

12

Am I Not a Human?

*Edited by*

Dr. Mohsen M. Saleh  
Rana Sa'adah

*Translated by*

Salma al-Houry

# *The Suffering of* **Palestinian Environment and Farmer**

*under the Israeli Occupation*



*By*

Fatima H. Itani

Nitham 'Ataya



Al-Zaytouna Centre for Studies & Consultations

**Am I not a Human?**  
**(12)**

Book series discussing  
the sufferance of the  
Palestinian people  
under the Israeli  
occupation

Editors

**Dr. Mohsen Moh'd Saleh**  
**Rana Sa'adah**

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By  
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**Nitham 'Ataya**

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## *Foreword and Acknowledgment*

Al-Zaytouna Centre presents to readers the 12th book in its series *Am I not a Human?* which sheds light on the various aspects of the Palestinian people's suffering.

This book addresses the suffering of Palestinian environment and farmer under Israeli occupation. It highlights the international legislation and laws related to the protection of the environment, as well as the impact of Israeli settlements, the Separation Wall, Israeli factories, nuclear pollution, the proliferation of quarries, and the theft of Palestinian soil on the Palestinian environment, in particular on agriculture and the labor of the Palestinian farmer.

The Palestinian environment is deliberately subjected to daily violations that lead to the depletion and contamination of its natural resources; hence, the loss of ecological balance and the gradual destruction of the agriculture sector by the Israeli occupation. All of this takes place despite the presence of legislation and laws that prohibit such acts, while Israel is not held accountable by the international community, which remains indifferent to such attacks.

This book follows the approach of the other books in the series *Am I not a Human?* in addressing both the mind and the heart in an academic, systematic and documented manner. Stories and photos help bring the suffering of the Palestinian people under Israeli occupation to life. Al-Zaytouna Centre would like to extend its deepest gratitude to Ariha Trading and Distribution in Malaysia, for its generous sponsorship of the publication of this book.







## *Introduction*

Throughout history, the land was and still is the focus of the Zionist project in Palestine, with its various and renewed manifestations. From its beginnings, this project was based on three tools: control of the land, the labor and the market. These tools continue to be the basic components of aggressive Israeli policy against the Palestinian people, threatening their physical, national and political presence. Furthermore, to successive Israeli governments, controlling Palestinian land was their main goal, causing the Palestinian people to suffer successive migrations and catastrophes that carry on to this day.

Since its occupation of Palestine began, Israel has worked on undermining and destroying the Palestinian environment, aiming to turn it into a place unfit for living, thus the Palestinian environment, in its various elements and forms, is subjected daily to deliberate violations by Israel, through a continuous drain of its natural resources







and by polluting it. The Israeli occupation does its utmost to sabotage all aspects of Palestinian life, with the aim of robbing the Palestinian people of their basic living necessities, thus forcing them to leave their homeland.

Since day one of the occupation, plans were made to deliberately ruin the Palestinian environment. However, that process multiplied and grew after the launch of *al-Aqsa Intifadah* in late September 2000, when Israel appropriated and razed farmlands in order to establish new settlements or build its Separation Wall and bypass roads. The Israelis cut down trees and took control of natural resources, exploiting and depleting them. They let wastewater flow in Palestinian lands, as well as liquid and solid industrial waste from the settlements, along with nuclear waste. In a deliberate and calculated manner, toxic waste was smuggled and buried in Palestinian farmlands. All of this contributed to the expansion of the desertification phenomenon, environmental imbalance, destruction of agriculture, and pollution of groundwater, being the main source of water for Palestinians. Consequently, the Palestinian environment became even more exposed to the spread of diseases and epidemics. This constitutes a flagrant violation of most articles of the Geneva Conventions, which Israel refused to apply in the West Bank (WB) and the Gaza Strip (GS).





- To the right: the ruins of 'Ein al-'Uja spring. Photo: Eyal Hareuveni, B'Tselem—The Israeli Information Center for Human Rights in the Occupied Territories, 23/3/2011.  
To the left: 'Ein al-'Uja spring in better days. Photo: Itamar Grinberg

The Palestinians suffer from severe water shortage, as Israel's total control of water sources in the area has dried up Palestinian wells and diminished the quantity of water supplied by Palestinian wells and springs.

The Jordan Valley area is considered one of the areas of the WB with the richest natural water sources. Under international law, these water sources belong to both Palestinians and Israelis. Despite this, a smaller portion is to be enjoyed by the Palestinians, for Israel has taken control of most of the water sources in the area and has earmarked the use of most of the resources exclusively for the settlers in the area, while ignoring Palestinian communities and the chronic water shortage in the rest of the WB.

- Background on the Jordan Valley, site of B'Tselem, 18/5/2011, [http://www.btselem.org/jordan\\_valley](http://www.btselem.org/jordan_valley)





## *Chapter 1: Palestinian and International Legislations and Laws Related to the Protection of the Environment*

The lands of the WB and GS have suffered major violations committed by Israel against their environment in its various components. The impact of those violations on the Palestinian individual living within this environment is clear. Among the most serious of these Israeli violations against environmental human rights are the following: confiscation of land, destruction of forests, uprooting of trees, depletion of water sources, and pollution resulting from wastewater and Israeli solid industrial waste, which it buries inside the borders of the WB and GS. All of these constitute flagrant violations of the 1977 first Protocol Additional to the Geneva Conventions 1, which states in Article 55:





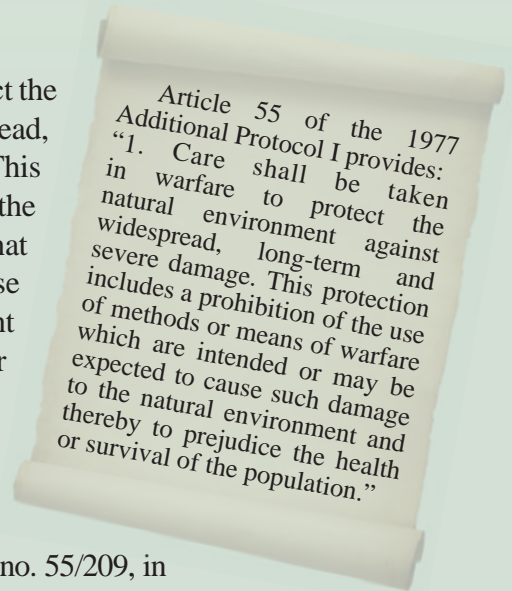
- “1. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare that are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.
2. Attacks against the natural environment by way of reprisals are prohibited.”<sup>1</sup>”

This is in addition to the General Assembly of the United Nations’ resolution no. 55/209, in which it stressed that, it:<sup>2</sup>

- “2. Reaffirms the inalienable rights of the Palestinian people and the population of the occupied Syrian Golan over their natural resources, including land and water.
3. Calls upon Israel, the occupying Power, not to exploit, to cause loss or depletion of or to endanger the natural resources in the Occupied Palestinian Territory, including Jerusalem, and in the occupied Syrian Golan.
4. Recognizes the right of the Palestinian people to claim restitution as a result of any exploitation, loss or depletion of, or danger to, their natural resources, and expresses the hope that this issue will be dealt with in the framework of the final status negotiations between the Palestinian and Israeli sides.”

In general, environmental human rights include the following basic principles:

- The right to a safe and adequate environment that guarantees health and safety to present generations, without impairing the rights of future generations. This right includes freedom from pollution,





environmental degradation and any activities that adversely affect life, public health, the standard of living, and well-being.

- The right to sustainable use of natural resources, from which all citizens benefit equitably, also without impairing the rights of future generations; and without subjecting natural resources to depletion, degradation and pollution.<sup>3</sup>

Furthermore, Article 33 of the Palestinian Basic Law stipulates the following: “The enjoyment of a balanced and clean environment is a human right. The preservation and protection of the Palestinian environment from pollution for the sake of present and future generations is a national duty.”<sup>4</sup> And Article 15 of the “revised” third draft Constitution for a Palestinian State stipulates that: “The state strives to realize a clean, balanced environment. Preservation of the Palestinian environment shall be the duty of the state and the society. Whoever damages it shall be subject to the penalty of law.”<sup>5</sup> Article 5 of Law no. 7 of 1999 states:

This law shall guarantee:

- a. The right to every individual to live in a sound and clean environment and enjoy the best possible degree of health care and welfare.
- b. Protection of the country’s natural fortunes and economic resources, besides the preservation of its historical and cultural heritage without any harms or side effects that are likely to occur sooner or later as a result of the variant industrial, agricultural or constructional activities, with an impact on the quality of life and basic ecosystems such as air, water, soil; marine resources, animals and plants.<sup>6</sup>

Article 13/b of the same law enjoins the following: “It is forbidden to pass hazardous waste through the Palestinian territories or through the territorial water or free economic zone of Palestine, unless a special







permit is obtained from the Ministry.”<sup>7</sup> While Article 23 of the same law provides for: “It is forbidden to dispose, treat or incinerate garbage and solid waste except in the sites designated for this purpose and in compliance with the conditions specified by the Ministry to ensure the protection of the environment.”<sup>8</sup>

There are also some items in international agreements and conventions on the protection and conversation of the environment, among them Article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) which states: “The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”<sup>9</sup> It is well known that reaching this high standard is only feasible in a clean environment. For its part, the Arab Charter on Human Rights stipulates in its Article 38 that every person has “the right to a healthy environment”; and in its Article 39/1 “The States parties recognize the right of every member of society to the enjoyment of the highest attainable standard of physical and mental health”; and in 39/2/f “Combating environmental pollution and providing proper sanitation systems.”<sup>10</sup>

Article 11 of the Protocol of San Salvador is titled the “Right to a Healthy Environment” and in Article 11/1 it says: “Everyone shall have the right to live in a healthy environment and to have access to basic public services.”<sup>11</sup>

This is in addition to the principles agreed upon by the Israeli and Palestinian sides related to environmental safety. Among these is Annex III of the Declaration of Principles signed between the Palestine Liberation Organization (PLO) and Israel in 1993, with the two sides agreeing to form an Israeli-Palestinian Continuing Committee for Economic Cooperation, focusing, among other things, on preparing the following: “An Environmental Protection Plan, providing for joint and/or coordinated measures in this sphere.”<sup>12</sup>







The Protocol Concerning Civil Affairs, Annex III of the Israeli-Palestinian Interim Agreement of 1995 stipulates the following:

Both sides shall respectively adopt, apply and ensure compliance with internationally recognized standards concerning the following: levels of pollutants discharged through emissions and effluents; acceptable levels of treatment of solid and liquid wastes, and agreed ways and means for disposal of such wastes; the use, handling and transportation (in accordance with the provisions of Article 38 (Transportation)) and storage of hazardous substances and wastes (including pesticides, insecticides and herbicides)...<sup>13</sup>

According to Article 40 of the Protocol Concerning Civil Affairs, the Israeli and Palestinian sides agreed to cooperate on the basis of mutual good-will and joint responsibility regarding the following agreement in the sphere of water and sewage. Paragraphs 21–24 of this article stipulate:

21. Each side shall take all necessary measures to prevent any harm, pollution, or deterioration of water quality of the water resources.
22. Each side shall take all necessary measures for the physical protection of the water and sewage systems in their respective areas.
23. Each side shall take all necessary measures to prevent any pollution or contamination of the water and sewage systems, including those of the other side.
24. Each side shall reimburse the other for any unauthorized use of or sabotage to water and sewage systems situated in the areas under its responsibility which serve the other side.<sup>14</sup>

The deterioration of the environment in the WB and GS as a result of Israeli violations affected the Palestinians' right to live a decent life; as Israel continues to breach the human rights protected in all international charters and conventions, some of which are detailed above.





## *Chapter 2: Israeli Settlements and Their Impact on the Palestinian Environment*

Since its founding, Israel has continued to impose facts on the ground. Its WB settlement policies and plans have their impact on Palestinian land and citizens. Since its occupation of the WB and GS lands in 1967, it has consolidated its control over them by imposing a fait accompli policy, through building Israeli settlements on large areas of Palestinian lands. This constitutes a clear violation of Article 49/6 of the Fourth Geneva Convention, which states: “The Occupying Power shall not deport or transfer parts of its own civilian population into the territory it occupies.”<sup>15</sup>





Israeli settlements are the most prominent tools of the distortion of the Palestinian environment; as Israel controls the land and its natural resources. Its acts of aggression have impacted all elements of the Palestinian environment. Its occupation has depleted the Palestinians' water and turned their lands into waste dumps by diverting wastewater and solid waste from Israeli settlements and factories into the WB and GS territories. And thus, in general, the water in these areas became contaminated. This is in addition to uprooting trees to build settlements and construct bypass roads, thereby increasing the desertified spaces and the air pollution that comes from the smoke emission of factories, with their impact on health. Thus, the settlements are a factor in denying the Palestinians their right to live in a sound healthy environment.

Israeli settlements and outposts have witnessed a remarkable expansion during 2012. An analytical study conducted by The Applied Research Institute–Jerusalem (ARIJ) showed that since the beginning of 2012 and until August of the same year, and out of a total of 199 settlements in WB, Israel conducted expansion activities on 151, 76% of the total. The expansion included constructing and adding new buildings and mobile homes. The following table shows the number of additions made during this period:<sup>16</sup>





### An Israeli settlement in Ramallah.

- Land Research Center (LRC), A Huge Campaign of Expansion at the Israeli Colonies in the Northern West Bank Governorates, site of Project of Monitoring the Israeli Colonization Activities (POICA), 30/11/1999, <http://www.poica.org/preview.php?Article=1321>



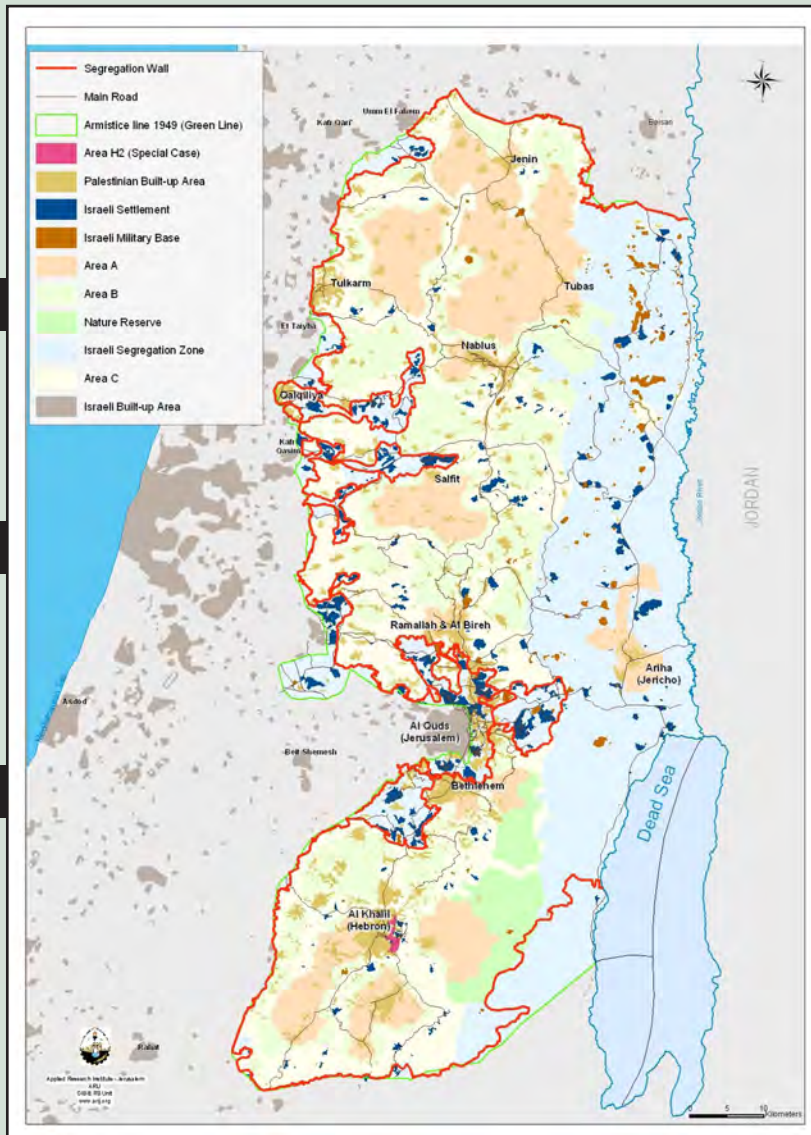
**Table (1): The Buildings and Mobile Homes That Were Added to Israeli Settlements in WB Since January 2012 and Until August 2012**

Governorate	No. of buildings	No. of mobile homes	No. of expanded Israeli settlements in WB
<b>Bethlehem</b>	117	51	15
<b>Hebron</b>	40	130	22
<b>Jenin</b>	30	43	5
<b>Jericho</b>	35	81	16
<b>Jerusalem</b>	198	105	25
<b>Nablus</b>	45	109	11
<b>Qalqilya</b>	160	52	14
<b>Ramallah</b>	191	218	21
<b>Salfit</b>	188	53	15
<b>Tubas</b>	3	0	3
<b>Tulkarem</b>	11	12	4
<b>Total</b>	<b>1,018</b>	<b>854</b>	<b>151</b>





## Location of Israeli Settlements in WB



Source: The Applied Research Institute–Jerusalem (ARIJ), Rise in the Number of Settler Attacks Against Palestinians in the Occupied West Bank During the Year 2014, POICA, 20/1/2015, <http://www.poica.org/details.php?Article=7448>







We can conclude from the above that Israel continues to impose its fait accompli policy, implementing its settlement plans by confiscating Palestinian lands and constructing and expanding settlements in WB and the east of Jerusalem, in addition to changing the features of the land. Below are some aspects of the distortions by Israeli settlements of the Palestinian environment and their impact on the Palestinian farmer:

### **1. Depletion of Palestinian Water**

Palestinian water has an important place in Israeli strategy; as it is a main pillar in the success of the Zionist project in Palestine. In a statement made by David Ben-Gurion in 1955, he said, “The Jews are today fighting the Arabs in the ‘battle for water.’ On the outcome of this battle depends the future of the Jewish existence of Palestine. If we were not to win this battle, it would be as if we had done nothing in Palestine, and we should (then) admit (our) failure.”<sup>17</sup>

After its forces had occupied the WB and GS in the wake of the 1967 war, Israel issued a number of military orders, the most famous among them is Military Order no. 92 issued on 15/8/1967, which granted complete authority over all water related issues in the occupied Palestinian territory to the Israeli army. Next comes Military Order no. 158, of 19/11/1967, which stipulated that Palestinians could construct any new water installations without first obtaining a permit from the Israeli army and that any water installation or resource built without a permit will be confiscated. The Water Officer, who is appointed by the Israeli courts, has the right to refuse any permit without any justification. This is in addition to Military Order no. 291/1968, which annulled all land and water-related arrangements which existed prior to Israel’s occupation of WB and GS, according to the Israeli law of 1959.<sup>18</sup>







Water scarcity... A common phenomenon in Gaza.

Gaza's children awaiting water tanks.





These military orders resulted in the distortion of the Palestinian water sector; as they served only Israeli settlement and expansion plans. Furthermore, these orders enabled Israeli forces to tighten their control of Palestinian water resources, by restricting the drilling of agricultural wells in WB and GS, and allowing the drilling of many of them inside Israeli settlements. They also drilled a series of wells along the armistice line with GS in order to deplete the fresh water and reduce the water flowing to the coastal aquifer in GS. They did the same along the armistice line with WB in order to deplete the waters of the western basin. This was in addition to the construction of a series of dams to reserve the water flowing into Gaza Valley, restrict agricultural land reclamation and establish numerous settlements in the aquifer regions. This led to an increase in the salt level in most groundwater wells in WB and GS, and that in turn caused a decline in agricultural production.<sup>19</sup>

In spite of the fact that the Oslo Accords state in Article 40/1 that: “Israel recognizes the Palestinian water rights in the West Bank. These will be negotiated in the permanent status negotiations and settled in the Permanent Status Agreement relating to the various water resources,”<sup>20</sup> discriminatory water division has remained in place. Israel uses more than 80% of the water from the Mountain Aquifer, the only source of underground water in WB, while restricting Palestinian share of it to a mere 20%; knowing that this aquifer is one of several water resources available to Israel, such as Lake Tiberias and the Jordan River, etc, while it is the only water source for Palestinians.<sup>21</sup>





Daily per capita WB water consumption for domestic, urban, and industrial use in towns connected to the main water network is 73 liters; while the daily per capita consumption in Israel is 242 liters in urban areas and 211 liters in rural communities, that is, three and a half times higher than that of Palestinian consumption.<sup>22</sup> In some isolated Palestinian communities not connected to regular water supply, daily per capita water consumption is only 20 liters, which is a quantity defined by the World Health Organization (WHO) as enough for “short-term survival” in disaster areas such as Darfur and Haiti after the earthquake. WHO recommends a daily water consumption of 100 liters per person.<sup>23</sup>

Israel’s policy of depleting Palestinian water resulted in unfair distribution of groundwater. The quantity of this groundwater in WB and GS is estimated at 734 million cubic meters (MCM) as mentioned in the Oslo Accords. The share of Palestinians in WB and GS was only 235.4 MCM (127.4 MCM for WB and 108 MCM for GS), the rest goes to Israel and its settlements to meet their needs.<sup>24</sup> The following table specifies the quantity of water consumption in WB and GS according to the Oslo Accords:

**Table (2): Quantity of Water Consumption in WB and GS According to the Oslo Accords (MCM)**

Region	Quantity of water
WB	127.4
GS	108
Total	235.4



The next table shows the amount of water in the Palestinian aquifer in the WB and GS and the percentage of the Palestinian and Israeli shares of it, according to the Second Oslo Accord signed on 28/9/1995:

**Table (3): Amount of Water in the Palestinian Aquifer and the Percentage of the Palestinian and Israeli Shares of It According to the Second Oslo Accord**

Region	Quantity of water (MCM) <sup>25</sup>	Palestinians' share of water (%) <sup>26</sup>	Israelis' share of water (%) <sup>27</sup>
WB basins-the eastern basin	172	57.4	42.6
WB basins-the northeastern basin	145	29	71
WB basins-the western basin	362	6	94
<b>WB</b>	<b>679</b>		
<b>GS</b>	<b>55</b>		
<b>Total</b>	<b>734</b>		

According to statistics by the Palestinian Central Bureau of Statistics (PCBS), the Palestinian population at the end of 2012 was estimated at 4.4 million persons; 2.7 million of them in the WB and 1.7 million in GS.<sup>28</sup> There has been no amendment to the division of water approved in the Oslo Accords; as, in spite of the increase in the Palestinian population, the rates of granted water remained the same.

According to 2010 Palestinian Water Authority data, the WB and GS received 96 MCM of water. While starting in the year 2000, this amount should have been 200 MCM, due to population increase, climate change, and Israel's stealing the water by drilling deeper into the WB aquifers than the shallow wells drilled by Palestinians before Israel's occupation; this is according to statements made by Dr. Shaddad al-'Attili, head of the Palestinian Water Authority.<sup>29</sup>





Abu Fayeze, a resident of Shati' (Beach) Refugee Camp, located northwest of Gaza City, complains of the pollution of the water reaching his home and its high rate of salinity, stressing that it is not fit for human consumption. "The water is very salty, it is as if it has come from the sea next to us; this is in addition to being filthy." He adds, "We use the water only for washing and cleaning, and we buy fresh water to drink." He notes that his hair has become brittle and his eyes have developed allergies due to bathing with this salt water. "The water that reaches us is suitable for manufacturing pickles," he adds.

- Site of Popular Committee Against Siege (PCAS), 15/7/2010, <http://www.freegaza.ps/ar/more.php?view=79YOcy0nNs3Du69tjVnyyumIu1jfxPKNuunzXkRpKQNzJpp8TTG> (in Arabic)



One of the main reasons for the water crisis in GS is Israeli practices. It deliberately marginalized the crisis for many years, which led to its aggravation. Israel has set up dams in the northeastern regions to prevent the arrival of water from the WB to GS and to intercept the groundwater going there. This was in addition to draining the water by digging wells that have the ability to draw water and retain the waters of valleys inside the Green Line, especially Gaza Valley, which contributes to increasing groundwater reserves. Moreover, Israel has drilled more than 24 wells in the settlements that used to surround the GS to drain millions of meter squares of water.<sup>30</sup>

The Israeli authorities monitor and limit the amounts of water extracted from Palestinian wells and springs in WB without allowing the Palestinians to drill new wells or rehabilitate existing ones except with prior authorization. Knowing that such authorization is rarely granted; and when it is, it comes attached to complex and costly conditions.

Dr. Shaddad al-‘Attili pointed out that nine thousand settlers in the Dead Sea area use one-third of the water available for 2.5 million Palestinians in WB.<sup>31</sup>

Muhammad Shtayyeh, the then Minister of Public Works and Housing in Ramallah, confirmed in February 2011 that Israel steals about 600 MCM annually from the water balance of WB, estimated at 800 MCM.<sup>32</sup>

Moreover, according to a report issued by the World Bank on 18/4/2009, Israel controls the water resources of WB and GS, with fresh water per capita in Israel amounting to approximately four times the per capita consumption of the Palestinians in WB and GS. “Whereas Israel is known for efficient water infrastructure and management,





Palestinians are struggling to attain the most basic level of infrastructure and services of a low income country.”<sup>33</sup>

It is worth noting that Meir Ben Meir, the Israeli Water Commissioner and Co-Chairman of the Joint Israeli-Palestinian Water Committee, declared in 2008 that there is no possibility for Palestinians to obtain additional quantities of water as stipulated in the Oslo Accords. He asked the Palestinian side to give serious consideration to finding other sources of water, such as dependence on sea water desalination or importing water from Israel.<sup>34</sup>

In addition to the unfair distribution of water between Palestinians and Israelis, and the theft of Palestinian water by Israel, there is the problem of absence of water networks in a number of Palestinian communities. Due to the Israeli refusal to link up Palestinian communities in Area C (the 61% of WB which the Oslo Accords placed under full Israeli control), tens of thousands of people have to purchase water from tankers all year long. “In the summer hundreds of thousands whose faucets have dried up have to buy water from tankers. The transportation increases the price of water to an average of eight times and more what their ‘neighbors,’ the settlers, pay.”<sup>35</sup>

Water statistics by the PCBS for 2010 indicate that the number of Palestinian communities that lack water networks totals 109. So, for alternative sources of water, the inhabitants of these areas depend on buying water from water tankers at high prices, and on digging wells for collecting rain water, something that causes them much suffering. Perhaps one of the most bizarre measures taken by Israel is that, at the time it extracts water from Palestinian territories and drains their underground water to supply its cities, it goes back and sells the





surplus water to them. Thus annual quantity of water purchased by WB Palestinians from Israel National Water Company—Mekorot in 2011 was 57 MCM (except that part of the Jerusalem Governorate annexed by Israel following its occupation of the WB in 1967).<sup>36</sup>

This suffering endured by the Palestinian people is likely to increase with their increasing need for water in the future due to their population growth.

A report by the United Nations Office for the Coordination of Humanitarian Affairs-occupied Palestinian territory (OCHA-oPt) in 2012 indicated that Jewish settlers in occupied WB seized tens of natural springs to prevent or restrict Palestinian access to water sources.



The report added that the settlers turned dozens of springs into tourist sites and some were used as swimming pools.

One of OCHA's researchers reported that the settlers had developed 40 springs as tourist attractions. Work included the deployment of picnic tables and shading structures, and installation of signs announcing the Hebrew name of the spring. These projects add a source of employment and revenue for the settler population.

- United Nations Office for the Coordination of Humanitarian Affairs-occupied Palestinian territory (OCHA-oPt), Special Focus, "How Dispossession Happens, The Humanitarian Impact of The Takeover of Palestinian Water Springs by Israeli Settlers," March 2012, [http://www.ochaopt.org/documents/ocha\\_opt\\_springs\\_report\\_march\\_2012\\_english.pdf](http://www.ochaopt.org/documents/ocha_opt_springs_report_march_2012_english.pdf)





The following table shows the number of localities and population in the WB that were not connected to a water network in 2010:

**Table (4): Number of Localities and Population Who Don't Have Water Network in WB, 2010<sup>37</sup>**

Governorate	No. of localities	No. of population
Jenin	28	49,053
Tubas	11	13,367
Tulkarem	2	1,258
Nablus	19	38,897
Qalqilya	4	2,621
Salfit	1	12
Ramallah & al-Bireh	1	811
Jericho & al-Aghwar	2	12
Jerusalem	1	727
Bethlehem	0	0
Hebron	40	28,959
<b>WB</b>	<b>109</b>	<b>135,717</b>



The following table indicates the quantity of water bought from Mekorot in WB and GS, during the period 2006–2011, according to governorate and year:<sup>38</sup>

**Table (5): Quantity of Water Purchased from Mekorot in WB and GS, by Governorate and Year, 2006–2011 (MCM)**

<b>Year</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>WB</b>	39.9	45	47.9	52.7	55.4	52.7
<b>GS</b>	4	4.6	4.8	4.7	4.9	4.2
<b>Total</b>	<b>43.9</b>	<b>49.6</b>	<b>52.7</b>	<b>57.4</b>	<b>60.3</b>	<b>56.9*</b>

Note: Data does not include that part of the Jerusalem Governorate annexed by Israel following its occupation of the WB in 1967.

\* Including the quantities pumped from wells located within WB and GS and controlled by Mekorot.

The amount of ground and surface water from WB and GS consumed by Israel exceeds the amount of incoming water that replenishes the aquifer, making it deficient in water. This deficiency threatens animal and plant life and increases the soil's salinity; in addition to the suffering this causes to the Palestinian population in their daily life. This water deficit results in lowering the aquifer water level, making the extraction process difficult, and regularly causes the depletion of wells.





Lack of water reduces the area of farmland cultivated by Palestinian farmers, and thus lowers their capacity to compete. For example, the rate of exploited agricultural lands in the Jericho area is the lowest of the WB Palestinian governorates, 4.7% compared to their average rate of 25%. Furthermore, Israeli control of most areas in the region prevents the Palestinians from transferring water from the resource-rich areas to benefit remote Palestinian communities.<sup>39</sup>

Ongoing Israeli control of water resources constitutes one of the bases of the land expropriation process. A look at the settlement construction map, the Separation Wall and land confiscation in its various forms, reveals that they are compatible and consistent with the policy of controlling Palestinian waters, which means drying up the main source of Palestinians' livelihood and breaking the back of their economy.

Israel's significant depletion of Palestinian waters and its control of fresh water resources led to a great decline in the quality of water available to Palestinians' consumption. In GS, for example, the percentage of chloride in the water ranged from 250 mg/L to 2,000 mg/L in more than 90% of GS waters; noting that the percentage allowed internationally is 250 mg/L.<sup>40</sup> This water pollution exacerbates its negative impact on the Palestinians' general health and on the sustainability of their agriculture and natural resources.

Dr. Shaddad al-'Attili warned of a worsening thirst situation in the WB and of disastrous water conditions in GS where less than 10% of the water is potable. He accused Israel, which boasts of its efficient water management, of wasting a scarce resource.<sup>41</sup>



## **Violation of the Right to Water During *al-Aqsa Intifadah* and Operation Cast Lead (Battle of al-Furqan)**

During the first year of *al-Aqsa Intifadah*, Israel was able to destroy 133 water wells in WB and GS and damage water lines in many Palestinian governorates.<sup>42</sup> And since the beginning of the *Intifadah* and until 9/6/2011, it destroyed 2,358 water wells, totally or partially.<sup>43</sup>

Furthermore, during Operation Cast Lead (27/12/2008–18/1/2009) against GS, Israel destroyed a large part of the water sector infrastructure; including the water carrier line from the wells of al-Meghraqa to al-Nuseirat region, which led to denying 30 thousand Palestinians access to water. It also totally destroyed the Civil Administration well located east of Jabalia. This attack deprived the 25 thousand residents of that area of this important source of water.<sup>44</sup> In addition, Israel bombed the electric transformer of Sheikh 'Ijlin well (Preventive Security well), which led to depriving about 40 thousand residents of southwest Tel al-Hawa and the residential towers surrounding this well of their supplies of water. In addition, they destroyed a main water line that supplies Gaza City residents with water from several wells north of the city, and which constitutes 40% of its water production; thus denying 200 thousand residents access to drinking water.<sup>45</sup>

According to Coastal Municipalities Water Utility (CMWU) estimates, initial losses of the water and sanitation sector are estimated at \$6 million\*, including the cost of the destruction of its facilities and

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\* the symbol \$ used throughout this book is the US\$.





infrastructure; as 11 drinking water wells were destroyed, 7 totally and the rest partially.<sup>46</sup> There was an additional significant destruction of a number of administrative water facilities, water networks and tanks, as 10,128 donums of irrigation networks were bulldozed and 717 wells destroyed.<sup>47</sup> According to the Palestinian Ministry of Health, drinking water is unavailable to one fifth of GS residents; they can only obtain it by buying it.<sup>48</sup>

On the other hand, the sanitation sector did not escape destruction during the Israeli aggression, which meant more pollution to the aquifer, and consequently forced the GS population to use polluted water in their homes. In addition, the destruction of water and sewer networks resulted in their merger in a number of regions in the GS, which meant greater contamination of drinking water, seriously affecting seriously citizens' health.<sup>49</sup>

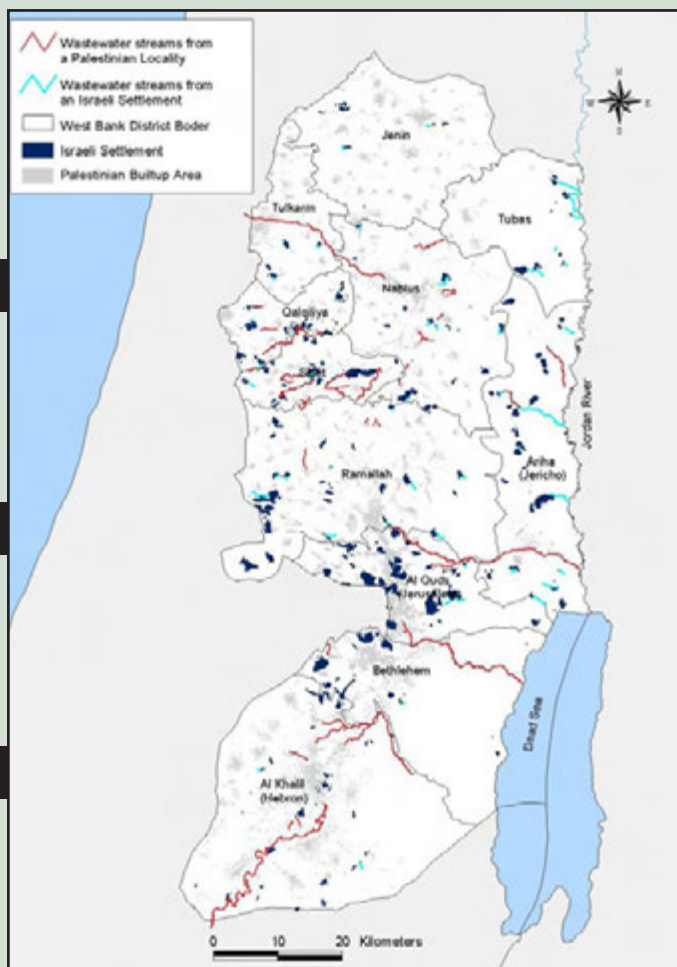
## **2. Wastewater**

In addition to Israel's huge drain and exploitation of Palestinian water, Israeli settlements continue to divert sewage to adjacent Palestinian farmlands and to Palestinian valleys that are considered a source of surface water that feeds the aquifer on which they depend for extracting potable water. Consequently, this water seeps through the soil to the aquifer and pollutes it, making it unfit for human use. Moreover, this leads to increased soil salinity that becomes unfit for agriculture production. It also reduces the vegetation cover, spreads desertification and leaves harmful environmental effects, such as epidemics, bad odors and insects.



The following map shows the streams of wastewater flowing from Israeli settlements in WB.<sup>50</sup>

### Wastewater Streams Flowing from Israeli Settlements



Source: ARIJ, (ARIJ) Refutes the Report of the Israeli Occupation Authorities, Which Accuses the Palestinians of Polluting the Environment and Water Sources, POICA, 5/10/2008, <http://www.poica.org/details.php?Article=1334>







The village of Bruqin, located southwest of Salfit Governorate, with a population of 3,800 residents, is considered a living example of the daily suffering caused by the pollutants resulting from the diversion of wastewater released from nearby settlements. Waste from the Ariel Settlement, one of the largest Israeli settlements in the WB and of the Barkan Settlement, home to several oil, plastic and lead factories (considered very harmful to the environment,) in addition to other industries, flow into the village farmlands from the east and the north.<sup>51</sup>



Bruqin's agricultural lands drowning in the stream of Israeli settlements sewage.

The Israeli settlement Barkan pumps its wastewater into the farmlands of the Palestinian village Bruqin.



- LRC, Ariel and Barqan Colonies... A Real Threat to Palestinian Environment, POICA, 1/12/2009, <http://www.poica.org/details.php?Article=1929>



Furthermore, most houses and structures in Ariel Settlement are connected to a sewage network. This sewage is collected from the settlement and dumped in an area known as Baten al Hamam and Wadi al-Beer, both located west of Salfit City. After this wastewater is gathered, it flows into valleys until it reaches Bruqin Valley, then the southern farmlands of Kafr al-Dik village, where all remaining sewage waters gather. It must be noted that the further the sewage travels, the more the soil absorbs from it; leading to the following:

- Pollution of groundwater due to the increase of its salt and nitrate contents, making it unfit for human consumption and agriculture, except after a costly treatment procedure.
- Ruining many agricultural lands through an increase of sodium-based salts in the soil subjected to wastewater. This causes clogging to its pores, so it becomes non-cultivable throughout the year.
- Plant poisoning due to an increase in the concentration of ammonia in their sap, consequently plants become unfit for human consumption.
- Spread of diseases.
- Decline in the proportion of farmers who can take advantage of the agricultural lands in that area.<sup>52</sup>

Lately, a marked increase in wild boars was noticed in the region; these animals have a significant negative impact on crop destruction. Thus, they inflict agricultural and economic losses on the area's farmers. These animals gather in the areas polluted by wastewater, also causing the spread of insects, rodents and diseases.





It is worth pointing out that the wastewater stream originating from the Ariel Settlement flows only about 4 meters away from the houses in the village of Bruqin. In addition, this stream of wastewater contributes to the infestation of the area with insects and rodents, especially the Leishmania mosquito, causing a rise in the number of skin diseases, intestinal diseases, kidney failure, as well as the spread of cancer cases. All of these are caused by the nature of the chemicals found in this wastewater; in addition to the bad odors emanating from it that help the spread of respiratory diseases in humans.<sup>53</sup>

There was a plan to establish a wastewater treatment unit in the area of al-Matwi Valley that covers 30% of the needs of Salfit City, Farkha village and Khirbat Qays, in which the sewage of Ariel Settlement and Salfit flows. This plan was to be financed by the Reconstruction Credit Institute (*Kreditanstalt für Wiederaufbau—KfW*). However, obstacles and conditions imposed by the Israeli side prevented the implementation of



The sewers of the Ariel Settlement flowing into the Palestinian valley of al-Matwi.

- LRC, Ariel and Barqan Colonies... A Real Threat to Palestinian Environment.



this project. Israel made its approval for granting the plant the necessary license conditional on it being a joint project that includes the settlements in its sewage treatment. However, the Palestinians rejected Israel's proposal, because it represented an attempt on its part to legitimize the existence of illegal settlements.<sup>54</sup>

Flow of Wastewater in  
al-Matwi Valley.



- ARIJ, Salfit City Profile (including Khirbet Qeis Locality), 2013, [http://vprofile.arij.org/salfit/pdfs/vprofile/Salfit\\_cp\\_en.pdf](http://vprofile.arij.org/salfit/pdfs/vprofile/Salfit_cp_en.pdf)





It is worth mentioning here that a large number of investors take advantage of the presence of Israeli factories in WB, where there is no control over the application of international standards in garbage and sewage disposal. This lack of control is reflected in the environment and biodiversity of the WB, making the environment there the foremost loser under Israeli occupation.<sup>55</sup>

#### Sewage flowing in Rafah.

- Photo by: The Emergency Water and Sanitation-Hygiene Group (EWASH), see 23 August 2010: Water supplied in Gaza Unfit for Drinking; Israel Prevents Entry of Materials Needed to Repair System, B'Tselem, 23/8/2010, [http://www.btselem.org/gaza\\_strip/20100823\\_gaza\\_water\\_crisis](http://www.btselem.org/gaza_strip/20100823_gaza_water_crisis)



According to statistics by the Palestinian Ministry of Environment, the amount of wastewater pumped annually by the WB settlements alone is about 40 MCM; while the wastewater produced by Palestinians in the WB is about 33.72 MCM. Thus the settlements have become a grave source of pollution in the WB and GS territories, due to the massive amounts of wastewater they release that are killing the environment and destroying life. The seriousness of this matter becomes clear when we observe that 90% of settlement houses are connected to sewage networks; but the sewage treated does not exceed 10% of the total produced.<sup>56</sup> The following table highlights the places where some Israeli settlements discharge their wastewater:





**Table (6): Some Israeli Settlements and the Places Where They Discharge Their Wastewater<sup>57</sup>**

Settlement	Places where the wastewater is discharged
<b>Sha'arei Tikva</b>	The stream of sewage flows from this settlement to the agricultural lands of Beit Amin in Qalqilya, causing severe damage. This is in addition to the leakage of wastewater through the pores into the aquifer.
<b>Alfei Menashe</b>	Wastewater flows from Alfei Menashe Settlement through a closed pipe to a wastewater pumping station in Kibbutz Apal within the 1948 borders, passing by the village of Hableh in Qalqilya. However, the inefficiency of the pump and other installations in the settlement causes leakage from the wastewater line, which flows to Hableh and Qalqilya creating a lake harmful to health and environment.
<b>Efrat</b>	Wastewater flows to the agricultural lands of Bethlehem, causing damage to about two hectares of the land. The settlers have dug a huge absorption hole, located high above Wadi al-Bayyar, which is one of the most fertile valleys in the area and close to a permanent water spring. Whenever the hole becomes full, they drain the wastewater from it and into the valley, thus polluting the most important water source in the area.
<b>Kiryat Arba</b>	Industrial wastewater flows from the "Beer" factory in the settlement to the farmlands on the road from Hebron to Bani Na'im. This problem has been long-standing for many years.
<b>Elon Moreh</b>	Wastewater trickles down from this settlement to the lands of Dayr Ballout village and pours into the farmlands of the village.
<b>Gilo &amp; Har Gilo</b>	Wastewater flows from these settlements into Wadi al-Sharrar where it causes much pollution to water sources as well as health hazards to villages benefiting from this valley, such as Beit Jala and Beit Safafa in the Bethlehem area.







In addition to Israeli aggression against their lands by letting wastewater flow into them, the Palestinians suffer from a lack of sufficient networks to dispose of wastewater. Thus, they resort to different methods, such as digging a soak pit (a common method). The capacity of the soak pit ranges between 5–50 cubic meters. Most soak pits are not lined with concrete (reinforced cement); this makes it easier for water to seep through ground layers, and thus increase the likelihood of contaminating the water sources nearby.<sup>58</sup> The following table shows the number of residential communities and their residents in the WB and GS who did not have a wastewater network during 2010:<sup>59</sup>

**Table (7): Number of Localities and Population Who Don't Have a Wastewater Network in WB and GS, 2010**

Governorate	No. of localities	No. of population
WB	453	1,453,519
GS	10	124,280
Total	463	1,577,799



The following table shows the ratio of methods used to get rid of household wastewater in WB and GS during 2011:<sup>60</sup>

**Table (8): Ratio of Methods Used to Get Rid of Household Wastewater in WB and GS, 2011**

Methods to get rid of household wastewater	Percentage (%)
Sewage network	55
Underground holding tank or a Soak pit	44.3
Other	0.7

During the first year of *al-Aqsa Intifadah*, Israel concentrated its bombardment on wastewater collection stations, causing grave material damage to them, alongside the health hazards and environmental harm resulting from their breaking down and shutting off.

On 26/3/2001, torrents of wastewater swept the eastern regions of Gaza and North Gaza Governorates in large quantities, estimated at 4 MCM, and flooded nearly 1,620 donums of agricultural lands.<sup>61</sup>

### 3. Solid Waste

Random dumpsites exist in abundance in WB, especially those used by Israeli settlements to dispose of their solid waste. These random dumpsites cause lots of environmental problems that can be summed up in the contamination of vast areas of agricultural lands. This contamination is due to their use as random dumpsites, and to groundwater contamination caused by the leachate seeping into the ground, in addition to the outbreak of epidemics, rodents and insects that pose health hazards to citizens.





Solid waste consists of:

- Household waste denoting waste of houses, restaurants and hotels.
- Waste resulting from agricultural and animal activities, whether plant waste or organic waste.
- Residues of mining and industrial operations.
- Residues resulting from various types of building and construction activities.

Israeli settlements smuggle solid and industrial waste, such as those of toxic chemicals including lead, zinc and nickel, medical waste and radioactive waste, and then they bury them in the WB and GS. This is made easy by the proximity of these settlements to their lands, and therefore the ease, speed and low cost of transporting their waste to them. This causes numerous environmental risks such as contaminating large tracts of agricultural lands, the soil and groundwater, as a result of the leachate seeping into the aquifer. To get rid of this waste by incineration causes air pollution, foul odors, insects and epidemics.

In the area of Abu Dis for example, there exists one of the largest garbage dumps, the area of which is estimated at three thousand donums. This dump serves the needs of Israeli settlements.<sup>62</sup> There is also a solid waste dump near Yafit Settlement in the Jordan Rift Valley, transferred from the area of 'Afula inside Israel.<sup>63</sup> The following table shows the locations of Israeli settlements solid waste disposal sites:



**Table (9): Some Israeli Settlements and the Locations of Their Solid Waste Disposal Sites<sup>64</sup>**

<b>Settlement</b>	<b>Locations of solid waste disposal sites</b>
<b>Yitzhar</b>	Al-Abdali area, Abu Dis, near al-Ayzariyah and al-Sawahira.
<b>Elon Moreh</b>	Lands of Beit Furik village in Nablus Governorate.
<b>Ariel</b>	The solid waste of this settlement is disposed in Salfit; where it is amassed and sometimes burned causing air pollution, in addition to the noise pollution of transport. Furthermore, the liquids found in the solid waste seep into the ground and pollute the underground water. There is no accurate information about the quality and quantity of waste that is disposed of at this site.
<b>Army camps and settlements around the 1948 borders</b>	The waste disposed of in 'Arabah (Jenin Governorate) is burned in a way that causes damage to plants and the agricultural lands surrounding the site as well as air pollution. This is in addition to the risk of leachate filtering into the aquifer.
<b>Israeli army camps</b>	Waste is disposed of at the site of its collection in the city of Tubas. It has been closed in view of the environmental damage it causes. However, the Israeli army camps continue to dump waste in the same site thus posing real danger to the environment, based on the kind of wastes to be disposed of.





A solid waste dump in Jerusalem.

➤ Site of Ma'an News Agency.

This is in addition to letting the region and lands of Tulkarem Governorate, north of WB, be a destination for smuggled Israeli waste, because of its proximity to the Green Line, and thus the ease, speed and low cost of transferring it.

The following are some cases of transporting, smuggling and burying Israeli waste in Palestinian areas:<sup>65</sup>

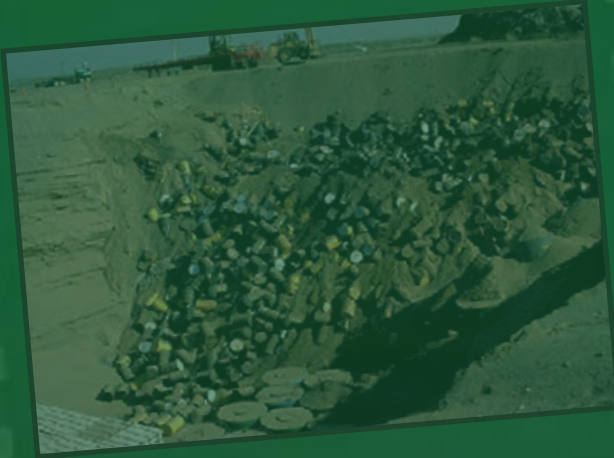
1. In 1987, Israel buried solid waste in the village of 'Azoun, near Qalqilya. This landfill site is a hazard to citizens with high incidence of cancer observed among the people of this region, compared to other regions.
2. Large quantities of toxic waste, remnants of chemicals, were discovered near the villages of 'Azoun (in an area where children often play), and in Jayyous and Mount Soufine near Qalqilya.



3. In March 1999, 250 barrels of unidentified toxic substances were discovered, smuggled from Israel to Um al-Tout village in Jenin Governorate.
4. A solid waste dump was set up near Yafit Settlement in the Jordan Valley, transferred from the 'Afula area inside Israel.
5. A shipment of mineral oils and paints waste was seized in al-'Ayzariyah area near Jerusalem in May 2001, consisting of 120 barrels of 200 liter capacity each.
6. On 8/1/2005, a number of Israelis from a settlement near the village of Beit Furik, guarded by the Israeli occupation forces and accompanied by bulldozers, buried approximately 85 thousand chickens, infected with a serious disease, in Tana area, in Beit Furik lands, and in al-Sawwana area.
7. There was burial of unidentified materials and waste in underground trenches within Area C, which is under full Israeli control. This took place in the Gush Katif region on the Palestinian cost. Their quantity is estimated at 50 thousand tons.
8. There was burial of hazardous waste in northern GS during the Israeli occupation. Where the Palestinian Environmental Quality Authority detected an area of three donums where the industrial zone once was, filled with ten meters deep waste.

Furthermore, the packaging of these smuggled materials carried warnings to the fact that they are combustible and toxic. Laboratory testing of samples of these materials proved the existence of a high ratio of heavy metal compounds and hazardous chemicals in their composition or that they were contaminated with them.<sup>66</sup>







## *chapter 3: Israeli Attacks on Agriculture*

Since ancient times, Palestine has been considered an agricultural country par excellence; where agriculture was the main source for jobs and manpower, in a predominantly rural society. During the 1950s, cultivated areas amounted to about 2,435 thousand donums, equivalent to 40% of the total WB area. While in 1960, cultivated areas in GS totaled 170 thousand donums. These cultivated areas began to shrink, especially following Israel's land confiscation operations and its control of water resources. This reduced the total cultivated areas in WB and GS during 1997/1998 to a total of 1,861 thousand donums.<sup>67</sup>

According to 2010/2011 estimates, the total area of land used for agriculture in WB and GS, which combined have an area of 6,020 km<sup>2</sup>, was about 1,035 thousand donums (1,035 km<sup>2</sup>).<sup>68</sup>





Agricultural activity in WB and GS is considered one of their most important productive activities, as it contributes significantly to their Gross Domestic Product (GDP). In addition, the agricultural sector provides lots of raw materials for other economic sectors, and can play an important role in the national economy, as its exports could contribute to foreign trade and bring in foreign currencies.

However, the Israeli blockade policy, enforced on GS since mid-2007, tightened Israel's grip on the economic sector and imposed severe restrictions on commercial traffic. This is in addition to its policy of dredging, destruction and water theft that makes the agricultural sector unable to grow and develop, and that subsequently impacts the quality of goods to be exported, if they ever get exported.

On 2/3/2011, Israeli authorities imposed total closure on the Mintar (*Karni*) Crossing, which is the main commercial crossing in GS, and the largest in its absorptive capacity of the incoming flow of goods and GS exported goods. During the last three years leading up to its closure, Israeli authorities worked on consecrating the Karm Abu Salem Crossing, which is unsuitable for commercial use, as the sole GS crossing. Moreover, at the beginning of 2010, they closed the Nahal Oz Crossing fully and definitively; this crossing was intended for supplying GS with fuel and cooking gas. Also early in 2009, it closed the Sufa Crossing, located southeast of GS, and turned all GS supplies to the Karm Abu Salem Crossing, in spite its unsuitability for commercial purposes because of its remoteness and weak operational capacity. The closure of these commercial crossings and the imposition of the blockade on GS caused a major decline in the rate of Gazan exports.<sup>69</sup> The following map shows the Israeli crossings closed by Israel in GS:



## Israeli Crossings in GS Closed by Israel



Source: [http://img.static.reliefweb.int/sites/reliefweb.int/files/resources/E0507969E24DD371C1256F2D004800D5-israelcheckpoint\\_gaza.jpg](http://img.static.reliefweb.int/sites/reliefweb.int/files/resources/E0507969E24DD371C1256F2D004800D5-israelcheckpoint_gaza.jpg)





Israeli authorities have imposed a total ban on all GS exports, especially during the growing season 2010/2011, and prevented them from exporting their goods even to WB, Israel and Jordan; with the exception of the export of limited quantities of flowers, strawberries, sweet pepper, and cherry tomatoes to European markets. And in spite of allowing only the export of those goods, Israeli measures were designed to hamper the farmers' ability to export by slowing down the issuance of permits approving the passage of agricultural exports through border crossings under their control. This led to a decline in the quality of exported goods.<sup>70</sup>



Since its occupation of WB and GS in 1967, Israel proceeded to undermine the Palestinian economy by tightening its grip on WB and GS, preventing them from communicating with the outside world except through Israel and linking the Palestinian market to the Israeli market. It flooded the Palestinian market with subsidized Israeli goods. On the other hand, it hindered Palestinian goods from reaching foreign markets.



The farmer, Suheil Shahdah Hijazi, 44 years, a resident of Rafah Governorate said:

Because I was prevented from exporting my crop of sweet peppers this season, I suffered heavy losses, estimated at 65% worth more than \$10 thousand. I managed to export 2 tons out of the 25 tons that I had planted in four donums. Afterwards, I did not get any permit to export to European markets. I started exporting on 20/1/2011, and the export process ended quickly at the beginning of February 2012. A large portion of the produce was damaged due to its being stored for long periods of time. The remaining part was sold in local markets, at prices lower than the export price. As for drugs used in agriculture, many of them are not available due to the blockade.

- Palestinian Centre for Human Rights (PCHR), Report: The Impact of Closure Policy on the Agricultural Exports in GS, 9/6/2011, <http://www.pchrgaza.org/files/2011/clouser9-6.pdf> (in Arabic)

Before arriving at the crossing, the produce passes through a long cycle that begins with picking the crops, then sorting and packing them in plants belonging to the farmers and located in their fields. Following the screening process, carried out by the engineers of the Ministry of Agriculture, the produce is transported in refrigerated vehicles to the Karm Abu Salem Crossing from where it will be exported, and where the cargo will be unloaded in an open unrefrigerated area. Then the produce is subjected to a screening process by the Israeli side, and then transferred to an unrefrigerated uncovered truck; only then, it gets transferred to a suitable truck. This long process affects the quality of the produce, which, if left unrefrigerated for a period of more than 20 minutes, begins to decline in quality; a fact well known to the officials at the crossing. But even if the farmers managed to pass a truck





of produce through the crossing, there is no guarantee that it will be exported, as out of every ten trucks, only five or six trucks loaded with good quality produce get exported.<sup>71</sup>

Israeli imported goods compete unfairly with local Palestinian ones. As, for example,

“Israel conducts unfair competition with Palestinian products: subsidized water for Israeli farmers, including those in the settlements, compared to a minimal allocation of drinking water to the Palestinians.”<sup>72</sup>

In addition to the decline in the quality of Gazan agricultural exports, their accumulation, and the fact that Israeli products compete with them, farmers suffer from settlers’ attacks. Settlers pursue Palestinian farmers in WB to terrorize and force them to abandon their crops. As an example of that, in a matter of a week from 4–10/10/2012, 250 olive trees were crushed and smashed, in addition to 20 vineyards. This took place in the governorates of Ramallah, Bethlehem and Nablus. With the start of the olive harvest, WB lands witnessed a significant escalation in attacks perpetrated by armed settlers against Palestinian farmers in various governorates. These attacks were directed at farmers living in the vicinity of settlements, with the aim to terrorize them and force them to abandon their crops and farmlands.

In many cases, the Israeli forces used to stand by the settlers, providing them protection in their attacks, and forcing Palestinian farmers to leave their lands. Thus on 5/10/2012, about 60 settlers from the Kedumim Settlement attacked Palestinian farmers from the Kafr Qaddoum village, northeast of Qalqilya, while harvesting their olive crop. On the same date, settlers destroyed dozens of olive trees and vineyards in al-Khader village, southwest of Bethlehem. Settlers’





attacks resulted in breaking and cutting down 100 olive trees and 20 vineyards in al-Mastati area, adjacent to bypass Route 60, connecting Gush Etzion Settlement and occupied Jerusalem.<sup>73</sup>

### **Some Israeli Attacks on Palestinian Farmers During Their Work on Their Land**

On Monday 10/1/2011, at 14:05, on the northern borders separating Israel from GS, Israeli forces stationed there suddenly opened fire on the farmer Sha'ban Muhammad Shakir Qarmout (64 years) and his son Khalid, who were working on their land north of Beit Hanoun. Sha'ban was killed by a bullet to the neck. It is worth mentioning that Qarmout owned a 7,000 m<sup>2</sup> farmland, lived in the same area, and was a prominent person in his community.

On Saturday 22/1/2011, at approximately 17:30, Faris Shahin Abu 'Ajwah (47 years), a resident of al-Shuja'iyya neighborhood east of Gaza City, was hit by a bullet to the chest that exited from his back. Israeli soldiers positioned along the border between GS and Israel fired at him while he was working in his cow farm east of al-Shuja'iyya and injured him.

On Monday morning 7/2/2011, at 7:50, Israeli forces stationed at the memorial site on the eastern separation borders opened fire in the direction of a number of Palestinian farmers, present in large numbers in their farmlands near the separation borders, in the area of al-Qatbaniyah, east of Beit Hanoun, prompting them to abandon their tasks and flee for their lives.

- Al Mezan Center for Human Rights, Field Research Unit, "Quarterly Field Report on Israeli Violations of Human Rights Covering the Period 1 January–31 March 2011, Report of the First Quarter of 2011," 14/4/2011, <http://www.Mezan.org/upload/12002.pdf> (in Arabic)







In addition to the above, the Palestinian agricultural sector suffers from many problems that hinder its growth; among them that of pesticides, which are controlled by Israel; most pesticides are bought and imported from Israel and western countries. The problem of these pesticides lies in the fact that their labels are written either in Hebrew or in another foreign language. A simple farmer cannot learn how to use them, and thus he uses them in large quantities or incorrectly, which has a negative impact on the environment and health. In June 2012, the Directorate of Agriculture in Jenin seized four tons of pesticides that were not up to specifications required by the Ministry of Agriculture.<sup>74</sup>

Furthermore, dangerous and harmful pesticides are smuggled from Israeli settlements to Palestinian farmers; and their overuse leads to the proliferation of many agricultural pests. Insects are quick to adapt to pesticides, having the ability to generate immunity against them; they also kill beneficial insects that help us do without their use. Pesticides also contaminate the soil and upset the natural balance of organisms found in the soil; thus the soil might become unsuitable for planting certain crops because of the decline in its fertility and the distortion in its structure, letting it be prone to erosion and therefore subject to desertification. Most dangerous of all is that the concentration of these pesticides in the soil leads to their transition to the crops themselves, and thus to the food chain, often causing poisoning. Chemical pesticides may cause serious diseases to man; among them, cancer, neurological, genetic, and reproductive diseases, as well as other incurable diseases.<sup>75</sup>



## Confiscation and Razing of Farmlands and the Uprooting of Trees

The policy of razing Palestinian agricultural lands is a new and old policy, because it is connected to the settlement policy. Since their occupation of WB and GS in 1967, Israeli forces have been committing extensive operations leveling farmlands, wooded areas and forests. In 1971, the wooded areas and forests had a total area of 300,736 donums, which decreased to about 231,586 donums in 1999.<sup>76</sup>

Israel uses various mechanisms, methods and procedures to confiscate and swallow up the largest possible areas of the occupied Palestinian territories; among them, the Absentee Property Law, passed by the Knesset in 1950. This Israeli law states that any Palestinian who owns land and lives outside the borders, his properties are vested in the Custodian who seizes and appropriates them. This is alongside the confiscations deemed to be in the public interest, such as setting up nature reserves, roads, breakers, etc.<sup>77</sup>

Israeli bulldozers razing a track of farmland and confiscating hundreds of trees in Beit Ula, northwest of Hebron.





She was like a wounded lioness... sparks shooting from her eyes in anger... her breathing accelerated and her lips trembling... her frenzy reached a point where she forgot that she was facing a whole army that had come to besiege her; and it would not be strange if it killed her. She carried the trunk of an olive tree; repeatedly hitting the heads of the soldiers with it, those accustomed to murder and who relish it... she wanted to retaliate against those who had cut her throat from vein to vein when they cut her olive trees.

Her voice was roaring like thunder... she screamed and the mountains around her echoed her scream "Woe unto you criminals... what crime did the trees commit in order for you to cut them?... what do you want from us...?? To leave...?!! To leave our land to you...?!! No by Allah, we will not leave... and by Allah we will stay here and be thorns in your throats... we will resist you till the last drop of blood in our veins... we will defend our land... our honor... our presence in the land of our fathers... we will win victory over you no matter how long it takes... and you shall depart to the dustbins of history and suffer utter defeat."

She was fighting fiercely... unrivaled... as if defending her young... screaming sometimes... swearing and cursing... crying and wailing other times... moving among the butchered trees, examining the traces of the crime...this only added to her anger and agitation... at times she gathers the cut branches and presses them to her bosom, as if she is a mother embracing her baby and smelling his scent... and at times she runs her hand over the wounds of the trees as if wiping the tears of her children... her voice rising, mingled with her crying "you accursed! By Allah you will not escape what you have done..." All of this was happening while a heavily armed battalion was watching the scene. Soon its commander ordered his soldiers to move and surround the lady, in order to arrest her and remove her from her land... then this full-blooded peasant drew her weapon, which was nothing other than a tree branch cut by barbaric hands... Mahfutha Shtayyah (Um Ghanem) defended herself... they retreated for a moment, then continued advancing toward her, aiming their firearms at her head and chest, threatening and menacing... when our lady realized that they were going to arrest her and throw her off her land... she quickly embraced the trunk of a large olive tree and surrounded it





with her arms... she wanted to be one with it, she preferred to die rather than leave it to the enemies of life... she swore that she would decidedly return to plant a tree in place of every tree they cut, and that she would turn the whole mountain into a green olive grove. She went on to say, "The Jews want us to hate the land, to give up and leave it, but they will not be able to do so. We are staying here; we will not leave our land. I will plant and till the land with my hands, and with me my children and the children of my children, until the last day of our lives... I dream to live in peace in Palestine; Palestine is my life, my soul and my hope..."

- Khalid Mansur, site of al-Hiwar al-Mutamaddin, 5/12/2005; and site of Shabakat Filastin li al-Hiwar, 1/12/2007, <http://www.paldf.net/forum/showthread.php?t=194732>





The overall leveling and destruction operations of agricultural lands by Israel are concentrated in the vicinity of settlements, on the roads leading to them, in the vicinity of the side roads used by settlers and the Israeli forces, and in border areas. Their aim is to expand the settlements, build their roads, and create buffer areas.

Due to the leveling operations, agricultural lands shrunk to about 7.5% of the total area of cultivated lands in GS. And since the start of the second *Intifadah* and until June 2011, the area of farmlands subjected to leveling operations rose to 48,051 donums.<sup>78</sup>

The direct results of Israeli policies and arbitrary measures were damaging to the Palestinian agricultural sector and farmers. In the WB, for example, there were land confiscation operations, settlement building, paving roads, closing agricultural areas for security and military reasons, and the conversion of large areas to nature reserves, to give Israel the opportunity to confiscate them later, as well as stealing groundwater and determining the quantities allowed to be pumped for irrigation, and control of marketing produce. After all of the above, the agricultural sector lost its leading position among the economic sectors that contribute to the Palestinian GDP; as it used to contribute 34% of it in 1968. This ratio dropped to 26% in the period 1980–1986, and dropped again in the period 1986–1994 to about 7%.<sup>79</sup>

The policy of confiscating and leveling farmlands imposed on the civilian population, who are protected under the Fourth Geneva Convention of 1949, is a policy that undermines economic and social development opportunities. It is a policy that contributes to raising the unemployment and poverty rates and to displacing thousands of



civilians; and thus it thwarts development plans and deepens dependence on the Israeli economy.

As an example of Palestinians' suffering, we find that the Israeli army applies unspecified standards to the system of accessing the lands located next to the fence, along the Green Line with GS. Until November 2008, the restrictions imposed on this access were applied in most areas up to a distance of 300 meters from the fence. During that month, after the collapse of the truce between Israel and Hamas, Israeli authorities began expanding the restricted area to reach 1,000–1,500 meters. However, the bulldozing of lands started taking place in areas 1,000 meters from the fence, and even beyond 1,500 meters, reaching in some areas 3,000 meters.<sup>80</sup>

Israeli forces razed the lands of the buffer zone and prohibited Palestinians from approaching them.



The area of lands classified as “restricted areas,” combining the “no-go” and the “high-risk” zones, is estimated to cover approximately 62,600 donums (62.6 km<sup>2</sup>), representing 17% of GS total area of 365 km<sup>2</sup>.<sup>81</sup>





Fayyad Al-Sumeiri, 47 years, heads a farming household of 10 people in the al-Qarara area of Khan Yunis. He owns a plot of land of 12 donums located 150 meters from the fence, which in the past was planted with almonds, olives

and cactus. In 2003 the area was leveled by the Israeli military and has since remained inaccessible due to warning fire opened from a near-by watch tower at any person attempting to reach the area. A second plot of six donums, located 1.5 km west of the fence, was cultivated with olive trees and leveled in late 2008. This plot has subsequently been replanted with wheat, which was consumed by the family, or bartered with two day laborers. To help offset financial losses, the family rented a three-donum plot of land in the area of Suq Mazen, which it planted with zucchini. Both areas were bulldozed during the Israeli Cast Lead offensive. An irrigation network he installed in the rented plot with the assistance of the European Union was also totally destroyed. The loss of income pushed the family into a state of dire poverty and 14 thousand Shekels in debt (around \$3,750\*).

“Everyday I pass by shops and see people that I owe money to, and I lower my head. I don’t know what to do because I have no income. Everything we earned was from the land, and every meter we planted was destroyed... .”

- OCHA-oPt and World Food Programme (WFP), “Between the Fence and a Hard Place: The Humanitarian Impact of Israeli-Imposed Restrictions on Access to the Land and Sea in the Gaza Strip,” August 2010, [https://www.ochaopt.org/documents/ocha\\_opt\\_special\\_focus\\_2010\\_08\\_19\\_english.pdf](https://www.ochaopt.org/documents/ocha_opt_special_focus_2010_08_19_english.pdf)

\*The exchange rate of the dollar against the Israeli shekel in 2010 was based on the Bank of Israel data, which was 3.733.





After measuring the area of the lands used for non-agricultural purposes, it was estimated that nearly 95% (59,500 donums or 59.5 km<sup>2</sup>) of the restricted area is arable land. Based on the data issued by the PCBS for the years 2004 and 2005 regarding the area of cultivated lands in GS (168,506 donums), it is estimated that nearly 35% of GS “cultivable land is located within the restricted area.”<sup>82</sup>

The systematic leveling operations of farmlands usually target fruit trees and greenhouses. That is why some farmers resort to replanting leveled lands with crops irrigated with rain; because they require less care and have a better chance of survival. This is in addition to the fact that crops that grow higher than 80 cm are systematically levelled. Thus, many farmers plant wheat and in areas previously levelled, as these crops generally do not reach that height and therefore have better chances of evading destruction; however, it should be noted that they cause greater harm to the environment than other crops, because an excess of chemical fertilizers are used on them. However, the ability of farmers to harvest these crops is limited and the income is only a fraction of the income of the original crops.<sup>83</sup>

### **Agricultural Destruction During *al-Aqsa Intifadah***

Following the outbreak of *al-Aqsa Intifadah* after Sharon stormed *al-Aqsa* Mosque on 28/9/2000, Israel launched an all-out war on the Palestinian people, directly targeting Palestinian lands. It unleashed its





bulldozers and military vehicles on a mission to destroy the farmlands and uproot fruit and forest trees. It let loose its settlers to destroy crops and burn vast areas of farmlands and forests.

According to statistics by the Palestinian Ministry of Agriculture, within one year of the *Intifadah*, the total of leveled agricultural lands came to 17,456 donums. This is in addition to about 30 thousand donums of farmlands that were readied for planting (wheat, barley, etc.), noting that the leveled area includes about 10 thousand donums of GS farmlands.<sup>84</sup> The following table shows the total area of farmlands razed by Israel since the outbreak of *al-Aqsa Intifadah* and until 9/6/2011:

**Table (10): Total Area of Farmlands Razed by Israel Since the Outbreak of *al-Aqsa Intifadah* and Until 9/6/2011 (donums)<sup>85</sup>**

Period	Total area razed
28/9/2000–27/9/2001	17,456.5
28/9/2000–9/6/2011	48,051

The number of uprooted trees during the first year of *al-Aqsa Intifadah* is estimated at 394,642 including olive, almond, forest and palm trees. While their number since the outbreak of *al-Aqsa Intifadah* and until 26/12/2008 amounted to about 1,591,104 trees.<sup>86</sup>



Not only did Israel bulldoze lands and uproot crops, it continued to prevent landowners from having access to their land. This has put a stop to any attempt to rehabilitate and replant those lands, causing large tracts of farmlands to become arid.<sup>87</sup>

During the first year of the *Intifadah*, 448 greenhouses (372 in GS and 76 in WB) were destroyed.<sup>88</sup> And since the beginning of *al-Aqsa Intifadah* and until 9/6/2011, 1,262 greenhouses and 76,585 square meters on which agricultural rooms and buildings that house water wells were leveled and destroyed.<sup>89</sup>

The value of direct and indirect losses and damage caused by leveling, since the outbreak of *al-Aqsa Intifadah* and until 26/12/2008, was estimated at \$1,535 million.<sup>90</sup>

The following table shows Israeli demolitions of wells and agricultural facilities in WB and GS since the outbreak of *al-Aqsa Intifadah* and until 26/12/2008:<sup>91</sup>

**Table (11): Demolition of Wells and Agricultural Facilities in WB and GS Since the Outbreak of *al-Aqsa Intifadah* and Until 26/12/2008**

Type of loss	Total of losses in all governorates
Demolition of agricultural stores	1,429 stores
Complete demolition of wells and their accessories	782 wells
Razing irrigation networks	113,680 donums
Demolition of pools and water tanks	9,405 pools
Destruction of main water lines	2,264,717 meters





Just as the following table shows the area of damaged farmlands in GS, according to governorates and years, since 27/9/2000 and until 2011:<sup>92</sup>

**Table (12): The Area of Damaged Farmlands in GS, According to Governorates and Years, Since 27/9/2000 and Until 2011**

Year	Northern Gaza	Gaza	Deir al-Balah	Khan Yunis	Rafah
2000	378,346	1,214,104	1,330,357	429,896	234,500
2001	4,433,365	1,250,953	1,121,570	1,334,010	1,606,627
2002	1,385,154	945,660	1,147,191	255,508	87,800
2003	3,186,071	43,400	422,266	963,300	371,913
2004	4,182,722	450,989	626,250	158,250	801,950
2005	1,500	10,700	10,000	0	0
2006	784,012	116,703	233,021	254,330	796,813
2007	298,541	57,000	176,500	195,600	17,000
2008	325,060	416,826	61,000	989,650	55,000
2009	1,694,600	4,032,295	557,787	311,995	476,450
2010	850	0	32,000	53,700	0
2011	5,410	0	0	3,000	0
<b>Total</b>	<b>16,675,631</b>	<b>8,538,630</b>	<b>5,717,942</b>	<b>4,949,239</b>	<b>4,448,053</b>



## Agricultural Destruction During Operation Cast Lead (Battle of al-Furqan)

The razing operations of farmlands during the Israeli attack on GS in the period 27/12/2008–18/1/2009, which lasted 22 days, was the widest attack of its kind, as it involved 6,855 donums. It also destroyed 875 water networks used to irrigate agricultural lands, 206 greenhouses, 151 water wells and 40 ponds used to feed the farmlands' irrigation networks.<sup>93</sup> The following table shows the number of donums and irrigation systems that were bulldozed during Operation Cast Lead (Battle of al-Furqan) against GS:<sup>94</sup>

**Table (13): Number of Donums and Irrigation Systems That Were Bulldozed During Operation Cast Lead (Battle of al-Furqan)**

Governorate	Donums	Irrigation systems	Miscellaneous
North	2,155	495	206 greenhouses 151 water wells 40 ponds
Gaza	2,930	332	
Middle	975	13	
Khan Yunis	484	27	
Rafah	311	8	
<b>Total</b>	<b>6,855</b>	<b>875</b>	

Also during Operation Cast Lead, 155,036 olive trees were damaged;<sup>95</sup> and the losses of the olive sector during this period were estimated at \$2,265,600.<sup>96</sup> The following table shows the extent of damage to olive trees since the beginning of *al-Aqsa Intifadah* on 28/9/2000 and until 18/1/2009:<sup>97</sup>





**Table (14): Extent of Damage to Olive Trees Since the Beginning of *al-Aqsa Intifadah* on 28/9/2000 and Until 18/1/2009**

Period	No. of bulldozed olive trees
28/9/2000–26/12/2008	273,011
27/12/2008–18/1/2009	155,036

In addition, direct losses to GS infrastructure during Operation Cast Lead amounted to \$1.2 billion.<sup>98</sup>

### **Agricultural Destruction During Operation Pillar of Defense (Operation Stones of Baked Clay)**

During the Israeli Operation Pillar of Defense (Operation Stones of Baked Clay) (14–21/11/2012) against GS, the destruction of the agricultural sector was systematic and calculated, being a pillar of Palestinian national economy, and an element of its steadfastness; and because it is an embodiment of the human being's attachment to his land.

According to estimates by the Palestinian Ministry of Agriculture, the value of the plant production sector losses amounted to more than \$110 million; this total included vegetables, various fruits and field crops and others. This was in addition to the destruction of more than a thousand agricultural wells. According to estimates by the ministry's technical crews, damages and losses of the agricultural sector amounted to more than \$174 million in direct damages, and \$413 million in indirect damages.<sup>99</sup>





During Operation Pillar of Defense, Israeli forces razed 10,062 fruit trees (olives, citrus trees and fruits). They destroyed the equivalent of 1,016 donums of greenhouses, 2,704 of field vegetables, 467 of strawberries and 4,271 of field crops. They also destroyed 22 agricultural nurseries, 2 agricultural experiment stations and 2 Ministry of Agriculture nurseries.<sup>100</sup>

The targeting of Palestinian farmlands by Israeli forces turned them into lands plagued by phosphorus bombs, depleted uranium, and various internationally banned weapons; it is not possible to get rid of their environmental impact and damages in the short term. There is a possibility that the effects of radioactive and chemical materials used by Israeli forces have reached the aquifer and contaminated it.<sup>101</sup>

There was an evident environmental impact of forbidden weapons used by Israel in this war, foremost among them white phosphorus and DIME shells, not to mention depleted uranium; as they threaten the environment and public health, directly by igniting and indirectly through their entry into the food chain and their settling in the tissues of animals, in the sap of crops, and in the soil; they also seep into the aquifer (the sole source of drinking water in GS).<sup>102</sup>





## *Chapter 4: The Impact of the Separation Wall on the Palestinian Environment*

Israel's construction of the Separation Wall has clearly impacted the Palestinian environment, as it has carved out vast areas of the Palestinian territories, especially agricultural lands that were considered among the most fertile. It has changed their natural features by leveling the land and cutting, uprooting and burning the trees. This has resulted in soil erosion; while the waste and dust caused by the Wall's construction has settled on farmlands and trees; and that reflected negatively on their productivity and on Palestinian farmers' revenues. These Israeli practices violate international conventions, in particular Article 55 of the Fourth Geneva Convention.





A picture of the Separation Wall near Baqa al-Gharbiyye City.

The Wall's gates and permit systems restrict the Palestinians' chances to reach their farmlands. As two thirds of the 86 gates, which regulate the way Palestinian farmers reach their farmlands behind the wall, open one or two months a year, and that during the olive harvest. The affected farmers complain of a decline of 50–60% in their annual produce, as they are unable to maintain regular care and access to their trees. Consequently, many farmers have resorted to replacing citrus



trees and other fruit trees with olive trees that require less maintenance but have low financial revenue.<sup>103</sup>

The Separation Wall route has consumed a large portion of Palestinians' natural resources, as it has laid waste to vital water resources that cannot be repaired or changed because of Israeli restrictions.<sup>104</sup> The Wall has isolated the greatest part of them in order to place them under Israeli control.

In Qalqilya for example, the building of the Separation Wall has directly affected biodiversity around the Wall through the destruction of large tracts of farmlands. The area of the lands that were razed for the sake of building the Wall totaled about 4,074 donums; while the total area of lands isolated behind the Wall is 32 thousand donums. Furthermore, the Wall has destroyed 41 donums of plastic greenhouses and isolated another 700 donums of greenhouses behind the Wall. The number of trees that were bulldozed for the sake of building the Wall was 40,880 trees, while 179,481 trees were isolated behind the Wall. The number of nurseries damaged by raising the Wall was 37 and another 5 were isolated behind the Wall.<sup>105</sup> In addition, the Wall prevented land owners from reaching their lands, which led to the demise of numerous farms. The number of farmers hurt by the Wall reached 2,500 farmers. The number of artesian wells isolated behind the Wall totaled 19 wells, of which one well was totally destroyed; while 42 other wells were damaged.<sup>106</sup>









The Separation Wall is responsible for the confiscation and isolation of many agricultural lands and destroying the agricultural life in them. Most confiscated lands are planted with olive trees and have an area of 62,623 donums. In addition, there are 18,522 donums of fields, 9,800 donums of pastures and 8,008 donums of citrus trees.

- Samer 'Abdo 'Aqrouq, Legislation and Laws on the Protection of the Environment in Palestine, see site WAFA Info, <http://www.wafainfo.ps/pdf/B6.pdf> (in Arabic)



Because of the Wall, confiscation and bulldozing of agricultural lands was enabled, including the uprooting of thousands of their trees, and the destruction of agricultural infrastructure, which has affected the natural water cycle due to the increase in the ratio of fallow uncultivated lands and low vegetation. In addition to all of the above, the wall caused a hindrance to the flow of water on the ground and led to its collection, causing flooding and a rapid flow of large amounts of rain water, adding to soil erosion. Thus, in Beit Hanina during 2012, floodwater reached a height of several meters.<sup>108</sup>





When Israel was in the process of building its Separation Wall, it did not take into account the nature of the terrain, failing to open drainage holes for water and torrents. Thus heavy rains and flooding resulted in clogging many rainwater outlets built within the structure of the Wall and fitted with hooking iron, which impede drainage as they become easily clogged with the refuse that floods carry with them. This matter has caused the entrapment of large amounts of water between the Wall and Palestinian lands and residential areas, which became submerged with water, as happened in the city of Qalqilya on 9/1/2013. At the time, the farmlands, homes and properties located along the Separation Wall, built west of the city, suffered heavy losses, due to the congestion of the flowing rainwater, and because the Israeli forces refused to open the rainwater openings at the bottom of the Wall. They did not even allow the Palestinians to approach the Wall in order to clean and open them. The rainwater, which was contaminated with sewage, flooded more than 300 agricultural donums.<sup>109</sup>

The Wall also has its impact on the issue of sanitation and waste disposal, due to the fact that the place for disposing of them is close to the Wall; but the Palestinians are not allowed to approach it. This has forced the Palestinians to carry their waste to distant places to get rid of it or to burn it within the residential areas, causing toxic emissions. Furthermore, the leachate from the waste seeps into the soil; while the sewage gets directed to agricultural lands, causing their contamination and consequently the contamination of groundwater.<sup>110</sup>



The fact that Israel continues to build this Wall on Palestinian farmlands and over their water wells puts a drain on the Palestinian economy and destroys its bases and components. Further, the natural flow of goods and products, as well as the movement of laborers and individuals are prevented. The Wall had devastating effects on the economic conditions in the regions on its path. The process of stripping peasants of their lands and uprooting them has widened; as Israel sought to turn them into ragged reserve in the Israeli black market for labor, confined to border areas and settlements.





## *Chapter 5: The Impact of Israeli Factories on the Palestinian Environment*

Israeli settler attacks were not confined to establishing factories on WB and GS (until 2005) close to Palestinian populated areas, their excesses and violations of international law and human rights went as far as to bury the waste of these factories that produce various chemicals in WB and GS. This applies to the industries of aluminum, leather, batteries, plastics, cement, tin cans for canning food, fiberglass, rubber, alcohol, porcelain, marble, chemical detergents, gas, insecticides, in addition to secret military industries, etc. These industries produce toxic materials such as aluminum, chromium, lead, zinc, and nickel; whereupon, they get dumped in the settlements' wastewater; then this contaminated water gets diverted toward nearby Palestinian farmlands and residential areas.<sup>111</sup>



Toxic gas emissions from the Israeli Geshuri factory in Tulkarem caused the destruction of Palestinian fertile farmlands and fruit trees.

➤ Afaq al-Bi'ah wa al-Tanmiyah Online Magazine, Jerusalem, MA'AN Development Center, Issue 6, September 2008, [http://www.maan-ctr.org/magazine/Archive/Issue6/main\\_topic2/topic2.htm](http://www.maan-ctr.org/magazine/Archive/Issue6/main_topic2/topic2.htm) (in Arabic)

“Our life is unbearable... all year round dust rushes out of these Israeli dirty and toxic factories. We constantly see and smell the odor of chemical residues and sewage which kill plants and the prospect of a sound healthy life.”

With these words farmer Fayez al-Taneeb began speaking about the suffering of the thousands of the inhabitants of the west of Tulkarem, a city located north of WB, as a result of the great environmental pollution caused by Israeli chemical plants to this whole region for more than 24 years, most notably Geshuri fertilizers factory.

Al-Taneeb recalled the beginning of his bitter story with these factories that export toxic materials and residues that are internationally banned. He indicates that Israel had decided in 1983 to move the Geshuri factory and the other toxic chemical factories from inside the territories occupied in 1948, after the Israelis there objected to their presence because of the devastating effects they have on the environment and health. He said, “The children under six years of age began to be infected with asthma and shortness of breath due to the harmful emissions of toxic waste.” He added that, with the help of human rights organizations within the Green Line, they filed claims asking for the removal of this factory, but Israeli courts refused to force the owner of the Geshuri factory to move it somewhere else, under the pretext that it is not an area within Israel.





Israeli factories cause air pollution by burning their waste and by emitting toxic gases from those factories close to the borders that get transported by the wind. It is noteworthy that in 1989, large quantities of organophosphorus compounds, used in the manufacture of agricultural pesticides, leaked north of Gazan governorates;<sup>112</sup> an indicator of the increase in incidents of some mysterious diseases and cancers.

About one third of Israeli factories are located in the WB, in the vicinity of Palestinian villages in the Salfit region (south of Nablus); thus the Barkan Settlement is considered a large industrial complex, in addition to the Ariel Settlement. Their industrial products (machinery oils and others) cause the contamination of the lands of the following villages: Kafr al-Dik, Bruqin, Hares, Sarat, and Marada; as well as the contamination of water springs in the area.<sup>113</sup>



Settlement expansion in the Barkan Industrial Park with the aim to add new factories.

➤ Land Research Center (LRC).





The following table shows some of the factories that leak hazardous waste into some WB areas:

**Table (15): Some of the Factories That Leak Hazardous Waste into Some WB Areas<sup>114</sup>**

Governorate	Settlement	Factories	Environmental damage to the Palestinian population
<b>Ramallah</b>	Atarot	Aluminum; food preservation containers; plastic	Emptying of alkaline substances that lead to desertification.
	Kfar Rut	Avocado	Release of unpleasant odors and harmful residues.
	Nili	Aluminum	Emptying of alkaline substances that lead to desertification.
	Halamish	Leather	The use of chromium and arsenic which is harmful to the soil at the nearby waste disposal site, causing serious damage to health.
<b>Nablus</b>	Homesh	Aluminum	The settlement gets rid of its industrial waste near 'Araba, Qalqilya, Barqa and Wadi Sebastia.
	Elon Moreh	Aluminum	Sewage pours in olive groves.



Governorate	Settlement	Factories	Environmental damage to the Palestinian population
Tulkarem	Non-governmental settlement factories	Pesticides	Gaseous and liquid wastes harm residents and agriculture. The factory was situated in the village of Irtah in Tulkarem until 1982. It used to be situated in Kfar Saba but was closed by military order. Demonstrators forced its relocation to Tulkarem in 1987.
		Glass wool and asbestos	After manufacturing, when wastes are burned, toxic substances are emitted
		Dioxin for gas manufacture	Emits bad odors, and stores in addition large amounts of gas that could lead to environmental disaster. It used to be situated near Netanya (in the Palestinian territories occupied in 1948), but has now been relocated to Tulkarem in the WB.
		Chemical fertilizers, tubes and water filters	Restores old tubes and water filters using high soil pressure, which emits large amounts of dust.
Salfit	Barkan	This settlement has more than 80 factories, 3 of them are Aluminum factories	The largest Israeli industrial park in the WB, which buries its waste in agricultural lands.
Jericho	Khan al-Ahmar, the second largest Israeli industrial park in the WB	Plastic equipments	Air pollution and noise.
		The Dotara Factory	The products are unknown, as quantities of tinned containers enter and exit the factory in absolute secrecy. Waste is buried near the region of al-‘Ayzariyah, where there are many factories.





## *Chapter 6: Nuclear Pollution and Its Impact on the Palestinian Environment*

### **(Dimona Reactor as a Model)**

The Dimona reactor, Negev Nuclear Research Center (NNRC), is an Israeli nuclear reactor that came into existence in 1957 with French expertise and American financial support to the tune of \$300 million.<sup>115</sup> This is a heavy-water reactor. Some reports state that, during the last 30 years, Israel has consumed more than 1,400 tons of raw uranium. The reactor has produced 200 nuclear bombs capable of destroying most Middle Eastern capitals.<sup>116</sup>

The stated goal of the establishment of this reactor is to provide power to facilities working to reclaim the Negev region, the desert part of historic Palestine. The reactor was designed for scientific research and not for the production of very hazardous materials such as plutonium.





This is in addition to the claim that it is not equipped to withstand the heavy pressure of energy, resulting from the fusion process.<sup>117</sup>

In 1986, Mordechai Vanunu, a former Israeli nuclear plant technician in Dimona, revealed details of Israel's nuclear weapons program to the British press. He sent pictures taken inside the plant and revealed information on Israeli nuclear capabilities, which allowed nuclear specialists to acknowledge that Israel has an immense arsenal of nuclear weapons.<sup>118</sup> As a result of this revelation, Vanunu was kidnapped by Israeli Mossad agents in Italy, tried in Israel, and sentenced for crimes related to treason.



Dimona nuclear reactor...  
the coming death.

The environmental and biological danger of the Dimona reactor lies in the nuclear fallout emitting from it; in addition to the fact that it has remained for over 50 years, while reactors have an average working age of 30 years.<sup>119</sup> Its insulating walls have eroded, and that could lead to leakage of some radiation from the reactor, which in general may cause environmental and health damage to the residents of the area.<sup>120</sup> However, this matter did not concern successive Israeli governments,





especially since most of the surrounding areas are inhabited by Arabs. According to some Jordanian and Palestinian experts “tremendous cracks have begun appearing on the plant’s outer structure.”<sup>121</sup> The effects of the reactor find their way to 60 Palestinian villages, with a population of 180 thousand people. The farthest among them is located at a distance of only 60 km; this has led and will continue to lead to a rise in the rates of cancer incidents and abortion, as well as malformations among the residents.<sup>122</sup>

Damage from nuclear contamination is not confined to its direct impact on human life and health; they rather extend to the pollution or poisoning of all aspects of the human environment, water, food, soil, rocks and others. This is especially so because there is no reliable information about the burial locations of nuclear waste produced by this reactor, with the exception of some reports that have revealed Israel’s attempts to get rid of this waste by burying it in WB, in GS or in the sea.<sup>123</sup> Ken‘an ‘Obaid, chairman of the Palestinian Energy Authority in GS, says that Israel bury nuclear waste in the depths of the sea and not close to the surface where it can be detected. The waste is placed in tanks, the assumed lifespan of which has expired, making leakage to the soil easier, thus inflicting enormous damage on the GS population.<sup>124</sup> A report issued by the International Atomic Energy Agency (IAEA) in 2007 states that this deep sea burial does not prevent radioactive waste from reaching the soil and water sources and threatening the presence of organisms on the earth’s surface.<sup>125</sup>

In a report published by the Israeli Ministry of Environmental Protection, Israel has been burying the nuclear waste of the Dimona reactor and asbestos, which is a carcinogen, in the Negev area; and this is what is causing the rise in the rate of cancer patients in this region.<sup>126</sup>





According to Dr. ‘Anan al-Jayyousi, an expert in water and environmental studies, the groundwater wells in the region have received their share of damage. He adds that Israel takes the largest share of the Jordan River waters, pumped by the National Water Carrier of Israel and estimated at 440 MCM, from Lake Tiberias to the Negev desert, to cool its nuclear reactors, especially Dimona.<sup>127</sup>

Masdouq al-Taj, Head of the scientific committee in the Jordanian Geologists Association, mentioned the possibility of killing tens of thousands of people, as a result of dangerous radiation leakage from the Dimona reactor, in case the area was subjected to natural disasters, in addition to the spread of many deadly diseases. Al-Taj added that winds at that time will better determine the direction that the spread of radiation would take.<sup>128</sup>

On the other hand, Secretary General of the Arab Medical Association Against Cancer (AMAAC) and the Head of Jordan Anti-Cancer Association, Dr. Sami al-Khatib, said that death may occur directly and rapidly as a result of exposure to the Dimona reactor radiation. He explained that the radiation emitted from nuclear reactors’ leaks can be transmitted thousands of kilometers away. This is what happened in 2011, when large quantities of radiation leaked from the Japanese Fukushima Daiichi Nuclear Power Plant and reached the shores of western Canada. Al-Khatib pointed out that, initially, the radiation affects the soil, then plants, then animals all the way to man, where the first thing to be affected in his body is the blood. He stressed that a real leak of radiation from the Dimona reactor could kill three-quarters of the region’s residents.<sup>129</sup> It is worth noting that Israel has not yet signed The Treaty on the Non-Proliferation of Nuclear Weapons, or any similar treaty.<sup>130</sup>



Proof that Israel is aware of the hazards of the Dimona reactor is its distribution of pills to Israelis living nearby, according to statements by Mordechai Vanunu.<sup>131</sup> This indicates that Israel is preparing its citizens to face these dangers or a disaster that might occur if it continues to operate the reactor.

A picture of the Dimona nuclear plant taken by a US spy satellite in 1968.



The following are some of the most effective radioactive materials produced by nuclear reactors:<sup>132</sup>

1. **Krypton Gas:** affects the human body and can cause leukemia. Its effect may continue for about 20 years after the nuclear explosion or fission.
2. **Iodine:** rises from the nuclear explosion in the form of a gas, and is often absorbed by the thyroid gland. It is possible to get rid of it by the use of some drugs.
3. **Strontium:** is similar to the two elements, calcium and barium. Its impact is often concentrated on bones, causing bone cancer. Its effect may continue for about 56 years.
4. **Cesium:** impacts the whole body; in particular the muscles, liver and spleen. Its effect may continue for 60 years.





These radiations have two kinds of biological effects:<sup>133</sup>

**First:** is physical and affects mostly human beings; as the infected person comes down with some serious diseases such as skin and blood cancers, white water disease in the eyes, a.k.a. cataracts, and infertility.

**Second:** is a hereditary one that appears in successive generations. This one was clearly evident in the case of the Japanese after the dropping of the two nuclear bombs on Hiroshima and Nagasaki in August 1945. The bombings led to the death of thousands of people, others were subject to burns and deformities; while their grandchildren suffered from serious and fatal diseases.

A report by the Israeli Reut Institute, whose work is concentrated on the issue of Israeli national security, predicted that an earthquake in the Negev desert, measuring six on the Richter scale, will cause a huge crack in the reactor. Moreover, it will result in radioactive fallout and the formation of a fatal nuclear mushroom cloud above Israel and neighboring areas in WB, GS, Jordan, Egypt and Syria.<sup>134</sup>

The *Yedioth Ahronoth* newspaper reported that soldiers guarding the Dimona nuclear reactor in the south of Palestine, in 2007, were forced to leave their positions and flee, because of the spread of a “yellow smoke cloud” that covered the reactor’s area. The soldiers fled after they saw the cloud and felt a burning sensation in their eyes; there was also a sharp smell coming from the cloud.<sup>135</sup>

In the 1990s, 44 Israeli workers in the Dimona reactor filed complaints that they incurred cancer and other diseases as a result of extended exposure to radiation in the course of their work.<sup>136</sup>





It is worth mentioning that about half of those workers died. When their families attended the court proceedings after their deaths, they were amazed to learn about the conditions their relatives faced, which have been kept under wraps until now. Furthermore, a large proportion of those workers were employed in the reactor in what were called “hot areas,” meaning they were exposed to radioactive materials as part of their daily work. The other affected workers worked in the reactor’s “cold areas,” in offices and other places considered to be sterile and impervious to radiation; this indicates the existence of clear flaws in the safety rules at the plant. This was confirmed by prosecutor Ilan Kaner when he presented an internal memorandum that attests to apparent safety malfunctions in the Dimona reactor that result in radioactive leakage.

A memo written in 1992 by a defense witness, Dr. Dan Litai, who was former deputy director of the reactor’s safety division, disclosed that a cabinet in a cold area that was ostensibly free of radiation held radioactive materials. He testified that he was aware of past leakages of radioactive materials in the reactor’s cold areas. “There were such mishaps,” he said. He added that when such circumstances occur, “an area is cordoned off, and the problem is handled.” Litai stated that “the NNRC is not a completely sterile facility. There have been accidents. There were mishaps starting the day the facility was established, and I assume that these have continued to the present day.” Furthermore, Attorney Kaner presented other evidence from internal memoranda from the NNRC, which included statements such as, “This is not the first time radioactive particles have been discovered in a cold area.” While the defense attorney objected to the use of internal information as evidence in this case, Judge Esther Dudkiewicz rejected his claim.<sup>137</sup>







## *Chapter 7: Proliferation of Stone Quarries and the Theft of Palestinian Soil*

### **1. Proliferation of Stone Quarries**

Israeli assaults on the Palestinian environment have affected the shape of the earth's surface and were instrumental in distorting, degrading and polluting nature, through the spread of stone quarries that aggravated soil erosion and desertification.

Israel has established numerous stone quarries in various parts of the WB. But 94% of the resources extracted from these quarries in WB go to Israel to cover 25% of its requirements of raw building materials.<sup>138</sup>

Israel has set up its stone quarries near populated Arab areas, causing serious damage to their populations due to continuous explosions and the rise of dust. Added to that is the annoyance caused by transport



operations that also continue around the clock; not to mention the grab of more Palestinian land.



Seventy stone quarries in the town of Jamma'in, southwest of Nablus.

The quarries' operations contribute to the deterioration of the terrain and the distortion of nature; especially if they were not based on scientific grounds and done at the hands of expert geologists. They increase air pollution, heighten the noise level, and do damage to public health, due to the thick flying dust, which in turn causes thoracic diseases. They also destroy biodiversity as a result of dust settling on trees and plants, impeding their growth, and threaten the areas around the quarries with desertification. Furthermore, the sound caused by the machinery and means of transport drives wildlife away from their habitats or migration destinations. Moreover, in addition to distorting the land's features and exploiting its resources, the Israelis bury waste and other unusable materials in it.



In late 2011, the Israeli Supreme Court issued a decision that allows the quarries owned by Israelis inside WB to continue working in order to meet Israel's economic requirements of raw materials; but without setting up new quarries. It is worth noting that this decision came two years after a number of human rights and humanitarian organizations submitted objections to the work of these quarries, and described them as illegal.<sup>139</sup>

The Israeli stone quarries hasten the depletion of Palestinian stone supply and deprive future generations of its benefit. It is a declining non-renewable supply, and the door should not be left wide open to extracting it, even for the benefit of Palestinian quarries.

## **2. The Theft of Palestinian Soil**

The Israeli newspaper *Haaretz* mentioned that Israeli settlers in the WB are stealing its soil, and Israeli authorities are doing nothing to combat this theft. Specialists in the affairs of Israeli settlement in the WB revealed that the settlers have begun to steal Palestinian soil for the purposes of agriculture and agricultural soil improvement in Israeli settlements. An example of this is the residents of the Ofra Settlement near Bethlehem, who stole fertile soil from the Palestinian villages of Silwad and Deir Dibwan. The theft was made possible, even easy, by the fact that wide expanses of land belonging to these two villages are enclosed within Ofra's security fence built by the settlers. The settlers took control of these wide agricultural lands without permits, even from the Israeli army itself; while the villages' Palestinian residents do not have free access to their own fields.<sup>140</sup>





On 30/5/2012, a group of settlers from the settlement of Yakir in Wadi Qana stole large amounts of agricultural soil from the area after leveling 12 donums of agricultural lands and transported them to the settlement; with the aim to reuse this soil in farming operations within the settlement's boundaries.

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On 30/5/2012, a group of settlers from the settlement of Yakir in Wadi Qana in the Salfit Governorate stole large amounts of agricultural soil from the area after leveling 12 donums of agricultural lands, and



transported them to the settlement; with the aim of reusing the soil in farming operations within the settlement's boundaries.<sup>141</sup> This is in addition to Israel's theft of thousands of tons of sand, during the five years prior to its withdrawal from GS. Then, its machinery drilled 5 thousand square meters with a depth of 30 meters, full of sand and mud; which were replaced by waste. The volume of waste, which Israel buried in GS before its withdrawal amounted to 50 thousand tons. It also stole 15 million tons of sand, considered an important natural asset for Palestinians.<sup>142</sup>

The terrain of the Palestinian coast in GS was subjected to large-scale acts of vandalism, with the removal of huge quantities of sand and the dumping of solid waste and wastewater on the beach. Perhaps the theft of sand is the most serious threat that the Palestinian coast faces, as Israel steals massive amounts, estimated up to the year 1994 to total 25 MCM.

In addition, random removal of sand from the coast causes it to lose its esthetic value, especially since, for the residents of GS and WB, this is their only escape. This is in addition to huge economic losses, as sand has become an important economic asset, relied upon in the manufacture of building materials, glass and other industries. Furthermore, removing it will leave behind craters that will soon turn into landfills for solid waste and wastewater.<sup>143</sup>







## *Conclusion*

Israel continues its established policy of tearing apart and looting Palestinian land and natural resources, destroying forests, uprooting trees, and stealing stones and sands. It does that in the absence of any Palestinian control over the land and its natural resources, and in light of the continued indifference and lack of seriousness on the part of the international community. All of this leads to further depletion of natural resources, degradation of biodiversity, the extinction of many plants and animals, air pollution, rise in diseases, etc.

Palestinian air, water and soil have become a dumping ground for Israeli trash of all kinds. And in addition to their daily suffering caused by the Israel's various practices, the Palestinians are threatened by death, either by the occupation's bullets and the attacks of its settlers or by environmental pollution surrounding all aspects of their lives. The Israelis dispose of their trash by dumping it in what remains of the land





that they left for the Palestinians to live in; after they had surrounded it with their solid waste dumps on the one hand and the Separation Wall on the other. They did not leave clean water for them, not even enough to quench their thirst; they threw in their wastewater, effluent, and chemical waste. They shaded the air of this enormous Palestinian “prison” with black and yellow polluted clouds. What is next?

The continuous Israeli environmental terrorism against all elements and components of the Palestinian environment and biosphere requires a practical and firm stand from the international community, both at the official and popular levels. A stand that would force Israel to stop its all-out aggression against the Palestinian people, the bloody destructive arms of which have encroached on human beings, trees and stones, and to withdraw from all occupied Palestinian territories. This environmental terrorism constitutes a flagrant violation of all international charters, treaties and agreements, and of the bilateral Palestinian Israeli ones.





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