A CASE STUDY OF A MULTI-LATERAL WATER NEGOTIATION: THE JORDAN RIVER SYSTEM

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Summary

During the entire process of negotiation for peace in the Middle East, water issues have been at the top of the negotiation agenda. Although plans and ideas to divide water between riparian countries in the Middle East started more than seven decades ago, the actual multi-lateral working group on water resources was initiated as a result of the Middle East peace process after 1992. The aims of the Water Resources Working Group, as expressed in the Moscow Steering Group meeting held in January 1992, are to foster cooperation on water-related issues while creating confidence-building measures, and cooperative efforts to alleviate water shortages in the region. Cooperation and conflict over water resources issues stem from the fact that all the countries sharing the Jordan River system are fully utilizing all their available water resources. Also, all of them are in immediate need of water for inclusion in their post-peace socio-economic development plans.

Even with the end of the active state of hostility in the region, water conflicts can arise

and hinder any further political and regional cooperation. Furthermore, water can be used as a factor to exert pressure on different parties for further concessions. After many years of meetings and negotiations since the initiation of the Middle East peace process in Madrid, the gap in the positions among regional parties is still wide. For example, while Israel and Jordan signed a peace treaty in 1994 that included an agreement on water allocation, Jordan has, thus far, not received all the 50 MCM (million cubic meters) of water that Israel had conceded to Jordan. Water is still a major unresolved issue in the Israeli-Palestinian negotiations and will be equally important in the Israeli-Syrian negotiations, whenever they resume.

The focus of this article is to present a case study of the multilateral water negotiation in the Middle East with special focus on the Jordan River System. A brief background on the hydropolitical water problems in the Middle East is also presented.

1. Introduction

History reminds us that early civilizations developed and flourished around existing water resources. Water played a significant role in shaping the geopolitical boundaries of the Middle East. In the years that followed World War I, the location of water resources influenced the boundaries first between the British and French mandate powers that acquired control over the Middle East region, and then between the states that developed subsequently.

The intensity of a water dispute and conflict has been exacerbated by a number of factors, including the region's geographic, geopolitic, demographic, social, climatic and hydro-political settings. Water conflicts are especially bitter, for example, during drought periods, political confrontations and other crises, and when the riparians' water demands exceed a safe and sustainable supply. The recent drought in the Middle East along with the stagnation in the Middle East peace process raises tension over water between some riparians in the Jordan River System.

Most countries sharing the Jordan River System are under the water poverty line. Table 1 summarizes the population, the population growth rates and fresh water availability for some countries in the Middle East including the entities sharing the Jordan River System.

Entity	Population Estimate by 2000 (Million)[a]	Natural Growth Rate (Percent)[b]	Available Fresh Water for 2000 (m^3 per capita)[c]
Jordan	5.00	2.54	150
West Bank & Gaza	2.82	3.90	75
Israel	5.85	1.91	375
Lebanon	3.62	1.62	945
Syria	17.76	3.23	580
Egypt	68.49	1.86	870
Iraq	23.15	3.20	2,700

Turkey	66.62	1.60	3,100
Worldwide	6073	1.3	7,300

[a] Data obtained from the *US Census Bureau, International Data Base* website (1999)
[b] Data derived from the *US Census Bureau, International Data Base* website (1999)
[c] Mainly derived from data in Peter Gleick, *The World Water Data and ACSAD Reports*

Table 1: Population and Available Renewable Fresh Water Data for Different Entities in the Middle East

2. Geopolitical Settings of the Jordan River System

The Jordan River system consists of two major rivers: the Jordan River itself, and the Yarmouk River. The Jordan River headwater tributaries originate in the southern parts of Syria and Lebanon and the northern part of Israel. These tributaries meet and form the Jordan River at Huleh Lake (which has been drained by Israel). The Yarmouk River flows between Jordan and Syria for more than 40 kilometers before it joins the Jordan River 10 km south of Lake Tiberias. Historically, the annual average streamflow in the upper Jordan River is about 600 MCM (million cubic meters) when it enters Lake Tiberias, and 1850 MCM when it enters the Dead Sea.

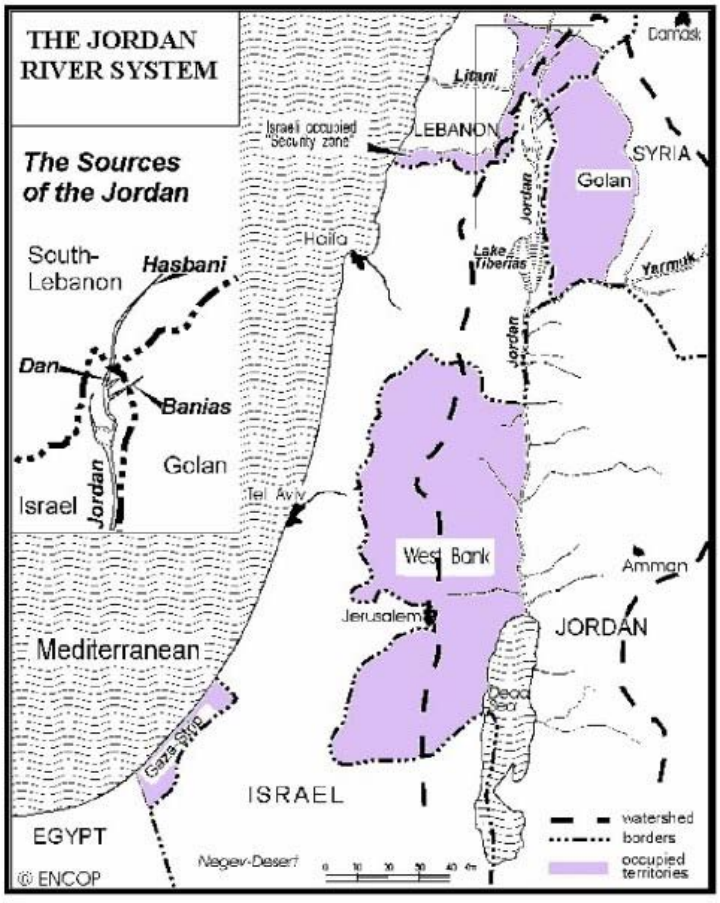

Figure 1: Map showing the Jordan River System (Source: ENCOP internet website, used with permission from ENCOP)

This figure has been falling dramatically due to excessive development in the upper part of the basin. Similarly, the salinity of the water, however, increases significantly from a few hundred parts per million at the upper part of the river (north of Lake Tiberias) to many thousand parts per million in the southern part of the river, because of the development activities in the upper part of the basin, and the diversion of the saline springs from the area of Lake Tiberias to the lower part of the Jordan River. Thus, the water is unusable for any domestic or agricultural purposes in the lower reach of the river. The Yarmouk River, on the other hand, has an annual average streamflow of about 450 MCM, with a relatively low salinity.

With the scarcity of water resources and the complexity of the Jordan River System's geopolitical conditions, the allocation of water for each entity has been addressed in many plans. The most well known plan is the Johnston Plan of 1955, which has been used as a base line for the current water allocation in the region. The details of these historical water plans of the Jordan River System are briefly discussed in the next section and can be grouped into four periods as follows.

2.1. Pre-1948 Period

Water resources during this period were a very important variable during the San-Remo and Sykes-Picot accords between the French and the British. Following Balfour's promise of a national home for the Jews in Palestine, water issues gained more in significance because of the waves of Jewish immigrants coming to the "Biblical" land of Palestine. Many plans and studies were conducted during this period to investigate and assess the water resources in the region, like the Ionides's report in 1939, the Hayes report in 1939, and the Lowdermilk study in 1944. The Ionides study was a British undertaking, which suggested that water would be a limiting factor for any additional immigration to Palestine. On the contrary, the Lowdermilk study, fueled by the Zionist movement, suggested that with proper water management, resources could be generated for 4 million refugees in addition to the 1.8 million Arabs and Jews living in Palestine at the time. Models similar to the Tennessee Valley Authority were in the mind of the engineers who conducted these studies in the Jordan River System. All of these investigations were carried out under the British Mandate on Palestine.

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Biographical Sketch

Dr. Radwan A. Al-Weshah was born in Salt, Jordan. He holds a Ph.D from the University of Illinois in Urbana-Champaign, USA.

Dr. Al-Weshah is an Associate Professor of Hydrology and Water Resources in the Department of Civil Engineering at the University of Jordan in Amman and is currently on leave while he holds a UNESCO

position in Cairo, Egypt. He was an assistant director at the Water and Environment Research and Study Centre at the University of Jordan. Dr. Al-Weshah served as a technical advisor to governmental agencies and research institutions, and as a technical consultant to local and international consulting firms in Jordan and abroad in the area of water resources, hydraulics and hydrology.

Dr. Al-Weshah has gained wide international experience in the area of water resources in the Middle East. He was the co-chairman of the International Symposium on Water Resources in the Middle East held in 1993 at the University of Illinois at Urbana-Champaign. He was elected by the National Research Council of the U.S. Academy of Sciences as a member of the committee on "Sustainable Water Supply in the Middle East". He is a co-author of the book *Water for Future* published in 1999 by the United States National Academy Press. He is also co-editor of and a contributor to the UNESCO-IHP technical document on Wadi Hydrology. Dr. Al-Weshah is a reviewer for specialized water journals. He is an advisory board member of the Rosenberg Water Forum on Water Policy. He also worked as a senior hydrologist and a visiting researcher in USA from 1989-1994.

Dr. Al-Weshah joined UNESCO in June 2000 as a regional hydrologist in the Cairo Office in Egypt. He is responsible for planning, executing and implementing the IHP (International Hydrological Program) in the Arab Region.