The West Bank and Israel's Water Crisis

by Gershon Baskin *

Water is one of the important natural resources for most countries. This is especially true for developing countries where land and water resources are limiting factors. In the Middle East, water is considered a strategic resource, probably in the same standing as oil. Thus, control over the water resources in this region can determine to what extent prosperity and development are possible.

Many Israelis claim that Israeli withdrawal from the West Bank would lead to Palestinian control over a primary water source and could strangle the entire Jewish population within the Green Line. Many Palestinians claim that failure to retain control of the underground water sources in the West Bank would lead to the strangulation of the Palestinians and to economic bankruptcy. Whoever controls the West Bank water resources can dry-up the Israeli coastal plain where 80% of Israelis reside and also dictate the pace and the extent of development within the West Bank. The Israeli coastal plain could be deprived of most of its water simply by drilling new deep wells for local West Bank use. The new wells, particularly in the areas of western Samaria, Jenin and Tubas, would enable pumping of potentially huge quantities of water which would well serve the needs of the West Bank, however; it would leave the Jewish farmers in the Sharon and the Jezreal Valley with no water for irrigation. Clearly, this presentation of the problem as it is seen today by Israelis and Palestinians like, is a "zero-sum game" whose outcome can only result in continued conflicts with devastating effects for both sides.

Let's examine the issues in greater depth. Palestinian water experts claim that the importance of water resources for Palestinians in the West Bank and Gaza goes far beyond economic factors since it is also closely related to the entire Israeli-Arab conflict. Thus, they claim, the water situation in the region is influenced by political issues as well as economic and technical factors. Since the first months of Israeli

occupation of the West Bank and Gaza, Israel has limited the Palestinians' access to water. Military Order Number 92, from 1967 concentrated all control of water resources in the hands of the Israeli military administration which then imposed the following restrictions:

- the prohibition to drill any new well without previous permission from the military authorities (only in a few cases has permission been granted over the past 24 years and those were mainly for domestic (home) use only, not for industry or agriculture).
- the fixing of quotas for the pumping of wells and setting up mechanisms for monitoring the Palestinians' water use (excess use carries large fines).
- the expropriation of the wells which belong to absentee owners as well as the water resources found within the area of any and all expropriated Arab lands.

Today one-third of Israel's water comes from resources in the West Bank. Since the 1970's Israel has extensively pumped these resources leading to a steady and constant drop in the water table and a serious decline in the quality of the water. Conservative estimates for next year point to a water deficit of more than 200 million cubic meters in the West Bank [1]. Israel's total water use is presently about 1.6 billion cubic meters (~~this number is consistently growing~~)[2]. Today, water coming from under the West Bank provides for more than 500 million cubic meters used by Israel's citizens within the Green Line.[3] The upper limit on Israel's ability to use West Bank water is estimated to be 615 million cubic meters per year.[4] In

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[1]Padhotzer, Reuvan. "Water in Conflict" HAARETZ, 24/4/89 (Hebrew).

[2]Ibid.

[3]Ibid.

[4]Ibid..

other words, today Israel is using more than 80% of the West Bank water for uses within the Green Line.

In 1989, the Palestinians were allocated about 137 million cubic meters of West Bank water for over one million residents. [5] The 100,000 Jewish settlers in the West Bank were allocated 160 million cubic meters.[6] The Palestinians have been allocated about 20% more water for domestic use from 1967 until today while the allocation for agriculture and industry has remained frozen over that period.[7] The West Bank's Palestinian population has grown from 583,227 in 1967 to over 1.1 million - a growth rate of about 84% in 22 years.[8] The Palestinians consume less than one-fifth of the West Bank's water (less than 137 cubic meters per person as compared to about 1,600 cubic meters per Jewish settler).[9]

Some 24% of the Palestinians in the West Bank are employed in agriculture which accounts for about 26% of the internal gross product. Palestinian experts believe that their true water needs for agriculture amounts to over 300 million cubic meters with the present land use.[10] The total area cultivated by Palestinians amounts to some 1.7 million dunams with a total of 104,000 dunams irrigated accounting for about 6% (this small percentage is due to Israeli restrictions).[11] This is the same amount of irrigation as in 1967. The total area cultivated by Jewish

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[5]Ibid.

[6]Ibid.

[7]Kahan, David Agriculture and Water Resources in the West Bank and Gaza (1967-1987), The West Bank Data Project, 1987.

[8]Benvinisti, Meron, Khayat, Shlomo. The West Bank and Gaza Atlas, The West Bank Data Project, 1989

[9]Ibid.

[10]Ibid.

[11]Ibid.

settlers is 563,000 dunams with 69 per cent of it irrigated.[12] (Within the Green Line only 45% on cultivated land is irrigated).[13]

There is no doubt that the region is in a state of water emergency. The heavy rains of this winter are helping the immediate situation, however, they also increase the illusion that there is no crisis which could resume to a drop in quotas and steady increased pumping. An international study has indicated a measure for water resources called "water stress". The water stress factor is a figure of 500 cubic meters per person per annum. The available quantity of water for Israelis is 375 cubic meters per person per annum and for Palestinians 165 cubic meters per person per annum. We are already well below the "water stress" level. This situation is not only due to the limited resources. The water stress level has been aggravated by four factors: (1) the constant increase in population both due to the high birth rate of the Palestinians and the immigration of Russian and Ethiopian Jews. (2) An increased standard of living. (3) An increase in the total amount of irrigated lands, and (4) gross water mismanagement. These reasons must be seen in the background of the limited water resources in the region as well as the unjust partitioning of the resources between Israel and the Palestinians.

This past summer the water crisis in parts of the West Bank was so severe that entire villages were found with dry wells. The area hardest hit was in the Hebron region. An underground "black market" of fresh water developed. Prices were as high as 10 NIS for a barrel of fresh water. People had no choice. The region suffered from a dry spell particularly during the periods when "Mekorot" - Israel's water company, increased pumping in the coastal plain as the summer's heat caused greater demands.

The water in the West Bank flows from East to West, or from the high region to the lower coastal plain. Israel's main aquifer

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[12] Ibid.

[13] Statistical Abstract of Israel, 1989, central Bureau of Statistics.

is the Yarkon-Taninim aquifer also known as the coastal aquifer. According to Israeli experts this aquifer was fully utilized at the end of the 1950's. Accordingly, many legal experts maintain that international law would accept Israel's "first claim" use of this water. This is especially true regarding the water which flowed into the Yarkon River and the other Western and Northern parts of the aquifer in the Emek Harod and Beit She'an valleys. Fifty-percent of the Israeli water consumption originates from wells in this aquifer which stems from water underneath the West Bank. This is a complicated issue which international legal precedents, it seems would rule in favor of Israeli claims. This is especially true given the non-existence of an independent, internationally recognized sovereign Palestinian entity. Thus, for example, water stemming from the Nile River sources in the Sudan and Ethiopia "belong" to Egypt due to this same principle. One difference could be found, however, in the fact that the parties in the Egyptian case (namely Egypt, Sudan and Ethiopia) have reached political agreements which do not exist between Israel and the Palestinians. In the absence of a Palestinian government or body able to negotiate a fair share for the Palestinians, it seems unlikely that international law will be effective in any way to resolve this problem. It is even more unlikely that coercive or punitive international legal means will be imposed on Israel to resolve the water problem for the Palestinians.

Despite the fact that the Yarkon-Taninim aquifer was fully exploited by Israel as early as 1960, since 1967, Israel has drilled more than fifty new wells from this source. A recent Israeli plan to drill a shaft well in the Herodian region with an assumed 10 million cubic meter source was found to be dry due to excessive pumping on the coastal plain. This is, of course, indicative of the existing Israeli water crisis which does not only stem from several drought years but perhaps mainly from faulty Israeli water policies. The root of the faulty policies are based on the availability of cheap subsidized water for agriculture leading to excessive and wasteful use by Israeli farmers. Many Israeli experts believe that water must be shifted

away from agricultural use and "reclaimed" water should be used as a replacement source. The calls for conservation and restrictions on use of water for domestic consumption are little more than a propaganda technique. The real abuse of water is in Israel's agricultural sectors.

Israel's water policy is managed by a maze of government agencies and organizations being pressured by various interests groups which wield a great deal of influence. The head of the power structure determining Israel's water policy is the Minister of Agriculture. The past Minister, Rafael Eitan had published full page ads (both as Minister with Ministry funding and as part of his Tzomet Party election campaign) pointing out the potential dangers to Israel's water if the Palestinians should take control of the West Bank. Never was there a Minister of Agriculture who cared less for the welfare of the Palestinians in the occupied territories. The very last issue of concern for Mr. Eitan is the water needs of the Palestinians.

International law on belligerent occupation (the Fourth Geneva Convention and others) place full responsibility on the occupying power for the needs of the local inhabitants. These laws specifically relate to the issue of water. However, international law only demands that the domestic water needs (home use) be accounted for. Industrial and agricultural development are beyond the definitions of the accepted international law.

Clearly, many Israelis will continue to justify Israel's continued occupation of the West Bank on the basis of the water issue. They claim (quite convincingly) that Israel's survival is dependent on its control of the water resources in the West Bank. The only possible way of solving this problem is by diffusing the water issue as a reason for continued occupation. Only by pooling the water resources of the entire region can a water solution be found. The sine qua non for a peaceful solution must be a regional one with international agreements and massive international and local investment in water resource development and conservation. The Americans have begun this process through

secret negotiations being conducted by special Ambassador Richard Armitage. The U.S. State department has been attempting to get Israel and Jordan to make arrangements for the frozen "Unity Dam" project which was agreed upon between Jordan and Syria. Other negotiations are taking place between Syria and Turkey. However, all of the existing negotiations taking place on the issue of re-allocating water resources or on rediverting water resources fail to take into account the Palestinian question. International water laws or regulations and treaties which have been developing over the past years advocate principles of equitable use of shared water resources. both ground and surface.
The lack of existence of the formal structures of the Palestinian state make it a non-entity in the framework of international negotiations. This is most unfortunate, short-sighted and dangerous because these negotiations could shape the future of water use in the Middle East. Failure to take the Palestinians into account as a separate and sovereign entity will only lead to future disputes and conflicts.

The concept of equitable use of shared resources must take into account the entire population living between the sea and the Jordan river. While there may be separate and sovereign entities within that geographic area, the water resources must be viewed as belonging to all the people on an equal and shared basis. All the residents of that area have equal responsibility to protect the resources and to prevent their demise both from over pumping and from pollution.

Looking towards the not so distant future we can easily see a doubling of the population within the next generation. There will be fourteen million people between the sea and the Jordan river using the limited resources of the Jordan River Basin. All efforts should be made to face that challenge head on. Allocation of fresh water for agriculture must be cut even beyond the 50% cuts enforced last year in Israel. Sea water desalination projects and sewage reclamation and reuse must become high priorities. As the demand for drinking water increases, the available water for agriculture should be reduced dramatically. 65% of water consumed by humans becomes waste water which could

be treated for agricultural use. If this policy was implemented, an additional 850 MCM of water could be added for agricultural use. The real price of the reclamation of the water should be placed upon the agricultural sector in order to select crops on the basis of economic considerations. Food security is not a problem in this region if capital is available. It is cheaper to import bananas to Israel than to grow them. Oranges and grapefruits which are grown in Israel are sold abroad are essentially exported water. Israel can import oranges from Europe for less money than it costs to grow them here (if the farmers had to pay the real price of water). Today, tomatoes grown in hot houses in the Jordan Valley or in the Arava produce a yield of approximately $20,000 per ~~dunam~~ ton. The cost of water for those crops does not exceed $1,000. If the crops were grown with reclaimed waste water or with desalinated water, the profit margin would decrease, however, even if the price of water doubled the profit on those crops would still be significant and worth investing in.

To resolve the situation we must accept that all the parties involved are entitled to equal allocation of water per person for domestic, urban, industrial use as well as essential fresh crops and animal husbandry. There is not enough available fresh water to provide for all of the needs of all of the people if there are no controls on usage. The use of available water resources must be allocated by economic and water quality concerns. The high grades of fresh water must be used only for domestic use. Importation of water on a commercial basis from neighboring countries may provide some immediate relief, however it is not a realistic long term option. No people, the Israelis nor the Palestinians, should become dependent on outside sources for their domestic water needs. In order to protect the existing limited reserves, a joint commission of Israelis and Palestinians must be created to monitor use and to direct water policy. Wider regional efforts should be aimed at high tech, high capital investment desalination plants, including the use of hydrostatic gravity pressure and hydroelectric power for reverse osmosis desalination or by the multistage distillation process (MED) or

by a system combining both methods. These high capital investment projects will become possible when the atmosphere of peace and cooperation reign rather than competition, unfair allocation and overuse. Today it is possible to demonstrate that there are potential solutions. Continued discussions between Israeli and Palestinian water experts can help prepare the ground for future cooperative realities. Only through cooperation will Israel and Palestine be guaranteed a future with enough water resources to facilitate growth, prosperity and peace.