

## CHAPTER FOUR

# ZIONIST AND ISRAELI PERSPECTIVES ON POPULATION GROWTH AND ENVIRONMENTAL IMPACT IN PALESTINE AND ISRAEL

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The key to immigration is the people, not the land, not the lifeless crust of earth but the dynamics and creation of farmer and factory-hand.

—BEN-GURION 1954a, 44

**D**EMOGRAPHY HAS a profound impact on politics (Bookman 2002; Teitelbaum 2005). This is all the more so in a country like Israel: a political hotspot where population statistics are wielded as weapons to prop up one's ideology, to justify a proposed policy or to support a historical theory. From scholarly debate on the biblical period to contemporary election campaign speeches, demography colors political discourse. It is imperative, then, to study population-environment (P-E) interactions in not only an ecological context, but in a sociohistorical context as well.

Intuitively, Israel should be a good laboratory for studying the impact of population growth on selected environmental indicators. Its population growth rates are similar to those of developing nations, but its economic well-being and equivalent consumption rates are similar to the developed world. Several natural resources—in particular, water and open land—are discussed in terms of scarcity. Technological progress struggles to mitigate increased per capita pollution production. There is constant pressure, due to population growth and increase in per capita consumption, to increase electricity production capacity and water supply.

Indeed, there seems to be a consensus among Israeli scholars and activists that population growth places pressure on scarce national resources and on the ability of ecosystems to absorb the waste products of human society (Aya-

lon 2003; Ministry of Environment 1999). And yet, most environmental scholars and even the hard-core environmental activists do not place population growth on their short list of environmental challenges.<sup>1</sup> The explanation is fourfold: (1) procreation is viewed as sacrosanct in the Jewish community for religious, historical, and political reasons; (2) the most popular Zionist vision for the future of Israel is a Jewish, democratic state, and this rests on the foundation of a solid secular Jewish majority in Israel; (3) there is not a consensus among scholars regarding the exact role of population growth on environmental quality in Israel or whether it is useful to consider policy intervention in demographic processes (Orenstein 2004), and (4) Israelis are particularly enamored with the potential of technology (rather than population control) to solve the country's most pressing environmental challenges (Tal 2008).

In light of these characteristics of P-E discourse, it is evident that a socio-historical perspective is crucial for understanding the nature of today's popular and academic discourse about the topic. This chapter considers Israel's ancient and modern history, as both have particular relevance to modern P-E discourse. The chapter begins by assessing scholarship on the period prior to the destruction of the Second Temple and subsequent exile of the Jews from Eretz Israel, and then jumps to the beginning of the twentieth century and the rise of the modern Zionist movement and continues through the present. The overarching goal is to show the extent to which P-E discourse is inseparable from contemporary ideological and political debate. This is not to say that assessment of environmental impact of population growth cannot be performed in a sober and objective manner. But it does suggest that a proper analysis of the relationship in the Israeli context, and especially the development of policy-relevant conclusions, requires an a priori understanding and explicit recognition of the ideological context in which the assessment is taking place.

#### NUMBERS FROM THE PAST: POPULATION, ENVIRONMENT, AND ANCIENT ISRAEL

A consideration of the biblical period is a good starting point for understanding today's P-E discourse. The Jewish and Zionist communities draw direct lessons from biblical teachings that help guide their behavior and even policy making. Further, the biblical period was a time of real "carrying capacities," when local natural resource availability (water, grazing lands, agricultural productivity) had a direct impact on the number of people who could live in the land. Finally, several biblical scholars and archeologists attach important political meaning to population estimates of the period, using them in a debate about the veracity of the historical existence of an Israelite Kingdom. Since the Zionist narrative is based in part on a Jewish "return" to the Land of Israel, debate around the existence of an Israelite nation has important ideological and symbolic implications in the Israeli-Palestinian conflict.

Two types of literature deal with P-E relationships during the biblical period. The first uses the Bible itself as a starting point toward exploring questions ranging from how the environmental conditions on the land affected the size and location of the human population to how the Bible (and subsequent commentary) deals with the issue population growth. A second body of literature, written by biblical historians and archeologists, also studies how environmental conditions may have affected population size and vice versa, but this literature derives its support from the physical remains of ancient civilizations and, to a lesser extent, from written text.

Soil scientist Daniel Hillel, reading the Bible through the lens of a natural scientist, exemplifies this first type of scholarship with his book *The Natural History of the Bible* (Hillel 2006). One commonly recurring biblical P-E theme in Hillel's analysis is that of carrying capacities for grazing animals, or how many herders could populate a given area based on the land's vegetative productivity. This theme surfaces, for example, when Abraham arrives in Canaan: "the land could not support them [Abraham and Lot] staying together, for their possessions were so great" (Gen. 13:6), and is repeated with Jacob and Esau who, too, could not live together because "the land where they sojourned could not support them because of their livestock" (Gen. 36:7). A second limiting resource, water, was the subject of negotiations between Abraham and Abimelech, king of Gerar, in what would become Beersheva. Following the negotiation, Isaac digs another well in Rehoboth, avoiding further conflict with Abimelech by effectively raising the environmental carrying capacity of the land; "Now at last the Lord has granted us ample space to increase in the land" (Gen. 26:22).

Population pressures on environmental resources may have also, according to Hillel, contributed to political tension between the Egyptians and the Israelites during their period of enslavement there. The Israelites, he suggests, were originally nomadic pastoralists who traditionally had high fertility rates to cope with high infant and maternal mortality rates. The Egyptians, on the other hand, may have kept birth rates deliberately low "in order to avoid excessive disputes over the inheritance of such limited resources as land and water rights" (Hillel 2006, 106). Tensions mounted between the Egyptians and their Israelite slaves, prompting Pharaoh to order infanticide against the Israelites. Likewise, Hillel interprets the rivalry between the Israelites, upon their return from Egypt, and the Amalekites as illustrative of the "grim fight-to-the-death rivalry between nomadic tribes over territorial rights in the desert domain, the rights to sparse pastures and meager water supplies" (131).

Environmental anthropologist Jeremy Benstein finds contemporary advice regarding P-E interactions in his reading of the Bible. For example, when facing famine in Egypt, Joseph (who came from a family with eight children)



For some scholars, these population numbers (and other estimates) have become a vibrant point of political contention. Demographic estimates are used to provide evidence for major historical processes, in particular the rise of the Israelite kingdoms (e.g., when did they arise and from what population groups?). Dever (2004) describes a fierce ideological battle in which revisionists (those who doubt the existence of a United Monarchy of Israel) suggest that low population numbers in tenth-century BCE Judah, for example, rule out the possibility of a significant Israelite monarchy.<sup>3</sup> Antagonists to Zionist goals extend this debate into modern times, arguing that the strength of ancient Israelite settlement and governance has direct bearing on modern Zionist-Israeli claims to Palestine (e.g., Whitelam 1996). While it is beyond the scope of this chapter to assess the debate in full, what is relevant is that population numbers have important contemporary meaning, even if they are more than 2,000 years old.

#### WHEN IS THE LAND FULL? BRITISH AND ZIONISTS DEBATE CARRYING CAPACITY

Following the destruction of the Second Temple in 70 CE and subsequent rise of the Jewish Diaspora and until the rise of the modern Zionist movement, the minority Jewish presence in the land was numerically small, though symbolically significant (Sachar 1985). The total population of western Palestine, after reaching a peak of one to two and a half million during the late Byzantine period, did not surpass 300,000 until the mid-nineteenth century. Population growth—Jewish and Arab—began in earnest during the rise of the Zionist movement at the turn of the twentieth century (see fig. 4.1).

Following the British conquest of Palestine from the Ottoman colonial rulers, the Zionist drive to establish a Jewish state was dominated by a fundamental and recurring question: How to move as many Jews to Palestine as possible, thereby garnering the political and demographic support needed to establish an independent Jewish political entity. The Zionist leadership and institutions set out to prove that the arid land of Palestine was ready for the absorption of millions of Jewish immigrants. In 1918, David Ben-Gurion explained:

The true aim and real capacity of Zionism are not to conquer what has already been conquered (e.g., land cultivated by Arabs), but to settle in those places where the present inhabitants of the land have not established themselves and are unable to do so. The preponderant part of the country's land is unoccupied and uncultivated. According to the figures of the Turkish Ministry of Agriculture, only 5.28 percent of the land in the Jerusalem district is under cultivation. . . . According to an estimate of Prof. Karl Ballod, the country's irrigable plains are capable of support-

ing a population of six million. . . . The demand of the Jewish people is based on the reality of unexploited economic potentials, and of unbuilt-up stretches of land that require the productive force of a progressive, cultured people. (Ben-Gurion 1973, 7; written in 1918 and first published in *Der Yiddisher Kempfer*)<sup>4</sup>

These words exemplify what would become signature Zionist optimism about the technological possibilities for increasing water availability and agricultural output in Palestine, which were crucial for enlarging the Jewish population. Modern irrigation and hydroelectric power would help to realize the utopian vision described in Herzl's 1902 fiction *Altneuland*, where the efficient application of existing technologies turn a dirty and decaying region into a blossoming, peaceful, and multicultural success story. Such ideas both echoed and foreshadowed an enduring Zionist trust in the ability of technology to resolve any of Palestine and Israel's diverse environmental problems, and in particular limitations on water and agricultural productivity (Tal 2008).

The major goal of the Zionist movement was thus to increase the size of the Jewish population in Palestine. The leaders of the nascent Palestinian Arab national movement, on the other hand, believed that increased Jewish immigration would inevitably lead to Arab dispossession, and were increasingly and actively opposed to it (Fargues 2000; Sachar 1985). The British colonial authorities were caught in the middle and faced with the dilemma of deciding to either allow or prevent Jewish immigration, and to what degree.

In 1922, the British, under pressure to limit Jewish immigration, formally adopted the concept of population carrying capacity of Palestine, in the form of an estimate of the land's "absorptive capacity" to set quotas for new immigrants. According to science historian Samer Alatout, by adopting a scientific-technical determinant for allowing or preventing immigration, the British set the tone for the next two decades of debate about the future of Palestine. For the Palestinians, it "rendered insignificant Palestinian objections based on moral-historic logic" (369). Yet for the Zionists, who were skeptical of the concept, it presented a tremendous opportunity. Rather than debate the need for a Jewish state as such, the debate became centered on the question of how many Jews should be allowed to immigrate; in this way "the Zionist movement found that it could exploit the *seemingly depoliticized* nature of Jewish immigration for its own purposes" (Alatout 2009, 369).

Over the next two decades, following major events of Arab unrest (the riots of 1929, the Arab revolt of 1936–1939), the British sent commissions of inquiry to Palestine to explore the reasons behind the unrest. Their reports, including the Hope Simpson report of 1930 and the 1937 Peel Commission Report, as well as policy statements such as the 1930 Passfield White Paper, each

returned to the theme of economic capacity of Palestine to absorb (Jewish) immigrants. Economic capacity was interpreted, in these cases, as primarily resource limitations including cultivatable land and water for agricultural production.

The recurring British assessment was that the amount of land in Palestine available for cultivation was too small to support massive Jewish immigration (agriculture being considered the major economic activity for the region). The British further considered limited prospects for irrigation. Not surprisingly, British estimates for cultivable land were consistently lower than Jewish estimates. The Hope Simpson report (named after its author, British envoy Sir John Hope Simpson), for example, cites Jewish sources estimating 16 to 27 million dunam of cultivable land as compared with 8 to 12 million estimated by British experts (Hope Simpson 1930). Hope Simpson himself concluded that 6.5 million dunam were appropriate for cultivation, supporting his final assessment that “it has emerged quite definitely that there is at the present time and with the present methods of Arab cultivation no margin of land available for agricultural settlement by new immigrants, with the exception of such undeveloped land as the various Jewish Agencies hold in reserve” (Hope Simpson 1930, chap. XI).

Hope Simpson’s caveat regarding the Jewish Agencies’ undeveloped land reserves actually left much room for Zionists to argue that through technological advance and better exploitation of the land’s existing water and land resources many more immigrants could be brought to the region. They could, after all, summon more of the “capital, science and organization . . . and . . . energy of the settlers” to which Hope Simpson attributed the “remarkable progress” of the Jews to further increase agricultural productivity (chap. XI).

Ben-Gurion dealt with the question of absorptive capacity in many of his writings, attesting to the centrality of this ostensibly scientific question in the political debates over future Jewish self-determination in Palestine. In his 1932 book *Rebirth and Destiny of Israel* he dedicates considerable print to the question of whether Palestine can absorb all of the Jews. Here he asks rhetorically, “how are we to interpret the principle of absorptive capacity?” and “is Palestine a land of absorption at all?” (42). In a publication ten years later, his answers to these questions, as were typical of his writings, were a rich mixture of unflinching political convictions, technological optimism (often vague, though sometimes specific), and reference to earlier Zionist successes:

It is useless to survey only the country, as British “experts” like Hope Simpson and French did—we must also take account of Jewish capacity and potential. Twenty-six years ago, what expert could have predicted that some thousands of dunams of sand-dunes near Jaffa would absorb

the population of Tel Aviv? What expert could have foreseen how varied in their intense production the new agricultural villages of Jezreel and the Jordan Valley would become, if he had seen only the wasteland and knew not at all the pioneer passion that came to fertilize it? (Ben-Gurion 1954a, 44, first published as a pamphlet in 1942)

But while the Zionists continue to inflate the potential for population growth, the British stuck to the theme of limited absorptive capacity throughout the Mandate period. A direct response to Zionist technological optimism came in the form of the 1937 Peel Commission Report on Palestine. The report was defined by one prominent British geographer as a “masterly review” of the problem of subsistence areas in Palestine (Willatts 1946) and it dealt comprehensively with, among other subjects, the issues of economic carrying capacity as defined by cultivable land and water availability. The report, like its predecessor the Hope Simpson report, presented estimates of the amount of cultivatable land that were consistently lower (7 million dunam) than those offered by the Jewish Agency (9 million dunam).<sup>5</sup>

The British, for their part, found Jewish reliance on potential economic and physical investment to be unrealistic. The report concludes dryly that “we consider that, until the contrary is proved by experience and practical experiment, the Administration will be wise in adhering to their own definition in so far as it relates to an increase of immigrants on the land” (Palestine Royal Commission [PRC] 1937, 175).

Interestingly, later in the Peel report, having noted Jewish agricultural achievements in communities near Jerusalem, the authors write: “Our impression . . . was that they were in every way a remarkable testimony to the enthusiastic energy not only of the immigrants but of those who financed and advised them. Land which under ordinary methods of cultivation would have given a precarious crop of cereals has been turned over to mixed farming; and, although these farms cannot be judged on any ordinary economic basis, they are a valuable feature in the Jewish colonization as affording a livelihood for settlers and training centres for young immigrants” (267).

After recommending a partition of Palestine into a Jewish and an Arab state, the Peel report recommended severe restrictions on Jewish immigration. Further, “the volume of Jewish immigration should be determined by the economic absorptive capacity of Palestine less the Arab Area” (294). The Zionist response to the Peel report was predictably negative as its recommendations were the antithesis of their goals in Palestine (goals which were captured graphically in dozens of posters produced by the Zionist movement; fig. 4.2). By severely curtailing Jewish immigration it essentially froze demographic conditions that ensured an Arab majority (Muhsam 1983). Nonetheless, the





FIGURE 4.2. Poster announcing a 1949 conference of the youth of the Workers' Party of Eretz Israel (Mapai, under the leadership of David Ben-Gurion) and emphasizing key elements of the predominant Zionist ideology at the time: immigration and agricultural development. Note the existing agriculture in the Jezreel Valley and coastal plain, with tree roots spreading into the Negev. Poster by the artist Moshe Raviv (Vorobeichik; Moi Ver), reprinted with permission of the artist's son.

indefatigable Ben-Gurion used the opportunity to put forward an argument against the entire concept of “absorptive capacities.” To Ben-Gurion, there was no limit to Jewish ingenuity and willpower:

No square inch of land shall we neglect; not one source of water shall we fail to tap; not a swamp that we shall not drain; not a sand dune that we shall not fructify; not a barren hill that we shall not cover with trees; nothing shall we leave untouched. An intensive agriculture, planned in accordance with a scientific and practical scheme worked out by the Government, operated by pioneering labour, and maintained by the full

strength of the State and of supporters from abroad, with an assured home market, and with access on a reciprocal basis to foreign markets, will be the fundamental basis of a national economy created by the State through the energy of citizens no longer dependent on the favours of a foreign Administration. Set free from the Mandate which enchains our trade, under a Jewish Government whose first consideration will be the increase of the absorptive capacity of the country, assisted by its position of vantage at the cornerstone of three continents and on the sea coast, there will develop a Jewish industry to whose growth we can set no limits. (Ben-Gurion 1938, 63)

During this period, Ben-Gurion sensed that British immigration policy was becoming more a political question, concluding that the British had forfeited the scientific debate on absorptive capacity. He quotes British High Commissioner in Palestine Herbert Samuel: "They [Jews] must consent to a limitation of immigration other than on the principle of absorptive capacity. They must accept the principle proposed by the Commission that political considerations must be brought in" (Ben-Gurion 1938). Ben-Gurion concludes, in his speech to the Extraordinary Zionist Conference in New York in 1942, that "there is no conflict of economic interests between Jews and Arabs in Palestine, none between present population and new arrivals. The very fact that the Mufti and his friends, and the Chamberlain-MacDonald Government which tried to appease them, insisted on abolishing the principle of economic absorptive capacity as the only yardstick of Jewish immigration implies that the Arabs as well as the authors of the White Paper realized that on purely economic grounds there is room for a very large influx, which may turn Palestine into a Jewish country" (Ben-Gurion 1954b, 120).

Zionist optimism regarding potential for agricultural cultivation was also reflected in their perceptions of water availability. The Zionists latched on to the influential study in 1944 by American soil conservationist Walter Lowdermilk, later supported by American engineers James Hayes and John Cotton, which claimed that through proper utilization of the Jordan River water and groundwater, Palestine could support a population of five million. According to historian Howard Sachar (1985), the Lowdermilk plan "laid the basis for all subsequent water planning in Israel."

The British regarded such numbers as pure speculation. In response to Jewish estimates provided to the Peel Commission, they write "We are not in a position to pronounce upon these estimates nor do we consider it in any way necessary for us to attempt to do so" (PRC 1937, 255). British geographer Willatts concluded that "in spite of the claims of propagandists, Palestine is very badly placed for irrigation" (Willatts 1946). Regarding the Lowdermilk plan, he added: "In general it seems that the project, which has a strong political fla-

your, is over ambitious in proposing to use more water than is available” (169). He concludes his analysis more definitively than the Peel Commission: “In considering the much discussed ‘economic absorptive capacity’ of the country it is difficult to avoid the conclusion that agriculturally the country is already saturated,” and suggests that Palestine should “temper [its] zeal and energy with economic caution” (173).

American demographers, Notestein and Jurkat also broached the issue of carrying capacity in Palestine as affected by resources, capital, and political conditions (Notestein and Jurkat 1945). They describe the area in terms of high population density at 108 persons per square kilometer (without the sparsely populated Beersheva subdistrict), higher than many European countries prior to World War II. They speculated that the local demographic trends demanded rapid and sustained economic growth, and in its absence the result would be a highly congested, desperately poor population. Such economic progress, they suggested, was likely to be stymied by the ongoing political clash between the two population groups. However, they also note that “in a trading world, there are no simple relations between density of settlement and living conditions” (349), so the combination of a nonagricultural economy and trade could allow the region to retain economic viability and a high standard of living.

In measured academic fashion, Notestein and Jurkat both raised and lowered the expectations of the Jews in Palestine. They observed that the demographic situation “lead to the conclusion that all parties concerned would benefit by the continuation of Jewish interest as a source of capital and skill for the region and of Jewish immigrants on a limited scale.” They then qualify this assertion: “On the basis of the growth prospect it appears that a catastrophe of major proportions is not outside the bounds of possibility if enthusiasm for a Jewish state should result in the really heavy immigration sometimes talked of. There are almost no limits to the population that could be supported, given someone to bear the cost” (350). While crediting the Jews for raising the carrying capacity of the area, Notestein and Jurkat were skeptical that the Jews would ever obtain a majority in Palestine based on demographic trends. Notestein testified as such to the Anglo-American Commission of Inquiry on Palestine, and this testimony, according to Notestein’s colleague Ansley Coale, “helped the Jewish leaders decide in favor of the partition of Palestine” (Coale 1983, 5).

Perhaps, as Coale suggested, it was this sobering demographic message, coupled with the new demographic reality created by the Holocaust that caused the Zionists to take an increasingly practical approach with regard to partitioning Palestine into a Jewish and an Arab state. If before the Holocaust Zionist leaders argued that the suggestion of an absorptive capacity of

Palestine was, for the British and Arabs, a political question wrapped in economic packaging, then after the destruction of Europe's Jewish community, the question became purely political for the Zionist leaders as well. There was now no moral justification, in their eyes, for limiting Jewish immigration to Palestine. They seemed to have eschewed the concept of carrying capacity for the moral urgency of bringing as many Jews as possible, and at the same time internalized the demographic message that they would not be able to achieve a demographic majority in all of Palestine west of the Jordan River.

The impact of the Holocaust on demographic thinking cannot be underestimated, as one-third of the global Jewish population was destroyed (Schmelz 1991). Not only did it add a new sense of Zionist urgency toward establishing a Jewish state in Palestine, but it is woven into any discussion on Jewish demographics, and inevitably has surfaced in contemporary environmental-based discussions about potentially limiting population growth in Israel (Benstein 2006; Schwartz 2002).

#### ISRAEL KNOWS NO LIMITS: A ZIONIST DISCOURSE ON POPULATION IN THE NEW STATE

The establishment of Israel in 1948 allowed Zionist leaders to realize their demographic ideology without interference from a colonial government. The ingathering of the exiles became a shining example of the Israel's new demographic policy, with the Law of Return, which grants any Jew automatic Israeli citizenship, exemplifying the country's enduring *raison d'état*.<sup>6</sup>

A window into postindependence Zionist thinking is provided by a social studies textbook authored by Itzhak Kanev, *Population and Society in Israel and in the World* (1957). Kanev, a longtime Mapai member and activist, was one of the architects of the early Israeli social welfare state. He was a founder of the Kupat Holim health care system and among its directors for thirty-eight years, a member of the first Knesset, head of the committee that established Israel's National Insurance program, and 1962 Israel Prize laureate for the Social Sciences. He had a profound influence on the structuring of Israel's health care and social welfare system.

Kanev's textbook features a chapter on population that begins by disparaging Thomas Malthus and his theories. The problem with Malthus's 1798 theory that overpopulation generally outstrips food production leading to poverty and misery was, according to Kanev, that humans had not yet developed proper social programs to organize society and encourage technological development to deal with population growth. He believed that in mid-twentieth century, technological advances created abundant food production, but the problem with faulty social systems remained, and thus, some places of the world continued to suffer from overpopulation and undernourishment.

A great irony exists, wrote Kanev, where millions suffer in the presence of rich natural resources. Despite the rationalism of science and technology that should assure well-being, this irony could be attributed to the concurrent lack of social security (Kanev 1957). Kanev then waxed ideological: “man doesn’t organize his life in a socially intelligent way—correctly and purposefully—and therefore millions of people suffer from want and poverty, rather than living a comfortable life” (176). His insights were clearly nested in the broader Marxist critique of Malthusian theory, which viewed population growth as an irrelevant factor in human wellbeing. Rather, an economy governed by social equity and technology could support a growing population with no detrimental side effects (Weeks 1999).

Kanev, representative of other early state leaders, found the keys to the state’s success lay in increasing its Jewish population and its agricultural technology (“the solution to the problem of food is the key to the solution to the problem of population” [133]), all accompanied by good social welfare planning. The former goal would be met through *Aliyah* (immigration of Jews) and raising fertility. Meeting the latter goal depended on investment in state-of-the-art technologies on the one hand, and state-of-the-art social policy on the other. With regard to agricultural technology, Kanev enthusiastically advocated biological engineering, increasing the area of cultivation, use of advanced fertilizers, control of plant diseases and destruction of agricultural pests, returning neglected land to production, and settling areas empty of human settlement. He also encouraged pro-natal social policy, including caring for families, education, health, housing, and rational nutrition. He pointed to the importance of health care for mothers and children, social insurance, preferential housing policies for families, and other policies that would lighten the burden on parents of large families.

Kanev looked to Holland and Denmark to provide national models that combined just economic policies, pro-natal population policies, an assiduous work ethic, a lack of natural resources, but a complete exploitation of existing land resources. He observed that in Denmark, rarely was a plot of ground not under cultivation. So, Israel too must find its development path in “conquering nature.” For Kanev, there were no environmental limitations on population growth. Technology, ingenuity, and determination—when combined with pro-natal health and social programs—and the establishment of socio-economic equity would allow the young nation to overcome any potential barriers.

Indeed, technology, ingenuity, and pro-natal health and social programs were to follow in Israel. Regarding the latter, the country saw the implementation of a variety of pro-natal policies, including monthly child allowances, one-time birth grants, tax assistance for large families, rent subsidies, laws

protecting pregnant women and new mothers in the workplace, paid maternity leaves, and subsidized daycare. Other policies related to fertility included investment in fertility technologies and programs encouraging establishment of families and childbearing (Portugese 1998). In 1962, a government-sanctioned “Committee for Natality Problems,” chaired by Hebrew University demographer and Ben-Gurion adviser Roberto Bachi was charged with creating policy to encourage Jewish demographic growth (Fargues 2000; Portugese 1998).

There is a diversity of thought regarding the nature of fertility policy in Israel during its first decades. Schiff (1981), for example, suggests that although there was clear pro-natalist sympathy in Israeli society, the eclectic mix of ostensibly pro-natal measures had not produced an effective, concrete pro-natal policy. For one, many of the laws were enacted with equal, if not more, concern for social welfare than for pro-natalism. Thus, while some laws may seem pro-natal, they were initiated with other goals in mind. Second, other laws had effectively stymied any potential effect of the pro-natal legislation (e.g., universal conscription and liberal abortion laws). Portugese (1998), on the other hand, believes that the aggregation of all of Israel’s pro-natal measures, whether stated explicitly or not, reflect a clear and consistent desire to increase Jewish fertility.

Child allowances have been among the more visible (and often controversial) of these policies. Child allowances began to be distributed to families with four or more children in 1959 by the National Insurance Institute. Over time, the policy came to include all children, and, in 2000, the amount of the per-child payment became steeply progressive with increasing amounts of payment going to each successive child in a family (Winckler 2008). Historically, the intent of child allowances was twofold: as a social policy to provide aid to families living below the poverty line (many of whom are large families), and to encourage fertility, in particular among Israel’s Jewish population, by providing financial incentives for large families (Portugese 1998; Schiff 1981; Winckler 2008). Ironically, the child allowances primarily benefited those sectors of the population that did not share in the democratic, Zionist vision of the policy makers—namely Moslem Arabs and Ultra-Orthodox Jews. As of 2002, the child allowances were drastically reduced during a recession by an economically conservative government led by Binyamin Netanyahu.

Aside from pro-natal policy, the Israeli government implemented a generous package of policies to encourage Jewish immigration to the state. The cornerstone policy was, and remains, The Law of Return, enacted in 1950, which grants Jews anywhere the legal right to immigrate (Sachar, 1985). Jews are also offered a generous package of incentives to entice them to move to Israel, and the governmental and quasi-governmental offices are maintained around

TABLE 4.1. Population growth in Israel and the contribution of immigration to total growth

<i>Period</i>	<i>Population, beginning of period</i>	<i>Population, end of period</i>	<i>Percent of total growth contributed by migration balance</i>
1948–1960	805.6	2,150.4	64.6
1961–1971	2,150.4	3,120.7	37.7
1972–1982	3,115.6	4,063.6	19.6
1983–1989	4,033.7	4,559.6	5.9
1990–1995	4,559.6	5,619.0	56.0
1996–2000	5,612.3	6,369.3	39.1
2001–2008	6,369.3	7,374.0	14.7
1948–2008	805.6	7,374.0	37.5

Source: CBS (2009).

the world to assist Jews who consider immigration. In part due to this policy, immigration has historically accounted for a large proportion of population growth in Israel, particularly during the 1950s and 1990s. Over the sixty-year history of the state, immigration has accounted for 37 percent of population growth in Israel (Central Bureau of Statistics [CBS] 2009; table 4.1).

#### "THEY ARE THE POPULATION PROBLEM": THE INSEPARABILITY OF POPULATION, ENVIRONMENT, AND POLITICS

The attitudes set out by the early Zionist and Israeli leaders are similar in many ways to those that dominate population-environment discourse today (Orenstein 2004). The democratic and Jewish nature of the state continues to be predicated on the maintenance of a solid secular Jewish majority. Yet, in Israel at the start of the twenty-first century, fertility patterns are sharply disparate among various sectors of the population. Presuming that high fertility groups have a distinctly different sociopolitical vision of the state's future, these differences in fertility among different population sectors have caused consternation within the country's Jewish-Zionist majority (e.g., Blum 2004; Khoury 2008; Leibowitz 2007). Discourse on the implications of population growth (on the environment, for example), should be considered with caution as a subset of the larger political-demographic debate.

In Israel, there are roughly three discernable schools of thought regarding P-E interactions that regularly appear in the academic literature and mass media. The primary disagreement among the various schools is regarding the

mechanisms by which population growth places stresses on environmental systems. There are those who reflect a neo-Malthusian approach that population growth has a direct and negative impact on Israel's environment (Tal 2002; Warburg 1997). Second are those who suggest that overconsumption of natural resources and resultant production of waste are the primary stressors of Israel's environment (de-Shalit 2004; Garb 2002) and that pressure resulting from population size could be relaxed with lowered consumption. Overconsumption is attributed to the more affluent, low-fertility sectors of Israel's population. Finally, there are those who suggest that population growth need not be a major environmental stressor and that proper economic and social policies, planning, or technological innovation can relieve actual or potential environmental stress (Feitelson 1994).

Most academic and policy documents dealing with P-E interactions seem to endorse a neo-Malthusian perspective, arguing that population growth is a stressor for any number of resource or environmental pollution challenges (Ayalon 2003; Israel Ministry of Environment 1999; Khenin et al. 2000). However, the viewpoint that population growth is crucial to the well-being of the state is so ingrained in Israeli thinking that the policy discussion of P-E generally turns toward how best to facilitate for the growing population (as with the reports cited above). Thus facilitation of population growth, and not confrontation, seems to be the norm (Orenstein 2004). Tal, who writes that "population pressure promises to undermine even the most optimistic [environmental] scenarios" in Israel, is one of the few exceptions. He states bluntly that "the land of Israel no longer needs more people" (Tal 2002, 420–23).

In Israel, the ostensibly normative question about the environmental impact of population growth is exceedingly difficult, if not impossible, to separate from questions of political demography (Orenstein 2004; Rabinowitz 2004). University of Jerusalem demographer H. V. Muhsam (1983) explained the Zionist demographic dilemma succinctly that (Zionist) Israelis desire (but cannot have) a big country, a Jewish country, a democratic country, *and* a long-lasting country. At best, Muhsam considered, Israel could have three of the four alternatives.

Among the Jewish-Zionist majority, an Arab population that is growing proportionally relative to the Jewish majority is frequently perceived as a "demographic threat" (Blum 2004; Sheleg 2001; Soffer and Bystrov 2007; fig. 4.3). Historian Onn Winckler has termed the Arab demographic as "the paranoia object" among the Jewish majority (Winckler 2008). Along the same lines, Ultra-Orthodox Jews are considered, among some, a second component of the "demographic threat" because they are perceived as advocating a theocratic, rather than secular, state.

Geographer Arnon Soffer and his colleague and coauthor Evgenia Bystrov



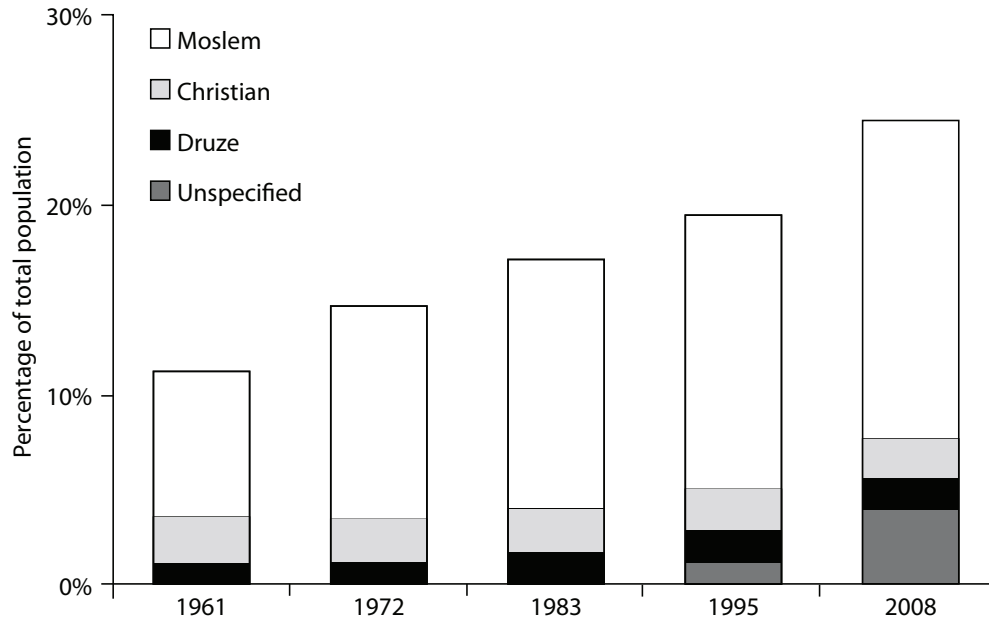


FIGURE 4.3. Proportional contribution of non-Jewish population to the total population in Israel (CBS 2011).

provide an explicit and uncompromising narrative about how Arab Muslim and Ultra-Orthodox Jewish population growth threaten the environment and the democratic, Jewish character of the state (Bystrov and Soffer 2008; Soffer 1988, 2003; Soffer and Bystrov 2005, 2007). A quote from their polemic *Israel: Demography and Density 2007–2020* sums up this perspective:

The decline is advancing at a dizzying pace because of the unique combination of two conflicting trends: population growth rates typical of the third world against demands for land at rates typical of the Western world, where the living standard is rising. . . . The result is Israel's nearing the limit of its carrying capacity. . . . Proximity to the carrying-capacity limit causes collapse of the water regime, the transport system, garbage disposal, sewage treatment, and non-prevention of flooding in the major cities, destruction of the sea shore, disappearance of the sand dunes, destruction of agriculture, disappearance of open spaces, collapse of the physical planning system on the national and municipal levels, non-enforcement of the law, deterioration in relations between people, and yawning social gulfs between the Tel Aviv population and the populations of country's centre and periphery. (Bystrov and Soffer 2008, 62)

Among the many problems (security, politics, economy, education, environment) the authors cite, "All are associated with demography, that is, to the high natural increase of the different populations, which are becoming

increasingly impoverished, hence increasingly violent” (Bystrov and Soffer 2008, 69). Note that the authors are influenced by any number of theories on the connection between population and environment, including population growth as driver of environmental degradation (Ehrlich 1970), increased consumption as driver of environmental degradation (Commoner, Corr, and Stamler 1971), and political-demographic conflict driven by competition over scarce resources (Homer-Dixon 1994; Homer-Dixon, Boutwell, and Rathjens 1993). Yet, the writing does not reflect academic inquiry into the drivers of environmental degradation, but rather a strong endorsement, in the cited cases, of a political opinion.

### CARRYING CAPACITY DEFERRED

Two to three thousand years ago, according to biblical accounts and the assumptions of archeologists, environmental carrying capacities were real. Carrying capacities proposed by British and other scientists during the British Mandate, however, were met with obstinate resistance and optimistic counterarguments by Zionists for whom such limitations were a direct threat to achieving a Jewish majority in Palestine. History largely vindicated the Zionists—the land could indeed support a population several times larger than scientific experts had suggested. Israel seemingly eluded natural carrying capacity through planning, technology, and (especially) import of goods. In biblical times too, planning, trade, and technologies may have raised local carrying capacities (Finkelstein 1990; Hopkins 1987). Thus, it may not be surprising that many Israelis greet similar claims today with denial, indifference, or unfettered technological optimism.

Israel now supports a population of 7.4 million and, not including the sparsely settled Negev, has a population density slightly less than twice that of Holland and six times that of Denmark (Population Reference Bureau [PRB] 2009).<sup>7</sup> While its Gross National Product is lower than that in those countries, it is similar to that of Ireland, Hong Kong, and Portugal (World Bank 2010). With a population growth rate of 1.6 percent (far more than the developed world’s 0.2 percent and similar to the less developed world’s 1.7 percent) (PRB 2009), Israel is crowded, relatively rich, and growing fast demographically.

The policies so enthusiastically promoted by Ben-Gurion, Kanev, and their contemporaries have produced loss as well as abundance. Population growth, coupled with growing demand for resources, has had a measurable impact on resources (water, energy, biodiversity, living space, and recreational area) and environmental quality. Israel carries a large negative agricultural trade balance and a negative trade balance in general (Food and Agricultural Organization 2009), suggesting that local land and water resources do not suffice for supporting such a large population and that the country is transfer-

ring its ecological footprint elsewhere (Wackernagel et al. 2002). Numerous species extinctions in Israel are attributed to intensive agriculture and draining and pollution of Israel's streams and wetlands (Dolev and Perevolotsky 2004; Sapir and Shmida 2006; Yom-Tov in this volume). Public health has been severely compromised through the accumulation of pesticides in the local environment (Tal 2002). Decline of biodiversity, chronic water shortages, persistent rise in energy demand, and the shrinking amount of open space all suggest unsustainable levels of growth.

Policy makers and the public already have no choice but to confront population growth, if not directly, then via its results. Land-use planners, particularly since the 1990s, are acutely aware of population pressures as they devise ways to provide residential alternatives for a growing population while attempting to assure crucial open space preservation. But with the exception of expensive and ecologically questionable artificial islands, land cannot be created in the same way that water can be desalinated. Despite the planners' best efforts, under a regime of perpetual population growth, an increasingly crowded country with dwindling agricultural and natural open space will result. Competition over this scarce resource will intensify—between nations, population sectors, economic classes, and vested interest groups.

The myriad ways in which population growth is interwoven into politics, economics, ideology, and religion make a dispassionate discussion in the policy arena difficult. Nonetheless, a candid and honest discussion about the environmental cost of population growth must commence—among policy makers, researchers, and the public—in order to either direct the country's investments and planning to best prepare and adapt to a more crowded country or to consider eliminating policies that encourage immigration and high fertility.

## NOTES

I would like to thank Char Miller, Alon Tal, and Benjamin Langer for their careful and constructive suggestions and criticisms of earlier versions of this chapter.

1. There are exceptions, prominent among which is work done within the land-use planning community on population growth, land availability for development, and environmental implications (Feitelson 1994; Frenkel 2004, unpublished manuscript; Mazor 1993; Orenstein and Hamburg 2009; Shoshany and Goldshleger 2002), as well as some exceptions in the activist community (Arguman 2010; Reshef 2010).

2. These two examples provide an ideological and intellectual bridge between ancient and modern Israel. Hillel grew up in Palestine as a youngster and was among the first generation of Israeli scientists—a generation that eagerly studied every aspect of the region's environment, motivated by scientific inquisitiveness on the one hand and by Zionist zeal on the other. The Hebrew Bible, for Hillel, is “a subjective record of the formative experiences, memories, perceptions, and evolving faith of numerous generations of the people called the Hebrews or the Israelites.” As such, biblical accounts of

P-E interactions have direct relevance to the modern Jewish-Zionist narrative. Benstein, in his capacity of deputy director of Israel's Heschel Center for Environmental Learning and Leadership, is considered one of the Israeli environmental movement's leading thinkers. The lessons he draws from Judaic sources regarding P-E relationships (e.g., Benstein 2001, 2006) may have broad influence on this movement.

3. Dever himself believes that population size need not be a factor in defining states, but they are, rather, defined by degree of centralization.

4. Note that Ben-Gurion affirms the presence of a local population in contrast the slogan so often attributed to the Zionist movement: "A land without a people for a people without a land." According to historian Amos Elon (1971), that slogan had some influence among Zionists abroad around the turn of the century, but not much usage among Zionists after that period. Elon suggests that the Zionists in Palestine under the Ottomans felt they were operating in a political void rather than a demographic one, as they were well aware of the local population. Later claims suggest that the importance of the slogan among Zionists has been greatly inflated by opponents of Zionism and Israel (Muir 2008).

5. The Jewish Agency estimate included forested land that was not included in the British estimate, but even taking this into account, the Jewish Agency still estimated 1.2 million dunums more cultivatable land than the British. As of 2007, there were approximately 2.8 million dunam of land under agricultural cultivation in Israel and another 1.8 million dunam of natural and planted forest land (CBS, 2009). The amount of cultivated land has remained fairly constant over the years, with the only sizable change being a drop in the early 2000s due to a change in data collection methods. Since 2004, the amount has been fairly constant around 2.9 million dunam. The amount of land covered in planted forests rose consistently between 1948 and 2000. Over the following decade, the area of planted forest remained approximately 985,000 dunam. While these estimates do not include the West Bank (that were included in the various estimates of the 1930s), the actual amount of cultivated land is much closer to the British estimates than those of the Jewish Agency. Of course, as discussed later, much of this argument is merely academic in light of higher obtainable yields and reliance on food imports.

6. Yet, even as Israel's Jewish and Arab population began its rapid half century rise from 1949, the Palestinian Arab population had fallen rapidly as an outcome of the 1948 war. This event represents not only a major demographic shift in Palestine and Israel, but has wide-ranging implications for the discussion on population size and resource availability. In particular, if we are to consider changes in carrying capacity in Israel according to agricultural production, we must consider that the outmigration of hundreds of thousands of Palestinian Arabs facilitated for the transfer of large amounts of agricultural land from Arab to Jewish-National hands (Forman and Kedar 2004).

7. CBS noted 330 persons per square kilometer within the Negev, 740 persons per square kilometer in the northern 40 percent of Israel (Central Bureau of Statistics of Israel 2009)

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