

The Impacts of Israel's Unilateral Segregation Plan on Palestinian Water Resources

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Palestinians are facing an acute water crisis that is exacerbated by Israel's unilateral segregation plan. This crisis is primarily caused by the abnormal political conditions represented by Israel's control over the Palestinian groundwater and surface water resources. Israel is currently utilizing more than 80 % of the Palestinian groundwater resources and denying Palestinians their rightful utilization of the Jordan River. Regrettably, water has not received the same attention as other disputed issues such as the future of Jerusalem, the settlement issue and the right of refugees to return to their homeland. However it is believed that the control over water resources and the equity of water consumption between the two nations will merge as core issues that will determine the viability and sustainability of the Palestinian state.

Water Resources in Palestine

Water resources available in Palestine include both surface water and groundwater. The only permanent river that can be used as a source of surface water in Palestine is the Jordan River. Israel is diverting most of the waters of the Jordan River through its national water carrier which resulted to the reduction of its historic annual flow from 1250 MCM to < 200 MCM . The current water allocation amongst the riparians countries of the Jordan River System has been imposed unilaterally by military, political and economic strengths and were not an outcome of negotiations .

Over the years, many plans were prepared and proposed to divide the Jordan River waters. The Johnston plan, which was prepared under the supervision of the Tennessee Valley Authority and included water distribution quotas for the Jordan Valley Basin among the riparian states, was one of the reasonable ones. *Table 1* shows the water allocations according to Johnson's plan. A West Ghor canal was included in this plan to provide Palestinians with Jordan River water that translates into up to 250 MCM per year. This project was never implemented.

Table1: Water allocation according to Johnson's plan of 1955, all Data in MCM/yr

	First Johnson Plan	Revised Johnson	Present use
Syria	50	132	153
Lebanon	-	35	5-10
Jordan including West Bank	829	720	255-290
<i>Total (SY, LB, JO)</i>	<i>879</i>	<i>887</i>	<i>413-453</i>
Israel	426	375-475	675-700

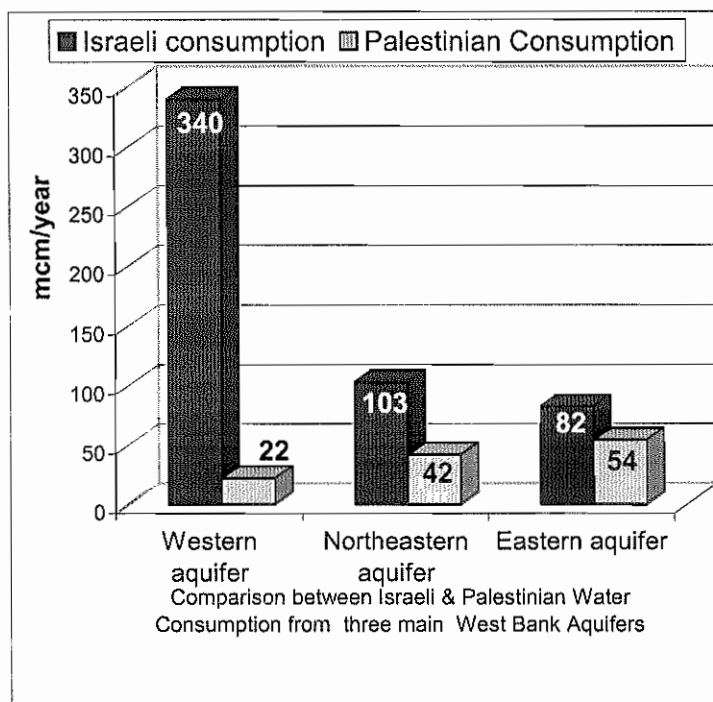
Both the First Johnston Plan and the Revised one have given the Israelis the right to use an amount of about 426 MCM per year. However, Israel exceeded its share in the Jordan River and is utilizing around 675-700 MCM per year. Historically, the Palestinian use of the Jordan River before 1967 was through 140 pumping units. Immediately after the occupation these pumping units were either destroyed or confiscated by the Israeli occupying authorities. In addition, large irrigated areas of the Jordan Valley used by Palestinian were closed as a military zone and later given to Israeli settlers. Farmers with land and water rights in the Ghor area in the Jordan Valley covering an area of 30,000 dunum were denied access to their area under the pretext of security (Rouyer, 2000).

Groundwater is the major source of fresh water supply in the West Bank and Gaza Strip. In the West Bank, the aquifer system is comprised of three aquifers according to direction: the Western, Northeastern and Eastern.

- The *Western Basin* is the largest and has an annual safe yield of 362 MCM. Palestinians consume only about 7.5% of its safe yield.
- The *Northeastern Basin* has an annual safe yield of 145 MCM. Palestinians consume about 18% of its safe yield.
- The *Eastern Basin* has an annual safe yield of 172 MCM. Palestinians are utilizing 50% of the waters of this basin.

The Gaza coastal aquifer has a safe yield of 55 - 60 mcm annually but is being over extracted at an annual rate of 120 mcm causing intrusion of salt sea water.

Figure 1: Comparison between Palestinian and Israeli Consumption of Water Resources, 2002



The annual Palestinians domestic and industrial water share is estimated at 93 million cubic meters (MCM), less than 30 m³/year per capita, while the 435,000 Israeli settlers residing in the West Bank consume annually 70 (MCM) of Palestinian waters i.e. 281 m³/year per capita. The feeling of injustice arising from the unequal distribution of water resources between Israel and Palestine is compounded by the fact that Israel allocates more than 60% of the fresh water resources it controls to agriculture which in turn contributes to only 1.8% of Israel's real growth GDP and employs less than 1% of its labour force.

This discrepancy between water consumption has not been the outcome of negotiations but is a reflection of the asymmetry of power between Israel and Palestine. Thus, Palestinian water rights were a major contentious issue during the Israeli-Palestinian negotiations. In the Oslo II Accords, Israel recognized Palestinian water rights. These rights will be discussed in the permanent status negotiations and settled in the Permanent Status Agreement relating to the various water resources. According to article 40 in the Oslo II agreement, Israel was to provide Palestinians with an additional 28.6 MCM annually to meet their immediate needs during the interim period to be extracted mostly from the Eastern Basin. However, out of this quantity and after 10 years since the agreement was signed, Palestinians got less than 15 MCM which leaves Palestinians under suppressed demand that can not cope with the needs of the population growth.

The Impact of Israel's Segregation Zone plan in the West Bank on the Palestinian Water resources

The agriculture sector and rural life have always enjoyed a special place in the Palestinian society. However, the share of agriculture in the gross domestic product has been

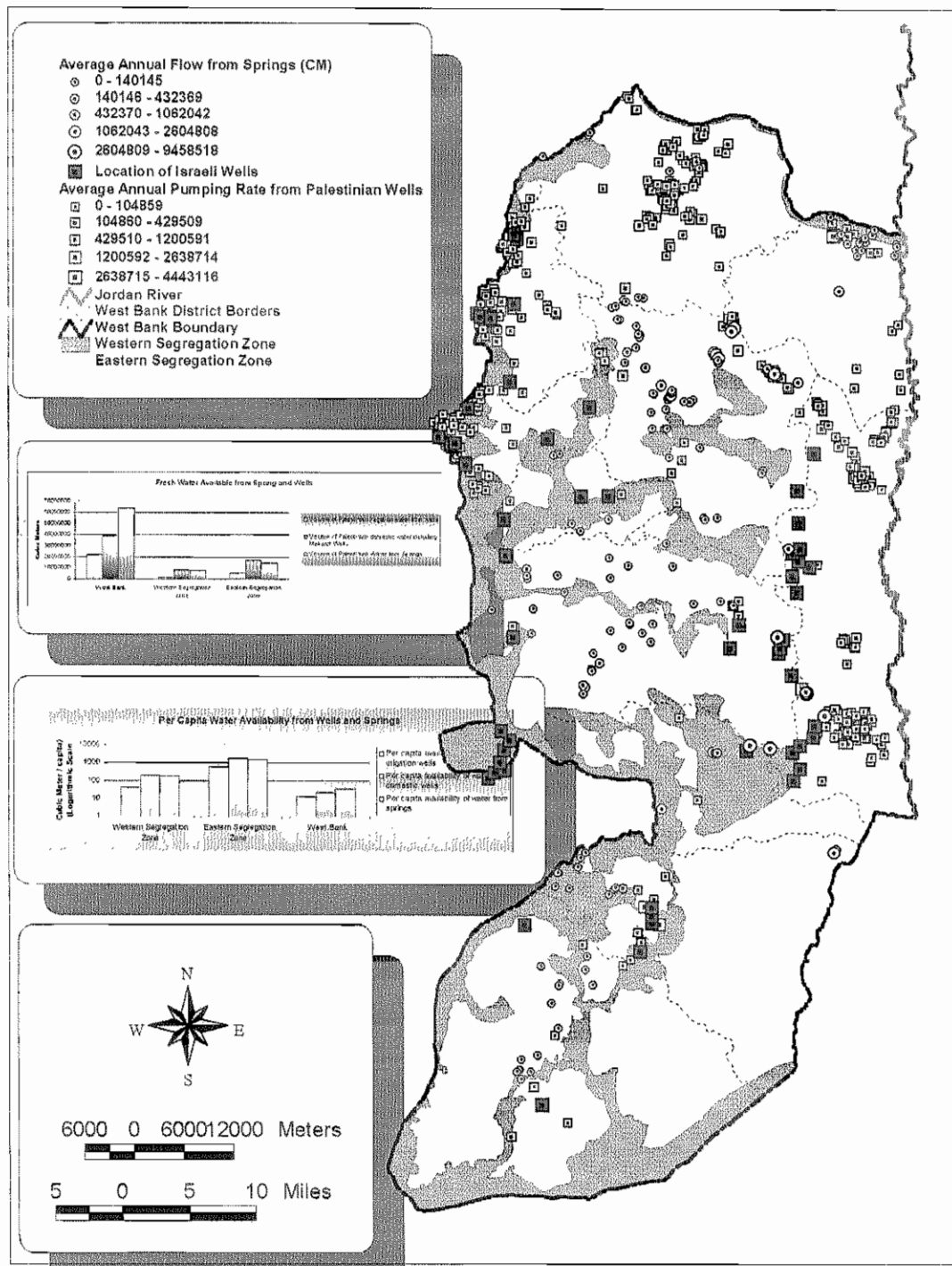
declining. Prior to the Intifada, the sector contributed less than 8 % to the GNP and employed only 13.4% of the labour force, with many workers having been forced to seek employment in other sectors or in Israel. The sector is also considered as a refuge for thousands of workers in times of closure when they are forced to search for alternative job opportunities. In this case, the sector works to cushion the negative impact of the external shocks, especially on unemployment. All estimates now show that agriculture contributes between 12 and 20 % to the GNP and employs one third of the work force.

Agricultural activities are considered a major source of income for the Palestinians, mainly for those living in communities located inside the segregation Zone. The Segregation Zone will trap large parts of these agricultural lands which will further impact the livelihood of Palestinians.

The Western part of the Israeli segregation zone will endanger the Palestinian fertile agricultural lands located in the semi- coastal agro- ecological region which is limited to the northwestern parts of the West in addition to parts of the central highlands agro- ecological region zone along the West Bank. The region is mainly planted with fruit trees, vegetables and field crops and has large areas of irrigated agriculture. The western part of the segregation zone of the West Bank includes 496,606 dunums of fertile agricultural lands. The annual average production of the threatened areas reaches 190,299 tons, with an economic value of 111 million USD, which is about one third of the West Bank agricultural production. Analysis of recent satellite images showed that 133.53 Km² of the West Bank lands is going to be isolated inside the Western part of the Segregation zone. The northwest of the West Bank contains the richest Palestinian groundwater aquifers that supply the Palestinians with water for domestic, agriculture and other uses. Over 5.5 MCM, the annual discharge of 31 artesian wells trapped between the segregation Wall and the Green Line will become inaccessible or their access will be restricted.

About 1610 Km² of land will be isolated within the proposed Eastern part of the segregation zone. The combined number of water wells utilized by the Palestinian population in the segregation zone is 165 with a combined average annual pumping rate of approximately 33 MCM; whereas the combined number of water springs in the segregation zones are 53 MCM with a combined average annual discharge of approximately 22 MCM. The next map shows the impact of the segregation zone on Palestinian water resources.

Map 1 : Segregation Wall and Palestinian Water Resources

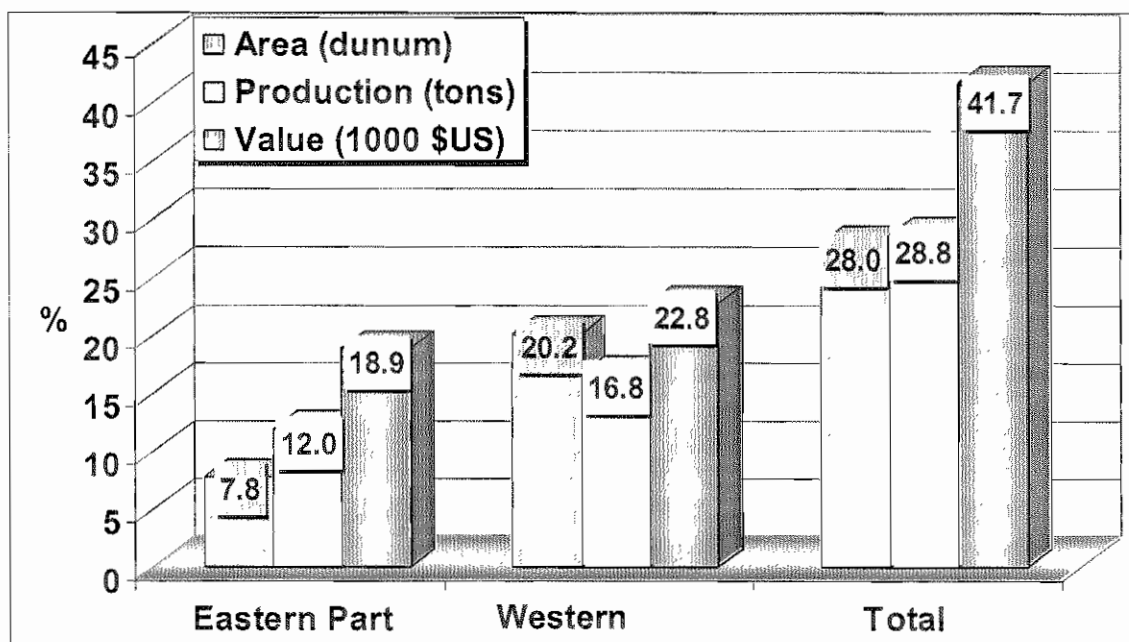


Landsat images analysis show that 769,286 dunums of fertile agricultural areas will be endangered by the Israeli segregation plan. This means that 46.3% of the total cultivated area in the West Bank will be lost or will become inaccessible for the Palestinians, due to

the Israeli restrictions on the farmers movements or on the production transport and the threat of land confiscation. This will reduce the current status of food security in the West Bank.

The next table illustrates total agricultural areas in dunums, annual production in tons and value in USD in the eastern and western parts of the segregation zone.

Figure 2: The expected agricultural loss due to the Israeli segregation zone in the West Bank



In addition, the segregation plan will deprive Palestinians from their rightful share to the waters of the Jordan River. Thus, it is becoming evident that the real motive behind the Israeli segregation plan is Israel's appetite for Palestinian land and water.

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