

Toward a Unified Management Regime in the Jordan Basin: The Johnston Plan Revisited

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ABSTRACT

In 1955 an unratified agreement concerning future allocations and joint management of the Jordan River was reached between the Arab riparians and Israel through the mediation of the American special ambassador Eric Johnston. The author argues that this agreement, known as the Johnston Plan, is worth revisiting because it contains the essential ingredients for the resolution of any water conflict, such as provisions for allocations for each riparian and for the establishment of a joint commission. The author analyzes the Johnston Plan in light of current circumstances, assesses its weaknesses, and recommends certain modifications which would make the Plan attractive and feasible for the countries concerned.

INTRODUCTION

The conflict between Israel and the Arabs is not just about history and legitimacy, but also, of course, about land—perhaps the core natural resource of the region. The relative scarcity of water, and its importance in determining the value of some of the contested lands, has meant that it has been a site of conflict since the very beginnings of the Arab-Israeli feud. Because the main sources of the region's water are shared, any lasting peace between the Arab riparians of the basin and Israel will by necessity include agreements on water.

Through such agreements, the Arab riparians will presumably work to secure what they see as their fair share of the area's water resources, the bulk of which originate in Arab territory. Israel, on the other hand, is downstream of the two main disputed resources, the Mountain Aquifer and the Jordan River. The Mountain Aquifer is replenished primarily from the West Bank, and the Jordan River from Syria and Lebanon and, to a lesser extent, from Jordan. Israel and the West Bank contribute minor amounts of drainage area and water quantity to the headwaters and to the basin as a whole (Elmusa 1997). To compensate for its downstream position, Israel is unlikely to withdraw from the Golan Heights, southern Lebanon, and the West Bank without making arrangements for access to water. It has been the principal user of their waters, accomplished through direct or indirect control of the headwaters, i.e., through the occupation of the territory that holds them or through the assertion of its military power to halt projects it deemed inimical to its water supply. Under peaceful conditions, treaties would have to replace this form of control.

My focus here is on the Jordan River system which courses through, whether serially or contiguously (i.e. as a boundary), territories of Lebanon, Syria, Jordan, the Palestinians, and Israel. Ac-

ording to international water law, it qualifies as an international watercourse common to all five parties.¹

In this paper, I will propose that future allocations and joint management of the Jordan River system be based on the Johnston Plan (JP). The Johnston Plan is an unratified agreement that was reached in 1955 between the Arab riparians and Israel through the mediation of the American special ambassador, Eric Johnston. It contains provisions for allocations for each riparian, diversion and regulatory schemes, and preliminary proposals for a joint commission—all of which are essential ingredients for the resolution of any water conflict. My main interest here is in the allocation provisions, but the possibilities for unified management will also be indicated. In addition, I will point out the principal weaknesses of the JP and suggest remedies. Whether, and which, riparians would agree to endorse the JP is anything but certain; I will examine this question by citing their individual responses to the JP and their hydrologic interests.

Before delving into the details of my main argument, however, I must mention the water agreements that have been reached in the course of the peace talks so far because of their ramifications for resolving the conflict in the future. The Jordan-Israel peace treaty (October 1994) contained what amounts to a water agreement, and so have the interim agreements between Israel and the Palestinians.² The Jordan-Israel agreement pertains principally to segments of the Jordan River system that the two states immediately share. A full accord on the basin would have to include Lebanon, the Palestinians, and Syria. The talks between Israel, on the one hand, and Lebanon and Syria, on the other, have all but come to a halt. The Palestinian-Israeli treaties contain partial, water-related arrangements for the interim period, or Palestinian self-governing period, and set out two main agenda items—namely, the equitable utilization of joint water resources and their joint management—for the “final-status” negotiations between the two sides. These negotiations commenced in May 1995, but have made little progress. They are scheduled to conclude on the eve of the year 2000 and to resolve the major issues of conflict between the two sides, especially borders, refugees, Jerusalem, the Israeli settlements in the West Bank and Gaza, and water.

AN OVERVIEW OF THE JOHNSTON PLAN³

Eric Johnston undertook his mission in 1953, to resolve the then escalating conflict in the Jordan basin between the Arab states of the Jordan basin and Israel, but his mission had two broader aims as well: (1) to “help Israel get on her feet” (Stevens 1965) including (at least tacitly) recognition of Israel by the Arab coun-

¹ The convention on the law of the non-navigational uses of international watercourses, United Nations General Assembly Report of the Sixth Committee convening as the Working Group of the Whole, A/51/869 11 April 1997, defines an “international watercourse” as “a watercourse, parts of which are situated in different states” (Article 2.b).

² For analyses of the Jordan-Israel water agreement, see Sharif S. Elmusa, *The Jordan-Israel water agreement: a model or an exception?* in Eugene Cotran and Chibli Mallat, *The Arab-Israeli accords: legal perspectives*, 1996. Boston: Kluwer Law International: 199-212; and Fredric C. Hof, *The Yarmouk and Jordan Rivers in the Israel-Jordan Peace Treaty*, *Middle East Policy* No. 4 (Spring 1995): 1-9. See also Shamir, this volume, which includes the texts of these agreements.

³ The main arguments of this article were made in several chapters of Sharif S. Elmusa, *Water conflict: economics, politics, law and the Palestinian-Israeli water resources*, Washington, D.C., Institute for Palestine Studies, 1997. The JP has been examined in numerous publications, principally: American Friends of the Middle East, *The Jordan water problem*, Washington, D.C., 1964; Miriam L. Lowi, *Water and power: the politics of a scarce resource in the Jordan River basin*, London: Cambridge Univ. Press, 1993; Thomas Naff and R. C. Matson, *Water in the Middle East: conflict or cooperation*, Boulder, CO: Westview Press, 1984; Don Peretz, *Development of the Jordan Valley*, *Middle East Journal*, Vol. 9, No. 4, Autumn, 1995; Samir Saliba, *The Jordan River dispute*, The Hague: Martinus Nijhof, 1968; and Georgiana Stevens, *Jordan River partition*, Stanford, CA: Stanford Univ. Press and Hoover Institution on War, Revolution and Peace, 1965.

tries through regional cooperation; and (2) to resettle in the Jordan Valley those among the Palestinian refugees who fled to this region in the aftermath of the 1948 Arab-Israeli War. These aims, I believe, critically informed the size of the water allocations that the riparians received under the JP.

The Johnston Plan was the last, but truly not the least, of a series of plans for the development of the Jordan basin, starting in 1920 with the Anglo-French Convention. It should be recalled that before World War I, the Jordan basin area was part of the Ottoman Empire and was not subject to inter-state disputes. In a sense, we still are dealing with the consequences of the collapse of the Ottoman Empire and the break up of the region into individual “nation states.” The Anglo-French Convention accorded priority of basin water use to Syria, which then included Lebanon and was to be made by the League of Nations in 1922 into a French-mandated territory. It gave Palestine, which was to fall under Britain’s mandate, the residual flow.⁴ The convention, however, did not assign specific quotas or chart a vision for the development of the Jordan River basin.

The first comprehensive survey in the Jordan basin and proposals for its development were contained in the 1939 Ionides Plan.⁵ M.G. Ionides, then British director of development in Transjordan, was to my mind the most realistic and farsighted of the Jordan River planners. Ionides’s assessment of the available water resources in the basin, for example, proved to be more realistic than those of John Hays and Walter Lowdermilk, whose figures turned out to be highly inflated. The inflation resulted from their mixing water and politics. The two engineers, Hays and Lowdermilk, were hired by the World Zionist Organization, which was trying to convince Britain to allow larger numbers of Jews to immigrate on the grounds that there was enough water in the country to support the numbers advocated by this organization. Additionally, Ionides argued that water development should be justified on an economic calculus, a view that we have come to appreciate recently after the realization that the limited water resources have been utilized inefficiently and that they need to be managed from the demand side.

A series of plans followed Ionides’. Two were devised by American engineering firms, Charles T. Main and Baker-Harza, at the request of the U.S., Jordan and UNRWA (the United Nations Relief and Works Agency in charge of rendering assistance to the Palestinian refugees). In the course of negotiations over the JP, these plans served as bases for proposals and counter proposals by the Arab riparians and Israel. They included a wealth of hydrologic

⁴ Patricia Toye, *Palestine boundaries*, Vol. 3 London: Archive Editions; published in association with the International Boundaries Research Unit, Univ. of Durham, 1989, 232.

⁵ M. G. Ionides, *Report on the water resources of Transjordan and their development*, Government of Transjordan, 1939. Highly informative excerpts from, and outlines of, each of the Jordan basin’s plans, from Ionides’s onward, are available in American Friends of the Middle East, *The Jordan water problem*.

data and competing diversion schemes, estimates of the irrigable area and irrigation water requirements in the Jordan basin, and water allocations.

Johnston, unlike the authors of the other plans, was not a technician drafting his own scheme. Instead, he sought to induce the Arab states and Israel to meet midway. His plan, sometimes also known as the Unified Plan, is both a synthesis of, and a compromise among, previous plans. It succeeded in bringing the positions of the riparians closer than any of the plans before it did, for, unlike these plans, it resulted from “give and take” by the two sides.

The JP was not formally ratified, although both sides accepted the water allocations or quotas *de facto*. This was because the Arabs would not entertain the recognition of Israel that a unified management regime would entail, without first resolving the Palestinian problem. Yet, although the JP was not ratified, it can be thought of, for reasons that will become apparent in the course of this text, as having become customary law in the basin, at least for Jordan and Israel.

The JP incorporated provisions and involved discussions of proposals germane to the following areas:

- Riparian water quotas, including quantities, basis of estimation, priorities of extraction, points of extraction, and spatial utilization (in and out of basin boundaries);
- Regulatory works, including diversion canals and dams and their location (see Figure 1);
- A joint management body, including international representation.

From an academic point of view, the JP has been used, for example, for the study of the Functionalist and Realist perspectives in international relations (Lowi 1993) to illustrate the inadequacy of the former as an approach to resolving the Arab-Israeli conflict. But it can also serve as a case study for the Communitarian perspective as well. Furthermore, it can amply demonstrate, for those who are interested in the “technology-society” relationship, how economical and political interests lurk behind what are presented as purely technical matters, from data to regulatory and diversion works.

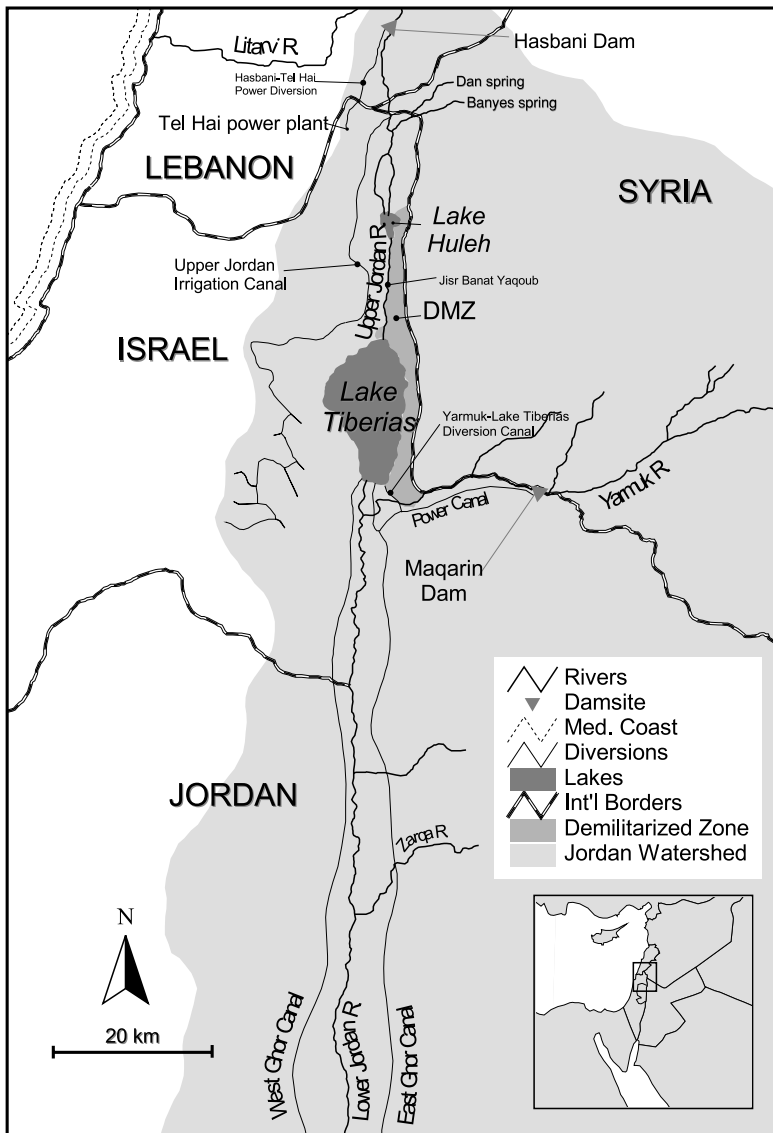


Figure 1 The Johnston Plan. Source: Saliba (1968).

QUOTAS

The quotas that were assigned to the four riparians from the Jordan River system (the West Bank was then part of Jordan), together with recent uses, are exhibited in Figure 2. These figures are cited by most scholars, including Israelis, as being those that were agreed upon between the Arabs and Israel at the end of Johnston’s mission. The overall volume that was to be distributed among the riparians was an average of 1,273 million cubic meters per year (MCM/y).

Country	Quota (mcm/y)	Percent of total	Actual use (mcm/y)	Percent of total
Lebanon ^a	35	3	20	< 2
Syria ^b	132	10	200	17
Israel ^c	400	31	690	60
Jordan ^d	720	56		
<i>East Bank</i> ^e	505	39	250	22
<i>West Bank</i> ^f	215	17	0	0
TOTAL	1,287	100	1,160	100

Figure 2 Actual use versus quotas under the Johnston Plan in the Jordan River Basin.

The quotas for Israel were largely a residual; that is, Israel would not divert them until after the Arab riparians had tapped theirs. That meant they were not guaranteed quantities, owing to the fluctuation of rainfall. Assigning Israel a residual was in line with the 1920 Anglo-French Convention. Yet Israel fared much better under the JP than had British-mandated Palestine under the Anglo-French Convention. The quotas rewarded Jordan handsomely as well. The reason for the generosity of the JP allocations to Israel and Jordan undoubtedly lay in its broad goals, namely, “putting Israel on its feet” and re-settlement of Palestinian refugees in the Jordan Valley. Lebanon and Syria, in contrast, did not fare so well under the JP, although the convention had accorded them first priority of use.

For both Israel and the Arab riparians as a whole, the quotas were less than each side had demanded in the course of the negotiations, but Israel was allotted about one-third of the total allocations and the three Arab riparians received two-thirds.

How were the shares determined? They were calculated on the basis of the irrigable area within the Jordan basin. Agriculture at that time was considered the main vehicle of development and municipal and industrial use was still small.

The quotas—for convenience and economy, one assumes—were to be tapped according to the geographical location of the riparians on the system (see Figure 1). Lebanon was to get water from the al-Hasbani; Syria from Banyas, the upper Jordan, and the Yarmuk; Jordan from the Yarmuk, the lower Jordan and the side wadis; Israel from the two Lakes (al-Hula and Tiberias) and the Yarmuk. So while the aggregate shares did not account for geography or natural attributes, the disaggregated did. For example, Israel was to get only 25 MCM/y from the Yarmuk and 375 MCM/y from the upper Jordan, whereas Jordan was to get 377 MCM/y from the

Sources:

Based mainly on Ben-Gurion University of the Negev and Tahal Consulting Engineering, *Israel water study for the World Bank*, Washington, DC, 1994; American Friends of the Middle East, 1964, *The Jordan water problem*; 1994, 26-7; Naff and Matson, 1984, *Water in the Middle East*, 41-42; Naff, 1991, *Jordan River: average flows, 1985-1990*, Philadelphia: University of Pennsylvania.

Notes:

^a Both quotas and use from the al-Hasbani.

^b Quotas: 90 from the Yarmuk, 22 from the Jordan, and 20 from the Banyas; actual use: all from the Yarmuk.

^c Quotas: 375 from the Jordan, 25 from the Yarmuk; actual use: 550 from the Jordan and 70-100 from the Yarmuk.

^d Quotas: 100 from the Jordan, 377 from the Yarmuk, and 243 from the western and eastern side wadis.

^e Quotas: 297 from the Jordan and the Yarmuk and 206 from the side wadis; actual use: 130 from the Yarmuk and 120 from the side wadis.

^f Quotas: 180 from the Jordan and the Yarmuk and 35 from the side wadis.

Percentages do not add up due to rounding.

Yarmuk 100 MCM/y from the lower Jordan, and 243 MCM/y from the side wadis.

One final point regarding the quotas is whether the JP permitted Israel to divert water outside the boundaries of the basin to the Negev and to the coastal plain, as it eventually did through its National Water Carrier (NWC). Some scholars have suggested that the Arab negotiators did eventually agree to Israel's demand for out-of-basin diversion, but there is no solid evidence to back them (American Friends of the Middle East 1964). The maximum that the Arabs might have agreed to was that Israel could only do so after the needs within the basin were satisfied. This conjecture makes sense because the water quotas were apportioned according to the irrigable areas of each riparian within the basin. If Israel was to divert water to irrigate land out of the basin, it would have compromised the basis of the allocations, opening the door for each riparian to claim it had large irrigable areas outside the basin and consequently needed more water than the JP's allotments. Clearly, compromising the allocation criterion would have rendered an agreement untenable.

That the Arab countries did not consent to Israel's out-of-basin diversion proposals is confirmed by Mahmud Riyadh, who served on the Arab Technical Committee that negotiated with Johnston and who subsequently became Egypt's foreign minister and secretary general of the Arab League. In a 1984 article he wrote: "We objected in principle to the use of the Jordan River outside the basin."⁶ Riyadh justified the Arab position on the grounds that international customary law does not permit such transfer. In any event, the legality of Israel's diversion of Jordan River water out of the basin through the NWC remains an open issue, especially when the needs of the other riparians within the basin have not been met.

⁶ Mahmoud Riyadh, Israel and the Arab water in historical perspective, in A. Farid and H. Sirriyeh, *Israel and Arab water*, Proceedings of an international symposium, Amman, Jordan, February 25-26, 1984; London, Ithaca Press, 1985; 12.

ENGINEERING WORKS AND JOINT COMMISSION

In addition to the quotas, the JP had provisions for the engineering works that were to be used for harnessing water from the river system and regulating its flow. There were also inconclusive discussions regarding the institutional framework for unified management of the basin.

The JP integrated the diversionary and regulatory works that appeared in plans after Ionides', and largely accommodated the Arab riparians' and Israel's demands. For Jordan, it suggested the diversion of water through two canals, as was originally proposed by Ionides. Only the canal on the east side, referred to as the East Ghor or King Abdullah Canal, was built; the western diversion, or West Ghor Canal, has yet to see the light of day.

The JP also proposed the construction of the Maqarin dam at the confluence of three Yarmuk River tributaries along the Jordanian-

Syrian border. Its site was first identified in 1951 by M.E. Bunger (author of the Bunger Plan), an American technician with the U.S. Technical Cooperation Agency (TCA), a forerunner of USAID. It is rumored that he spotted the site from an airplane on his way to the United States. The dam was to benefit Jordan and Syria with hydro-power and irrigation water. It would have also allowed the two countries to store the Yarmuk River's water inside their own territories instead of in Lake Tiberias, as plans supported by Israel at first sought to do. Like the West Ghor Canal, the dam was never built. But the JP also gave Israel its own diversion scheme in addition to the drainage of Lake al-Hula and the contiguous marshlands—key Israeli demands.

Whereas the JP was specific on the quotas and engineering works, it did not say much about a unified management commission for the basin or the types of tasks and responsibilities it would undertake. This is a weak element of the JP, which would have to be remedied in any future negotiations. It seems that much time was spent on getting Israel to accept an international presence, namely the U.S. and the United Nations. The U.N. was fully involved in the scheme from the beginning through UNRWA, the United Nations agency in charge of dispensing assistance to the Palestinian refugees. And the U.S., of course, was the mediator and potential financier.

RESPONSES TO THE JOHNSTON PLAN

Let us now examine each party's response to the JP and what this might bode for the future.

OVERALL ARAB RESPONSE

Johnston was reported to have said that he felt that the parties accepted the allocations. But this view is not accepted universally. For instance, Mahmud Riyadh stated (Riyadh 1985) that the Arabs objected to the quotas, the out-of-basin transfers, and, as we shall see, to the use of Lake Tiberias as a storage facility for Yarmuk flood water.

There was probably no unified Arab position regarding the technicalities of the JP, and the disagreements were hidden by the Arab opposition to its political side, namely, recognition of Israel without a resolution of the refugee problem.

SYRIA'S RESPONSE

Syria appears never to have accepted the Johnston Plan. In the hydropolitical literature, emphasis has been placed on the political aspect of its rejection; it rejected the JP because it meant recognition of Israel and provided the means for strengthening Israel's economy. But we must also consider the possibility that Syria was not satisfied

with the size of its quota. Syria is the largest contributor to the system both in terms of drainage area and flow. While it contributes more than 50 percent of the flow (Elmusa 1997), it was allocated only 10 percent of the divided flow. Although international water law and practice do not suggest that shared water should be distributed among co-riparians according to their relative contributions, upstream riparians generally consider the water originating in their territory to be theirs. Furthermore, in the Anglo-French Convention, Syria was to have priority in harnessing the water of the Jordan River system.

Today, Syria reportedly impounds 70–100 MCM/y more than it was allocated in the JP. It impounds the water behind a series of small dams built since 1967 on the numerous tributaries of the Yarmuk River, apparently using most of the water for irrigation. The irrigable area increased from what it was in 1955 because of the introduction of drip irrigation, which can accommodate the unfavorable topography of that area, unlike traditional furrow irrigation. In any future negotiations, Syria, I would conjecture, could be expected to demand more water than it was allocated under the JP. But Syria may not push its stream position as a basis for allocations too far because it is also downstream of its major source of water, the Euphrates River.

Although Syria did not approve the JP, it was keen on building the Maqarin dam. It had already signed an agreement for building it with Jordan in 1953, before Johnston began his mission. However, the two countries could not build the dam without Israel's approval. In 1987, the two countries revived the idea of building the dam, but in a nearby location, and dubbed the new proposed structure the Wihda (Unity) dam. Ultimately, Israel did not endorse the project, and the World Bank, in accordance with its long-standing policy of requiring the agreement of the concerned riparians in a situation of conflict, did not extend the loan to Jordan which it requested for financing this project. Whether the dam will be built or will be supplanted by alternative structures remains an open issue.

On a broader level, it is unclear whether Syria would favor a unified management commission for the basin. Generally, upstreamers do not seek joint management because it does not much promote their water-related interest. If Syria does accede to such an enterprise, it perhaps would do so for economic and political reasons that transcend water, but would at the same time attempt to obtain water-related concessions. It is up to Jordanian and Palestinian diplomacy to persuade Syria to uphold their JP shares. In fact, and although this proposition may seem far fetched, it might be in the interest of all the downstream riparians, including Israel, to

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help Syria in the Euphrates basin so that it might reciprocate in the Jordan basin. That would be more fruitful as a first step than putting forward projects for transporting water via so-called “peace pipelines” from Turkey down to the Jordan basin riparians.

ISRAEL’S RESPONSE

At the time of the negotiations, Israel demanded more water than it was eventually given by the JP. That, in part, was because Israel regarded the Litani River as part of the Jordan basin (Amery 1993). The idea of diverting water from the Litani to Israel goes back to the 1919 Paris Peace Conference, when Zionist leaders lobbied Britain and France to enclose a segment of the Litani River within the boundaries of what would become British-mandated Palestine. But the two powers, France and Britain, drew Palestine’s boundaries in such a way that the Litani River in its entirety fell within Lebanon (See Wolf, this volume).

Israel actually invoked the JP in 1964 when it was about to inaugurate its National Water Carrier (NWC), and when the Arab countries, in response, decided to divert the headwaters of the Jordan through Syria and into Jordan. Prime Minister Levi Eshkol was reported to have said: “There are commitments in the world to us in the wake of the Johnston Plan. The accomplished fact, which was created by Johnston, created a certain situation.”⁷ He also was cited as having stated that the JP was “regarded as agreed to from an international point of view” (Farid and Sirriyeh 1985).

For Israel, the JP was without a doubt an achievement, giving it one-third of the water of the Jordan River system, even though mostly as a residual. Equally important, it secured the acknowledgment of the Arab countries that Israel was a co-riparian, which is tantamount to tacit recognition.

In spite of its endorsement of the Johnston Plan, Israel took advantage of its post-June 1967 control of the headwaters of the Jordan River and drew from the basin quantities in excess of its JP quota. The figures I have seen range from 200 to 300 MCM/y, or more than Syria’s excess withdrawals. So, while both Israel and Syria have violated the JP quotas, Syria did not endorse the plan, whereas Israel acted expediently or pragmatically, depending on how one looks at the matter.

I am not sure what the official Israeli position on the JP is today, and how it differs between Labor and Likud. Raphael Eitan, the current minister of agriculture, traditionally the official wielding the most power in water affairs, reportedly invoked the JP when Jordan and Syria began talking about reviving the idea of the Maqarin dam⁸ after Jordan grew frustrated with what it saw as Israeli procrastination on implementing their water agreement. Some of the JP’s

⁷ Press conference, 11 January 1965. Cited in *Department of state administrative history (DSAH)*, vol. 1, chapter 4.H.2 (Johnson Administration), case no. NLJ 83-223, LBJ Library.

⁸ *The Jerusalem Post*, 28 August 1996.

provisions also can be sensed in the Israel-Jordan agreement, although the JP was not cited in the text. For example, according to the agreement, Israel's withdrawals from the Yarmuk would be 25 MCM/y (Elmusa 1996), the same amount as under the JP.

I have not seen, however, any Israeli officials or publications endorse the JP. Moreover, a number of Israeli analysts, Elisha Kally and Arnon Soffer for example, have held that the JP has become passé owing to the changes that have occurred in the basin, including locations of scarcity and surpluses, the technical facilities, the political context, technology, winter and summer needs, and population growth. This is an arbitrary conclusion. It does not follow logically or practically from the changes enumerated by the authors, who, at any rate, fail to show how it does. It is self-serving because existing uses favor Israel. Furthermore, neither author analyzes the implications of the individual changes for the plan, except to conclude categorically that a new water sharing regime would have to acknowledge existing uses.⁹

True, the conditions for the basin's riparians have changed since the time of the plan, but the shifts have been more or less even for the main factors that drive water demand, notably population growth and urbanization. For example, Jordan received an influx of refugees from the West Bank as a result of the 1967 war and from the Gulf as a result of the 1991 Gulf crisis, and Israel received large numbers of Soviet immigrants in the late 1980s. Likewise, the Palestinian population has risen considerably now that Gaza, by virtue of coming under the jurisdiction of the Palestinian Authority, has become a riparian of the basin. Further, natural population increase in both Jordan and the West Bank has been even greater than in Israel, and also quite high in Syria. Only Lebanon's population did not multiply as much as the other riparians' thanks to the war-induced high emigration rates. In all, Israel's population comprised close to 17 percent of the basin's total in 1950 and less than 19 percent in 1992.¹⁰

With respect to a unified water commission, Israel seems to have objected to an international presence—the U.N. and the U.S.—during the Johnston mission. It is far from certain that Israel would welcome U.N. representation in the future, since Israel has been chronically at odds with this world body, evident in Israel's consistent effort to keep the U.N. at bay in the multilateral forums spawned by the peace negotiations. On the other hand, Israel could conceivably accede to a World Bank presence because this multilateral lending institution could also offer financial incentives for the development of the Jordan basin's water resources.

A more basic issue, however, is whether Israel would be interested in unified management at all. On the one hand, it may favor a

⁹ Elisha Kally with Gideon Fishelson, *Water and peace: water resources and the Arab-Israeli peace process*, Westport, CT: Praeger, in cooperation with the Armand Hammer Fund for Economic Cooperation in the Middle East, Tel Aviv Univ, 1993: 33; and Arnon Soffer, The relevance of Johnston Plan to the reality of 1993 and beyond. In *Water and peace in the Middle East*, J. Isaac and H. Shuval, eds., Amsterdam: Elsevier; *Studies in Environmental Science* 58, Proceedings of the First Israeli-Palestinian International Academic Conference on Water, Zurich, Switzerland, 10–13 December 1992: 115–16.

¹⁰ The author's estimate, based on figures from United Nations Environment Programme, *Environmental data report, 1993-94*, Cambridge, MA: Blackwell, 1994: 218-19. The following assumptions were made regarding the Palestinian population: Gaza was not included in the 1950 estimate; the West Bank and Gaza's population in 1992 was 2.4 million.

series of bilateral agreements with the other Arab riparians. Its hydrostrategic position (it shares segments of the Jordan River system with each Arab riparian) allows it to do that, whereas none of the Arab riparians enjoys this type of position. Such an arrangement would place Israel at the hub of the basin's management. Israel's interest in bilateralism may be buttressed by a reluctance on its part to be the only non-Arab member in a five-way commission, for fear of being outvoted if a voting system is used in decision making.

At the least, Israel would probably want to ensure that the decision making procedures do not allow the Arab riparians, should they take a joint stand, to decide on key issues. Whether this fear is well-founded is another matter; the history of the dispute suggests that the interests or the actions of the Arab riparians have not always been harmonious. Still, if the Arab riparians, particularly Syria, insist on a multilateral commission, Israel may have to go along. Furthermore, if Israel wants finally to be integrated in the region, it might not find a multilateral commission highly objectionable.

JORDAN'S RESPONSE

On the whole, Jordan favored the JP even when it opposed it on political grounds. Jordan's positive response is understandable. The Jordan River is its main water source and the JP granted it enough water to irrigate 50,000 ha in the Valley, the principal irrigable area in the country. As soon as the Arab world split into competing factions during the cold war, Jordan became identified as pro-Western, and signed agreements with the United States to initiate work on the East Ghor Canal. The United States itself had conditioned its aid to Israel and Jordan for projects in the Valley on their adherence to the Johnston Plan.

In reality, however, Jordan was able to divert only around 250 MCM/y of its JP share, half from the Yarmuk channel and half from the side wadis that feed the Jordan river from its territory. According to its water agreement with Israel, Jordan may be able to harness a total volume from the basin equal to its JP quota if all the "additional water" it was allotted under the agreement—as estimated by its chief water negotiator, Munther Haddadin—materializes (Elmusa 1996).

Jordan cannot but be apprehensive about re-negotiating the JP allocations because it does not have the power to secure the original share and it is downstream on both the Jordan and Yarmuk rivers. These considerations would also make it interested in being a member of a unified commission for the management of the basin's waters.

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THE PALESTINIAN RESPONSE

At the time of the JP, the Palestinians opposed it, but not because of water shares: they wanted the water, but they wanted it in Palestine. The quota that was allocated to Jordan and earmarked for the Valley's Palestinian and Jordanian farmers (the majority Palestinians), was generous—720 MCM/y—of which 477 was from the Jordan and Yarmuk channels and 243 from the lateral wadis. The Palestinian objection was to the idea of resettlement outside their original homes in Palestine. They did not accept the terms of the exchange, namely, Palestine for Jordan River water in the Valley.

In the meantime, Palestinian farmers had diverted small amounts of water directly from the river to irrigate farmland in its flood plain (the *Zawr*). In 1964, however, Israel shifted the water of the two main saline spring groups that fed Lake Tiberias into the lower Jordan River, rendering its water too saline for irrigation. But the *coup de grace* for Palestinian agriculture in the Valley was delivered in 1967 when Israel declared the Jordan River a closed military area and drove Palestinian farmers off.

Since the start of peace negotiations, the Palestinian reaction to the JP seems to have been mixed, even unclear. They have demanded a share of the Jordan River system based on the status of the West Bank as a riparian and have invoked the JP on several occasions, especially regarding the West Ghor Canal, which they hoped would be used to irrigate the Jordan Valley. In this regard, Israel's retention of the Jordan Valley—as many Israeli officials have reiterated—would vitiate the status of the West Bank as a riparian of the basin. Some Palestinian analysts, however, have claimed that: “the Revised Johnston Plan, which is still in effect today, neglected mention of the Palestinian people. Undoubtedly, this is one of the most blatant violations of the water rights of a region's indigenous peoples.”¹¹

True, the JP did not mention the Palestinians by name and they were not negotiators because the West Bank was part of Jordan. Nonetheless, one of the JP's core aims was to resettle Palestinian refugees in the Valley through the provision of land and water.

How much water was the West Bank allocated? A 1992 PLO report put the West Bank's share at 290 MCM/y (220 from the lower Jordan and 70 from the Yarmuk). Another report by a group of Palestinian water specialists, some of whom are or were members of the official negotiating water team, put it at 100 MCM/y, adding, without further elaboration, that “a rational allocation” would accord the Palestinians “at least 200” MCM/y.¹² Neither report indicates how the figures were arrived at.

I have proposed instead that the West Bank's share ought to be calculated as a percentage of Jordan's and in proportion to the

¹¹ L. Hosh and Jad Isaac, Roots of the water conflict in the Middle East, presented at the Conference on the Middle East Water Crisis: Creative Perspectives and Solutions, Univ. of Waterloo, Waterloo, ON, Canada, 8–22 May, 1992.

¹² Task Force of the Water Resources Action Program, *Palestinian water resources: a rapid interdisciplinary sector review and issues paper*, East Jerusalem: WRAP, 1994, 7.

irrigable area on the eastern and western banks of the Jordan Valley, as estimated in 1955 by the Chicago-based engineering firm Baker-Harza. The rationale behind this suggestion is that Jordan's share was allocated according to the water required for that irrigable area on both sides of the river. Calculated in this manner, the West Bank's share would be about 215 MCM/y (180 MCM/y from the river channel itself and 35 MCM/y from the side wadis). This amount is larger than what the Palestinian water specialists cited above regarded as "rational division." One would expect that the Palestinian negotiators would be keen on securing that quantity. It would also serve the Palestinian interest to take part in a unified management regime. In fact, any major revision of the JP is likely to be injurious to the Palestinians because they are in an even weaker position than Jordan, located in the utmost downstream position of the Jordan river system and having no control of any strategic part of it, not to speak of their overall meager power resources.

LEBANON'S RESPONSE

The Johnston Plan allocated to Lebanon 35 MCM/y, the least of all the riparians. This is commensurate not with its contribution to the Jordan River system, but with its irrigable area within the basin. Lebanon, like the other Arab countries, did not accept the JP in 1955 on political grounds. I have not seen much about Lebanon's position *vis-a-vis* the JP in recent years, except for one statement by the head of the Litani Commission, in which he demanded water for Lebanon from the Jordan basin on the basis of the JP.¹³ In the final analysis, Lebanon's allocations cannot be reduced further in any future negotiations without rendering them meaningless.

Lebanon, although an upstreamer, would theoretically be willing to sit on a unified management commission because it lacks the military and economic power to impose solutions of its own and might benefit from international assistance to the basin if such aid were forthcoming. On the whole, however, Lebanon's position, as in other strategic regional matters, will be influenced by Syria's.

FINE-TUNING AND EXTENSION OF THE JOHNSTON PLAN

In its past form, the JP is an incomplete blueprint. It needs both extension to encompass new spheres and refinement of the allocation formula. For one thing, the plan did not speak to the question of water quality and protection. The environment was not a big issue at the time, and the JP had provisions, especially drainage of Lake al-Hula and the contiguous marshlands, that would be

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¹³ See interview with Fadi Qumayr, head of the Litani Project Commission, *Al Hayat*, December, 1994.

highly controversial today from an ecological point of view.¹⁴ Yet the protection of water quality—which ultimately translates into quantity—would have to be a key element in any future accord. This issue has also been addressed in the Israel-Jordan water agreement, but the scope of the provisions needs to be widened to cover the rest of the river system.

Neither did the JP take into account the historic and ecological attributes of the Jordan basin. The basin is central in the history and myths of Muslims, Christians, and Jews. It is also a unique natural region, especially the Dead Sea. In fact, it is ecologically more pertinent to speak of the Dead Sea basin than the Jordan River basin. This inland lake is vulnerable to the reduction of the flow from the Jordan River, its primary feeder. It has dried up in its southern part and could shrink further in the future. Any schemes for the development of the basin, therefore, should consider not only the utilitarian, economic uses but the “instream” ecological, aesthetic and historic value of the river system and the Dead Sea.

The JP, moreover, did not specify details regarding the structure and tasks of a joint management commission. Aspects of these were tackled in the Jordan-Israeli water agreement, but the tasks it named are only a fraction of what would be required for a commission managing the entire basin. Also, an international presence may be helpful at least at the start, especially in light of the rocky experience of the Jordan-Israel joint commission. An international party—such as the World Bank—can assist technically and financially to bridge gaps and resolve outstanding problems.

Additionally, the Johnston Plan quotas can benefit from refinement. The aggregate allocations, for example, could be broken down on a seasonal basis, as was done in the Israel-Jordan water agreement. Another improvement would be to state the quotas as percentages, in addition to fixed quantities, to account for the variations of rainfall and the concomitant water availability in the basin. A third modification would be to give Syria a choice between the water it impounds behind dams on the Yarmuk’s tributaries and the water that the plan assigned to it from the Banyas and the Jordan rivers. If Syria opted for the latter, the dams could still be used to regulate the flow, and the downstream riparians would compensate Syria financially for this service.

The foregoing suggestions for improving the JP differ from saying that it is passé. They imply that the riparians should build on the JP, without discarding its basic allocations. Attempts to renegotiate an entirely new agreement and quotas are likely to be protracted, considering the mounting water scarcity in the area. Changing the quotas could only come at the expense of the Jordanians and Pales-

¹⁴ Draining of these two water bodies was opposed at the time by Syria on the grounds that Israel could not act unilaterally in an international basin and that some of the drainage canals would fall within the DMZ between the two states.

tinians, the two vulnerable downstream riparians. While it may be possible to suppress the demands of these two riparians for a time, an enduring management regime must be equitable.

CONCLUSION

A water agreement in the Jordan basin is key for overall Arab-Israeli accommodation. In the Jordan River system, such an agreement can be built on the Johnston Plan. The JP is a synthesis of previous plans and a compromise between the Arab riparians and Israel; it may be said to have functioned as customary law in the basin, at least between Israel and Jordan, and by extension the Palestinians. The customary law status of the JP can be applied to the Palestinians because it was negotiated when the West Bank was first part of Jordan and then fell under Israeli rule.

The JP would have to be modified to include provisions for water quality control and instream value for the river system and the Dead Sea, largely absent in the historic JP. It would also have to fine-tune the quotas to accommodate seasonal uses and supply, as well as the water works built by some of the basin states.

The JP was not ratified in the past mainly because the Arab states of the basin would not accept its implicit recognition of Israel before resolving the Palestinian question. This condition no longer obtains; the Arab states have recognized or are willing to recognize Israel in exchange for returning Arab territories seized in 1967. The Palestinian refugee issue is also on the agenda of the final status talks between Israel and the Palestinian Authority, and its resolution depends only partially on water. In other words, only the "technical" aspect of the JP has to be re-negotiated. The stumbling block is likely to be the quotas, although the agreement on a unified management regime could present a formidable challenge as well.

Jordan, Lebanon and the Palestinians—the three vulnerable riparians—would be keenly interested in a JP-based agreement. The key to an agreement based on the Johnston Plan, however, is in the hands of the Israelis and the Syrians—Israel because it is the riparian with the greatest power resources in the basin, and Syria because it is the utmost upstreamer and the main water contributor to the surface waters of the basin.

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SUMMARY OF RECOMMENDATIONS:

- 1) Extend provisions for water quality to river system at large;
- 2) Consider "instream" ecological, aesthetic, and historic value of the river;
- 3) Specify details of joint commission;
- 4) Refine quotas. The aggregate allocations, for example, could be broken down on a seasonal basis, as was done in the Israel-Jordan water agreement. Another improvement would be to state the quotas as percentages, in addition to fixed quantities, to account for the variations of rainfall and the concomitant water availability in the basin. A third modification would be to give Syria a choice between the water it impounds behind dams on the Yarmuk's tributaries and the water that the plan assigned to it from the Banyas and the Jordan rivers. If Syria opted for the latter, the dams could still be used to regulate the flow, and the downstream riparians would compensate Syria financially for this service.

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