



**Applied Research Institute – Jerusalem (ARIJ)**

**The Palestinian Environment between the Anvil of Climate Change and  
the Hammer of Occupation**

**Author  
Kaitlin Wheeler**

**August 2021**

Palestinians continue to face human rights violations in Palestine due to the prolongation of the oppressive Israeli Occupation. The relationship between Israel and the occupied Palestinian territories (oPt) generates tense global discussions involving politics, religion, and violence; yet, the natural environment is not always a topic of concern in these conversations. Israel, the oPt, and the Middle East as a whole are facing land degradation, rising temperatures, climate change, and desertification that repeatedly threaten the existing natural resources in the region. It is important to understand though, that Palestinians are disproportionately affected by these actions by Israel's prolonged Occupation and their consequences, including restricted mobility and a lack of self-determination.

As climate and environmental injustices weaken biodiversity and ecosystems health in the oPt, those most vulnerable—children, women, rural communities, and small-scale farmers—are subject to greater injustice and human rights abuses and in need of resilient, action-oriented strategies. Investigating the intersections between conflict, gender equality, the environment, climate change, ecosystems, and biodiversity through a human rights' based lens quickly reveals Israel's treatment of Palestinians as detrimental to forging healthy livelihoods and sustainable communities. Placing vulnerable populations at the forefront of these intersections expose structural and cultural acts of violence that are in need of change. The first section of this paper will address the intersections between conflict and the environment in regards to the Palestinian context. This will be followed by the remaining intersections mentioned above.

## **Part I - The Intersections Between Conflict and the Environment Within the Palestinian Context**

Palestine holds a wealth of indigenous agricultural knowledge and land sharing techniques that continue to be threatened by Israel's settler colonialism logic, like the recent proposed annexation plan of Area C. As Israel's decisions are heavily driven by demand from the marketplace, Palestinian land becomes more degraded in favor of extractive purposes. Understanding the history of land use in the region uncovers indigenous Palestinian practices that have been abandoned and/or threatened by the exogenous Israeli actions.

During the Ottoman Empire rule over Palestine from 1517 to 1917, the practice of communal land tenure and periodic land redistribution was common amongst families and clans (Kark, 2017). Family members worked together on their shared plots of land, planning seasonal plantings best fit for the given climate and available water resources (Atran, 1986). Towards the end of the Ottoman rule, specific land laws instilled a mandated privatization of land, one of which Professor Leah Temper (2009) explains as the 1876 Land Law mandating that "land held by notables who were not providing services to the Sultan would be seized and could be sold to Europeans" (p. 80). Palestinian land became privatized and enormous land purchases, settlement construction, and plantation growth occurred (Kark, 2017).

Baron Rothschild was among one of the large purchasers of Palestinian land, securing the establishment of plantations for Jewish settlers. With a long history of persecution, the Jewish people founded the World Zionist Movement in 1897, ensuring large funds for obtaining land in Palestine (Temper, 2009). The goal to move Jewish individuals to Palestine—a location that the

Zionist Movement considered one without inhabitants—involved a complete dismissal of the existence of Palestinian people and the agricultural knowledge they held.

Once the Ottoman Empire fell, the Allies gained control over Palestine at the end of World War I. The Balfour Declaration of 1917 was written and the movement of Jewish people grew as Britain promised a safe passage to the Middle East. Through purchasing the most fertile land in the maritime plain within Palestine, Jewish migrants gained an upper-hand in crop production by purchasing profitable land from absentee landlords. Early Jewish land purchases catered towards the production of high value crops with support from technological advancements. Rather than using the practices of subsistence-based crop growth, Jewish farmers concentrated on large plots of land, developing modern agricultural infrastructure grounded in a push to make profit (Kark, 2017)..

Previously, Palestinian families owned 93% of land in different locations in order to create more resilient crop yields, so that if one plot received less rain water than usual, the other plot in a different area would make up for this loss. However, Jewish land acquisition sequestered 7% of fertile land in Mandate Palestine with a pursuit to grow the highest value crops. Furthermore, with the adoption of technological farming advancements, Jewish families doubled their crop yields in comparison to Palestinian producers (Temper, 2009).

The early rise of Jewish farming undermined traditional Palestinian practices centered around subsistence and sustainability. Privatizing land for capital growth and modern agricultural advancements countered Palestinian practices. In an effort to strengthen cultural and social ties with the land, the Kibbutz movement was established, creating communal Jewish settlements, while excluding Palestinian farmworkers (Temper, 2009). Through shared labor, high value crop growth, and the use of advanced technology at the time, the kibbutz movement was utilized as a defense mechanism to economically out-compete Palestinian farmers.

As tension rose and protests occurred between Jewish migrants and Palestinians, international actors responded by pushing for a two-state solution. With key decision-makers ignoring the needs and rights of Palestinians, the establishment of Israel's borders in 1948 and the start of the Israeli Occupation in 1967 ensued significant amounts of land loss for Palestine. This laid the groundwork for a gradual transformation of the Palestinian economy from agrarian to service-oriented. From 1965 to 1985, the amount of Palestinian cultivated land in the West Bank decreased from 2,435 km<sup>2</sup> to 1,735 km<sup>2</sup> (UNCTAD, 1990). Additionally, from 1970 to 1987, Palestinian farmworker numbers in the West Bank dropped from 42,500 to 29,800 (Temper, 2009). Consequently, Palestinian agricultural GDP decreased from 657 million USD in 1987 to 242.2 million USD in 2021, as many of the remaining Palestinian agricultural workers were now employed in low-paying Israeli jobs, rather than being given the autonomy to capitalize on their own farmland (Trading Economics, 2021 and UNCTAD, 2015).

At the same time as land was being confiscated from Palestinians, so too were natural water sources. In 1964, Israel finished constructing the National Water Carrier that diverts 75% of the water from the Jordan River to Israel. Furthermore, Israel took full control over all water sources in 1967, barring Palestinians from access to the Jordan River and requiring permits for the construction of new wells. By 1986, Israel's national water authority, Mekorot controlled Palestinian water, "reducing the amount of water Palestinians could pump from their wells by

10%” (CESR, n.d.). With wells running dry and restricted access to water resources Palestinian crops suffered at a great cost, as seen in the agricultural GDP mentioned above. Even though the Oslo II Accord divided water sources among Israelis and Palestinians in 1995, Israel still controls the flow of water to the oPt.

Built on a history of land acquisition and exclusion of Palestinians from the agricultural marketplace and natural resources, Israel maintains a forceful environmental control over the oPt. The present extensification and intensification in the sector of Israeli agricultural production is reinforced by its security and economic drivers. One of the most threatening examples of this is the separation wall that violently cuts through eleven West Bank governorates.

Israel’s separation wall is in violation of the Fourth Geneva Convention outlining the legal obligations of an occupying state. According to Article 53, “Any destruction by the Occupying Power of real or personal property belonging individually or collectively to private persons, or to the State, or to other public authorities, or to social or cooperative organizations, is prohibited.”

With the beginning of its construction in 2002, the wall has uprooted thousands of indigenous trees, mainly olive trees, impeded water networks, and separated Palestinian communities from their rich agricultural land and water resources (Temper, 2009). Its construction continues to be supported for ‘security’ purposes, resulting in a potential loss of 46.8% of forested areas, 5.5% of rangelands<sup>1</sup>, and 4.8% of agricultural land upon completion according to the latest analysis in 202 by ARIJ GIS Unit.

The separation wall does not follow along the Green Line—Israel’s original borders declared in 1948—thus, impeding Palestinians access to their original farmland. Seam zones lie in between the wall and the Green Line, creating pockets of land designated to Palestinians living in the West Bank, yet under complete control of Israel. To economically destabilize Palestinian farmworkers, Israel only allows farmers with required permits, 40 days per year to cultivate their olive trees residing in seam zones. Consequently, there are 40,000 dunums, about 9,884 acres of these trees that are at risk of crop failure due to acts of Israeli environmental injustice (UNOCHA, 2020).

Israel’s weaponization of land is exacerbated in Area C of the West Bank, where Palestinians face settler-induced environmental violence. According to Article 49 in the Fourth Geneva Convention, transferring Israel’s “civilian population into the territory it occupies,” breaches international humanitarian law. The majority of Area C in the West Bank is targeted by illegal Israeli settlers. However, the Israeli occupying force favors land-grabbing at any cost, in which large plots of land are fenced off by settlers for crop and industrial expansion, closed for military purposes, restricted as nature reserves and state land, and labeled as seam and security buffer zones (Schoenfeld, 2005). According to ARIJ analysis, these actions have resulted in the confiscation of 58.6% of the West Bank. From 1980 to 2020, the amount of stolen land for Israeli settlements has grown from 47 km<sup>2</sup> to 201 km<sup>2</sup>.

As a result, many indigenous Palestinian Bedouin and rural communities are prevented from accessing their original herding land. This eventually causes the overgrazing of Bedouin

---

<sup>1</sup> Open space with little or no vegetation, Shrubs and / or herbaceous vegetation, and Pastures

livestock, as these herding communities are not supplied with a sufficient amount of land for their typical subsistence needs. In an effort to resist Israel's structural violence in the form of settler takeover, Palestinian farmers plant trees to protect their land. However, this action can easily be undermined by settlers' destructive acts.

Overall, the Israeli Occupation disrupts the potential growth of the Palestinian economy through restricting movement, limiting building permits for improved infrastructure, and denying proper access to land, resources, and funding for Palestinian people. The United Nations General Assembly declares in Article 1.1 in Declaration on the Right to Development that: "The right to development is an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized."

In Area C of the West Bank, the Israeli Civil Administration heavily restricts the construction of water and sewage treatment plants, wells, waste dumping sites, and agricultural structures. As a result, one-fourth of the houses do not have proper access to water and sanitation. In addition, 78% of households in Area C depend on agriculture and herding as their main industries for work (Hammami, 2019). However, certain Palestinian agricultural land in this area is marked as a 'Prior Coordination Area,' meaning farmers must acquire a specific permit to access this land (UNOCHA, 2020).

With 60% of the agricultural lands residing in Area C of the West Bank, Palestinians are left at a disadvantage. The Jordan Valley houses fertile land and a warm climate, acting as an important area for Palestinian food production and food security. Israel has a legal obligation to ensure food is accessible for those who are occupied, yet, due to high inaccessibility of the arable land, Palestinians in Area C face high poverty rates and food insecurity resulting from unemployment and exclusionary policies that block agricultural development (G.C. IV, art. 55; ARIJ, 2016).

Another layer of oppression is added through the 705 obstacles that exist within the West Bank, limiting Palestinians from accessing basic goods (Hammami, 2019). Moreover, less than 40% of the land in this region is allowed to be developed by Palestinians (UNOCHA, 2020). Land designated to Palestinian control is mainly urban, leaving little room for agricultural production. The West Bank therefore, highly depends on the imports of basic goods from Israel because of their limited ability to acquire production inputs that are needed to produce and export products internationally, thus leaving the Palestinian economy in a continuous trade deficit.

The 705 obstacles hinder the movement of Palestinians, inevitably decreasing labor productivity and agricultural GDP output. According to Article 13 in the Universal Declaration of Human Rights (UDHR), "Everyone has the right to freedom of movement and residence within the borders of each state." Even so, checkpoints, road barriers, earth mounds, and trenches are examples of obstacles employed by the Israeli occupying forces, thus the Applied Research Institute - Jerusalem (2019) describes this as creating a "matrix of control" (p. 5).

Due to delays at checkpoints, Palestinians lose 60 million hours of labor force time annually, resulting in a loss of \$274 million USD. Furthermore, due to long wait times at the various

barriers, 81 million liters of fuel are consumed annually that produce 196,000 tons of CO<sub>2</sub> emissions, costing Palestinians \$135 million USD (ARIJ, 2019). Once again, Israel violates its lawful obligations by using obstacles to stop movement, “creating unemployment...[and] restricting the opportunities offered to workers in the occupied territory” (G.C. IV, art. 52).

The Israeli occupying forces have also established a completely separate road system for Israelis in the West Bank, sustained by a permit regime that closely controls all movement of Palestinians. By blocking off physical roads and forcing Palestinians to turn around or take a much longer route, Israelis gain strategic control over all land and resources. Since 1996, the cost of transportation has increased 242% for Palestinians because of Israel’s strict monitoring and enforcement of all travel. In 2004, the Continuous Movement Plan was created to build a separate road system for Palestinians, leading to an average minimum of a 17% increase in travel time from one city to the next (ARIJ, 2019).

With infrastructural delays resulting in separate road systems and procedural delays from checkpoints, Palestinians have lost a total of 59,702,934 hours (ARIJ, 2019). The literal change to the physical environment through the development of hundreds of obstacles over a short period of time has stripped the potential for Palestinians to realize an independent state supported by a stable agricultural economy. Without being able to properly reach natural resources and farmland, Palestinians cannot financially provide for their families, leaving basic human rights’ needs unmet.

To make matters worse, due to Israel’s full control over land and water in the region, use of and access to natural resources is disproportionately lower amongst Palestinian communities in comparison to Israelis. The Hague Regulations that outline laws that must be observed by occupying states, enforce in Article 55 that: “The occupying State shall be regarded only as administrator and usufructuary of public buildings, real estate, forests, and agricultural estates belonging to the hostile State, and situated in the occupied country.” Therefore, Israel does not have complete sovereignty over the oPt’s natural resources.

By taking 85% of Palestinian ground water, Israel gains greater control over the renewable water sources in the region, while banning drilling of new Palestinian wells (PWA, 2016). As a result, Israelis use four times as much water as Palestinians (Goldsmith, 2015). This leaves the oPt highly vulnerable, as their basic needs for resources are not being met.

In the West Bank, 41,609 hectares, about 103,000 acres of land, were confiscated in 2016, while 2,450 people were displaced from their homes due to Israeli demolitions. These destructive environmental injustices intimidate Palestinians into moving to urban centers or stopping further development in Area C. In the state of Israel, Palestinian citizens account to 21% of total population, yet as of 2017, less than 3% of land fell under the jurisdiction of Palestinian municipalities (ACRI, 2017). Additionally, In Gaza, 35% of the agricultural land exists in a buffer zone created by the Israelis, and therefore, cannot be cultivated (ARIJ, 2016). In 2019, 55% of landowners were not able to access their land and 74% faced some form of obstacle while tending to their land (AWRD, 2020). Israel’s tactical efforts to reduce the autonomous use of natural resources places a heavy burden on the daily lives of Palestinians.

Agricultural land and water are not the only valued resources in the region though. Gravel and stone housed in the reserves in the West Bank are estimated to be worth \$30 billion (ARIJ, 2016). However, the Israeli Civil Administration confiscates Palestinian machinery, reducing the ability for potential exports and profit growth. With Israel's denial of land access permits, Palestinians are being blocked from a highly untapped market.

The quarries in Palestine produce 12 million tons a year, yet 9 million tons are sold annually in Israel. Areas A and B hold quarries in which 0.8 tons are transferred to Israel annually. Israeli companies own most of the quarries in the West Bank, producing a 74% yield with future plans to dig annually. (Sfard, Zachary, and Lev, 2009).

The management of resources is threatened further by Israel's waste production. Consequently, Palestinians residing in the West Bank are disproportionately affected by the irresponsible dumping of waste, leading to both groundwater contamination and severe health impacts. Israel has seven industrial waste zones in the West Bank that pollute Palestinian land (Temper, 2009). Without rights to build sanitation facilities, Palestinians must find ways to dispose of their own waste, while spending time managing Israel's industrial dumping. This is not only unsustainable for the region as a whole, but also highly damaging to the longevity of renewable resources for future use.

Israel's efforts to sustain the occupation fuels more conflict and destruction towards Palestinian life, their land, water, and remaining natural resources. Conflict negatively affects the environment and produces long-term consequences. It further damages economic stability and independence, as Palestinians cannot fully realize their rights to their land. With more pressure to survive on little, Palestinian families face heightened vulnerability to illegal Israeli actions. The environment is closely tied to the economy, physical health, and well-being of the oPt. Damages done to one are inextricably linked to the other. The next section will explore both ecosystem and biodiversity loss due to sustained conflict.

### **The Intersections Between Conflict, Ecosystems, and Biodiversity Within the Palestinian Context**

For the natural environment to thrive, support is needed from both delicate ecosystems and complex biodiversity. While Israel continues to take natural resources at the expense of Palestinian livelihoods, the innerworkings of the environment inherently become damaged. Without proper management of natural resource use, animals, plants, and people are harmed.

Israel's alterations to the land and water sources of Palestine threaten the sustainability of local ecosystems and biodiversity. When Israeli settlers began moving to Palestine, the practice of draining swamps was common (Temper, 2009). This ensured Jewish agricultural growth in the coastal plain and lowland areas. Establishing practices that emphasize profit over environmental health is a damaging system reinforced by the Israeli Occupation.

The large Israeli land-grabbing events in 1948 and 1967 sparked a chain-reaction of biodiversity loss and ecosystem damage. Article 55 in Protocol 1 of the Geneva Conventions states that "Care shall be taken in warfare to protect the natural environment against widespread, long-term and

severe damage.” From 1970 to 2020, Palestine lost two-thirds of its forest area, with the building of Israeli settlements acting as 70% of the underlying cause. In the past five years, there has been a 63% increase in endangered species within the oPt due to habitat fragmentation from Israeli settlements and land mismanagement (UN & State of Palestine, 2020). Since Palestinians do not have full rights to care for their land, the animals and plants are therefore greatly threatened by Israel’s capitalist-driven occupying force.

The Mountain Green Cover Index and the Red Cover Index are used to rate biodiversity and ecosystem health. The Mountain Green Cover Index showcases the amount of mountainous areas with green vegetation. Palestine has a rating of 12.5%, a low amount of habitat diversity that influences climate, water, wildlife, agriculture, biodiversity, and livestock. The Red List Index measures the number of species that have gone extinct or have entered the category of threatened. Palestine received a low rating of 0.8 out of 1, representing the potentially irreversible damage induced by Israel’s water and land mismanagement (UN & State of Palestine, 2020).

Without protection, the region’s most important ecosystems become over-extracted and depleted - the Jordan Dead Sea Basin being one of them. Through water diversion and the construction of artificial evaporation ponds and upstream dams, ecosystem health in the basin is greatly threatened (EcoPeace Middle East, 2020). Without allowing the basin to renew and restore itself, the health of this ecosystem becomes ever more vulnerable to overuse. Israel subsidizes water to grow ill-suited crops in the arid southern region adding to the negative effects of this situation. Without access to the Jordan River, Palestinians cannot stop Israeli damming and diversion practices that negatively affect the Jordan Dead Sea Basin.

Water is not the only threatened resource though. Systematic control and security enforcement leads to the disruption of ecosystems and biodiversity through the uprooting of native plants and afforestation projects. The Jewish National Fund plants non-native monocultures of pine trees that act as invasive species damaging soil and potential growth of indigenous plants, while concealing destroyed Palestinian villages (Goldsmith, 2015). This reinforces roots of colonialism through transforming land into replicas of Western European landscapes. Disguised as a nature reserve, these monocultures greatly damage ecosystems and biodiversity.

Israel continues to violate Article 54 in Protocol 1 of the Geneva Conventions, in which: “It is prohibited to attack, destroy, remove or render useless objects indispensable to the survival of the civilian population, such as foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, drinking water installations and supplies and irrigation works.” The separation wall reproduces this violence through the uprooting of 1 million trees from 1967 to 2004 (Temper, 2009). Settler fences, land grabbing, the destruction of trees, and Israeli pollution all negatively affect Palestinian ecosystems and biodiversity. From 2014 to 2015, the Israeli army confiscated 416,000+ dunums, about 103,000 acres of land from Palestinians, demolished 237 houses, and uprooted 11,875+ trees. 708 attacks Israeli settler attacks were directed mainly at Palestinian trees and land. Furthermore, 17 new settlements were set to be built in this time period (ARIJ, 2015). In Area C of the West Bank in 2019, 22% of households experienced the destruction of crops, 24% had their livestock and agricultural infrastructure stolen, and 15% lost their livestock



to Israeli poisoning efforts (Hammami, 2019). With growing illegal settlements and outposts, there is a demand for more resources and land, and therefore, heightened conflict.

The intense agricultural practices demanded by Israel necessitate the destruction of ecosystems and biodiversity. An extension of colonization occurs through the planting of Israeli annual crops versus permanent crops. Annual crops prioritize harvesting as much food as possible in the shortest amount of time, while permanent crops require longer growth periods and are not valued as highly because they do not serve short-term market demand (Temper, 2009). Short-term thinking is grounded in the extractivist logic used by Israel.

The United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas recognizes “the right to seeds of peasants and other people working in rural areas and the right to maintain, control, protect and develop their own seeds and traditional knowledge” (UNHRC, 2020). Indigenous Palestinian environmental knowledge is undermined in the oPt because of these current oppressive structures in place. In particular, Israeli industrialized farming threatens indigenous Baladi practices that support ecosystem and biodiversity rejuvenation.<sup>2</sup> Israel’s mass production of agriculture relies on heavy fertilizer use and chemicals, leading to the destruction of soil, the need for more water, and the potential for new disease growth (Alayasa, 2012).

On the other hand, Baladi farming has been used by certain Palestinian communities for many decades, favoring hand labor over machinery, thus providing jobs for many workers, while sustaining land, soil, and indigenous plants. Stone terraces are used frequently for crop growth because of their ability to prevent soil erosion, while retaining water. With careful monitoring and planting of particular local seeds, Baladi farming avoids monocultures and pesticide use by growing diverse crops and applying crop rotation that act as natural insect repellent and preserve soil fertility (Alayasa, 2012).

Baladi farmers also participate in local seed collection and exchange. Every year the seeds from the best crops of the year are saved and reserved for the next season (Alayasa, 2012). Seed banks dry, store, and exchange indigenous seeds in an effort to sustain Palestinian indigenous environmental knowledge and maintain crop resilience while under occupation. These practices enable present and future generations to live sustainable lifestyles with access to affordable and organic food. Ensuring a farming ecosystem filled with biodiverse species allows Baladi farmers to feed their families and communities without being a detriment to the health and well-being of those around them. Even so, the Israeli Occupation undermines these beneficial inherited practices by pushing for more monocultures, intensive agriculture, and pesticide use.

As more Palestinian farmland is destroyed and taken by illegal settlers, Baladi farming practices and other forms of sustainable agricultural production in the oPt are weakened. Israel’s complete control over land, water, and resources keeps Palestinians from being able to realize a home that supports healthy biodiversity and ecosystems. With the continual afforestation projects and construction of the separation wall and bypass roads, alongside rejecting building permits in Area C, Palestinian independence is suppressed. It is necessary for humans to support the needs of ecosystems and biodiversity, yet the opposite is occurring due to Israel’s desire to control all

---

<sup>2</sup> Baladi farming is the practice of traditional/indigenous Palestinian farming

aspects of Palestinian livelihood. The next section will discuss how conflict induces vulnerability to climate change in the oPt.

### **The Intersection Between Conflict and Climate Change Within the Palestinian Context**

When the environment, ecosystems, and biodiversity are degraded, the negative effects of climate change become ever-more strong and dangerous. Israel continues to frivolously extract natural resources without establishing the needed amount of sustainable efforts to support future populations. As human-induced carbon dioxide emissions continue to rise in the atmosphere, climate change is only becoming a more looming threat to Palestinians. Undermining the construction of more advanced agricultural systems and supporting infrastructure creates barriers to survive in the arid region of the West Bank.

Additionally, extreme weather events increase rural Palestinian vulnerability as Israelis continue to block permits for infrastructure development. Without proper buildings and sustainable means of survival, Palestinians are greatly threatened by unpredictable storms (Hammami, 2019). Furthermore, as water becomes more scarce due to climate change, abuse of power threatens diplomatic resource-sharing arrangements. Even with signed agreements in place, dictating who controls particular water resources in the region, there is a growing possibility that boundaries and laws will be overstepped when needs become dire.

At the end of 2008, the Jordan Dead Sea Basin, already threatened by over-extraction, experienced drought for the fifth year in a row, leaving West Bank residents with little water, while Israeli settlers still consumed four times as much (Schoenfeld, 2005). Israeli settlers are not necessarily willing to give up their water luxuries, i.e. pools and water-sucking plants existing in the middle of a desert environment. With rising temperatures, high evapotranspiration and soil infiltration lead to heightened irrigation requirements (Verner, 2012). Yet Israel continues to subsidize water to support the growth of plants not suited for arid regions. This extractivist logic favors short-term needs and lifestyles that cannot continue to be supported in the future.

Particularly in Area C, limited access to land, water, and all other natural resources enforced by the occupation create greater vulnerability amongst rural and Bedouin communities to climate change. Relying heavily on rainwater and animal husbandry heightens Bedouin sensitivity to unpredictable patterns in rainfall and temperature increase due to climate change. Furthermore, half of the agricultural land in the Jordan Valley is closed to military zones (Grant, 2019). So not nearly enough land is accessible for these communities in need of grazing territory.

Bedouin and rural Palestinian decisions are dictated by water scarcity, while Israeli settlements maintain well-irrigated lands and swimming pools. Drought from climate change and human-induced over-extraction causes Bedouin communities to lose environmental and financial assets (Verner, 2012). Without water, their crops die and livestock suffer. This is intensified by Israel's willingness to consume unequal amounts of water without assessing climate change impacts.

Climate change is already a large threat to Israel and the oPt as desertification and drought are on the rise. Combined with land degradation and poor management of resources, climate change effects become exacerbated in the region. Palestinians who are not given the proper resources,

right to movement, and stable capital to build resilient communities suffer disproportionately to Israelis. Gender equality becomes a point of concern here and will be discussed in the next section.

### **The Intersection Between Gender Equality and the Environment Within the Palestinian Context**

Palestinian women face both oppression from the occupation and society's patriarchal standards. They are heavily involved in the environment and therefore greatly affected by all forms of land, water, and resource degradation. Even though they are usually first to notice health concerns in the community because of their significant involvement in care-taking and agricultural work, they do not necessarily have the decision-making power to make change (Schoenfeld, 2005).

Patriarchal standards and gender stereotypes determine Palestinian women's relationships to water and the environment. As wives, daughters, and mothers, Palestinian women are mainly responsible for caring for the family and the home. Their domestic duties are interlinked with the environment and they are usually responsible for water management, agricultural work, family health, and acquiring drinking and cooking water (WCLAC, 2020).

Palestinian women do not have equal access to the market or employment opportunities because of their domestic and marital obligations. Earlier marriages sometimes result in less opportunities for women as they are not able to complete their education and must transition into intensified family care-taking roles at a younger age. 11% of Palestinian girls drop out of school before the age of 15 due to family's financial and domestic needs or early marriage (UN & State of Palestine, 2020).

Even so, in 2019, 60% of the total number of Palestinian students attending a higher education institution were women, yet there was a 52% unemployment rate amongst graduates aged 19 to 29 and 68% of them were female, while 35% of them were males (PCBS, 2019). This is because Palestinian women do not share the same equal pathways to the marketplace and employment opportunities as men. For instance, in the water sector, many Palestinian women hold advanced degrees, yet work in lower positions because patriarchal standards oppose females in decision-making roles (GWPM & Geneva Water Hub, 2021).

The percentage of female agricultural workers has dropped from 21% in 2014 to 6.7% in 2019. Even though they make up a larger amount of the agricultural market, 76.3% of Palestinian females go unpaid, compared to only 11.4% of males. In pre-production stages of agricultural output, rural Palestinian women disproportionately face negative impacts because of the occupation and patriarchal standards that limit their ability to own land and fully realize their economic rights. Furthermore, with very limited access to financial resources, post-production is difficult without cash flow to buy infrastructure for storing equipment and food items. As Israel continues dumping subsidized food items into the Palestinian market, women farmers cannot compete with the lower prices and struggle to gain a profit in the agricultural sector (Tamimi, 2020).

According to Article 17 of the UDHR, “States must provide workers with adequate social protection and actively enforce occupational safety laws and standards.” However, informal agricultural labor comprises of a large portion of the Palestinian economy. 13.4% of the Palestinian population works in agriculture, yet 90% of workers in this sector are informally employed (Anera, 2020). 60% of Palestinian female workers are part of the informal sector. These workers, accounting for 50,600 females, do not receive social security benefits, healthcare, permits, or any other types of protection. Confronted with more obstacles, they struggle to pay registration fees and obtain loans. (Jaber and Riyahi, 2016)

Acquisition of environmental assets is difficult for Palestinian women, leading to greater vulnerability. The UDHR enforces the law that “No one shall be arbitrarily deprived of his property (art. 17). Yet, The Arab World for Development and Research (2020) surveyed land ownership in the West Bank and the Gaza Strip, reporting that 76.3% of the surveyed land is owned by men. Only 7.3% is jointly owned by wives and their husbands and 15% is owned by wives alone (AWDR, 2020).

In fact, marital status is inversely correlated to the ownership of land. Of the women who owned land in the study, 14.5% are married and 33.5% are divorced. Women in extended families have higher levels of land ownership and access compared to those in nuclear families. Furthermore, in regards to farm equipment, 5% of non-mechanized and 3.4% of mechanized farm equipment is owned by women. Within 13.4% of the families surveyed, 37.8% of women own livestock (AWDR, 2020). Palestinian women in Gaza face an even greater disadvantage in owning land because of the Israeli blockade and overpopulation leaving little access to readily available land. Without equal access to technological equipment and livestock, women cannot move into more powerful employment opportunities within the agricultural market.

Unfortunately, the rights of inheritance highly exclude women from control over land, water, and other natural resources. Those who know their rights and are able to demand inheritance have a higher probability of acquiring familial assets. Yet, 84% of Palestinian women do not have any land registered under their name. Palestinian women are given little access to finance and face high loan rates of 6% to 15%. This creates barriers to accessing markets, starting small businesses, and acquiring land. For a significant majority of Palestinian women though, not knowing their legal rights stands as the largest obstacle (AWDR, 2020).

Economic gender-based violence also arises, in which women with greater land ownership face more violence at home than those with no land under their name (AWDR, 2020). Conversely, women with little economic stability also face gender-based violence as husbands face more pressure to provide for the family while living under occupation. During the three wars between Israel and Gaza, Palestinian women who stayed in shelters were exposed to greater violence and were forced into sexual favors in order to access services (Farr, 2020). In violation Article 76 of Protocol 1 of the Geneva Conventions, “Women shall be the object of special respect and shall be protected in particular against rape, forced prostitution and any other form of indecent assault.”

Many Palestinian women in the West Bank experience violence as a result of the occupation, whether that be while working in an Israeli settlement or crossing a checkpoint. Palestinian

women prefer working inside their home or some place of residency, in order to reduce their chance of facing violence from soldiers and settlers (Tamimi, 2020). This in turn decreases their ability to seek a wide array of job opportunities. Without proper worker rights and protection from law enforcement, sexual abuse and harassment goes unreported. There are few outlets to seek justice or even speak about these injustices due to patriarchal norms.

To make matters worse, Israel continues to harm the environment in the oPt leading to situations in which air pollution negatively affects Palestinian women who must carry out domestic duties at home. “The Occupying Power has the duty of ensuring and maintaining...the medical and hospital establishments and services, public health and hygiene in the occupied territory” (G.C. IV, art. 56). However, those living near Israeli factories spend up to 17 hours in their house every day because of the toxic air pollution. Consequently, Palestinian women face health impacts of increased allergies and asthma rates, along with eye infections (WCLAC, 2020).

Access to medical care is even more restrictive for those living in rural communities in Area C. Palestinian women who must stay at hospitals multiple days on end due to environmental health impacts lose time that could be devoted to their domestic duties and jobs (WCLAC, 2020). Additionally, daughters who must support their mothers in the hospital miss school and their education suffers in comparison to boys their age.

As Israel continues to occupy the oPt, Palestinian women suffer at greater costs than their male counterparts. Long-term health impacts, lack of financing, and little asset retention are large setbacks for women living in the oPt. Due to their education levels, Palestinian women have large amounts of potential to hold higher-paying jobs and are in need of improved access to better job opportunities. The next section will discuss how ecosystem and biodiversity health are interlinked with the well-being of Palestinian women.

### **The Intersections Between Gender Equality, Ecosystems, and Biodiversity Within the Palestinian Context**

As Israel continues to extract from and pollute Palestinian land, women are at the forefront of the resulting harm. In particular, Palestinian women are disproportionately affected by Israeli-induced ecosystem degradation, as they heavily depend on natural resources for their domestic obligations. The destruction of Palestinian ecosystems through Israeli dumping and pesticide use leads to long-term negative health impacts for Palestinian women.

Since many women work in the agricultural sector, they are exposed to heavy doses of pesticide spraying, along with soil contamination in the farm fields (WCLAC, 2020). Furthermore, their domestic duties require the collection of water, meaning they are usually the first to be exposed to existing contaminants. These heavy doses of toxins in the air, ground, and water lead to cancer, miscarriages, and chronic diseases (Bader, 2014).

According to the United Nations Human Rights Council (UNHCR) (2021), it is important to note that women’s “rights to have access to and to use land to increase opportunities for climate change adaption and mitigation.” Furthermore, as a form of resistance, Palestinian women enhance biodiversity through their generational knowledge about seed collection and

management. Baladi planting and seed production, mentioned earlier in the paper, is mainly managed by Palestinian women. Through classifying the best seeds to be stored in the food bank and used in the future, Palestinian women can then grow plants resistant to disease and fit for the changing environment (Alayasa, 2012).

Although Israel's actions continue to negatively affect Palestinian women, there are spaces to spread awareness and create safer agricultural systems. Baladi practices push against heavily polluting agricultural processes and avoid threatening the health of Palestinian women. However, women are still more susceptible to environmental changes, especially those induced by climate change, as discussed in the next section.

### **The Intersections Between Gender Equality and Climate Change Within the Palestinian Context**

Due to gender discrimination, Palestinian women face greater barriers of access to capital and resources, thus making them more susceptible to the impacts of climate change. With growing drought from rising temperatures, alongside Israeli over-extraction, water shortages are more common. Palestinian women must sell livestock when water is scarce, reducing their ability to gain income and provide food for their families (Verner, 2012). Furthermore, Palestinian women are more likely to be killed by natural disasters due to their roles as providers of care for their family and home (Sida, 2021).

An overall lack of resources makes Palestinian women more vulnerable to gender-based violence. With Israel's control over land and water, along with increasing desertification and drought, important resources become more scarce. Without the proper resources, Palestinian women are subject to more sexual exploitation and abuse (Farr, 2020). This can occur in the form of sexual favors being given in exchange for basic goods.

Overall, a lack of investment in Palestinian social safety nets creates more climate change vulnerability amongst women. Without access to clean water coupled with water scarcity, Palestinian women must spend more time acquiring water for their domestic needs. This reduces the time spent learning new skills for climate resilience. Furthermore, without equal access to the market, finances, and proper training in business and leadership skills, Palestinian women cannot exercise their decision-making power to promote climate resilience. The next section addresses the ways in which Palestinian human rights are violated due to Israeli environmental injustice.

### **The Intersections Between Human Rights and the Environment**

Through a human rights' based approach, it is clear that Palestinians in the oPt endure daily oppression caused by Israel's weaponization of land, water, and all other natural resources. This in turn affects access to decent work and education. Furthermore, denying Palestinian women the same basic rights as men keeps society from advancing in a positive direction.

According to Article 25 in the UDHR, "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and

medical care and necessary social services.” This is closely interlinked with the basic right to clean water and sanitation (UNHRC, 2021). For Palestinian people, these rights are obstructed by Israeli industrial dumping in the West Bank, leading to contaminated soil, air, and groundwater. Moreover, Israel rejects Palestinian building permits for proper waste site treatment plants. Many nearby wells are polluted by settler wastewater, but Palestinian residents do not have the proper equipment to ensure their water is clean (WCLAC, 2020). Without clean water and sanitation, families become ill, crops are ruined, and parents cannot provide for their children. Both health and well-being are hindered.

Furthermore, Israel’s unfair distribution of drinking water leaves Palestinians, especially Bedouins and those in rural areas, consuming less than the World Health Organization’s water consumption recommendation (Goldsmith, 2015). Israel’s Mekorot water company supplies 54% of its water to Palestinians, but in the summer months only 15% to 25% is given, as the high demands of Israeli settlers are fulfilled first (Tamimi, 2020). In the Gaza Strip in 2019, residents only received half of their needed power demand, thus affecting their water supplies, sanitation, and health (UN & State of Palestine, 2020). Water insecurity is linked to rising mental health issues, adding another layer to human rights abuse for Palestinians (UNHRC, 2021).

The International Covenant on Economic, Social and Cultural Rights enforces in Article 1 that “All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence.” Palestinians are not allowed access to any of the Jordan River because they are not able to realize their rights and therefore, only receive about 15% of the annual capacity of the natural water resources in the West Bank (ARIJ, 2016). If water was shared more equally, the oPt would gain the potential to support 745,000 dunums or about 184,000 acres of irrigable land (ARIJ, 2016). The growth of more crops would lift many Palestinians out of poverty. Access to food depends on economic mobility though, something that is heavily restricted by Israel.

Israel’s industrialized food industry heavily pollutes Palestinian land and water, threatening small-scale and Baladi farmers. The Occupation State also bans large-scale Palestinian farmers from using certain pesticides and fertilizers, yet does not do so for Israeli farmers (Tamimi, 2020). Unequal access to advancements in farming push Palestinians further into poverty, as they lack asset retention due to poor wages and unstable employment.

Stated by Article 23 of the UDHR, “Everyone has the right to work, to free choice of employment, to just and favorable conditions of work and to protection against unemployment.” This basic human right is hindered by Israel in their control over the movement of Palestinian people and products. Low-wage Israeli jobs employ Palestinian agricultural workers, yet one-fourth of laborers do not receive benefits (UN & State of Palestine, 2020). The occupying forces impose tariffs on all agricultural imports and products into the oPt, leading to a 100% to 350% increase in production cost for Palestinian farmworkers. Furthermore, farmers were restricted from using fertilizers from 2002 to 2008 leading to a 20% to 33% agricultural productivity decrease. Some fertilizers are still prohibited, while others are more costly, accounting for 21%

of Palestinian agricultural production cost. Moreover, to slow the growth of the Palestinian economy, occupation authorities delay the clearance of resource imports (Tamimi, 2020).

Education is another right that is obstructed by Israeli forces. Article 13 of the UDHR requires that “The States Parties to the present Covenant recognize the right of everyone to education.” The denial of almost all building permits in Area C prevents new schools from being established. 99.5% of the land is off limits for development in this area, leaving little to no room for expansion (Hammami, 2019). Furthermore, with all roads controlled by Israel, it can be difficult to reach schools in a timely manner, especially in rural areas of the West Bank. With high poverty rates, school can sometimes come secondary to starting work at a younger age.

All in all, Palestinian women suffer the greatest consequences. Without realizing the right to gender equality, they are faced with greater injustice. Only 45.5% of Palestinian women hold decision-making roles in regards to agricultural land, while 31.6% have decision-making power over non-mechanized equipment (AWRD, 2020). For small-scale Palestinian women farmworkers, this gives them little autonomy in the agricultural sector. The UDHR outlines in Article 23 that “Everyone, without any discrimination, has the right to equal pay for equal work.” Even with higher levels of access to land, Palestinian women cannot fully control their financial and environmental assets if their decision-making abilities are restricted. Exploitative, patriarchal logic limits Palestinian women from self-determination.

The right to health and well-being are not being fulfilled under occupation. Gender equality, clean water and sanitation, and decent work can all move Palestinians in a more just and equal direction. However, Israel must be willing to give up their extreme control and reduce the conflict and harm they are perpetually producing. The next section will discuss how biodiversity and ecosystem loss and climate change affect human rights.

### **The Intersections Between Human Rights, Ecosystems, Biodiversity, and Climate Change**

Ecosystems, biodiversity, and Palestinians all suffer when human rights are not fulfilled. The Israeli Occupation disrupts sustainable land and water management and continues to destroy delicate natural renewable systems in order to achieve more profit and control. This in turn affects access to clean water sources and the longevity of the region. Without protected green spaces, native animals and plants are threatened, which erases the historical indigenous knowledge of the region and curbs Palestinian resilience found in place attachment.

The UNHRC (2021) recognizes that “sustainable development and the protection of the environment, including ecosystems, contribute to human well-being and to the enjoyment of human rights.” Nature reserves—areas housing large amounts of biodiversity, which must be protected by the government by law—were established in the West Bank prior to the occupation. 81.6% of these nature reserves are located in Area C and are off limits to the protection of the Palestinian people. 36.2% of them overlap with Israeli settlements and 39.5% intersect with military areas. Accordingly, Israel is not abiding by their lawful duty to protect nature reserves at all costs. Furthermore, after the occupation, Israel selected more areas of land to be labeled as nature reserves in order to exclude Palestinian access (ARIJ, 2016).



Additionally, the over-consumption of the oPt's water reserves in the West Bank blocks these natural resources from regenerating for years to come. Israeli pesticide use reduces biodiversity and lowers agricultural resilience and food production (Alayasa, 2012). When Palestinians are not given the right to decent work and Baladi farming is threatened, the opportunity to preserve biodiverse, resilient seeds becomes weakened. The health and well-being of Palestinians suffer as ecosystems are depleted and biodiverse areas cannot provide the benefits from certain animals and plants that thrived in the past.

Vulnerable populations and those that rely heavily on natural resources for survival are greatly threatened by Israeli resource degradation. Palestinian women and Bedouin communities fall into this category, as their human rights are violated when water becomes polluted or land is taken by Israelis for settlement development and monoculture production. Settler violence not only harms people, but also the diverse plants and animals that live in the region and are tended to by Palestinians.

As the effects of climate change continue to interfere with regular patterns of rainfall, temperature, and storms, Palestinians suffer more because their basic rights are not being met under occupation. Without the right to live in suitable housing with affordable energy, water, and food, more time must be spent fulfilling these needs and fixing recurring damages. This takes away from innovation and infrastructure development necessary to face climate change with resilience and adaptation.

The UNHRC (2021) stresses that:

“the impact of climate change, the unsustainable management and use of natural resources, the pollution of air, land and water, the unsound management of chemicals and waste, the resulting loss of biodiversity and the decline in services provided by ecosystems may interfere with the enjoyment of a safe, clean, healthy and sustainable environment.”

Climate change brings with it the risks of reduction in crop and livestock production because of increased drought and lack of rainfall (Elasha, 2010). With more desertification, ecosystems and biodiversity are reduced in size. This is already being realized in the Jordan Dead Sea Basin. Small-scale farmers who cannot gain access to proper irrigation endure even higher levels of crop loss and impoverishment.

Without moving towards a more sustainable future that includes equitable and just solutions for Palestinians, climate change will be a large barrier in improving their overall standard of living. Less water means less food and more health problems. Jobs become more insecure as agricultural output diminishes. Additionally, Palestinian women who already face a lack of resources experience more gender-based violence.

The next section of this paper will utilize a human rights' based approach to highlight the United Nations (UN) Sustainable Development Goals (SDGs) that set objectives for the Palestinian population to reach in the future. The reasons for why Palestinians are not able to realize these goals under occupation, along with suggestions for how Palestinians can move closer to these targets will be discussed below.

## **Part II - Realization of the Sustainable Development Goals**

The Applied Research Institute - Jerusalem specifically focuses on the development of eight UN Sustainable Development Goals in the oPt. Obtaining these objectives is a long-term project that requires the inclusion of all Palestinians, especially those most vulnerable to environmental changes. Yet, Israel interferes with the achievement of these goals through its exclusionary policies and enforcements that prohibit Palestinians from obtaining their full human rights.

### *Sustainable Development Goal 2: Zero Hunger*

SDG Goal 2 emphasizes the right to adequate food. However, 1.9 million Palestinians are food insecure due to Israeli domination over the marketplace (United Nations & State of Palestine, 2020). The highest food insecurity exists amongst small-scale farmers, Bedouins, and female-headed households. Furthermore, 29% of Palestinians live in poverty, thus facing greater obstacles in acquiring healthy food items (UN & State of Palestine, 2020). Without access to small-scale farms, many Palestinians are forced to buy imported products at a higher expense. Israel's continuous construction of the segregation wall, settler destruction of land, and violent land-grabbing all hinder the ability to realize a goal of zero hunger. In response, access to fertile land for continuing sustainable Baladi farming practices and growing a diversity of high-value, high-quality crops gives Palestinians the ability to alleviate food insecurity.

### *Sustainable Development Goal 5: Gender Equality*

As stated by the United Nations & State of Palestine (2020), SDG 5 requires the "elimination of all forms of discrimination and violence against women" (p. 19). In the past year, one in three women reported enduring violence caused by their household partners. With recurring violence, women are faced with pressure to perform under mental and physical health stressors. On another note, regarding decision-making roles, 20% of the seats in the West Bank government are filled by women, while 20.2% reported having managerial positions (UN & State of Palestine, 2020). Without enough women in power, a more equal Palestinian society ceases to exist. Patriarchal systems and the stressors of the Israeli Occupation obstruct the realization of this UN goal. Re-assessing domestic roles, offering courses on climate action, mitigating movement restrictions, supporting women's clubs and Palestinian women in decision-making roles, along with creating accessible financial services are all in line with SDG 5, thus improving climate action goals, biodiversity, and community resilience.

### *Sustainable Development Goal 6: Clean Water and Sanitation*

SDG 6 asserts the right to safe drinking water and sanitation. Palestine's daily water consumption amounts to 87.3 l/c/day, while Israel's daily water consumption amounts to 240 to 300 l/c/day. Even though the West Bank and the Gaza Strip house their own water sources, Palestine is forced to buy 40% of its water from Israel's Mekorot company (UN & State of Palestine, 2020). Not reliable at times, Mekorot often fails to supply Palestinians with their daily

water needs. Israel's full control over water and indiscriminate dumping of pollutants into water sources block the ability to realize a goal of clean water and sanitation. Palestinians claiming water rights and reassessing water management are possible steps that can be taken to ensure the accessibility of clean drinking and cooking water. Furthermore, since Palestinian women are already highly involved in the collection of water, educating them on water sanitation and allowing them to make decisions in regards to water use can assist in realizing SDG 6.

#### *Sustainable Development Goal 8: Decent Work and Economic Growth*

SDG 8 is grounded in the right to work and the right to just and favorable work conditions (UN & State of Palestine, 2020). As stated in previous sections in the paper, the agricultural industry for Palestinians has dropped significantly in the last decades, leading to a heavy reliance on Israeli service jobs. Israel's restrictions on movement of people and products obstructs the ability to realize this goal. Restricting access to farms, using obstacles to obstruct Palestinian travel, and filling the marketplace with cheap Israeli products keep economic growth destabilized. Supporting small-scale Palestinian farmers, especially in the olive oil sector, and diversifying crops are outlets to grow the job market in a sustainable manner. Additionally, heightened approval of building permits creates opportunities for Palestinians to raise living standards and create new work opportunities.

#### *Sustainable Development Goal 10: Reduced Inequalities*

SDG 10 enforces the right to participate in public affairs. Restricting Palestinian voter rights in Israeli elections, stopping women from accessing decision-making roles, and giving Israelis greater access to all modes of self-realization keep the oPt in a state of constant oppression. Just in the last year, 10.5% of the Palestinian population reported some level of discrimination or harassment (UN & State of Palestine, 2020). Continued Israeli human rights offenses taking the form of environmental harm and mobility restrictions hinder the realization of this goal. Special protection should be given to mothers, children, and other vulnerable populations that are heavily discriminated against. Supporting pathways to jobs in policy and government lift the voices of Palestinians. Creating watchdog task-forces that hold Israel accountable to laws regarding the occupation of another state moves Palestinians closer to reaching SDG 10.

#### *Sustainable Development Goal 11: Sustainable Cities and Communities*

SDG 11 requires the right to adequate housing, including land and resources, along with the right to protection from natural disasters. The Palestinian manufacturing sector is the second-largest producer of GDP, yet with limited land access, this market potential will be diminished over time. Israel's domination over developable land in Area C especially counters the realization of this goal. Without the proper funding and the accessible raw materials for building sustainable technology, Palestinians are forced to rely on Israeli energy sources. As of 2021, solar power permits were not approved in Area C and 94% of Palestinian electricity in 2018 was supplied by the Israeli Electric Company (UN & State of Palestine, 2020). Promoting indigenous ways of knowing within sustainable industrialization and resilient infrastructure growth helps find inclusive solutions for marginalized communities. Furthermore, Palestinian access to affordable

technological advancements and education can assist in developing small plots of clean independent energy farms off the grid.

*Sustainable Development Goal 12: Responsible Consumption and Production and Sustainable Development Goal 13: Climate Action*

SDG 12 and 13 promote the right to health, in regards to a safe, clean, and sustainable environment (UN & State of Palestine, 2020). Right to adequate food and safe drinking water are also included here. As all Israeli environmental injustice threatens these human rights and the ones listed above, Palestinians must find their own resilient means to maintain healthy lifestyles. As the future becomes more threatened by climate change, these goals are of utmost importance. Yet, Israeli Occupation over Palestinian lives, land, and resources stops the ability to realize these goals. Limiting Israeli enforcement over Palestinian use of resources can assist in the movement towards a more sustainable Palestine. Reclaiming land and water rights, along with creating more just agreements and policy changes will lead to greater freedom in Palestinian lives. Including both Palestinian and Israeli voices in climate action is necessary in order to achieve both of these SDGs.

In succeeding with the implementation of these SDGs listed above, the oPt will not only be more resilient, but also more equipped for a vastly changing environment in the future. Including sustainability matters in all decisions is important for the survival and revitalization of Palestine. Even as Israel continues in its attempt to stop Palestinians from living sustainable lifestyles, the UN SDGs act as a glimpse of hope to empower those on the margins. Through greater funding, education, capacity-growth for asset retention, and the creation of pathways to economic independence, Palestinians can gain more autonomy in their decision-making abilities, thus affecting change in the direction of fulfilling basic human rights. With the environment highly affected by conflict, gender equality, biodiversity and ecosystem health, these intersections act as important foundations for creating an independent state with sustainable initiatives in place. In the third part of this paper, the role of peacebuilding will be discussed with a focus on solutions to reach a just two-state solution. Resolving conflict will be the first topic examined, as it intersects with all aspects of environmental health.

### **PART 3 - How Do the Intersections Have a Role in Conflict and Peacebuilding**

#### **Conflict and Peace-Building: Intersecting with Environment, Ecosystems, Biodiversity, and Climate Change**

1. Realizing and continuing the practices of Palestine's rich agricultural history and forms of deep-seeded knowledge opens pathways to peaceful ways of tending to the environment, biodiversity, and ecosystems. Indigenous knowledge holds the strength of including the rights of all individuals who make up the community, along with those of the ecosystem, and as Jihad Yousif Alayasa (2012) states in his dissertation, the decisions are "tested by long-term experience [and] rooted in their historical culture" (p.12).

2. Approving Palestinian building permits and providing access to clean water, electricity, fertile land, sanitation, and technological advancements ensures the growth of more resilient and sustainable communities. Forming pathways to sustainable development creates self-reliance for Palestinians, acting as a key part of building resilience in crisis conditions (Alayasa, 2012).
3. Monitoring and restricting settler attacks on Palestinian land, water, farms, and homes protects vulnerable communities from land and ecosystem degradation and the impacts of climate change. Especially during harvesting seasons, watchdogs must be put in place to prohibit the attack on Palestinian crops (UNOCHA, 2020). Also, enhancing the access of the Palestinian farmers to their lands all the time without any needs for the permit of the Israeli occupation authorities.
4. Restricting Israel's control over Palestinian movement, along with discontinuing funds to building the segregation wall prevents the perpetuation of structural violence and discrimination against Palestinian people. The segregation wall has already blocked 136 well owners from accessing water annually and has restricted 95% of water sources from Palestinian use (Tamimi, 2020). An overall decrease in Israeli obstacles will lower Palestinian carbon emissions and lost labor time (ARIJ, 2019).
5. Promoting a sustainable food system by growing indigenous seeds and diversifying crops—rather than planting improved and new species and monocultures—creates different, possibly improved returns on agricultural water use. The region currently suffers from a water deficit, with a projected increasing demand of 60% in 2045 (Verner, 2012). Decreasing pesticide use and using organic methods of crop production reduce the need for water usage.
6. Providing technical and logistical assistance to Palestinian farmers who face settler conflict, live in Area C, and/or own agricultural land in the seam zone improves economic sustainability and growth. With 80,000 to 100,000 families relying on olive trees as their main source of income in the West Bank, assisting farmers in crop management and protection is a necessary solution to combat Israeli environmental threats (UNOCHA, 2020).
7. Stopping land degradation and biodiversity loss halts further marginalization and inequality amongst vulnerable Palestinian populations under occupation. Mitigating pollution, habitat fragmentation, and overexploitation all help in this regard as well (UN & State of Palestine, 2020).
8. Supporting just and peaceful solutions to managing resources that do not favor Israeli over-consumption and excessive waste production limits further infecting Palestinian groundwater and soil. Chemicals used in mass produce farming destroy Baladi planting practices and their soil (Alayasa, 2012). Hazardous inorganic substances accumulated in the body overtime result in long-term health issues and must be prevented by stricter regulations (WCLAC, 2020).

Resource-sharing based on legal rights, and diversified climate action and decision-making amongst Palestinians and Israelis challenge and obstruct norms of destructive environmental extraction fueled by market demand. Equal access to the benefits and opportunities from climate action must also be provided to marginalized communities (Burns, 2018).

9. Ending Israel's weaponization and domination over all land, water, and natural resources in the region provides Palestinians with self-determination, self-reliance, and opportunities to restore the economy, ecosystems, and biodiversity. Vulnerability increases as humanitarian needs remain high (ARIJ, 2016).

### **Gender Equality and Peace-Building: Intersecting with Environment, Ecosystems, Biodiversity, and Climate Change**

1. Equal access to capital and resources enforces the ability for Palestinian women to manage the environment sustainably through biodiversity and ecosystem conservation practices, along with improving agricultural output levels. The Arab World for Research and Development (2020) states that studies provide evidence of a correlation between "women land ownership and control and the achievement of sustainable livelihoods" amongst their families and shows that without land ownership, poverty and nutrition levels heighten (p. 18).
2. Equal access to job opportunities lower environmental health impacts faced by Palestinian women, as they can expand into other career sectors and gain skills to combat Israeli domination and misuse that lead to poor water and land management. Acquiring decision-making roles gives Palestinian women the opportunity to improve unsafe domestic practices related to the environment, i.e. collection of polluted water and working on polluted farmland (GWPM & Geneva Water Hub, 2021).
3. Gender equality enables diversification in decision-making processes, making space to move towards more safe and prosperous ways of living in the occupied Palestinian territories. Sida (2021) writes in its article on gender equality and climate that research shows that more women in political authority positions is "associated with less carbon dioxide emissions, more land protection, and higher possibility of the ratification of environmental treaties" (p. 2).
4. Palestinian women in leadership roles build resilience in communities against climate change disasters and Israeli-induced environmental damage. Studies point to better warning systems for and reconstruction after natural disasters when women have more decision-making power (Sida, 2021).
5. Understanding gendered differences in Palestinian society assists in more productive climate mitigation and adaptation actions, along with fulfilling particular environmental needs of both men and women. Gender-disaggregated statistics regarding the environment extend to the needs of women and promote public awareness around vulnerable populations (AWRD, 2020).

6. Investing in infrastructure and services, capacity-building in learning diplomacy and international skills, and improving access to finance and markets supports competent Palestinian women who are pursuing leadership roles. Opening market opportunities allows for the chance to expand the exporting of female-owned products (ARIJ, 2016).
7. Allowing self-determination amongst Palestinian women improves per capita household consumption and energy efficiency levels, as their domestic duties determine the use and disposal of good and resources. More mobility and leadership allows for the growth of sustainable decisions to be put into practice (Burns, 2018).
8. Restrictions on Israel's illegal dumping and polluting sites in the West Bank improve the long-term health impacts of Palestinian women as exposure to negative environmental harm lessens. Modern agricultural practices rely on heavy pesticide use and need to be countered with more traditional, organic forms of food production (Orberender, 2015).
9. Ending Israel's complete control over water and land better ensures a possible future of equitable access to clean water and fertile land for Palestinian women. Many rural Palestinian women do not have any other access to water, except that from contaminated wells (WCLAC, 2020). Holding duty-bearers accountable creates the potential for reclaiming land and water resources (AWRD, 2020).

### **Human Rights and Peace-Building: Intersecting with Environment, Ecosystems, Biodiversity, and Climate Change**

1. Applying a human rights' based approach to all environmental decisions requires the protection of vulnerable Palestinian populations and allocating resources towards improving their livelihoods. The Declaration on the Right to Development emphasizes the "full realization of the right of peoples to self-determination, which includes the right to exercise their inalienable right to full sovereignty over all their natural wealth and resources" (AWRD, 2020, p. 19).
2. Establishing food policies that promote a sustainable use of resources, public health, economic stability, and equal access to basic food products requires negotiating with all actors in the agricultural industry and reduces insecurities that result from poverty. Access to food is in close relation to economic mobility and self-reliant communities. (UNHRC, 2020).
3. Implementing revised water plans that utilize a right-based approach ensure that proper health standards are met, disasters are mitigated, and pollution is halted, while still holding Israel accountable for any violations. The United Nations Human Rights Council on *Human Rights and the Global Water Crisis* (2021) states that "the right to a healthy environment requires States to prevent water pollution and depletion, prevent or mitigate water-related disasters and protect or restore aquatic ecosystems" (p. 7).
4. Uplifting indigenous knowledge that integrates a rights-based approach in regards to the environment and people secures the protection and revitalization of biodiversity and

ecosystems. The United Nations Human Rights Council on *Human Rights and the Environment* (2021) mentions the Paris Agreement that states, “when taking action to address climate change, respect, promote and consider...the rights of indigenous people” (p. 2).

5. Promoting and protecting the rights of small-scale Palestinian farmers—especially those with knowledge about indigenous seeds and other types of crops and livestock local breeds—helps prevent biodiversity loss and crop failure. Indigenous methods of seed collection are driven from social cohesion, connection to the environment, and based in promoting the well-being of the community (Alayasa, 2012).
6. Supporting a flow of Palestinian goods across borders to promote economic stability creates strong self-reliance and positively affects wellbeing, health, favorable work conditions, and asset retention. Supporting democratic food systems is interconnected with a healthy economy, as all stakeholders are involved in the long-term approach and vision (Accompanying Document to the Glasgow Food & Climate Declaration, 2020).
7. Advancing employment opportunities promotes the ability for women to enter decision-making roles, properly representing the environmental needs of vulnerable populations. The involvement of the marginalized in important decisions supports the diverse needs of Palestinian communities (AWRD, 2020).
8. Ensuring water, food, and energy security for all Palestinians avoids future irreversible damage that could occur from the disastrous effects of climate change. The right to access these goods are inextricably linked to land access and ownership (AWRD, 2020).
9. Ending the occupation and creating a two-state solution fulfills the potential for a just and equitable future for both Palestinians and Israelis. Giving more freedom to Palestinians creates space to further realize the UN’s SDGs, thus fulfilling basic human rights. Israel’s ultimate control over Palestinian livelihood creates harm, conflict, and disastrous effects to the natural environment. Re-inscribing a two-state solution allows Palestinians to exercise their management over nature reserves, renewable sources, and re-establish a sustainable agricultural economy. The toll of the Israeli Occupation endured by Palestinians must be put to an end in order to realize a more just, peaceful, and sustainable future.

#### **PART 4 - Comparison Matrix**

	Israeli (Government and Settlers) Actions	Palestinian Authority Actions	Civil Society Response/Role
	The Civil Administration is a	Under Oslo I and II, the PA has	Coordination between the PA and NGOs is



<p>Political Conflict/Legal Context</p>	<p>segment of the Israeli military that is “responsible for affairs in the West Bank and Gaza” (UNEP, 2003). Through military orders, Israel has complete jurisdiction over all natural resources. Israeli environmental legislation is only enforced in the oPt if a military order is created (UNEP, 2003). Israel applies different environmental laws to Israelis than to Palestinians in the oPt. Joint environmental management arrangements between Israel and Palestine are not followed (UNEP, 2020).</p>	<p>established the Environmental Quality Authority that is responsible for environmental issues. Palestinian Environmental Law enforces the “protection of the environment by preventing all types of pollution; promotion of public health and welfare, preservation of biodiversity and improvement of those areas which are environmentally degraded” (UNEP, 2003). The PA struggles to enforce environmental laws in the West Bank, as Israel has a military stronghold over the region.</p>	<p>required in supporting environmental activities (UNEP, 2003). Since the PA only has a partial amount of authority over the West Bank, it can be difficult for civil society actors to perform their actions because of cultural, political, and financial pressure. Israel continues to suppress Palestinian CSOs, targeting human rights groups that oppose the Israeli occupation. CSOs face limited access to resources, threats of closure by Israeli authorities, and financial burdens that result from carrying out unpaid activities. Gender, human rights are agriculture are the three most active CSO policy areas for CSOs (EU, 2019).</p>
<p>Responsibility</p>	<p>Israel agreed in the Oslo II Accords to assist Palestine in improving their environmental situation. Furthermore, Israel agreed to use resources sustainably in Area C (Amra, 1998). Israel has international legal responsibilities, as listed earlier in the paper, in regards to</p>	<p>The Declaration of Principles of 1993 in Oslo I state that the PA would “adopt, apply and ensure compliance with internationally recognized standards regarding land, air, water and sea pollution, as well as disposal of solid and liquid wastes. Palestine agreed in the Oslo II Accords</p>	<p>Civil society organizations are responsible for acting as service providers, advocates, and watchdogs. They must follow the Law of Charitable Associations and Community Organizations that places many administrative steps to acquire registration, funding, and so on.</p>

	<p>protecting the environment in Palestine. They must ensure Palestinians have the right to water, sanitation, protection, movement, development, food security, gender equality, and so on. As an occupying state and according to the Hague Regulations and the Fourth Geneva Conventions, Israel only have temporary administrative responsibilities over Palestine's natural resources and therefore cannot exploit for its own economy (G.C. IV, H.R.).</p>	<p>to use natural resources sustainably in Area A (Amra, 1998). Furthermore, the PA has full responsibility for domestic issues and internal security in Zone A of the West Bank. This means that the PA must protect Palestinian human rights, such as the right to water and sanitation and sovereignty over natural resources. In Zone B, the PA is responsible for public order, which still includes securing the rights of its people in the region and its relation to the environment (UNHRC, 2019).</p>	<p>CSOs in Palestine are now being expected to act as policy actors, monitoring and assessing laws made by the PA and ensuring the realization of UN Sustainable Development Goals. Their work helps in revealing the injustices committed by both Israel and the PA, along with finding the most effective solutions to support Palestinians (EU, 2019).</p>
Activity	<p>Israeli settlements and security actions cause environmental degradation. Unregulated industries discharge untreated waste into groundwater sources. Unsustainable use and management of resources causes biodiversity and ecosystem health risks. Favoring water and crop production for Israelis and settlers maintains a water insecurity for</p>	<p>The PA included the optimal use of natural resources into its five-year Palestinian Development Plan from 1999-2003. The PA created an environmental strategy for 2000-2010, defining targets and measures focused on nine environmental themes, prioritizing water quality first. A National Environmental</p>	<p>Palestinian civil society uses grassroots governance to support vulnerable populations under occupation. In regards to the environment, this takes place in the form of relief, transparency of human rights violations, resilience building, and finding solutions to combat land degradation caused by the occupation. Collaboration between the West Bank, East</p>

	<p>Palestinians. Keeping the Dead Sea River Basin off limits to Palestinians favors Israel's separate water system for illegal settlers and creates heavy reliance on Israel's water company Mekorot (UNEP, 2020). Using physical blockades restricts availability to crops and alternative food sources for Palestinians. Forced evictions raise levels in food, water, and housing insecurity. The destruction of olive trees to build the separation wall and the establishment of sacrifice zones impedes Palestinian agricultural development (UNHRC, 2019). Military orders allow Israel to make reckless environmental actions. Illegal Israeli activities are not always held accountable in the court of international law. Israel violates the basic rights of Palestinians, thus breaching codes of conduct laid out by the Fourth Geneva</p>	<p>Action Plan was adopted in August with 111 actions and projects relating to waste, land-use, biodiversity, agricultural, and water (UNEP, 2003). The PA created an Emergency Natural Resources Protection Plan, dividing Gaza and the West Bank into areas of environmental sensitivity. This plan established in 1995-96 was supposed to move development away from these sensitive areas (Amra, 1998). On another note, management of water and waste is difficult in Gaza because the PA cannot necessarily employ environmental governance solutions. Restrictions on usage of water and land, materials and technologies (UNEP, 2020). Failure of the PA to manage waste and energy supplies has led to contaminated soil and groundwater. Furthermore, sewage and wastewater continue to be discharged into the Mediterranean Sea. The Coastal Aquifer</p>	<p>Jerusalem, and the Gaza Strip is prevented by divisions in politics and governance, so a unified civil society for Palestine is yet to be established (EU, 2019). The Emergency Water, Sanitation and Hygiene group is made up of 30 organizations helping to minimize effects of political/environmental factors in regards to these segments of basic human rights Al Haq and EWASH, 2011). In order to improve the effectiveness of CSOs, the UN suggests representing more citizens' voices in state actions, widening the space for capacity-building, establishing international partners, improve internal transparency, and helping realize Palestinian self-determination (EU, 2019). Finding outlets for collaboration amongst CSOs across the region is another potential solution to create more environmental action-oriented solutions. Sharing data and expertise is necessary</p>
--	--	---	--

	Convention. This inherently affects the overall health of Palestine's environment (UNEP, 2020).	level has dropped below sea level, Irrigation use is limited, so farmers use excessive pesticides and are not regulated by the PA (UNEP, 2020).	in order to help the most people possible.
--	---	---	--

## References

- Agricultural Development Association. (n.d.). Policy Brief: Delivering Women Farmer's Rights. *PARC*, 1-8. Retrieved July 12, 2021 from <http://www.pal-arc.org/sections/view/85>
- Alayasa, J. Y. (2012). *Building on the strengths of indigenous knowledge to promote sustainable development in crisis conditions from the community level: the case of Palestine*. [Doctoral dissertation, Hartfield School of Government]. PDX Scholar.
- Al-Haq and EWASH. (2011). Israel's Violations of Human Rights Regarding Water and Sanitation in the oPt. UN. Retrieved August 2, 2021 from <https://www.un.org/unispal/document/auto-insert-195880/>
- Amra, Z. (1998). The Development of Palestinian Environmental Law and Legal Advocacy. *Palestine-Israel Journal of Politics, Economics and Culture*, 5, no. 1. Retrieved August 2, 2021 from <https://pij.org/articles/426/the-development-of-palestinian-environmental-law-and-legal-advocacy>
- Anera. (2020). Understanding Agriculture in Palestine and How Aid Can Help. *Relief Web*. Retrieved July 20, 2021 from <https://reliefweb.int/report/occupied-palestinian-territory/understanding-agriculture-palestine-and-how-aid-can-help>
- Applied Research Institute – Jerusalem. (2015). On Israeli Violations in the oPt: Period from June 13, 2014 – May 31, 2015. *ARIJ*, 1-405. Retrieved August 2, 2021 from <http://www.arij.org/component/content/article/126-latest/686-arij-record-on-israeli-violation-in-the-occupied-palestinian-territory.html>
- Applied Research Institute - Jerusalem. (2016). Opportunities and Challenges of Palestinian Development actions in Area C. *ARIJ*, 1-86. Retrieved June 29, 2021 from [https://www.researchgate.net/publication/325514231\\_Opportunities\\_and\\_Challenges\\_of\\_Palestinian\\_Development\\_actions\\_in\\_Area\\_C](https://www.researchgate.net/publication/325514231_Opportunities_and_Challenges_of_Palestinian_Development_actions_in_Area_C)
- Applied Research Institute - Jerusalem. (2019). Assessing the Impacts of Israeli Movement Restrictions on the Mobility of People and Goods in the West Bank. *ARIJ*, 1-45. Retrieved June 29, 2021 from <http://www.arij.org/publications/special-reports/305-special-reports-2019/955-assessing-the-impacts-of-israeli-movement-restrictions-on-the-mobility-of-people-and-goods-in-the-west-bank-2019.html>
- Arab World for Research and Development. (2020). In-depth Assessment of Women's Access to and Ownership of Land and Productive Resources in the occupied Palestinian territory. *Palestinian Working Woman Society for Development*, 1-72. Retrieved June 29, 2021 from <https://pwwsd.org/uploads/15949011091533037615.pdf>
- The Association for Civil Rights in Israel. (2017). Kaminitz Law: Draft Planning and Construction Law, Amendment 109, 5776-2016, Position Paper. *ACRI*, 1-11. Retrieved

- July 29, 2021 from <https://law.acri.org.il/en/wp-content/uploads/2017/02/2017.2.5-keminitz-law-position-paper-eng.pdf>
- Atran, S. (1986). Hamula Organization and Masha'a tenure in Palestine. *Man*, 271-295. Retrieved July 29, 2021 from <https://www.jstor.org/stable/2803160>
- Bader, H. (2014). Water Quality as Indicator of Gender Equity in Palestinian Rural Areas: Case Study Kur Village in the Tulkarem District. *Palestine-Israel Journal of Politics, Economics & Culture*, 19/20(4/1), 97–103. Retrieved June 17, 2021 from <https://www.proquest.com/openview/8cfbe01d3c34945759ef77d71923eca5/1?pq-origsite=gscholar&cbl=26627>
- Burns, B. (2018). Pocket Guide to Gender Equality Under the UNFCCC. *European Capacity Building Initiative*, 1-67. Retrieved June 17, 2021 from <https://ecbi.org/news/2018-edition-pocket-guide-gender-equality-under-unfccc>
- Center for Economic and Social Rights. (n.d.) The Right to Water in Palestine: A Background Factsheet #1. *CESR*, 1-2. Retrieved August 2, 2021 from <https://www.cesr.org/sites/default/files/Palestine.RighttoWater.Factsheet.pdf>
- EcoPeace Middle East. (2020). Desk Study on the Opportunities and Implications of Releasing Treated Effluent in the Lower Stretches of the Jordan River and Dead Sea. *EcoPeace ME*, 1-35. Retrieved June 21, 2021 from <https://old.ecopeaceme.org/wp-content/uploads/2020/11/Desk-Study.pdf>
- Elasha, B. O. (2010). Mapping of Climate Change Threats and Human Development Impacts in the Arab Region. *UNDP Arab Development Report: Research Paper Series, UNDP Regional Bureau for the Arab States*, 1-40. Retrieved June 17, 2021 from <https://arabtradeunion.org/upload/Mapping%20of%20Climate%20Change%20Threats.pdf>
- European Union. (2019). Joint European Roadmap For Engagement with Civil Society in Palestine. *EU*, 1-28. Retrieved August 2, 2021 from [https://www.google.com/search?q=Joint+European+Roadmap+For+Engagement+with+Civil+Society+in+Palestine.&rlz=1C5CHFA\\_enUS824US824&oq=Joint+European+Roadmap+For+Engagement+with+Civil+Society+in+Palestine.&aqs=chrome..69i57j260j0j7&sourceid=chrome&ie=UTF-8](https://www.google.com/search?q=Joint+European+Roadmap+For+Engagement+with+Civil+Society+in+Palestine.&rlz=1C5CHFA_enUS824US824&oq=Joint+European+Roadmap+For+Engagement+with+Civil+Society+in+Palestine.&aqs=chrome..69i57j260j0j7&sourceid=chrome&ie=UTF-8)
- Farr, V. (2020). ‘We knew exactly what we’d have to do’: Palestinian Women’s sumud in the Covid-19 pandemic. *Palestinian Working Woman Society for Development*, 2-24. Retrieved June 29, 2021 from <https://www.osce.org/fsc/40063>
- Global Water Partnership Mediterranean & Geneva Water Hub. (2021). Empowering Women in Water Diplomacy in the Middle East and North Africa: A Comparative Study of Egypt, Jordan, Lebanon, Morocco and Palestine. *Global Water Partnership Mediterranean*, 1-82. Retrieved June 21, 2021 from <https://www.gwp.org/en/GWP-Mediterranean/WE-ACT/News-List-Page/2021/women-in-water-diplomacy/>.

- Goldsmith, M. (2015). From the River to the Sea: Israel, Palestine, and Queer/Feminist Ecologies. *UnderCurrents: Journal of Critical Environmental Studies*, 19, 17-26. Retrieved June 17, 2021 from [https://www.academia.edu/39578281/From\\_the\\_River\\_to\\_the\\_Sea\\_Israel\\_Palestine\\_and\\_Feminist\\_Queer\\_Ecologies](https://www.academia.edu/39578281/From_the_River_to_the_Sea_Israel_Palestine_and_Feminist_Queer_Ecologies)
- Grant, P. (2019). Palestine: ‘Climate change is not just a natural phenomenon but a political one. Minority and Indigenous Trends 2019: Focus on Climate Justice. *Minority Rights Group International*, 165-169. Retrieved June 17, 2021 from <https://minorityrights.org/trends2019/palestine/>
- Hammami, R. (2019). Addressing the Needs of Palestinian Households in Area C of the West Bank: Findings of the First Comprehensive Household Survey. *OXFAM and Birzeit University: Institute of Women’s Studies*, 1-121. Retrieved June 17, 2021 from <https://reliefweb.int/sites/reliefweb.int/files/resources/Area%20C%20Summary%20FINAL13032019.pdf>
- International Committee of the Red Cross. (1907). Convention (IV) Respecting the Laws and Customs of War on Land and its Annex: Regulations Concerning the Laws and Customs of War on Land - 1907 Hague Regulations (arts 42-56) Section III, Military Authority Over the Territory of the Hostile State. ICRC. Retrieved July 7, 2021 from <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/0/1d1726425f6955aec125641e0038bfd6>
- International Committee of the Red Cross. (1949). Convention (IV) Relative to the Protection of Civilian Persons in Time of War, Geneva, 12 August 1949. ICRC. Retrieved July 21, 2021 from <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Treaty.xsp?documentId=AE2D398352C5B028C12563CD002D6B5C&action=openDocument>
- International Committee of the Red Cross. (1977). Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977. ICRC. Retrieved July 7, 2021 from <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Treaty.xsp?documentId=D9E6B6264D7723C3C12563CD002D6CE4&action=openDocument>
- Jaber, F. and Riyhai, I. (2016). Informal Labor: Palestine. *Al-Marsad*, 162-165. Retrieved July 20, 2021 from <https://www.annd.org/cd/arabwatch2016/pdf/english/16.pdf>.
- Kark, R. (2017). Consequences of the Ottoman Land Law: Agrarian and Privatization Processes in Palestine, 1858–1918. *Societies, Social Inequalities and Marginalization*, 101-119. Retrieved July 20, 2021 from [https://www.researchgate.net/profile/Gibji-Nimasow/publication/315847392\\_Changing\\_Identity\\_Livelihood\\_and\\_Biodiversity\\_of\\_Indigenous\\_Communities\\_in\\_the\\_Eastern\\_Himalaya\\_with\\_Special\\_Reference\\_to\\_Aka\\_Tribe/links/5acdb83c0f7e9b1896560379/Changing-Identity-Livelihood-and-Biodiversity-of-Indigenous-Communities-in-the-Eastern-Himalaya-with-Special-Reference-to-Aka\\_Tribe.pdf#page=114](https://www.researchgate.net/profile/Gibji-Nimasow/publication/315847392_Changing_Identity_Livelihood_and_Biodiversity_of_Indigenous_Communities_in_the_Eastern_Himalaya_with_Special_Reference_to_Aka_Tribe/links/5acdb83c0f7e9b1896560379/Changing-Identity-Livelihood-and-Biodiversity-of-Indigenous-Communities-in-the-Eastern-Himalaya-with-Special-Reference-to-Aka_Tribe.pdf#page=114)
- Schoenfeld, S. (2005). Types of environmental narratives and their utility for understanding

- Israeli and Palestinian environmentalism. *Palestinian and Israeli Environmental Narratives: Proceedings of a Conference Held in Association with the Middle East Environmental Futures Project*, 93-114. Toronto, Ontario: Center for International and Security Studies, York University.
- Sfard, M., Zachary, S., and Lev, A. (2009). Petition for an *Order Nisi* and an Interim Injunction. *Yesh Din*. Retrieved July 20, 2021 from <https://www.yumpu.com/en/document/view/35571979/petition-yesh-din>
- Sida. (2021). Gender Equality, Environment, & Climate. *Sida*, 1-7. Retrieved June 17, 2021 from Change.[https://publikationer.sida.se/contentassets/7f4572d0dfc94556ba85d7f394fc28df/10204939\\_brief\\_gender\\_equality\\_environment\\_climate\\_change\\_mars-21\\_webb.pdf](https://publikationer.sida.se/contentassets/7f4572d0dfc94556ba85d7f394fc28df/10204939_brief_gender_equality_environment_climate_change_mars-21_webb.pdf)
- Orberender, S. (2015, May 12). Traditional Farming in Palestine. *Henrich Boll Stiftung: Palestine and Jordan*. <https://ps.boell.org/en/2015/05/12/traditional-farming-palestine>
- Palestinian Central Bureau of Statistics. (2019). The Palestinian Central Bureau of Statistics issues a press release on the results of the Labor Force Survey for the year 2019. *PCBS*. Retrieved July 12, 2021 from <https://www.pcbs.gov.ps/postar.aspx?lang=ar&ItemID=3665>
- Palestinian Water Authority. (2016). National Water Sector Strategy: 2017-2022. PWA, 1-154. Retrieved July 29, 2021 from <http://www.pwa.ps/userfiles/server.pdf>
- Tamimi, T. (2020). Research Study on the Impact of the Israeli Military Occupation on the Access of Rural Women to their Economic Rights. *Palestinian Working Woman Society for Development*, 1-40. Retrieved June 29, 2021 from <https://pwwsd.org/>
- Temper, L. (2009). Creating facts on the ground: Agriculture in Israel and Palestine (1882-2000). *Historia agraria: Revista de agricultura e historia rural*, (48), 75-110. Retrieved June 17, 2021 from <https://www.semanticscholar.org/paper/Creating-Facts-on-the-Ground%3A-Agriculture-in-Israel-Temper/76f6d3c761b7f982b9446d4fd33aae60a00a7abb>
- Trading Economics. (2021). Palestine GDP From Agriculture Forestry and Fishing. Trading Economics. Retrieved July 20, 2021 from <https://tradingeconomics.com/palestine/gdp-from-agriculture#:~:text=Looking%20forward%2C%20we%20estimate%20GDP,according%20to%20our%20econometric%20models>
- United Nations. (2020). Accompanying Document to the Glasgow Food & Climate Declaration. Glasgow Food and Climate Declaration. 1-2. Retrieved June 21, 2021 from <https://www.glasgowdeclaration.org/the-glasgow-declaration>
- United Nations Conference on Trade and Development. (2015). The Besieged Palestinian Agricultural Sector. UNCTAD, 1-49. Retrieved July 21, 2021 from [https://unctad.org/system/files/official-document/gdsapp2015d1\\_en.pdf](https://unctad.org/system/files/official-document/gdsapp2015d1_en.pdf)



- United Nations Environmental Program. (2003). Desk Study on the Environment in the Occupied Palestinian Territories. UNEP, 1-194. Retrieved August 2, 2021 from <https://postconflict.unep.ch/publications/INF-31-WebOPT.pdf>
- United Nations Environmental Program. (2020). State of the Environment and Outlook Report for the oPt 2020 – UN Environmental Program Report. UNEP. Retrieved August 2, 2021 from <https://www.un.org/unispal/document/state-of-environment-and-outlook-report-for-the-opt-2020-un-environmental-program-report/>
- United Nations General Assembly. (1948). Universal Declaration of Human Rights. UN. Retrieved July 21, 2021 from <https://www.un.org/en/about-us/universal-declaration-of-human-rights>
- United Nations Human Rights Council. (2021). Human rights and global water crisis: water pollution, water scarcity and water-related disasters: Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy, and sustainable environment. *United Nations Human Rights Office of the High Commissioner*, 1-21. Retrieved June 17, 2021 from <https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/HumanRightsGlobalWaterCrisis.aspx>
- United Nations Human Rights Council. (2021). Human rights and the Environment. *United Nations Human Rights Office of the High Commissioner*, 1-6. Retrieved June 17, 2021 from <https://www.ohchr.org/EN/HRBodies/HRC/RegularSessions/Session46/Pages/46RegularSession.aspx>
- United Nations Human Rights Council. (2019). Human Rights Situation in Palestine and Other Occupied Arab Territories: Report on the Special Rapporteur on the Situation on Human Rights in the Palestinian Territories Occupied Since 1967. *United Nations Human Rights Office of the High Commissioner*, 1-19, Retrieved August 12, 2021 from <https://www.ohchr.org/EN/HRBodies/HRC/Pages/NewsDetail.aspx?NewsID=26919>
- United Nations Human Rights Council. (2020). Right to Food: Report of the Special Rapporteur on the right to food, Michael Fakhri. *United Nations Human Rights Office of the High Commissioner*, 1-20. Retrieved June 17, 2021 from <https://www.ohchr.org/en/issues/food/pages/foodindex.aspx>
- United Nations Human Rights Office of the High Commissioner. (1966). International Covenant on Economic, Social and Cultural Rights. *UNHRC*. Retrieved July 21, 2021 <https://www.ohchr.org/en/professionalinterest/pages/cescr.aspx>
- United Nations Human Rights Office of the High Commissioner. (1986). Declaration on the Right to Development. *UNHRC*. Retrieved July 21, 2021 from <https://www.ohchr.org/en/professionalinterest/pages/righttodevelopment.aspx>
- United Nations Office for the Coordination of Humanitarian Affairs. (2020). Factsheet: Olive Harvest Season in the oPt. *OCHA*, 1-2. Retrieved July 12, 2021 from <https://www.ocha>

[opt.org/content/humanitarian-bulletin-october-december-2020](https://www.un.org/opt.org/content/humanitarian-bulletin-october-december-2020)

- United Nations & State of Palestine. (2020). State of Palestine: Atlas of Sustainable Development 2020. *United Nations*, 1-79. Retrieved June 17, 2021 from <https://www.un.org/unispal/document/state-of-palestine-atlas-of-sustainable-development-2020-un-country-team-state-of-palestine-publication/>
- Verner, D. (2012). Adaptation to a Changing Climate in the Arab Countries: A Case for Adaptation Governance and Leadership in Building Climate Resilience. *MENA Development Report & The World Bank* 1-445. Retrieved June 17, 2021 from <https://openknowledge.worldbank.org/handle/10986/12216>
- Women's Centre for Legal Aid and Counseling. (2020). The Gendered Impact of Environmental Violations and Water Occupation in the Palestinian Territories. *This Week in Palestine*, 1-3. Retrieved July 13, 2021 from <https://thisweekinpalestine.com/>