in Beirut that same day with the Lebanese Prime Minister, Abdallah el Yafi, and was informed in no ambiguous terms that Lebanon and the Arab countries utterly rejected the discussion of any joint project with Israel to develop water resources, or to enter into direct or indirect negotiations with her about this subject.
10. Publication of the US State Department, December 28 1953, p. 892.

11. It is interesting to note that no representative of the Jordanian Government, the primary Arab beneficiary from any plan to develop the river basin, was appointed to that Technical Committee until April of the following year. Jordan was not very popular in the Arab League at the time because of the resentment the League's members harbored towards Jordan's unification with the West Bank in 1950. The appointment of Jordanian members on the Committee was prompted by the need for Jordanian cooperation.
12. Omar Z. Ghobashy, "The Development of the Jordan River," Information paper number 18, Arab Information Center, New York, November 1961, p. 16.
13. The plan was based heavily on Lowdermilk, Blass, Hays, and Savage, who had worked for the Zionist organization shortly before Israel was established. See the report on the Cotton Plan in the National Archives of the State of Israel, Foreign Ministry document (Record Group 93), box 3688, file 2. Cited by Lowi in *Water and Power*, p. 211.
14. On the eve of Johnston's arrival tensions between Israel and the Arab states were running high. Throughout the month of June, there had been numerous shooting incidents across the Israel-Jordan Armistice lines, culminating at the end of the month in the outbreak of fighting in Jerusalem. There were incidents on the Armistice lines with Syria as well, and Egypt and Israel quarreled over freedom of navigation in the Suez Canal and the Straits of Tiran. Moreover, Colonel Adeeb Shishakli of Syria, and General Mohammad Najib of Egypt had recently both been ousted from power. "An atmosphere of internal dissention prevailed in all the countries of the region" (Nimrod, 1965, p. 24).
15. Report on Conversation with Mahmoud Riyadh, January 15 1954, United States National Archives 683.84a322/1-1554, as reported by Lowi (1993).
16. "The Johnston Negotiations - Minutes of Meetings," Records of the Prime Ministry, Amman, Jordan.
17. State Department Records, from the National Archives of the United States, "US-Israeli Discussions - First Meeting - Jerusalem, June 20, 1954 - 4 pm."
18. Johnston tried to convince the Israelis that a water-sharing agreement with the Arabs would clear the political air, and for that reason alone, it was important to make concessions.
19. Memorandum prepared in the Department of State, "Current Status of Jordan Valley Negotiations," Foreign Relations of the United States, December 20 1954, no. 938, pp. 1727-30.
20. Although the report showed that there was more arable land to be irrigated than previously estimated, it assigned lower water duties than previous studies did.
21. Yarmouk was set at 40 MCM per year in the Israeli Memorandum as compared with 25 MCM in the Beirut Memorandum. Lake Tiberias was set in the Israeli Memorandum at 100 MCM including 30 MCM of water from saline springs as compared with 160 MCM in the Beirut formula with no saline water. Jordan's share of 537 MCM in the Beirut Memorandum consisted of 377 MCM from the Yarmouk and 160 MCM from Lake Tiberias.
22. State Department Records, National Archives of the United States, Washington D.C, declassified on 10/8/1994. This Memorandum would form the reference for subsequent Israeli positions claiming that Johnston had accepted it, and Johnston insisting the Memorandum represented the Israeli viewpoint only.
23. The team's justification was that the area in the Jordan Valley that would be irrigated in any given season amounted to 8 percent of the irrigable area, up from the 3 percent assumed by Baker-Harza.
24. Johnston reduced this amount in his debate with the Arab Technical Committee, but it was counted as part of the Jordan allocation, not as a bonus for Jordan.
25. For the Jordanian response, there are handwritten notes taken by one of the Jordanian delegates attending the meeting; found in the Jordanian file on the Johnston negotiations, Prime Ministry, Amman, Jordan. Sheet 3 has notes on the Syrian positions: "We would not accept a Unified Project," said the Prime Minister of Syria, Mr. Said al Ghazzi, "the parliamentary debate in Syria showed us that not any Syrian government can accept a Unified Project. The Parliament of Lebanon decided a similar decision. We further think that in Jordan there are nationalistic men who reject the Unified Project. We therefore hope that the technicians would continue studying the independent Arab project and submit its details and cost in full."
26. The meeting of the concerned Foreign Ministers decreed that: "Representatives of the Arab States concerned, namely Jordan, Syria, Lebanon and Egypt, have studied the Arab Plan

for the Jordan Valley and its tributaries evolved by the Arab Technical Committee and have come to the conclusion that, in spite of the efforts exerted, certain important points still need further consideration. It was, therefore, decided that the experts be asked to pursue the mission with which they have been entrusted until an agreement safeguarding Arab interests is reached.”

27. Israel, however, later contested the figure of 25 MCM and insisted that its share from the Yarmouk was 40 MCM as stipulated in their July 5 memorandum.
28. For the text of the plan, see Haddadin, 2001.
29. The allocation to Jordan was to be carried to the West Bank (now Palestinian territories) via a canal constructed in Jordan to carry Yarmouk water to the east Ghor.
30. The use of this facility was deferred for five years until a neutral engineering board would decide on its feasibility.
31. The Banat Yacoub diversion was technically handicapped because of the unfitness of the Battouf depression to store the diverted waters before they would be pumped into the National Water Carrier.

The June war of 1967 enabled Israel to control the Banyas and her incursion into South Lebanon in 1978 gave her control of the Wazzani Springs. She was able to deny the Arabs their shares of Upper Jordan River waters, block the exit of the Jordan River from Lake Tiberias and use the lake for her own storage purposes.

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JORDAN RIVER CASE STUDY, PART II:

The Negotiations and the Water Agreement between The Hashemite Kingdom of Jordan and the State of Israel

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The author is grateful to Munther Haddadin for comments on an early version of the manuscript. Those comments that the author has not accepted remain as footnotes.

With additional notes by **Munther Haddadin**

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Map 1. Jordan River, Dead Sea, and Wadi Arava catchment area



Source: Israe Atlas

JORDAN RIVER CASE STUDY: PART II

Israel and Jordan signed a Treaty of Peace on October 26 1994. Article 6 and Annex II of the treaty (included in an appendix) constitute an agreement on water. The paper opens with some background on the arrangements made by the parties for sharing of water in the Yarmouk River since the early 1980s, details and explains the process of negotiations that ensued in the 1990s, analyzes the water agreement signed in 1994, and concludes with a series of observations on its salient points.

The negotiation process is analyzed according to a set of dimensions:

- the use of two arenas – bilateral and multilateral – and their intended and actual roles
- the venues and environment in which the negotiations took place
- working with a single negotiated text (SNT)
- how issues relating to the other regional party (the Palestinians) were considered
- confidence building measures (CBMs)
- how the agreement covers many topics, and why this is important
- the fact that water rights are not mentioned in the agreement, and “rightful allocations” are used instead
- why Lake Kinneret (Sea of Galilee) is not mentioned in the agreement .

The main aspects of the water agreement are presented and discussed:

- its permanent nature, captured in the opening statement: “With the view to achieving a comprehensive and lasting settlement of all the water problems between them . . .”
- the permanent Joint Water Committee (JWC) that is set up to deal with implementation and any items relating to water that may arise with time
- cooperation as a principle to be followed; definition of the quantities, timing, qualities, and costing of the components of the “rightful allocations” of each side
- priority given to existing uses
- “increasing the pie” by jointly developing new sources of water to overcome the shortages that both parties are facing
- dealing with hydrologic variability in the sources
- the need to increase storage
- issues of water quality.

The paper concludes with some reflections on the water agreement and its implementation.

Note

The authors of Part 1 and Part 2 of this case study, Munther Haddadin and Uri Shamir respectively, have agreed to comment on each other's accounts. The footnotes to this text are comments by Munther Haddadin that Uri Shamir has not accepted.

The October 1994 Jordan–Israel Peace Treaty will sometimes be referred to for brevity as the treaty, while its Annex II “Water Related Matters” will be referred to as the water agreement.

1. INTRODUCTION

Part 1 of this case study provided the background on the Jordan River (see Map 1) and the various proposals made during the first six decades of the twentieth century for dividing its waters. Until the 1980s there were no significant new proposals.

In the 1980s, a discreet agreement was reached between Jordan and Israel, to make arrangements on the Yarmouk River for sharing its waters.¹ This was accomplished, after ad hoc agreement on the timing and quantities, by adjusting a sand bar on the riverbed, and later by placing sand bags across the Yarmouk riverbed just below the diversion point from the river into Jordan's King Abdallah Canal (KAC, formerly the East Ghor Canal), to raise the water level and increase the diversion flow. These arrangements were obviously made with the blessing of the leaders on both sides, but they did not constitute a formal agreement. Experts from the two sides, accompanied by officers of the respective armies and by an officer of the United Nations Truce Supervision Organization, met at the diversion point (Adassiya/Point 121), for what are sometimes called the “Picnic Table Meetings” (Haddadin, 2002, pp. 258ff), and were designed to respond to requests by either side to adjust the flow to either country, especially in the dry months, and help alleviate the water shortage and human suffering in Jordan. Physical modifications of the riverbed at the diversion point and the use of the sand bags are described by Haddadin (2002, Chapter 7). The meetings on the Yarmouk River served to create working relations and mutual respect between the water experts of the two sides, and to form some of the basis for the formal negotiations that ensued in the 1990s.²

The remainder of this chapter is devoted to the negotiations between the Hashemite Kingdom of Jordan and the State of Israel over water, starting with the Madrid Conference in 1991 and ending with the Peace Treaty between the two countries on October 26 1994 in the Araba/Arava Valley just north of the cities of Aqaba and Eilat. The text of the water agreement is reproduced in the Appendix and can also be found on Professor Aaron Wolf's data base of international water treaties, at: <http://terra.geo.orst.edu/users/tfdd>

-
1. Haddadin: In my view this was not in fact an agreement, but a repetition of meetings under the auspices of United Nations Truce Supervision Organization as per the Truce Agreement between the two countries signed in March 1949.
 2. Haddadin: I see no connection between the negotiations in the Middle East Peace Process in the 1990s and the ad hoc site meetings conducted in the 1980s under UN supervision.

2. ORGANIZATION OF THE CHAPTER

The material is organized by topic, not according to the chronological sequence of events. The objective is to provide a perspective on the various aspects of the negotiations, and how they ended in an agreement, in a manner that provides general and generic lessons from this case study for others. The historical sequence of the negotiations, while interesting in itself, is specific to the states, historical setting, cultures, and persons in this case, and therefore less valuable to the reader. Besides, the book by Haddadin (2002) provides an ample chronology of the events.

The organization of the material is also designed to suit the questionnaire that is used by all case studies in this publication, a questionnaire developed by the PCCP group to provide a means for deriving general lessons from the various case studies covered.

3. THE NEGOTIATIONS

3.1. The Negotiations: Bilateral and Multilateral Arenas

Two arenas were arranged for the negotiations: multilateral and a bilateral. There were five multilateral groups that emerged from the multilateral conference in Moscow in January 1992, on: water, environment, refugees, regional security and arms control, and regional economic development; a Steering Committee oversaw the works of these five committees. In each of the five multilateral groups there were representatives of the core parties (with the exception of Syria and Lebanon) and of several countries who wished to be involved as facilitators, sponsors and potential donors. These meetings served to promote bilateral negotiations, discuss projects that could be implemented when peace is achieved, to acquaint the parties' teams with the issues and positions that would constitute the essence of the negotiations.³

The Gavel Holder (Chair) of the multilateral group on water was the US delegate, and the group met several times (Moscow, January 1992; Vienna, May 1992; Washington, September 1992; Geneva, April 1993; Beijing, October 1993; Muscat, April 1994; Athens, November 1994; Amman, June 1995); its work was discontinued in 1996. A proposal to establish the Middle East Desalination Research Centre (MEDRC) was endorsed by the group at its Beijing meeting, and this center has been operating in Muscat, Oman, with full Israeli participation among the other regional parties.⁴

While the bilateral negotiations were under way, there were a few instances of mismatch and conflict between the two arenas, in the sense that what was presented in the multilateral talks to be the purview of the bilaterals and was sent there for discussion was not accepted in the bilaterals as a legitimate item on the agenda by one party or another. As one of the principal participants in the water multilateral talks, Haddadin concluded that "Those multilateral talks, as their objective stated, were not meant to resolve disputes, but were meant to enhance the environment of the bilaterals, and were, in fact, ineffective and almost unproductive" (Haddadin, 2002b, p. 254).

Still, the multilaterals may have served to clarify interests and positions and prepare some of the background for the bilaterals. It remains for a historian to review in perspective the operation of the two parallel arenas and conclude whether this

3. Haddadin: Such meetings would reinforce peace and stability once peace is arrived at.

4. Haddadin: Jordan supported the establishment of the MEDRC at the Beijing meeting, but has not participated in its foundation for financial reasons.

mechanism was, or at least could have been, useful in this particular case, and then to draw lessons for other situations. The concept itself seems attractive enough: an explored jointly and with potential sponsors and donors, and a parallel bilateral arena in which the “hard negotiations” are conducted. But maybe what seems to be reasonable and convincing in the multilateral arena creates a stumbling block in the bilateral forum, as happened at least once in the negotiations between the Israeli and Palestinian delegations that convened in parallel with the Israel–Jordan meetings. Better coordination between the two arenas might have improved the efficacy of the two-arena mechanism.

In any case, the entire water agreement of the 1994 Peace Treaty was developed in the bilateral arena.

The bilateral arena itself was not a single and permanent structure. It changed dynamically, from meetings of the water groups sitting opposite each other across the table, to corridor meetings of the leaders of the groups and informal chats among members, then back to formal meetings of the entire group. A combined group on several topics – water, energy, and environment – was convened, in an attempt to modify the dynamics of the discussions at a point when they seemed to stall.

3.2. The Negotiations: Venues and Environment

Following the Madrid Conference Accord in October 1991, negotiations on water took place in a series of rounds, in Washington, D.C., and later in the region.

The United States and Russia acted as sponsors of the peace process, and the water negotiations within it. We will use the terms “sponsors,” “hosts,” and “facilitators” interchangeably, to describe the role that the two powers played. The talks took place at the US State Department in Washington, so the presence of the Americans was quite evident, but the Russians were also there. From time to time, one or both sides sought informal help from the sponsors. Overall, however, the attitude of the two parties was that they wished to deal with each other directly. Indeed, the talks took place in closed rooms, with only the delegates of the two parties present, except for informal discussions that took place during coffee/tea breaks at which Americans and/or Russians were present, or on those occasions when the sides went separately or jointly to consult with the sponsors.⁵

The process can be characterized as direct negotiations between two parties with some involvement of a facilitator. The role of the facilitators was to help overcome rough spots in the process, to offer some advice, but to always refrain from imposing or expressing an opinion or position with regard to the substance of the negotiations. The facilitators sought to remain “honest brokers,” maintaining a balanced non-interfering position. One side or the other may have felt at times that the facilitators were not even handed, but in the final analysis it seems that this was merely a momentary concern, and overall the parties were satisfied with the manner in which the facilitators held their neutral position.

The hosts provided a pleasant and comfortable environment for the meetings. In addition to the meeting rooms, there was always a place for informal meetings, where heads or members of the delegations could chat informally. Coffee breaks were sometimes devoted to the exchange of stories and jokes. Personal relations developed, even if the atmosphere in the meeting rooms was sometimes tense and antagonistic. It is fair to say that, while the negotiators used negotiation tactics they deemed to be to their best advantage, the overall tenor of the talks was one of mutual respect.

5. Haddadin: To my recollection, no such informal discussions ever took place in the presence of any of the sponsors.

An agreed common "Agenda" for the following bilateral negotiations was signed on September 14 1993. This was the day following the signing of the Declaration of Principles (DOP) between Israel and the Palestinian Authority on the lawn of the White House, President Clinton presiding over the ceremony between Yasser Arafat and Yitzhak Rabin. This common agenda for the negotiations between Jordan and Israel had in essence been ready many months before this date, and awaited an agreement between Israel and the Palestinian Liberation Organization to open the road for the concrete negotiations between Jordan and Israel.

In February 1994, and again in June that year, there were extended and very intensive meetings of the delegations in Washington, at which much of the language meant for the treaty was discussed in detail, on the basis of the common agenda signed in September 1994. In July 1994 the meetings moved to the region, the first being held in a large tent in the Araba/Arava Valley and the following ones in various venues in both countries.

A round rich in negotiations was held in August at the Moria Plaza Hotel by the Dead Sea shore in Israel, and another in September 1994 at Beit Gabriel on the Shore of Lake Kinneret and in Aqaba. In late September and mid-October 1994, the last stretch of the negotiations was held in Eilat, Aqaba, and Amman in the course of a few intensive days, under the personal guidance of Prince El Hassan, and finally involving King Hussein and Prime Minister Yitzhak Rabin. The water agreement was finalized in the morning of October 17 and initialed by Munther Haddadin for Jordan and Noah Kinarti for Israel, after a few difficult points had been taken to the leaders for decision. Rabin, Prime Minister of Israel, and Abdul Salam Majali, Prime Minister of Jordan, initialed the treaty on October 17 at the Hashimiyya Palace in Amman in the presence of King Hussein and other dignitaries from the two countries, and the ceremonial signing of the Jordan-Israel Peace Treaty took place in the Arava/Araba Valley, north of the cities of Aqaba and Eilat, on October 26 1994.

3.3. The Negotiations: A Single Negotiated Text (SNT)

In the Jordan-Israel bilateral negotiations, a "single negotiated text" (SNT) was used. This technique, recommended by negotiations experts (Raiffa, 1982, whom many have since quoted), requires that the parties work on a single text, noting in it the parts that are still not agreed by introducing, side-by-side, the different texts that each proposes. A common technique is to highlight this text in bold and set it within square brackets, with a / separating the different texts. This technique reduces the possibility of misunderstandings, helps to focus on the differences and identify the similarities of the intentions.⁶

During the various stages of the negotiations, the sides wrote down proposed texts for controversial components and handed them to the other for consideration. Some were termed "non-papers," to signify that they were merely "trial balloons" for the other side to look at, and see whether the document has a chance of becoming part of a joint text: the SNT.

While the delegations had some authority, they needed to get approval for critical points, sometimes from the Head of the Delegation, who was just outside the meeting room, and sometimes from "home." The time difference between Washington and the Middle East created a dynamic of getting back to a point one day after it was raised between the delegations, after they had had time to consider it at the end of the day, send it back home for consultation with the appropriate authority, and get the response back by the time the new day began in Washington and it was already afternoon in the Middle East.

6. Haddadin: In this case the bracketed single text was used only in the negotiations for the text of the common agenda, not the treaty itself.

The procedure of using a single negotiated text can be contrasted to the approach used by Ambassador Eric Johnston, as described in the first part of this chapter. Johnston used shuttle diplomacy, meeting with each of the parties separately, proposing principles and figures for dividing the waters, carrying with him the reactions he received, and making his own presentations to the other side. The parties saw different versions of the proposals and it seems that they were never sure where the other party or parties actually stood. It is therefore not clear, in retrospect, what would have happened if they had to come together, prepared to sign an agreement on the basis of what they had heard earlier, and then found that there were gaps between their positions. This is avoided when an SNT is used.

3.4. The Negotiations: Israel–Jordan and Other Regional Parties

Prior to the Madrid Conference, Israel did not agree to negotiate directly with the Palestinians as a formal partner. US Secretary of State James Baker succeeded, after some eight months of shuttle diplomacy, in brokering an agreement whereby the Palestinians would participate in the October 1991 Madrid Conference under the state umbrella of Jordan. This arrangement was carried forward to the bilateral negotiations, and it was agreed that two Jordanians would accompany nine Palestinians to meet eleven Israelis in the Palestinian negotiation track. In parallel, two Palestinians would attend with nine Jordanians to meet eleven Israelis in the Jordanian negotiation track.⁷

At the start of the second round in Washington the two delegations separated, and Israel negotiated separately with Jordan and with the Palestinians. In what follows we shall discuss the negotiations between Jordan and Israel, and refer to issues relating to the Palestinians only in as much as they bear on the Jordan–Israel bilateral talks.

History shows that bilateral water agreements are much more common and easier to reach than multilateral ones (Wolf, 1998). This may be relevant in our case as well, but in fact the main reason for separation into two negotiation tracks in our case has to do with the position Israel took *vis-à-vis* the Palestinians at that time. The announcement of the Oslo Accord between the Palestinians and Israel in August 1993 caused a further separation of the Jordanian–Israeli and Palestinian–Israeli tracks, which were henceforth conducted quite separately.

The signing of the Declaration of Principles (DOP) between Israel and the Palestinian Liberation Organization on September 13 1993 – by Prime Minister Yitzhak Rabin and Chairman Yasser Arafat on the White House lawn, with President Bill Clinton presiding – apparently signaled for Jordan that it could now move ahead on its own negotiating agenda without having to carry the burden of representing the Palestinian interests. Indeed, the next morning, September 14 1993, the common agenda for the negotiations was signed by Jordan and Israel at the State Department. This agenda had effectively been ready since May 1993, but Jordan was reluctant to approve it until some degree of progress was achieved on the Palestinian track. Further rounds between Jordan and Israel were conducted in Washington in February and June 1994 and were moved to various locations in Jordan and Israel, starting on July 17 1994.

While the negotiations between Israel and the Palestinian Authority had been separated out, it was still necessary to consider the interests of the Palestinians in the negotiations between Israel and Jordan. The water resources of interest to the three parties include the Jordan River itself and the aquifers and side-wadis that feed it between the confluence of the Yarmouk River and the Dead Sea. The “Green Line,” which marked the West Bank until 1967, starts in the north at a point on the Jordan

7. Haddadin: However, in the Palestinian track no water talks were allowed; only matters related to the Palestinian Self Governing Authority, PISGA.

River downstream from the confluence of the Yarmouk designated Wadi Yabis/Tirat Zvi and ends in the south in the middle of the Dead Sea north of Ein Gedi. The stretch of the Jordan River between Wadi Yabis/Tirat Zvi and its entry into the Dead Sea is not mentioned in the Israel–Jordan water agreement (but is mentioned in Annex I-c-Borders). This resulted from the fact that at the time this agreement was concluded there was still no agreement between the Palestinian Authority and Israel and it was agreed that the Jordan–Israel agreement would not affect the water interests of the Palestinians.⁸

Syria, upstream on the Yarmouk River, has affected the natural flows of this river, and therefore also of the Jordan River below, by impounding water in a series of reservoirs and by expanding its uses of the base flow. Jordan has an agreement with Syria on division of the Yarmouk waters, but there has been uncertainty as to what Syria might do. This has caused difficulty in the negotiations between Israel and Jordan with respect to the hydrology of the Yarmouk: what the “natural” flows were, how they had already been modified, and how they might be modified further by Syria. Thus, in the background of the dealings between the two parties, there has been concern about lack of control over the flows that enter into the stretch of the Yarmouk to which they are riparian and where they can manage it (Shamir, 1998). This compounds the uncertainty associated with the natural variability of flows between wet and dry years, which is always an issue when waters of a river are to be allocated to different users or uses.

The approach taken to deal with these uncertainties will be discussed later, in the sections dealing with the agreement.

3.5. The Negotiations: The Delegations

The Israeli and Jordanian delegations to the talks were composed of groups of experts on a broad range of topics, including: security, borders, energy, environment, police, economics, and water. The composition of the groups changed somewhat between rounds, but continuity was maintained.

The delegations were headed by high-level officials, among them: for Jordan, Dr Abdul Salam Majali and the then Ambassador Fayez Tarawneh, both later Prime Ministers, and for Israel, Ambassador Elyakim Rubinstein, Secretary of the Government and later Attorney General. The heads of the delegations enjoyed the confidence of their leaders, and were able to lead the negotiations across a broad set of domains.

The fact that the delegations covered the full range of domains of mutual interest made it possible to consider mutual effects across the different topics and concerns. For example, water and land/border issues were tightly coupled, as we shall see later.

Also, the presence of groups dealing with different domains presented an opportunity to “mix” the negotiation arenas and create dynamism of progress when one or another of the domains seemed to stall. At a certain point in the negotiations, the groups dealing with water, energy, and the environment came together and dealt jointly with the three topics. This organizational change was meant to move the negotiations ahead in each of these domains through the presence of experts from adjacent ones.

8. Haddadin: Jordan and Israel agreed on August 8–9 1994 at Moria Plaza Hotel on the Dead Sea that their negotiations were nothing but bilateral between Jordan and Israel. Whatever agreements they come to and whatever topics they discuss shall in no way affect the interests of the other riparians on the Jordan River system, particularly the Palestinians. The Jordanian negotiator made it clear, and the Israeli negotiator finally agreed, that he (the Jordanian) was neither empowered nor willing to speak on behalf of the Palestinians. See Haddadin's book: *Diplomacy on the Jordan*.

3.6. The Negotiations: Confidence Building Measures (CBMs)

The joint operation on the Yarmouk River continued while the negotiations were ongoing.⁹ This included arrangements for increasing the diversion of water into the Jordanian system at agreed times, as was done prior to the initiation of the negotiations, and joint planning and installation of gauging stations on the river. These were necessary to obtain an agreed set of flow measurements that would serve to determine and control the allocations to the two parties. The joint work in the field remained a major confidence building measure (CBM) during the years of the negotiation process. The veracity and accuracy of the data provided by one party was continuously examined and often questioned by the other, but this did not undermine the basic mutual trust between them.

It was also agreed in the negotiations that the parties would not take unilateral actions in the field regarding water matters that were being discussed.¹⁰

During the negotiations there was also an attempt to identify additional CBMs that would improve relations in other domains as well. Since Israel had agreed to respond to Jordanian requests to increase the diversion of Yarmouk water into its KAC as a contribution to reduce water shortages that developed in Amman, there was an attempt and Jordanian readiness to identify a reciprocal Jordanian action that would reduce human suffering in Israel, as a CBM.

The issue that emerged was the eradication (or at least substantial reduction) of the housefly population in the area surrounding the Dead Sea. Video clips taken on the Israeli side showed swarms of flies interfering with people working, eating, and vacationing. The largest source was identified the use of fresh chicken manure by Jordanian farmers in the Valley, brought down from inland and used in the fields.¹¹ The fly-maggots that came in the fresh manure would mature as the manure warmed up and clouds of the flies would emerge, causing great distress to all who lived or stayed in the area.

The Japanese Government, whose representative chaired the Multilateral Working Group on the Environment, expressed willingness to fund the project. Experts from both sides met several times in the field, to exchange information about the lifecycle and habits of the housefly, establish what and where their breeding areas are, and discuss what can be done to reduce the fly population. The measures recommended included maturing the manure under tarpaulins prior to its application in the field, which can raise the temperature above that where the maggots can survive, and setting hundreds of flytraps along the border. The precise structure and operation of these traps were discussed in detail between the fly-entomologists of the two parties.

While this may sound somewhat ridiculous as a CBM, the flies were a real problem, and all parties involved took the matter very seriously. The video showing the suffering in Israel from flies was shown at the State Department in Washington several times, to the sponsors of the negotiations and to others, and used as a vehicle to make this project a CBM of the water talks. Even the Jordanian army was involved, since their check points were to be entrusted with the task of ensuring that any chicken manure transported to the Jordan Valley should be mature.

In the end the project was not carried out.¹²

9. Haddadin: The operation on the Yarmouk River came under the auspices of the UN.

10. Haddadin: Jordan opposed the intervention of any outside parties into Jordanian water projects.

11. Haddadin: The attribution of the problem's source to manure has been challenged.

12. Haddadin: However, USAID did finance field work to determine the cause of the increased fly population. A joint Israeli-Jordanian-American team worked on the subject. The Israeli team was from the Ben Gurion University of the Negev, the Jordanian was a private firm,

3.7. The Negotiations: Combination of Many Topics

Each of the two delegations combined groups on different topics, and had briefing sessions that covered many or all of them. This enabled the group on one topic to be aware of the overall situation and how matters were progressing (or not) in other groups, and to discuss mutual effects between their domains. The heads of the delegations obviously looked at the entire picture, and directed the individual groups with respect to their own domain as well as with respect to cross-cutting issues and opportunities for inter-domain balances.

For the domain of water, the most important relations were with the borders and with environmental issues. Two locations at which the location of borders that had a bearing on water were being discussed. A small agricultural area east of the Jordan River at its confluence with the Yarmouk, called the Baqura, was under Israeli control and cultivated by Israeli farmers, and was claimed by Jordan. (It was later named "The Peace Island" after a Jordanian soldier opened fire there on a group of visiting children in 1997 and killed four girls, and King Hussein came personally to offer condolences to the families.) In the southern Arava/Araba Valley, Jordan claimed sovereignty over a stretch where it stated that Israel had moved the border eastward. Israel had drilled fourteen wells in this area, and used their water to irrigate crops.

In the Baqura area Israel was interested in maintaining the use of the land by its farmers. In the Arava/Araba Valley Israel wished to continue to use the water from these wells, and to be allowed to develop further quantities from groundwater. The agreement returned these two areas to Jordanian sovereignty, but allowed Israel the cultivation of the Baqura area for a period of twenty-five years, with a possibility of requesting an extension, while in the south the border was moved westward and the agreement stipulates that Israel can continue to use the wells that are now in Jordan and "may increase the abstraction rates from wells and systems in Jordan by up to 10 MCM/yr." (Article IV(3)). In the north, Israel agreed to give Jordan an annual quantity of 10 MCM from the desalination of saline springs. Until this was done, Israel would provide Jordan with the 10 MCM from the same source as the other water from the Jordan River.

Thus, the interests of the parties were reconciled: Jordan got back the lands it claimed while Israel maintained the right to use the land (in the north) or the water (in the south).

Mutual relations also existed between water and the environment. The water agreement stipulates that both sides shall prohibit the disposal of municipal and industrial wastewater into the courses of the Yarmouk or the Jordan rivers before they are treated to standards allowing their unrestricted agricultural use (Article III(3)).

Also, as was mentioned in the section on the bilateral and multilateral arenas, a combined negotiations group on water-environment-energy was convened, in an attempt to change the dynamics of single-domain negotiations that seemed to be stalling.

and the American team was from Harvard's School of Public Health. It was proven that the fly population in Jordan had nothing to do with the flies in Israel, but rather that untreated wastewater on the Israeli side was responsible for the flies in Israel, and chicken manure used as organic fertilizer in Jordan was behind the fly population in Jordan. A technical report was submitted in late 1996 that benefited all parties.

3.8. The Negotiations: Dealing with Water Rights

The term "water rights" was raised during the negotiations between Israel and the Palestinians, and is indeed mentioned in the first paragraph of Article 40 "Water and Sewage" of the Oslo II agreement, which states:

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.

Between Jordan and Israel the issue of water rights was not raised, and the negotiations and agreement were pragmatic: water sharing – defined by source and location, season of the year, quantities, qualities, time until implementation, and pricing (each of these where relevant) – and other aspects of cooperation.

The Helsinki Rules issued by the International Law Association in 1966 state that each 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" (Article IV). It then lists (in Article V) eleven factors that are to be considered in determining what is "a reasonable and equitable share," including geography, hydrology, climate, past utilization, economic and social needs, population dependent on the basin's water, comparative cost of alternative means of satisfying the economic and social needs, the availability of other sources, and avoidance of unnecessary waste. Article V(III) states that the weights to be given to each factor are to be determined "by its importance in comparison with that of other relevant factors." And that "in determining what is a reasonable and equitable share, all relevant factors are to be considered together and a conclusion be reached on the basis of the whole."

The 1997 UN Convention for Non-Navigable Uses of International Waters, which took about twenty-seven years of discussions and negotiations to conclude (and was adopted only after the conclusion of the Jordan-Israel water agreement), does not add more definitive rules for allocating waters of an international basin. It does raise the importance of "no appreciable harm" as a principle.

It is thus clear that while these are important guidelines they do not provide a definitive algorithm for allocating waters in an international basin. The parties in our case agreed to use creative language to deal with "allocations" and "rights," coining "rightful allocations" as a term reminiscent of "rights," combined with the operational term "allocations," and stipulating that these will be determined by mutual agreement, as follows: "The Parties agree mutually to recognise the rightful allocations of both of them in Jordan River and Yarmouk River waters and Araba/Arava groundwater in accordance with the agreed acceptable principles, quantities and quality as set out in Annex II, which shall be fully respected and complied with" (Article 6(1) of the treaty).

The terms that were being discussed on the way to "rightful allocations" can be seen in the "Common Sub-Agenda" that was agreed on June 7 1994 between the parties (Haddadin, 2002, Appendices 12, 13, 14, pp. 503–7).

3.9. The Negotiations: The Effect of Tragic Events in the Region

During the negotiations there were some tragic events that disrupted the discussions, notably the massacre of Palestinians in Hebron by a Jewish settler (February 26 1994). The Jordanian delegation to the negotiations in Washington called a halt to the meetings, and at the last meeting prior to dispersing the Israeli delegation expressed its regrets and condemnation of the deed.

After a Jordanian soldier murdered four Israeli schoolgirls on a field trip to the Baqura area, the Jordanian delegation expressed to the Israeli colleagues in the JWC

(this was after the agreement was already in force) its sympathy and condemnation of the deed.

Overall, the parties did not let such events derail the negotiations between them, and the offending side sought to acknowledge its regrets and sympathies. This paved the way to continuing the discussions soon after the events, while not ignoring the tragedies.

4. THE AGREEMENT

Note: Reference to parts in Article 6 will be: (6(1)) for point 1 in Article 6, etc. Reference to parts in Annex II will be stated (II(I)(1)(a)) for point a. in part 1. of Article I of Annex II, etc.

Article 6 of the treaty is titled "Water," and lays down the foundation upon which the details are elaborated in Annex II "Water Related Matters." These are included in the Appendix.

The opening statement of Article 6 is: "With the view to achieving a comprehensive and lasting settlement of all the water problems between them: . . ." – which stresses that this is a final agreement. Even so, the parties established a mechanism, to be described below, for dealing jointly not only with implementation of what had been agreed but also with additional matters that might arise over time.

4.1. The Agreement: The Joint Water Committee

The Joint Water Committee was therefore formed (II (VII)) as a permanent institution. The JWC is charged with implementing the agreement, and with any additional water matters that may arise subsequently. It is made of three members from each country, and sets its own procedures and agenda. Upon its establishment the JWC began operating under co-chairing of the parties, and all decisions had to be reached by mutual agreement.

The JWC held regular meetings at short intervals, as required by the business at hand, and has been using all manner of communication channels to conduct its work. Present at the meetings were various professionals, depending on the subject being considered, and formalities were waived in favor of consensual decisions.

4.2. The Agreement: Cooperation

The overall spirit of the water agreement is one of cooperation. The areas mentioned specifically include (6(4)):

- development of existing and new water sources and increasing the water availability
- prevention of contamination of water resources,
- mutual assistance in the alleviation of shortages,
- transfer of information and joint research and development in water-related subjects.

4.3. The Agreement: Rightful Allocations

As presented earlier, the parties did not base allocations on some set of principles external to their agreement. The term "rightful allocations" served to provide a psychological reference to "rights" while basing the allocations on what is specified in the agreement itself. Much time was spent during the negotiations on these and similar terms (Haddadin, pp. 503–7). These discussions were not merely linguistic;

they served for the parties to convey to each other the basic positions they held on what the proper allocations should be.

Ambassador Eric Johnston's proposed allocations were based primarily on the amount of arable land each party could irrigate with Jordan water, and the water duty (amount per hectare irrigated, which can also be expressed as the depth of water to be supplied to the land). These criteria were the ones most relevant to the era in which Johnston made his proposals; after the 1980s the critical element has more and more been human consumption.

The allocations for Jordan are made up of three tiers. The first allocates waters from existing sources. The second includes quantities from sources yet to be developed, but which are quite well defined. The third tier is titled "additional water" and reads: "Jordan and Israel will cooperate in finding sources for the supply to Jordan of an additional quantity of 50 MCM/yr of water of drinkable standards" (II(I)(3)); it adds: "To this end, the Joint Water Committee will develop, within one year of the entry into force of the treaty, a plan for the supply to Jordan of the above mentioned additional water."

This does not define where these sources for the additional water stipulated at 50 MCM per year ("the third 50 MCM") would be found, or who would pay for their development and the cost of supply to Jordan. Whereas in other sources of additional water to Jordan that are mentioned in the agreement these details were given, the water sources and payment for this amount were not. The plan stated in the agreement was not completed within the one-year time frame. Jordan tried to convince Israel to provide this water from Lake Kinneret, while Israel insisted that this was not in the agreement, that the sources had to be found in Jordan as well as in Israel, and that Jordan would have to bear the full economic cost of development and supply. On May 5 1997, Munther Haddadin and Ariel Sharon had debated the matter. In a summit meeting in Aqaba on May 8 1997, it was agreed that, until a desalination plant is built and is operational, Israel will supply Jordan between 25 and 30 MCM of water from Lake Tiberias. In 1998, Prime Minister Ariel Sharon and then Water Commissioner Meir Ben-Meir agreed that "a storage volume of 60 MCM will be provided for the Jordan share in the Yarmouk floods. This volume is in the Lake of Galilee." This was stated to be "in compliance with the provisions of Annex II to the Peace Treaty, and without any change to their respective shares in the Yarmouk River" (Haddadin, 2002 p. 438).

4.4. The Agreement: Priority given to Existing Uses

Existing use is given priority in several places in the agreement,¹³ including Israel's existing uses on the Jordan River (II(I)(2)(c))¹⁴ and Israel's existing use of groundwater in Emeq Ha'arava/Wadi Araba (II(IV)(1)) as well as Jordan's existing use of groundwater there (II(IV)(3)).

4.5. The Agreement: "Increasing the Pie"

The parties agreed that they both face a water scarcity that cannot be overcome by merely dividing the existing resources. The agreement therefore states: "The Parties recognise that their water resources are not sufficient to meet their needs. More water should be supplied for their use through various methods, including projects of regional and international cooperation." (6(3)). There is a list of approaches to achieving this objective, including development of new sources, preventing

13. Haddadin: Only in the case of Israel's use of the Jordan River water below Lake Tiberias.

14. Haddadin: This is connected to Israel's continued use of some 300 ha of Jordanian land in Wadi Araba at el Ghamr/Zofar region.

contamination, mutual assistance in alleviation of water shortage, and exchange of information. Specific elements are listed in Annex II.

4.6. The Agreement: Groundwater in Wadi Araba/Emek Ha'arava

In the Jordan Rift Valley, north of the Gulf of Aqaba: "In accordance with the provisions of this Treaty, some wells drilled and used by Israel along with their associated systems fall on the Jordanian side of the border" but "Israel shall retain the use of these wells and systems in the quantity and quality detailed in Appendix 1 . . ." (II(IV)(1)) and "Israel may increase the abstraction rate from wells and systems in Jordan by up to 10 MCM/yr above the yields referred to in paragraph 1 above, subject to the determination by the Joint Water Committee that this undertaking is hydrogeologically feasible and does not harm existing Jordanian uses. Such increase is to be carried out within five years of the entry into force of the Treaty" (II(VI)(3)).

The 10 MCM/yr from groundwater in the south is parallel to another quantity of 10 MCM/yr that Jordan is to receive from "desalination of about (20) MCM of saline springs now diverted to the Jordan River" around the Kinneret. The two quantities are not linked specifically in the agreement, but they were conceived as co-measures: one to provide water to Jordan, the other to Israel.

4.7. The Agreement: Dealing with Variability of Flows in the Rivers

Variability of flows in watercourses that are to be allocated among parties in an international agreement causes substantial difficulties. Agreements have to be well defined, implementable, and enforceable, and decision makers tend to ask for and agree to sign agreements that are easy to understand and not subject to "if-then." The history of international water agreements shows that variability of water yields has caused difficulties in framing agreements and particularly in their implementation.

The approach taken in the Israel-Jordan water agreement is as follows. There are two rivers under consideration in the northern part of their joint border: the Yarmouk and Jordan. The agreement is that, on each of these, one party is given a fixed quantity and the other is allowed utilization of the rest. The fixed quantity is small relative to the total flow of the river, so that Party A (the one receiving the fixed quantity) is (almost) guaranteed this amount, while the Party B makes its own decisions on the storage and conveyance facilities it builds to utilize the rest, which can be highly variable.

Israel is entitled to certain quantities in summer and winter from the Yarmouk, and Jordan has designed and built the diversion structures at Adassiya/Point 121 (Haddadin, 2002, p. 443). On the Jordan, Israel is entitled to maintain its current while Jordan is entitled to an annual quantity equivalent to that of Israel, "provided however, that Jordan's use will not harm the quantity or quality of the above Israeli uses."

While the method of dealing with shortages covers a major part of the possible cases, there is no stated mechanism for "sharing shortages" when they occur, namely when the flows are very low. This has happened in the years since the agreement was signed, and caused difficulty. Allocations in Israel were curtailed due to a drought, and the then Water Commissioner stated that it would not be possible for Israel to allow Jordan its allocation as per the agreement, and it would have to reduce it. This was retracted when Jordan stood on the firmness of its allocation from the Yarmouk, and the full Jordanian allocation was provided. Actually, the regime followed between 1979 and the signing of the treaty was an example of good will demonstrated by both parties, but primarily by Israel. When there were drought years, Israel allowed Jordan to receive some more flow at the expense of the Israeli share. This tradition was helpful in the negotiations and may have been one reason why the two parties did not

specify a method of drought management, namely sharing of shortages. They both valued the regime of cooperation and considered that if it worked during the era of no peace it should work even better during the era of peace.

4.8. The Agreement: Insufficient Storage

There is no adequate storage in the Jordanian water system to enable effective utilization of the waters allocated to it in the agreement. Lake Kinneret serves a major storage reservoir in Israel's water system, and provides about 25–30 percent of the country's fresh water supply. The lake serves to regulate the inflows and allows some over-year storage. To provide Jordan with the ability to use some of the water allocated to it under the agreement, "Jordan concedes to Israel pumping an additional (20) MCM from the Yarmouk in winter in return for Israel conceding to transferring to Jordan during the summer period the quantity specified in paragraph (2.a) below from the Jordan River" (I(1)(b)). The agreement is then that: "In return for the additional water that Jordan concedes to Israel in winter in accordance with paragraph (1.b) above, Israel concedes to transfer to Jordan in the summer period (2) MCM from the Jordan River directly upstream from the Deganya gates on the river." (I(2)(a)).

Lake Kinneret (also known as the Sea of Galilee and Lake Tiberias) was mentioned by name in previous proposals, notably by Eric Johnston, but it does not appear in the Jordan–Israel Treaty (by any of its names). In stating where Jordan would receive its water from the Israeli system, the location is called "directly upstream from the Deganya gates on the river" (I(2)(a)). This location is actually at the lower end of the Kinneret, but Israel did not allow the name of the lake to appear in the treaty because Jordan is not riparian to the lake itself, only to the Yarmouk River and then to the Jordan River below the confluence of the Yarmouk. It was therefore intentional that the location of the supply point was specified as it was.

Still, it is clear that Israel has provided Jordan with storage to regulate its allocations. While this storage was not named as such in the treaty, the Kinneret was mentioned as the storage in the March 10, 1998 agreement between Israeli Minister Ariel Sharon and Water Commissioner Meir Ben-Meir and Jordanian Minister Haddadin.

4.9. The Agreement: Water Quality

There are cases in which international water agreements failed to mention water quality, and this aspect came to haunt the parties later. The Jordan–Israel agreement pays special attention to this aspect, as well as to protection of the environment (Shmueli and Shamir, 2001). The parties agreed to protect water resources of mutual interest (II(III)) and jointly monitor them.

Attention was also given to the quality supplied by one party to the other from sources in its territory: "The quality of water supplied from one country to the other at any given location shall be equivalent to the quality of the water used from the same location by the supplying country" (II(III)(4)). This was done to ascertain that the recipient shall have no claim as to the quality of water supplied to it. This relates to groundwater from wells in Jordan taken by Israel. It also relates to the water transferred to Jordan at the diversion point on the Yarmouk River as well as that "from the Jordan River directly upstream from the Deganya gates."

The absence of such a stipulation might open up the possibility of arguments as to the quality of the water that the recipient supplies its customers.

In summer 1998, poor water quality in West Amman, coming from the water treatment plant whose raw water is pumped from the King Abdallah Canal, which receives water from the Yarmouk and from Lake Kinneret, caused health concerns in Jordan, and was a factor in bringing down the Government. While there were voices in

Jordan that sought to place the blame on Israel, the above stipulation (II(III)(4)) clearly places the responsibility on the recipient, Jordan in this case.

4.10. The Agreement: Its Complexity Provides a Means for Marketing it

The water agreement is quite complex, not only for the uninitiated who know little or nothing about the specifics of the case, but even for water professionals in the region. It takes quite a while to explain its principles and details.

This provides a means for “marketing” the agreement to interested parties and the general public in both countries. It must be expected that there will be objections to any agreement, on matters of principle or detail. Those opposed to a peace agreement between the countries – and they exist on both sides – find flaws and attempt to show that overall their side lost or got less than it should. On both sides there are those who are more directly affected by the agreement, for example consumers in the vicinity of the Jordan and Yarmouk, who believe they should have lost less or gained more, whatever the case may be. And there is the general public, who are naturally concerned, and the media that looks for the dramatic.

A complex agreement has to be explained, and this provides an opportunity to allay unfounded claims and explain the overall benefits, each party to its side, of having reached this particular agreement, and why a better one (for its side) was not feasible.

This was the case, on both sides. Publications and statements explaining the benefits of the agreement – each to its own interests – appeared for quite a while after the agreement was signed. It remains for a historian to assess, in perspective, whether this evaluation is indeed correct.

4.11. The Agreement: Observations

The previous sections cover the principal elements of the agreement. Some additional aspects are mentioned below, in the overall observations regarding the agreement.

The following observations are specific to the Israel–Jordan water agreement, but also have general relevance to water agreements:

- The water agreement is but one part of an overall peace treaty. What it accomplishes for each side in the area of water should be viewed in light of the total treaty, and not in isolation. This aspect goes beyond the scope of the present case study.
- The agreement does not refer explicitly to international law.
- The agreement is based on pragmatic arrangements that stipulate the locations, times, quantities, and qualities of water allocations, and, where relevant, the financial arrangements.
- The parties recognize that additional sources have to be developed, as the existing ones cannot satisfy their needs.
- The agreement recognizes the parties’ joint interest in developing new sources of water, not merely dividing the existing ones.
- Uncertainties in flows are addressed through allocating on each source a fixed low amount to one party and all the rest to the other.
- Protection of water quality and the environment are integral parts of the agreement.
- Effects by and/or on other parties in the region (Palestinian Authority, Syria) are not mentioned in the agreement.
- The agreement is quite complex, providing opportunities for each side to present its own perspective on what it has achieved.

The agreement has been in effect since 1994, and has worked well. This indicates that both Jordan and Israel view cooperation in water a matter of national interest.

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APPENDIX

Treaty of Peace between The State of Israel and The Hashemite Kingdom of Jordan Done at Arava/Araba Crossing Point On October 26 1994

Article 6. – Water

With the view to achieving a comprehensive and lasting settlement of all the water problems between them:

1. The Parties agree mutually to recognise the rightful allocations of both of them in Jordan River and Yarmouk River waters and Arava/Araba groundwater in accordance with the agreed acceptable principles, quantities and quality as set out in Annex II, which shall be fully respected and complied with.
2. The Parties, recognising the necessity to find a practical, just and agreed solution to their water problems and with the view that the subject of water can form the basis for the advancement of cooperation between them, jointly undertake to ensure that the management and development of their water resources do not, in any way, harm the water resources of the other Party.
3. The Parties recognise that their water resources are not sufficient to meet their needs. More water should be supplied for their use through various methods, including projects of regional and international cooperation.
4. In light of paragraph 3 of this Article, with the understanding that cooperation in water-related subjects would be to the benefit of both Parties, and will help alleviate their water shortages, and that water issues along their entire boundary must be dealt with in their totality, including the possibility of trans-boundary water transfers, the Parties agree to search for ways to alleviate water shortages and to cooperate in the following fields:
 - a. Development of existing and new water resources, increasing the water availability, including cooperation on a regional basis as appropriate, and minimising wastage of water resources through the chain of their uses;
 - b. Prevention of contamination of water resources;
 - c. Mutual assistance in the alleviation of water shortages;
 - d. Transfer of information and joint research and development in water-related subjects, and review of the potentials for enhancement of water resources development and use.
5. The implementation of both Parties' undertakings under this Article is detailed in Annex II.

Annex II

Water Related Matters

Pursuant to Article 6 of the Treaty, Israel and Jordan agreed on the following Articles on water related matters:

Article I. – Allocation

1. *Water from the Yarmouk River*
 - a. Summer period – May 15th to October 15th of each year. Israel pumps (12) MCM and Jordan gets the rest of the flow.

- b. Winter period – October 16th to May 14th of each year. Israel pumps (13) MCM and Jordan is entitled to the rest of the flow subject to provisions outlined herein below: Jordan concedes to Israel pumping an additional (20) MCM from the Yarmouk in winter in return for Israel conceding to transferring to Jordan during the summer period the quantity specified in paragraph (2.a) below from the Jordan River.
- c. In order that waste of water will be minimized, Israel and Jordan may use, downstream of point 121/Adassiya Diversion, excess flood water that is not usable and will evidently go to waste unused.

2. *Water from the Jordan River*

- a. Summer period – May 15th to October 15th of each year. In return for the additional water that Jordan concedes to Israel in winter in accordance with paragraph (1.b) above, Israel concedes to transfer to Jordan in the summer period (20) MCM from the Jordan River directly upstream from Deganya gates on the river. Jordan shall pay the operation and maintenance cost of such transfer through existing systems (not including capital cost) and shall bear the total cost of any new transmission system. A separate protocol shall regulate this transfer.
- b. Winter period – October 16th to May 14th of each year. Jordan is entitled to store for its use a minimum average of (20) MCM of the floods in the Jordan River south of its confluence with the Yarmouk (as outlined in Article II below). Excess floods that are not usable and that will otherwise be wasted can be utilised for the benefit of the two Parties including pumped storage off the course of the river.
- c. In addition to the above, Israel is entitled to maintain its current uses of the Jordan River waters between its confluence with the Yarmouk, and its confluence with Tiral Zvi/Wadi Yabis. Jordan is entitled to an annual quantity equivalent to that of Israel, provided however, that Jordan's use will not harm the quantity or quality of the above Israeli uses. The Joint Water Committee (outlined in Article VII below) will survey existing uses for documentation and prevention of appreciable harm.
- d. Jordan is entitled to an annual quantity of (10) MCM of desalinated water from the desalination of about (20) MCM of saline springs now diverted to the Jordan River. Israel will explore the possibility of financing the operation and maintenance cost of the supply to Jordan of this desalinated water (not including capital cost). Until the desalination facilities are operational, and upon the entry into force of the Treaty, Israel will supply Jordan (10) MCM of Jordan River water from the same location as in (2.a) above, outside the summer period and during dates Jordan selects, subject to the maximum capacity of transmission.

3. *Additional Water*

Israel and Jordan shall cooperate in finding sources for the supply to Jordan of an additional quantity of (50) MCM/year of water of drinkable standards. To this end, the Joint Water Committee will develop, within one year from the entry into force of the Treaty, a plan for the supply to Jordan of the above mentioned additional water. This plan will be forwarded to the respective governments for discussion and decision.

4. *Operation and Maintenance*

- a. Operation and maintenance of the systems on Israeli territory that supply Jordan with water, and their electricity supply, shall be Israel's responsibility. The operation and maintenance of the new systems that serve only Jordan will be contracted at Jordan's expense to authorities or companies selected by Jordan.

- b. Israel will guarantee easy unhindered access of personnel and equipment to such new systems for operation and maintenance. This subject will be further detailed in the agreements to be signed between Israel and the authorities or companies selected by Jordan.

Article II. – Storage

1. Israel and Jordan shall cooperate to build a diversion/storage dam on the Yarmouk River directly downstream of the point 121/Adassiya Diversion. The purpose is to improve the diversion efficiency into the King Abdullah Canal of the water allocation of the Hashemite Kingdom of Jordan, and possibly for the diversion of Israel's allocation of the river water. Other purposes can be mutually agreed.
2. Israel and Jordan shall cooperate to build a system of water storage on the Jordan River, along their common boundary, between its confluence with the Yarmouk River and its confluence with Tirat Zvi/Wadi Yabis, in order to implement the provision of paragraph (2.b) of Article I above. The storage system can also be made to accommodate more floods; Israel may use up to (3) MCM/year of added storage capacity.
3. Other storage reservoirs can be discussed and agreed upon mutually.

Article III. – Water Quality and Protection

1. Israel and Jordan each undertake to protect, within their own jurisdiction, the shared waters of the Jordan and Yarmouk Rivers, and Arava/Araba groundwater, against any pollution, contamination, harm or unauthorized withdrawals of each other's allocations.
2. For this purpose, Israel and Jordan will jointly monitor the quality of water along their boundary, by use of jointly established monitoring stations to be operated under the guidance of the Joint Water Committee.
3. Israel and Jordan will each prohibit the disposal of municipal and industrial wastewater into the courses of the Yarmouk and the Jordan Rivers before they are treated to standards allowing their unrestricted agricultural use. Implementation of this prohibition shall be completed within three years from the entry into force of the Treaty.
4. The quality of water supplied from one country to the other at any given location shall be equivalent to the quality of the water used from the same location by the supplying country.
5. Saline springs currently diverted to the Jordan River are earmarked for desalination within four years. Both countries shall cooperate to ensure that the resulting brine will not be disposed of in the Jordan River or in any of its tributaries.
6. Israel and Jordan will protect water systems each in its own territory, supplying water to the other, against any pollution, contamination, harm or unauthorised withdrawal of each other's allocations.

Article IV. – Groundwater in Emek HaArava/Wadi Araba

1. In accordance with the provisions of this Treaty, some wells drilled and used by Israel along with their associated systems fall on the Jordanian side of the borders. These wells and systems are under Jordan's sovereignty. Israel shall retain the use of these wells and systems in the quantity and quality detailed in an Appendix to this Annex, that shall be jointly prepared by December 31st 1994. Neither country shall take, nor cause to be taken, any measure that may appreciably reduce the yields or quality of these wells and systems.

2. Throughout the period of Israel's use of these wells and systems, replacement of any well that may fail among them shall be licensed by Jordan in accordance with the laws and regulations then in effect. For this purpose, the failed well shall be treated as though it was drilled under license from the competent Jordanian authority at the time of its drilling. Israel shall supply Jordan with the log of each of the wells and the technical information about it to be kept on record. The replacement well shall be connected to the Israeli electricity and water systems.
3. Israel may increase the abstraction rate from wells and systems in Jordan by up to (10) MCM/year above the yields referred to in paragraph 1 above, subject to a determination by the Joint Water Committee that this undertaking is hydrogeologically feasible and does not harm existing Jordanian uses. Such increase is to be carried out within five years from the entry into force of the Treaty.
4. *Operation and Maintenance*
 - a. Operation and maintenance of the wells and systems on Jordanian territory that supply Israel with water, and their electricity supply shall be Jordan's responsibility. The operation and maintenance of these wells and systems will be contracted at Israel's expense to authorities or companies selected by Israel.
 - b. Jordan will guarantee easy unhindered access of personnel and equipment to such wells and systems for operation and maintenance. This subject will be further detailed in the agreements to be signed between Jordan and the authorities or companies selected by Israel.

Article V. – Notification and Agreement

1. Artificial changes in or of the course of the Jordan and Yarmouk Rivers can only be made by mutual agreement.
2. Each country undertakes to notify the other, six months ahead of time, of any intended projects which are likely to change the flow of either of the above rivers along their common boundary, or the quality of such flow. The subject will be discussed in the Joint Water Committee with the aim of preventing harm and mitigating adverse impacts such projects may cause.

Article VI. – Cooperation

1. Israel and Jordan undertake to exchange relevant data on water resources through the Joint Water Committee.
2. Israel and Jordan shall cooperate in developing plans for purposes of increasing water supplies and improving water use efficiency, within the context of bilateral, regional or international cooperation.

Article VII. – Joint Water Committee

1. For the purpose of the implementation of this Annex, the Parties will establish a Joint Water Committee comprised of three members from each country.
2. The Joint Water Committee will, with the approval of the respective governments, specify its work procedures, the frequency of its meetings, and the details of its scope of work. The Committee may invite experts and/or advisors as may be required.
3. The Committee may form, as it deems necessary, a number of specialized subcommittees and assign them technical tasks. In this context, it is agreed that these subcommittees will include a northern subcommittee and a southern subcommittee, for the management on the ground of the mutual water resources in these sectors.

Index entries: water, negotiation, agreement, Israel–Jordan

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Constitution of UNESCO (excerpt)

London, 16 November 1945

The Governments of the States Parties to this Constitution on behalf of their peoples declare:

That since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed;

That ignorance of each other's ways and lives has been a common cause, throughout the history of mankind, of that suspicion and mistrust between the peoples of the world through which their differences have all too often broken into war;

That the great and terrible war which has now ended was a war made possible by the denial of the democratic principles of the dignity, equality and mutual respect of men, and by the propagation, in their place, through ignorance and prejudice, of the doctrine of the inequality of men and races;

That the wide diffusion of culture, and the education of humanity for justice and liberty and peace are indispensable to the dignity of man and constitute a sacred duty which all the nations must fulfil in a spirit of mutual assistance and concern;

That a peace based exclusively upon the political and economic arrangements of governments would not be a peace which could secure the unanimous, lasting and sincere support of the peoples of the world, and that the peace must therefore be founded, if it is not to fail, upon the intellectual and moral solidarity of mankind...



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