

## ENVIRONMENTAL ISSUES IN ISRAEL

(From "**Judaism and Global Survival**", Chapter 5 by Professor Richard H. Schwartz  
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And I will bring back the captivity of My people Israel, and they shall build the wasted cities, and dwell therein; and they shall plant vineyards, and drink their wine; and they shall lay out gardens and eat their fruit.

Amos 9:14

It took the Chosen People 2,000 years to end their exile and return to the Promised Land. It has taken them only 52 years to turn the land of milk and honey into a country of foaming rivers, carcinogenic water, and dying fish.

*Times of the U. K.*<sup>1</sup>

Jews are properly concerned about the well-being of Israel and wish her to be secure and prosperous. But what about security, wealth, and comfort of another kind -- the quality of Israel's air, water, and ecosystems? What about the physical condition of the eternal holy Land? While not discussed frequently enough, these and other environmental dangers and degradations have increasingly become serious issues that will affect Israel's future.

The State of Israel has accomplished amazing things in its few decades -- in agriculture, education, law, social integration, technology, education, Torah study, human services, and academics. But simultaneous (and sometimes related) neglect and ruthless exploitation of its land, water, air, and resources have left Israel ecologically impoverished and endangered.

Among the contributing factors to Israel's severe environmental problems are some seemingly positive changes that most Israelis hope will continue: rapid population growth, widespread industrialization, and increased affluence, resulting in a sharp increase in the use of automobiles and other consumer goods. However, the environmental impacts of

these factors have been largely ignored for many years, mostly because of the need to consider security the top priority.

According to the Statistical Yearbook, 2000, released by the Israeli Central Bureau of Statistics, population density in Israel is among the highest in the world, with an average of 278 people per square kilometer in 1999.<sup>2</sup> The Tel Aviv area is the most crowded, with a density figure of 6,700 people per square kilometer.<sup>3</sup> Population is lowest in the South, where the population density is just 16 people per square kilometer.<sup>4</sup> Jerusalem has the second highest density figures, with 1,130 people per square kilometer.<sup>5</sup> The Yearbook also measures growth rates among cities with populations of more than 100,000. The fastest growing city in this category is Ashdod at 6.2 percent (annual increase), followed by Rishon Letzion at 4.6 percent.<sup>6</sup>

## **WATER SHORTAGES**

Severe water shortages have become a very grave problem, potentially threatening Israel's very existence. Since the mid-1970s, demand for water has at times outstripped supply. Israel is a semi-arid country where no rain falls for at least six months a year. While Israel was once known as a country that practiced water conservation and pioneered in the development of the drip irrigation method, the country has recently been using increasing amounts of water per person, often for non-essential uses. There has been a sharp increase in private pools, Jacuzzis, water parks, and automatic car washes.

According to a report submitted to the Israeli Water Commission in December 2000, Israel's main water sources are expected to continue to decline, endangering drinking water quality, and raising the specter that it will soon not be possible to supply sufficient drinking water.<sup>7</sup> According to the forecast, Israel will experience a water shortage of 90 million cubic meters in 2001, necessitating continued pumping of water from the mountain and coastal aquifers. The report indicates that the water in the two main aquifers already had reached dangerously low levels due to overpumping. The report concludes that none of

the proposed methods for augmenting Israel's water supplies would solve its immediate needs.<sup>8</sup>

An advertisement by the Jewish National Fund (JNF) that appeared repeatedly in many publications, headlined "The day the water disappeared in Israel," states:

The day, the experts project, will come sometime in 2015. Some say it will be sooner.

On that day, there will be no more fresh water in [Israel's] cities to drink or to bathe in. No more recycled water for agriculture. Industry will cease. Wildlife will die. The wells will turn sour, the lakes will be empty, the rivers and streams gone.

And there will be no way to get them back again....

Today [Israel] is in the grip of its worst drought in recorded history. The devastating effects will be felt for years to come.<sup>9</sup>

A later JNF ad states that Israel's worst drought in 100 years has resulted in Lake Kinneret (the Sea of Galilee) being at its lowest level in recorded history and Israel's two other main fresh water resources, the coastal and mountain aquifers, being at equally precarious levels. This has resulted in water cuts of 70 percent for farmers and a major drop in tourism around the Kinneret, with prospects for painful future prohibitions on water use for individuals, cities, and businesses.

The JNF calls for the following "five-pronged attack": recycling water; water conservation; desalination; building 100 new reservoirs; and drawing water from below the Negev Desert "where there is a great deal of fossilized water."<sup>10</sup> Conservation efforts similar to some used in the United States could save 10 to 20 percent of Israel's water.<sup>11</sup> A major problem is to get the Israeli government to recognize the urgency of the situation. Getting a desalination plant built and running takes 5 to 10 years -- and the water crisis is already here.<sup>12</sup>

Amikim Nachmani, a Bar-Ilan University Professor of political science who specializes in water issues, states, "What is happening now is a crime." When asked who is responsible, he responds, "Everybody. Those who haven't made the decisions. Those who made the wrong ones. Those who aren't willing to allocate the budgets. Those who didn't scream at the gates.

Those who didn't listen."<sup>13</sup>

When asked how he explains the situation, Meir Ben-Meir, Israel's water Commissioner from 1977 to 1981 and again from 1996 until March, 2000 replies: "I don't know. How do you explain the fact that mass transportation has never been developed in this country, or that the public health system is collapsing, or that the traffic bottlenecks in Tel Aviv are not being dealt with? It's the same thing."<sup>14</sup>

Haim Gvirtzman, a Hebrew College hydrologist, gives a simple explanation: "No one cares. Everyone cares about politics, about peace, about making money. Who cares about things like health, the environment, or water?"<sup>15</sup>

Unfortunately, the pattern of short sightedness also applies to many of Israel's other severe environmental problems.

## **WATER POLLUTION**

Most of Israel's streams and rivers are seriously polluted, generally much more polluted than rivers in North America and Western Europe.<sup>16</sup> Only the rivers in the Golan Heights and Ein Gedi, where the number of people per unit area is still relatively small, can be considered clean.<sup>17</sup> Israel is 10 to 20 years behind the United States in caring for its rivers.<sup>18</sup>

The horrible state of Israel's water is indicated by the fact that more than a dozen former commandos in an elite Israeli naval unit are filing suit against the government for endangering their health by requiring them to swim and dive in the horrendously polluted Kishon River as part of their training.<sup>19</sup> More than 30 of these naval commandos have been stricken with cancer and at least 10 have died.<sup>20</sup>

Dr. Elihu Richter, an environmental health expert at Hebrew University's Hadassah School of Public Health in Jerusalem, says the warning signs about the Kishon's toxicity have been clear:

The damage has been measured over the years in other [non-human] species. We've seen gross organ pathology... and DNA breaks in the fish and mollusks of the river. DNA breaks are a sign of mutation and are indicative of cancer.<sup>21</sup>

The Kishon River has been especially hard hit because, for over 40 years, Haifa Bay's chemical industry has discharged its raw industrial wastes directly into it. In 1994, tests of

the river's waters by the Israeli Union for Environmental Defense (IUED, also known as *Adam, Teva, v'Din* (Humans, Nature, and Justice)) showed a startling mixture of pollutants, indicating massive non-compliance of pollution laws by major chemical factories. Recently IUED won two court cases against major polluters in Haifa. Hopefully, this will lead to a decrease in the dumping of industrial wastes.

Most of the rivers in Israel are now so badly polluted that fish can live in them for only a few minutes.<sup>22</sup> Already, admits Dalia Itzik, the country's Environmental Minister in 2000, 40 per cent of water piped to Israeli and Palestinian homes is "undrinkable."<sup>23</sup> Some scientists have already warned that carcinogens are turning up in tap water. "The situation is catastrophic," says Itzik. "We simply do not have enough water to meet the needs of the population."<sup>24</sup>

The Kishon's toxicity was demonstrated in a test performed by an Israeli TV station. A jar of the river's water was mixed with three liters of fresh water. Three varieties of fish were then put into the jar; every one of them died in less than three minutes.<sup>25</sup> According to Greenpeace and the University of Exeter, the Kishon River is a poisonous brew of heavy metals and other carcinogens.<sup>26</sup>

While the Kishon is probably the most polluted river in Israel, a fall into the Yarkon River, which runs through Tel Aviv, can also be fatal. In 1997, four Australian Jewish athletes who were in Israel to participate in the Maccabiah Games died when a bridge over the Yarkon collapsed into the toxic soup that runs through what is known as "Israel's Central Park". Two died from their injuries, while two more perished after swallowing and inhaling the contaminated water.

According to a study by the Hydrologic Service of Israel's Water Commissioner's Office and the Institute of Soil, Water and Environmental Science, the pollution of ground water in the Tel Aviv-Givatayim-Ramat Gan area has reached alarming levels, damaging potable water and spreading into underground structures such as parking lots built below ground level.<sup>27</sup> Environment Ministry officials and other experts say that if urgent measures are not

taken to contain it, the pollution may spread through the main area of the coastal aquifer, one of Israel's three main water sources.<sup>28</sup>

## **AIR POLLUTION**

Israel's major cities, Jerusalem, Tel Aviv, and Haifa, as well as industrial centers like Ashdod, face severe air pollution problems, primarily from industrial and automobile emissions. There were 300 occasions of violations of air pollution standards in Tel Aviv alone in 1996. An epidemiological study has shown that children in some Tel Aviv neighborhoods have a greater probability of suffering from respiratory problems including asthma than their peers elsewhere.<sup>29</sup> Air pollution in Tel Aviv is so severe that planners are considering closing the city to traffic on days when climatic conditions make the pollution threat particularly severe.<sup>30</sup>

Professor Menachem Luria, Chair of Hebrew University's Environmental Science Department, has stated that if current trends continue, some aspects of the air quality in Jerusalem could be as bad as those in Mexico City by 2010.<sup>31</sup> A recent symposium sponsored by IUED was titled, "Don't Take a Breath - Urban Air Pollution."<sup>32</sup>

While many air pollutants have been increasing sharply, there has been a decrease in sulfur oxide emissions due to a shift to low sulfur coal, and in lead emissions due to a reduction of the lead content of gasoline. However, the continued sharp increase in vehicle density constitutes an ever-growing threat to Israel's air quality.

## **SOLID WASTE**

Israel faces a solid waste crisis due to increasing amounts of garbage and the country's meager land resources. Many garbage disposal sites were poorly designed and managed. Many are also at or near their full capacity. Yet, over 90 percent of Israel's solid waste is still buried in landfills, left to rot in garbage dumps, or burned in open air pits throughout Israel.<sup>33</sup> Less than 5% of the country's garbage is recycled. In 2000, then-

Environmental Minister Dalia Itzik stated that she regards garbage disposal as Israel's number one environmental problem.<sup>34</sup>

Even at the domestic level, there is little or no thought for the pollution effects of garbage disposal. Partly due to the lack of recycling options and facilities, householders usually throw plastic, glass, aluminum, paper, and general waste into the same bin without a second's thought. Paper recycling companies charge for collection, and insist on collecting white paper only.

There has been recent legislation requiring a major increase in recycling, but stricter enforcement is required. Also, many older inefficient landfills are being closed and new, more environmentally sound landfills are being opened.

## **OPEN SPACE**

Another serious environmental problem is the loss of open space and recreational areas. A recent nationwide demographic and developmental study prepared for the government concluded that some 60% of the Galilee would be under asphalt in less than 25 years, compared to only 12% today.<sup>35</sup> Municipal and industrial development has encroached the borders of the Jerusalem Forest, the largest planted forest in Israel and one of the last green areas around Jerusalem.<sup>36</sup>

The loss of open space is not only an aesthetic issue. When open land is converted into concrete and asphalt, there is a loss of flood control plains, fertile agricultural land, natural habitats for other species, and areas for recreation and tourism. Also, because development causes a reduction in the amount of water that seeps back into the ground and recharges underground water sources future water supplies are being sacrificed at a time when additional water is needed for a growing population.

## **TRANSPORTATION**

Israel's roads have become very congested due to the rapid increase in motor vehicles. There was a hundred-fold increase in private cars from 1950 to 1995. At current rates, the number of cars will double every 10 years.<sup>37</sup> Relative to the population, which has also been increasing sharply, the number of private cars grew from 6 per thousand inhabitants in 1951 to 198 per thousand in 1995, and this is doubling every 20 years.<sup>38</sup> This is occurring even though Israel has a very extensive bus system.

The very rapid increase in cars and other motor vehicles has resulted in major pollution and congestion problems and loss of open space. Because there has been inadequate planning of alternate forms of transportation, these problems are expected to worsen. Many studies have shown that building more roads is, at best, only a temporary solution, because traffic soon expands to again fill the roads. Only a comprehensive redesign of Israel's transportation system, with a far greater emphasis on public and non-motorized transportation, can help relieve current pollution and congestion problems.<sup>39</sup>

## **THE TRANS-ISRAEL HIGHWAY**

Many environmental problems in Israel today will be much exacerbated by the construction over the next few years of the Trans-Israel Highway, a six-lane major artery whose planned route traverses the country north-to-south, from the Lebanon border to the Negev desert. The initial section of the road, in the center of the country, is scheduled to be completed in 2002; additional sections are to open in 2004 or later. The highway's critics, reports the Jerusalem Post, "including environmentalists, public transport advocates, and traffic safety experts, view Israel's first super highway as the most disastrous public works project ever conceived in the nation's history."<sup>40</sup> Among the reasons such groups as the Israel Union for Environmental Defense, the Society for the Protection of Nature in Israel, and the Forum for Public Transportation have been fighting against the highway are:



- It will make it more difficult to establish an integrated, balanced national transportation system: one which would place greater emphasis on rail and other forms of public transportation.
- Israel already has a very high number of private automobiles per square kilometer, and the highway will make this situation even worse by encouraging increased use of cars instead of other, more sustainable and less destructive means of transportation.
- It will significantly aggravate the already-severe air pollution around major cities.
- The highway will permanently contaminate the Mountain Aquifer, which supplies water to one-third of the country, with oil, gas, and other carcinogenic runoffs.
- The death rate from automobile accidents, already very high, will be increased by the high speed limit on the highway, by the tendency of drivers to exceed the speed limit on this wider-open road, and by the carryover of drivers' habit of speeding onto other, narrower roads.
- Since the Israeli government budget and its taxpayers are legally committed to paying compensation to the consortium of corporations which is building the road for any shortfall in income from the planned tolls, citizens and the government could be on the hook for hundreds of millions of dollars each year.
- Israel's balance of payments deficit will worsen as increased reliance on automobiles leads to more outlays for buying cars (all of which are imported), spare parts, and fuel.
- There will be an increase in the suburbanization of the country, leading to urban deterioration in Jerusalem, Tel Aviv, and other cities. In the long run (as other countries have learned), the highway will draw more cars and end up producing greater traffic jams.
- Noise pollution and visual blight on the countryside will increase.
- The highway will aggravate social divisions in Israel: it will benefit mostly those who can afford autos and tolls, while geographically isolating the poor and dumping financial costs and increased pollution onto them. Also, since the planned route

traverses Arab villages and cuts into their farmland, it will worsen the legitimate grievances of Israel's Arab citizens.

- Transportation Minister Ephraim Sneh, a highway supporter, acknowledges that it will “be a blight on Israel’s few remaining open spaces.”<sup>41</sup> In the central region of the country, where land reserves are few and the population density is high, the highway will pave over much of the remaining green space. This is especially true because the plan includes numerous access roads and interchanges, which will be flanked by strip malls and other construction. The anticipated profits from these businesses, and the vested interest of those who expect to reap them, are one of the reasons it has been so difficult to prevent this ecological disaster from happening.

Is it still possible to block this insane project? Perhaps some parts of it. At least fifty members of Knesset, from right to left, who want to preserve the Land for future generations, have called for a moratorium on construction until further study can be done. But the financial incentives for those who anticipate benefiting, as well as misguided ideas about progress and easier travel, may impose this legacy of pavement and pollution onto the face of Israel for many years to come.

FOOTNOTES #40 AND #41: Jerusalem Post, November 9, 2001, page 16.  
Ibid.

In summary, Israel is on the edge of an environmental catastrophe that may not only destroy the livelihoods of thousands of its people, but also threaten the viability of the state.

## **ISRAELI RESPONSES TO THE ENVIRONMENTAL CRISIS**

There have been indications of greatly expanded Israeli concern about the environment. In December 1988, a breakthrough occurred when the Ministry of the Environment was established to replace the former Environmental Protection Service, and to assume many additional responsibilities. Since 1988, the scope of the ministry's jurisdiction has been expanded, and it has devoted energy and expertise to environmental management.

Israel has been taking steps to give greater priority to its environmental problems. There was a "Year of the Environment" in 5754 (September, 1993 - August, 1994), with activities devoted to increasing the public's environmental awareness. Among the many nationwide projects were a bottle disposal campaign, the institution of eco-labeling on environmentally-friendly products, and various clean-up and recycling campaigns. It also sponsored an information campaign involving all government ministries, every municipality, numerous public organizations, the private sector, and the entire educational system in a unique and unprecedented environmental partnership. The Israeli Ministry of Education adopted the environment as the central theme for the curriculum during that year.

Many new laws have been passed to reduce pollution and other environmental problems. However, a great deal more needs to be done, and existing laws must be enforced more strictly.

The IUED, Society for the Protection of Israel (SPNI), the Forum for Public Transportation, Green Trend, the A. J. Heschel Center, Neot Kedumim, and other Israeli environmental groups are increasing their efforts to raise the public's environmental awareness through hikes, lectures, and other educational activities. The IUED seeks to reduce pollution by promoting new legislation and taking polluters to court. (For further information about Israeli environmental groups and publications, see Appendix C and Appendix D.)

As discussed in the previous chapter, Judaism addresses very powerful teachings to environmental problems. It is essential that these teachings be applied now to reduce the many threats to Israel's environment and indeed its survival.

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## Chapter 5: Environmental Issues in Israel

<sup>1</sup> Sam Kiley, "Israel is being Poisoned," <http://www.the-times.co.uk/news/pages/Tuesday-Times/frontpage.html>, July 4, 2000, Features.

<sup>2</sup> *Statistical Yearbook, 2000*, the Israeli Central Bureau of Statistics.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> Ibid.

<sup>7</sup> "Mekorot: Drinking water shortage is expected next year," Zafrir Rinat, *Ha'aretz*, December 11, 2000.

<sup>8</sup> Ibid.

<sup>9</sup> The Jewish National Fund advertisements can be found at <http://www.jnf.org>.

<sup>10</sup> "Israel could run out of water by 2010," *Jerusalem Post International Edition*, September 1, 2000, 5.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

<sup>13</sup> Herb Keinon, "Touching Bottom," *Jerusalem Post International Edition*, 32.

<sup>14</sup> Ibid.

<sup>15</sup> Ibid.

<sup>16</sup> "Rivers of Darkness," *Jerusalem Post International Edition*, August 9, 1997.

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

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- 19 Planet Ark, Reuters, Danielle Haas, June 22, 2000,  
<http://www.planetark.org/dailynewsstory.cfm?newsid=7215>.
- 20 Ibid.
- 21 "Bay Watch," *Jerusalem Report*, October 4, 2000, 19.
- 22 "Israel is being Poisoned,"  
<http://www.the-times.co.uk/news/pages/Tuesday-Times/frontpage.html>, July 4, 2000, Features.
- 23 Ibid.
- 24 Ibid.
- 25 Ibid.
- 26 Ibid.
- 27 Zafirir Rinat, "Water pollution alarm bells in TA area," *Ha'aretz*, November 24, 2000.
- 28 Ibid.
- 29 Liat Collins, "Tel Aviv's air among worse in country," *Jerusalem Post International Edition*, November 8, 1997, 5.
- 30 Ibid.
- 31 Israel Union for Environmental Defense Report, [www.iued.org](http://www.iued.org).
- 32 Ibid.
- 33 D'vora Ben Shaul, "Solutions That Go to Waste," *Jerusalem Post*, January 2, 1998, 15.
- 34 Liat Collins, "Green and Fighting Fit," *Jerusalem Post*, April 21, 2000, 17.
- 35 D'vora Ben Shaul, "O Galilee, my Galilee," *The Jerusalem Post International Edition*, February 1, 1997, 20.
- 36 Liat Collins, "Jerusalem of Green"? *Jerusalem Post*, January 17, 1997, 14; also see Philip Warburg, "The Ungreening of Jerusalem," *Jerusalem Report*, June 8, 1998, 54.
- 37 Veronique Bouquelle, "Transportation in Israel," Public Information pamphlet #1, The Israel Union for Environmental Defense, 1.
- 38 Ibid.

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<sup>39</sup> Bouquelle, "Transportation in Israel" provides a very extensive analysis of Israel's transportation problems and potential solutions.

<sup>40</sup> *Jerusalem Post*, November 9, 2001, 16.

<sup>41</sup> *ibid.*