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The Environmental Impact of Jewish Settlements in the West Bank

Israeli settlement can adversely affect the Palestinian environment for generations to come.

by Violet Qumsieh

Since its occupation of the West Bank in 1967, Israel has been creating facts on the ground by building Jewish settlements on large areas of Palestinian land, in clear violation of Article 49 (6) of the Fourth Geneva Convention which states: "The occupying power shall not deport or transfer part of its own civilian population into the territory it occupies." There are presently over 250 Jewish settlements in the West Bank with a population of approximately 306,000 settlers, 165,000 of whom reside in Arab East Jerusalem.¹

Palestinians object to the existence of Jewish settlements on their land in the West Bank and the Gaza Strip, not only because these settlements are illegal, but also because of the disastrous effect they have on Palestinian life and natural resources.

Land Confiscation

Israeli confiscation of Palestinian land and continued settlement building there strain the land resources and the environment, because of the associated problems of waste disposal, construction of road networks and exploitation of natural resources. The Jewish settlements are built on confiscated Palestinian agricultural or grazing lands, causing the uprooting of thousands of fruit-bearing trees and leading to increasing soil erosion. From the signing of the Oslo I Accords in September 1993 until June 1996, Israel has uprooted over 32,500 fruit trees, confiscated 29,000 hectares of land and bulldozed 3,250 hectares for the expansion of existing settlements and the opening of new roads to serve them.

A crucial, yet often overlooked fact, is that the geographic distribution of Jewish settlements on Palestinian land severely restricts the growth of Palestinian communities. In most cases, settlements either surround Palestinian communities and, therefore, prevent their natural growth, or huge tracts of Palestinian land are confiscated for future Jewish settlement expansion. A clear example is the Bethlehem area which is surrounded in the south by the Gush Etzion bloc; in the west by Har Gilo, Beitar Elite, as well as by two bypass roads; in the east by Tekoa and a bypass road; and in the north by Gilo and a bypass road. In the north also lies the site of the proposed settlement of Har Homa to be built on the forested mountain of Jabal Abu Ghneim.



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Bypass Roads

After signing the Oslo II Interim Agreement in 1995, Israel made its redeployment from parts of the West Bank contingent on the building of lateral roads to secure "safe passage" for Jewish settlers. These lateral roads, mentioned briefly in Oslo II, have grown into a whole infrastructure of bypass roads which crisscross the West Bank, encircling major Palestinian cities and villages, disconnecting them and converting the area into an asphalt jungle.

To fully serve their "security" purpose, bypass roads are built with a safety buffer of 50 to 100 meters on each side, where any Palestinian activity, such as building houses and opening factories, is prohibited. Moreover, existing Palestinian houses located in areas close to planned bypass roads are being systematically demolished. The bypass roads built in the West Bank to date exceed 276 kilometers in length; those in the planning stage are estimated to reach 425 kilometers. With the safety buffer zone they enjoy, the construction of these bypass roads requires the confiscation and destruction of approximately 109,000 dunums (a dunum is 1/10 hectare) of Palestinian land, most of which is agricultural, depriving owners of their main source of income.

Depletion of Water Sources

Jewish settlers in both the West Bank and the Gaza Strip consume huge amounts of the scarce Palestinian water resources. The average per-capita Palestinian water consumption for all sectors is 107-156 cubic meters per year, whereas a Jewish settler uses 650-1,714 cubic meters per year. And while Palestinians are struggling to connect the remaining 25 percent of the population in Palestine to household water-distribution systems, Jewish settlers in the West Bank and the Gaza Strip receive a continuous water supply, largely from wells in Palestine. During the dry summer periods, when the water supply becomes low, Palestinian communities are left without water for extended periods of time. In contrast, nearby settlements have enough water to keep their lawns green and their swimming pools full of fresh water.

Wastewater Disposal

Large amounts of raw wastewater are disposed of by the 306,000 Jewish settlers in the West Bank and Arab East Jerusalem, threatening to pollute the West Bank Aquifer. While accurate information about wastewater generated in the settlements is difficult to obtain, it is estimated that 80 percent of domestic water ends up as wastewater. This means that approximately 4.3 million cubic meters of wastewater are generated per year from Jewish settlements in the West Bank. A large amount is dumped, untreated, on Palestinian land, creating a health hazard for many communities.



Domestic Solid Waste

According to a study conducted by the Environment Office of the Israeli Civil Administration in the West Bank, it is estimated that the daily amount of domestic waste generated per Jewish settler is 1.3 kg. Thus, the total quantity of solid waste generated by settlers is about 145,000 tons of domestic waste. Again, Palestinians have no access to information about the disposal of solid waste generated by settlers. Evidence shows that much of the waste is being disposed of on Palestinian land and dumping sites. The solid waste generated in West Jerusalem, for example, is transferred to the Abu Dis dumping site. Table 1 shows the Jewish settlements and military bases that dump their waste on Palestinian lands.

Table 1: Solid waste generated by Israelis and dumped in the West Bank

Settlement	District	Dumping site
Israeli military camps	Jenin	Arraba & 'Ajja dumpingsite Tubas dumping site
Settlements inside the West Bank		
Enav	Tulkarem	'Anabta
Homesh	Nablus	'Anabta
Elon Moreh	Nablus	Beit Furig
Ariel	Nablus	Entrance of Salfit village
Other settlements inside the West Bank	Hebron	Yatta

Industrial Waste

There are at least seven Israeli industrial zones in the West Bank. These occupy a total area of approximately 302 hectares, located mainly on hilltops, which often results in the flow of industrial wastewater into adjacent Palestinian lands. In addition, the Israeli authorities have moved many of the polluting industries from various places in Israel to areas near the Green Line or inside the settlements. For example, a pesticide factory in Kfar Saba which produces dangerous pollutants has been moved to an area near Tulkarem. The wastewater from this factory has damaged the citrus trees and polluted the soil in the area, and poses a serious hazard to the groundwater.³ The Dixon Gas industrial factory, which was located in Netanya, inside Israel, has also been moved to the Tulkarem area. The solid waste generated by the factory is burned in open air.

Israeli industrial factories also exist in Jewish settlements in the West Bank. It is estimated that at least 200 such factories are located there. Some of the products are



identifiable, but detailed information on quantities produced, labor, and waste generated is not available. Aluminum, leather-tanning, textile-dyeing, batteries, fiberglass, plastics and other chemicals are among the major industries within these Jewish settlements. The waste generated by them contains toxic elements, such as aluminum, chromium, lead, zinc and nickel. For example, the aluminum industry which is found in many Israeli settlements produces aluminum and acidic waste. Electroplating produces nickel, chrome and acidic waste. The battery industry produces lead in its wastewater. All of these inorganic substances are considered hazardous to health if accumulated in the human body.

Table 2: Israeli industries in the West Bank

District	Industrial zone	Industry
Nablus	Barkan Elan Moreh Shilo	Aluminum, fiberglass, plastic, electroplating Aluminum, food canning & textile-dyeing Aluminum, leather-tanning
Ramallah	Halameesh Giv'at Hadassah Nili Shelta Atarot	Fiberglass & leather-tanning Rubber Aluminum Fiberglass & plastic Aluminum, cement, plastic, food-canning & others
Hebron	Kiryat Arba'	Winery, building blocks, tiles & plastic
Jerusalem	Mishor Adumim	Plastic, cement, leather-tanning, detergents, textile, printing dyes, aluminum & electroplating
Jenin	Homesh	Batteries, aluminum & detergents
Tulkarem	Near the 1967 border inside the West Bank	Pesticide, fiberglass & gas

Palestinian lands located at the foothills of industrial zones are particularly vulnerable to the flow of industrial waste and evidence shows that pollution-prevention measures are not followed inside the Israeli factories. Also, the generated industrial solid waste is often collected and dumped in areas near Palestinian villages. An example is the Barkan industrial zone located in the Nablus district over a 150-dunum area. It includes approximately 80 factories of various industries, such as aluminum, fiberglass, plastic, electroplating and military: these produce an estimated 810,000 cubic meters of industrial wastewater annually. The waste was previously collected in three storage tanks, but due to design failure, these tanks are overloaded with mud and not operational. Therefore, the industrial wastewater flows untreated to the nearby wadi, damaging agricultural land which belongs to three Palestinian villages - Sarta, Kufir A-Deek and Burqin in the Nablus district - and polluting the groundwater with heavy metals.



Table 3: Palestinian locations affected by Israeli industry in the West Bank

Israeli industrial location	Affected Palestinian location
Halameesh	Al-Nabi Saleh
Mishor Adumim	Jerusalem desert
Homesh	Silit A-Dhahr
Barkan	Kufr A-Deek, Sarta, Burqin
Shilo	Qaryout, Turmus 'Ayya
Elon Moreh	Nablus - Wadi Badan road
Atarot	Bir Nabala, Judeira
Kiryat Arba'	Bani Na'im
Near the 1967 border inside the West Bank near Tulkarem	Tulkarem city and nearby agricultural areas

Israeli Quarries

Quarrying impacts negatively on the landscape and the environment. It causes serious changes to the topographic structure of the land and pollutes the air with huge amounts of dust in the working area. Dust affects the respiratory system of people living within close proximity of quarries and damages crops.

Israel constantly uses the West Bank quarry stones to meet its building needs. The Israelis have confiscated an area of at least 18,700 dunums in the West Bank to construct seven quarries, in various locations. The largest is the Wadi Al-Teen quarry in the Tulkarem district, on an area of 9,685 dunums. In the Ramallah district, an Israeli quarry is located near Kufr Malik village, on a 2,523-dunum area. Israel plans to construct another quarry in the Ramallah district on land belonging to the villages of Rantis and Shuqba. In the Hebron district the following areas have been confiscated for quarries: 1,744 dunums between Dura and Al-Thahiriya; approximately 2,677 dunums from Tarqumiya, Dura and Khirbet Jamroura villages; and 2,077 dunums of land belonging to the village of Surif. Lastly, a quarry is located on land which belongs to Majdal Bani Fadel village in the Nablus district.⁴

Conclusion

Clearly, Jewish settlements are a cause of destruction of Palestinian land and a source of pollution of the Palestinian environment. In addition to creating a major political dilemma for the Palestinian Authority, due to their illegal presence and continued expansion, making impossible Palestinian geo-graphic contiguity, settlements also adversely affect both the environment and the quality of life today, and for generations to come.



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