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WATER IN WEST ASIAN CONFLICT

Abstract

The gap between demand for fresh water and its supply has been ever increasing globally, with the consequence that the number of countries joining the list of water deficit region has continuously been on the rise. The case of West Asian countries is no different. On the one hand, the demand for fresh water supplies has been growing very fast in the region whereas, on the other, its supplies have been declining. The demand for water in the neighbouring countries of Israel and also in the occupied territories of Palestine depends solely on the natural growth of their population. However, the same is not true for Israel. In case of Israel, her total annual demand for water is determined by the natural growth of population as well as the annual Jewish immigrant population. Studying various aspects of this issue, the paper finds that a drastic revision in Israel's immigration as well as agriculture policies is urgently required.

Introduction

Since the creation of Israel in 1948, water has remained a crucial issue of discord between Israel and its neighbours, namely Syria, Jordan and Lebanon and later on in the post 1967 period with the occupied territories of Palestine. The rising population, massive increases in agricultural, industrial and other economic activities, and the emergence of new and diverse source of consumption of fresh water have put strain on its availability in many parts of the world. As the demand for water grows gigantically, its supply cannot be stretched in the same manner. This results in the ever-growing gap between the demand and supply of water. And hence an increasing number of countries are joining the list of water deficit regions. The case of these West Asian countries is no different. On the one hand, the demand for fresh water supplies is

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growing very fast in the region whereas, on the other, supplies are declining. Water is a natural resource, which cannot be regenerated as fast as the demand grows. This results in the rapid exhaustion of existing water resources. A look at the following table gives a clear picture of the state of water availability in the countries of this region. In Israel, the per capita availability of water declined from 1024 cubic meters per annum in 1960 to 467 cubic meters per annum in 1990. It was estimated to decline further to 311 cubic meters per annum by 2025. This has been despite Israel's occupation and exploitation of water resources of neighbouring countries since 1967.

It should be mentioned that, as a consequence of the 1967 war, Israel was in occupation of not only the territories of its neighbouring countries but also of the vast level of their water resources. The per capita availability of water in Jordan declined from 529 cubic meters per annum in 1960 to 224 cubic meters per annum in 1990. It was further estimated to decline to 91 cubic meters per annum by 2025. In addition to the withdrawal, the decline of water availability in Jordan is also due to Israel's occupation of substantial Jordanian water resources during the 1967 war. Lebanon's per capita availability of water declined from 2000 cubic meters per annum in 1960 to 1407 in 1990 and was estimated to further decline to 809 cubic meters per annum by 2025. The per capita availability of water in Syria declined from 1,196 cubic meters per annum in 1960 to 439 cubic meters per annum in 1990 and was estimated to further decline to 161 cubic meters per annum by 2025. As a result of the 1967 war, substantial Syrian water resources were also occupied by Israel.

Water: Availability and Withdrawal 1960 – 2025

Country	Renewable resources per capita*			Share of withdrawals **		
	1960	1990	2025	Domestic	Industry	Agriculture
Israel	1,024	467	311	16	5	79
Jordan	529	224	91	29	6	65
Lebanon	2,000	1,407	809	11	4	85
Syria	1,196	439	161	7	10	83

* Cubic meters per year ** per cent

Source: *Middle East Economic Digest*, London, 8 January 2000, p.7.

The demand for water in the neighbouring countries of Israel, namely Jordan, Lebanon, and Syria and also in the occupied territories of Palestine, depends solely on the natural growth of their population and economic activities associated with them. In case of Israel, the same is not true. In addition to the demand for water arising from the natural growth of population and associated economic activity, there is another

significant dimension. Every year Israel not only welcomes but also invites Jews from all over the world to settle in Israel. It was practised to the extent that the Jews of the Palestinian origin are miniscule minority now. The vast majority of Jews in Israel are either immigrants or children of immigrants who migrated to Israel from all over the world. Whereas millions of Palestinians displaced from their own country by Israel are not allowed to move to their land and stay as refugees in the neighbouring countries. Any way the annual inflow of Jewish immigrants to Israel is also an important determinant in its demand for water. Thus, for Israel its total annual demand for water is determined by the natural growth of its population and economic activities associated with them as well as the annual Jewish immigrant population and economic activities associated with them. This unnatural rise in water demand forced Israel to look beyond its borders for the solution of its water problem. And, thus, water became a crucial factor in Israel's conflict with its neighbours.

The Question of Water in Israel

The early Zionists realized the importance of water in their scheme for the creation of a Jewish state of Israel in Palestine. A Zionist leader named Chaim Weizmann, in 1919, two years after the Balfour declaration, presented to the British Prime Minister his minimum requirements essential to the realization of Jewish national home. His requirements included extensive territories in the north including the valley of the Litany (that later became Lebanon) and the western and southern slopes of the Hermon range.¹ During the same year, the Zionists put their demands at the Versailles peace conference arguing for the control of sources of Palestine waters. They argued that the Hermon was Palestine's 'father of water' and without it there would be no economic life.² For the Zionists, control of water sources was crucial for the economic security of the future state of Israel. The massive Zionist programme of Jewish immigration and settlement required water for large-scale irrigation and generation of hydropower. However, for this they required the acquisition of the head waters of the Jordan, the Litani river, the snows of Hermon, the Yarmuk and its tributaries and the

¹ Nadav Morag, "Water, Geopolitics and State Building: The Case of Israel", *Middle Eastern Studies*, London, Vol.37, No.3, July 2001, p.191.

² *Ibid.*

Jabbock.³ However, in 1947, when United Nations approved the two state partition plan of Palestine, the Zionists were disappointed. Although the newly created state of Israel was made a riparian of the Jordan river along with Lebanon, Syria, Palestine and Jordan, only three percent of the Jordan river's basin fell within Israel's pre-1967 boundaries.⁴ What Israel was not awarded by its creators, it tried to gain through its sustained strategy of expansion and occupation. By 1967 Israel not only occupied the whole Palestinian territory but also the Golan Heights and Gaza. In addition to the territorial expansion, Israel was also successful in greatly expanding its hydro strategic position. With the Golan Heights, Israel now held all of the headwaters of the Jordan river, with the exception of a section of Hasbani, and a commanding position over much of the Yarmuk, which made even the diversion of Jordan headwaters impossible.

The Israeli occupation of the whole of the West Bank of the Jordan river not only provided it with the access to the entire length of the Jordan river but also gave it the absolute control over three major aquifers in the region.⁵ Now only the Litani river's water remained beyond the reach of Israel. This was also brought under Israel's access with the Israeli invasion and occupation of Lebanese territory in 1982. With this, the Zionist dream of complete control over the whole of the water resources of the region was realized.⁶ Although the immediate threat to the Litani river was reduced with the subsequent Israeli withdrawal from South Lebanon, Israel has been using waters from Wazzani spring and Hasbani river.⁷ In addition to these, Israel has an eye on Nile waters of Egypt also. As far back as in 1903, Theodor Herzl, the founder of the Zionist movement, proposed to divert the Nile waters to Sinai and settle Jews there.⁸ During 1977-80, when Sadat was president of Egypt, negotiations took place between Egypt and Israel to carry the

³ Aaron T. Wolf, "*Hydro Politics along the Jordan River: Scarce Water and its Impact on the Arab-Israeli Conflict*", United Nations University Press, 1995, p.20.

⁴ Jad Issac, "The Essentials of Sustainable Water Resource Management in Israel and Palestine", *Arab Studies Quarterly*, Vol.22, No. 2, Spring 2000 p. 14.

⁵ Aaron T. Wolf, 1995, *op.cit.*, p.52.

⁶ Salim Haddad quoted in Arnon Soffer, "The Litani River: Fact and Fiction", *Middle Eastern Studies*, London, Vol. 30, No.4, October 1994, p.970.

⁷ "Water Crisis May Renew Lebanon-Israel Strife", *The Asian Age*, New Delhi, 16 October 2002.

⁸ Kamel Zuheiri, "Development Projects on the Nile and Israel's Water Objectives", in Abdel Majid Farid and Hussein Sirriyeh (eds), *Israel and Arab Water*, Ithaca Press, London, 1985. p. 58.

waters of the Nile to Negev. Israel planned to bring Nile waters through canals and bring it to Negev to join it with the diverted Jordan river waters in Negev. However, the project had to be shelved in the face of strong opposition to this scheme in Egypt.⁹

Israel's Occupation and Exploitation of Water Sources

The main surface water source for the region is the Jordan river system. The Jordan river has two sections, the upper Jordan and the lower Jordan. The upper or northern headwaters of Jordan are formed by the confluence of three rivers - the Hasbani, the Dan and the Banyas. These three rivers join to form the upper Jordan river which flows through Lake Hula into the northern end of Lake Tiberias. The Jordan river then flows out of the southern end of Lake Tiberias and is joined ten kilometers south of the lake by the Yarmuk river. Off the Lake Tiberias, it is called lower Jordan and travels to meet the Dead Sea.¹⁰ As indicated above, the Zionist ambition was for the control and utilization of the region's water for the purpose of creation of Israel and for supporting her abnormally growing population due to continuous and massive inflow of immigrants. Immediately after its birth and following the 1948 war, Israel launched her National Water Carrier project to divert the Jordan river water towards the coastal plain and the Negev desert. In 1951 Israel began draining the Huleh Marshes and in 1964 it completed the ambitious plan of complex pipelines and tunnels to carry water from Lake Tiberias to the Negev.¹¹ The neighbouring countries seriously resented this action of Israel. The out-basin use of Jordan river water was against international law, that is, a state cannot divert a river if this is disadvantageous to the other riparian states. This was also against the Ionides plan. In 1937 Great Britain had assigned M. Ionides, hydrologist, to conduct a study of the water resources and irrigation potentials of the Jordan valley basin. The Ionides study served as the main reference in the preparation of the United Nations partition plan of Palestine. The Ionides plan published in 1939 had recommended that the secured

⁹ El-Sayyid Zohra, "Egypt's Water Needs and the Dangers of Diverting Nile Water to Israel" in Abdel Majid Farid and Hussein Sirriyeh (eds), *Israel and Arab Water*, *op.cit.*, p.67.

¹⁰ Marcia Drezon-Tepler, "Contested Waters and the Prospects for Arab-Israeli Peace", in *Middle Eastern Studies*, Vol. 30, No.2, April 1994, p.283.

¹¹ Sara Reguer, "Controversial Waters: Exploitation of Jordan River, 1950-80", *Middle Eastern Studies*, Vol. 29, No. 1, January 1993, p.53.

irrigation water of the Jordan river system was to be used primarily within the Jordan valley basin.¹²

In reaction to Israel's National Water Carrier, its neighbours envisaged to build dams on tributaries of the Jordan and Yarmuk rivers. In 1965, Syria began building dams to divert water from the Baniyas and Dan river in the Golan Heights. Israel sent its fighter planes to destroy the work sites. The West Ghor Canal envisaged to provide Palestinians with Jordan river water could never be implemented. The Jordanians also, in the meantime, had proceeded to prepare for the construction of a part of the East Ghor Canal proposed in the Ionides plan to divert its share of Yarmuk water to irrigate land east of the Jordan river. However, a significant portion of this project was yet to be constructed because of Israel's opposition.¹³ The strategies of the other riparian countries of the Jordan river to restrict Israel's illegal diversion of its water to the Negev desert was put to a full stop in the aftermath of 1967 war. This war resulted in radical benefits for Israel. The occupation of Golan Heights provided Israel control over Baniyas and part of the Hermon range as well as the entire coast of Lake Tiberias. Furthermore, by securing control over a longer portion of Yarmouk, Israel successfully prevented Jordan from constructing any dam upstream. And thus the 1967 war resulted in Israel getting complete domination over the waters of Jordan rivers system.¹⁴ Israel is now getting one-third of its consumption of drinking and agriculture water from the water of Golan and Hermon mountains.¹⁵

The worst sufferers of Israel's diversion of the Jordan river water have been the Palestinians. With the diversion of most of the fresh waters from the Jordan to coastal plains and the Negev desert, the lower Jordan river has now turned into a drain of saline and sewage water. Israel allows only 60 MCM of water downstream from the Lake Tiberias, basically consisting of saline springs, which previously used to feed the lake, and sewage water. These are then joined by what is left of the Yarmouk. Both in quantity and quality, this water is unsuitable for

¹² Jamal Laurence El-Hindi, "Compensation as Part of Equitable Utilization in the Israeli-Palestinian Water Context", *Arab Studies Quarterly*, Vol. 22, No. 2, Spring 2000, p. 124.

¹³ "Jordan: Running Hard to Cover the Deficit", *Middle East Economic Digest*, 28 January 2000, p.13.

¹⁴ Ashok Swain, "A New Challenger: Water Scarcity in the Arab World", *Arab Studies Quarterly*, Vol. 20, No.1, Winter 1988, p.2.

¹⁵ "Key to Mideast Peace Drive", *Arab Times*, 4 October 1999, p. 7.

irrigation.¹⁶ Thus, the Palestinians are denied the use of water resources from the Jordan and Yarmouk rivers, to which Palestinians are riparian. Israel's occupation of the Palestinian territory in 1967 also gave it control over the Palestinian underground water. With the Israeli diversion of the Jordan river water to the Negev and worst quality of water flowing through the lower Jordan because of saline and sewage, the ground water remained the only major source of freshwater for Palestinians in the West Bank as well as Gaza Strip. There are three main aquifer systems in the West Bank.¹⁷ The Western Aquifer System is the largest of them. Eighty percent of the recharge area is located within Israeli borders. This is a shared basin between Israelis and Palestinians. Israel exploits the aquifers of this basin through deep ground water wells located to the west of the 1967 borders and also through deep wells within the West Bank and consumes 92.5 percent of its safe yield. The Palestinians consume only 7.5 percent of its safe yield. The North East Aquifer system is also located within the West Bank boundaries. Most of this water, about 82 percent, is consumed by Israel whereas Palestinians are able to consume only 18 percent of the safe yield. The Eastern Aquifer System lies entirely within the West Bank territory. After 1967, Israel tightened its control over this aquifer and has been extensively exploiting it to supply her ever-growing settlements in the occupied territories. Israeli settlers in the West Bank and Gaza Strip have been overdrawing water from the aquifers. The main Gaza aquifer has been over-pumped at the rate of 110 MCM, resulting in the lowering of the ground water table below sea level and saline water intrusion in many areas.¹⁸

Thus, since 1967, Israel has occupied not only Palestinian lands but their surface and underground water also. Israel has complete control over the West Bank aquifers and puts severe restrictions on Palestinian water usage. More than 85 percent of the Palestinian water from the West Bank aquifers is taken by Israel, accounting for over 25% of Israel's water requirement.¹⁹ Thus in totality about 60 percent of Israel's

¹⁶ Jad Issac, "The Essentials of Sustainable Water Resource Management in Israel and Palestine", *op.cit.*, p.14.

¹⁷ Hillel I. Shuval, "A proposal for an equitable resolution to the conflicts between the Israelis and the Palestinians over the shared water resources of the mountain aquifer", *Arab Studies Quarterly*, Vol.22, No.2, Spring 2000, p.36.

¹⁸ Jad Issac, "The Essential of Sustainable Water Resource Management in Israel and Palestine", *op.cit.*, p. 17.

¹⁹ Praful Bidwai, "Dispossessed, Defrauded in Ones' Own Land" *The Hindu*, 6 May 2004, p. 13.

total water consumption is supplied from the occupied water sources of her neighbouring countries. The Israeli schemes to expand and establish an industrial and agricultural state to sustain the continuous flow of Jewish immigrants into Israel have been responsible for the abnormal growth of demand for water in Israel. And it can be safely concluded that this has been an important motivating factor behind Israeli occupation of land and water resources of her neighbouring countries. Therefore, water remains a very important factor in West Asian conflict.²⁰

Pattern of Water Consumption

Israeli occupation of regional water sources has resulted in severe hardships to the Palestinian population. On an average, the per capita water consumption in Israel is estimated at 340 m³ whereas the same for Palestinians stands at 82 m³. The water consumption for domestic purposes stands at 30 m³ per person for Palestinians whereas the same for Israelis is estimated to be 100 m³. The Jewish settlers in occupied territories consume huge amounts of scarce Palestinian waters. The settlements receive continuous water supply mainly from the Palestinian wells.²¹ Palestinians are not allowed to construct new wells whereas Israel puts severe restrictions on Palestinians to draw water from existing wells. In short, the water situation for Palestinians is inhuman and unbearable.²² The Oslo peace process, though did not try to rectify water discrimination, agreed that Palestinians should be allowed to extract more water from the West Bank aquifer but it was to come from new sources. However, it gave Israel control over new Palestinian projects to extract water through the newly established joint water committee. And Israel continues to maintain total control over the water sector in occupied territories.²³ Palestinians keep on suffering for lack of water.

The early Zionists were obsessed with agriculture. For them domestic food production was an essential element of the concept of the total defence. The domestic food production even costlier than imports

²⁰ "Serious Water Crisis Round the Corner for Arab Nations", *Kuwait Times*, 5 October 1999, p. 1.

²¹ Jad Issac, "The Essentials of Sustainable Water Resource Management in Israel and Palestine", p.21.

²² For details see Jessica McLallin, "Water Torture", *The Middle East*, Issue No. 323, May 2002, p. 20.

²³ *Ibid*, p.22.

was considered necessary for the defence of Israel.²⁴ This also determined the utilization of water in Israel. And about 80 percent of water in Israel has been consumed by the agriculture sector. This is far above the world wide agricultural consumption of 69 percent.²⁵ Israel's need for water is superficial, uneconomic and irrational. It is in the sense that Israeli agriculture is economically unviable and is heavily dependent upon subsidies from the United States and the world Jewry. Further, agricultural sector in Israel enjoys massive subsidies that include cheap or free infrastructure, tax remissions, special credit facilities and export assistance.²⁶ To persist with such kind of agriculture sector in the age of globalization, when free trade between nations and production specialization based on the principle of comparative advantage is being adopted all over the world, is simply irrational. It should be mentioned that backed by massive inflow of oil revenues, Saudi Arabia began a drive for agricultural self-sufficiency in the 1970s. However, the opportunity cost of this programme, both in financial and water terms, became too great. And this heavily subsidized programme had to be abandoned, as imports became a much cheaper option.²⁷ The Saudi experience provides a valuable lesson for Israel. Israeli economy would be better off by redeploying the resources to sectors other than agriculture.

Conclusion

From the above discussion it can be concluded that water remains an important and crucial factor in West Asian conflict. The limited water resources cannot sustain Israel's abnormal growth in water demand. The unnatural growth in demand for water is basically on account of Israel's immigration policy. Further, the scarce water resource is mostly consumed by an economically unviable agriculture sector. The immigration as also the agricultural policies of Israel are historical legacies, which no government in Israel would dare to change easily by taking recourse to rational policy options. However, without any drastic change in immigration and agricultural policies, there could be no

²⁴ Thomas Stauffer, "Arab Waters in Israeli Calculations: The Benefits of War and Costs of Peace", in Abdel Majid Farid and Hussein Sirriyeh (eds), *Israel and Arab water*, Ithaca Press, London, 1985, p. 75.

²⁵ "The Quest for Security amid the Scarcity", *Middle East Economic Digest*, 24 January 1997, p.7.

²⁶ Thomas Stauffer, "Arab Waters in Israeli Calculations: The Benefits of Water and Costs of Peace", *op.cit.*, p.75.

²⁷ "Private Progress", *Middle East Economic Digest*, 28 January 2000, p. 8.

solutions to Israel's abnormal growth of demand for water. By now, Israel has been able to fulfill this demand by occupying and exploiting the water resources of her neighbouring countries. But, even the occupied water resources would not be sufficient enough to sustain Israel's growing water demand in the long run. In such a scenario, water-based conflicts are bound to grow in the region. Achievement of peace in the region and Israel's evacuation of occupied territories and water resources of her neighbouring countries seem to be an impossibility as long as Israel can defend the occupation militarily. Israel's withdrawal from Gaza strip is a pointer in this direction. The over pumping of the Gaza aquifer by the Jewish settlers reduced the water level to below sea levels. The infiltration of salt water from the Mediterranean Sea has resulted in Gaza aquifer water becoming unsuitable for agricultural use. The depletion and degradation of Gaza water has been an important factor in Israel's decision to dismantle its settlements in Gaza. Therefore, the strategic water resources of Palestine and the importance of the Golan Heights to control the occupied water resources would play a spoiling element in any meaningful peace negotiations between Israel and her neighbours. Therefore, solutions to the conflicts in the region require a solution to water issue first. This, in turn, requires serious and drastic revision in Israel's agricultural and immigration policies.

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