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**Preliminary Report on the Catastrophic
Environmental, Public Health, Food Security, and
Cultural Heritage Impacts of the Zionist Regime of
Israel's Barbaric Attack on Oil Reservoirs**



**Israel's bombings of fuel depots
constitute ecocide: Araghchi**

On the night of March 7, 2026, **in the wake of a blatant act of aggression** by the Zionist regime of Israel against the territory of the Islamic Republic of Iran, assailant fighter jets targeted three facilities containing oil reservoirs in Tehran. These facilities, located in Shahr-e-Nord (northwest), Shahr-e-Rey (south), and Kuhak in the Sohanak region (northeast) of Tehran, with a combined capacity of approximately 215 million liters of fuel.

The attack triggered massive fires, generating large plumes of thick black smoke over the Tehran sky. Due to the intensity of the blaze, which prevented firefighting personnel and equipment from approaching the source of the fire, the flames and dense smoke persisted and remained visible in the city's sky for up to 24 hours following the assault. This incident not only resulted in severe air pollution due to the release of vast quantities of toxic compounds but also dispersed a nauseating odor across the city. This situation inadvertently caused the displacement of a large number of civilian residents from the metropolis of Tehran, which has a population of 13 million.



The pollution resulting from these attacks was not merely smoke but comprised a complex and highly toxic mixture of chemical substances. Such a level of contamination under normal circumstances would only be observed following "an extremely severe industrial accident, such as the complete explosion of a refinery." The primary components of this pollution include:

- **Precursors to Acid Rain:** Sulfur dioxide and nitrogen dioxide, which combine with atmospheric moisture to form acids.

- **Hydrocarbons and Particulate Matter:** Including very fine particles (PM2.5) capable of penetrating deep into the lungs.
- **Carcinogenic Compounds:** Resulting from the incomplete combustion of petroleum products.
- **Heavy Metals:** Released from the infrastructure damaged during the explosions.

The initial reactions and assessments from several independent international experts regarding this atrocity are as follows:

Expert Name	Academic/Professional Affiliation	Key Observation
Dr. Akshay Deoras	University of Reading	The composition of the pollution resulting from attacks on refinery facilities is "definitely unprecedented."
Professor Eloise Marais	University College London	The severity of the pollution is equivalent to "a very severe industrial accident."
Professor Anna Hansell	University of Leicester	Immediate effects on the lungs and long-term risks of cancer and chronic diseases.
Dr. Gabriel da Silva	University of Melbourne	Description of pollutant components (hydrocarbons, heavy metals) and associated long-term hazards.
Dr. Tedros Adhanom	World Health Organization	Concern regarding contamination of the food chain, water, and air, and its impact on vulnerable groups.
Doug Weir	Conflict and Environment Observatory	Unprecedented nature of an attack on oil facilities in an area with high population density.



Preliminary Assessment of the Environmental Impacts

Preliminary assessments of these brutal and criminal attacks by the Zionist regime on the aforementioned fuel reservoir complexes indicate the following pollution levels:

- **CO₂ (Greenhouse Gas):** Emission of approximately 517,000 tons of carbon dioxide, contributing to the intensification of climate change, increasing local and global temperatures, and altering weather patterns.
- **PM_{2.5} and PM₁₀ (Particulate Matter):** Release of approximately 495 tons of particulate matter (PM), leading to cardiovascular and respiratory diseases, premature mortality in humans, reduced air quality, and deposition onto plant leaves and buildings.
- **NO_x (Nitrogen Oxides):** Emission of approximately 792 tons of nitrogen oxides, exacerbating asthma and respiratory illnesses in humans, while also contributing to the formation of ground-level ozone and acid rain precipitation.
- **SO_x (Sulfur Oxides):** Release of approximately 16.5 tons of sulfur oxides, causing respiratory irritation and aggravating cardiovascular conditions in humans, as well as damaging plants, aquatic life, and contributing to acid rain.
- **TOC (Total Aromatic Compounds or Volatile Organic Compounds):** Emission of approximately 2,189 tons of total aromatic compounds or volatile organic compounds, which are highly carcinogenic and pose a serious threat to the health of citizens and the environment.

Furthermore, rainfall on the day following the attack led to the occurrence of acid rain and the runoff of a massive volume of highly dangerous toxic compounds into the soil and water resources. This, in turn, posed a grave risk to public health, the environment, and the food security of the population.



Preliminary Assessment of Adverse Impacts on the Public Health

The heinous act of attacking the fuel reservoirs in Tehran resulted in severe air pollution and, due to subsequent rainfall, led to the acid or black rain. Given the scale of these attacks and the profound concern over the consequences of the extreme air pollution and acid precipitation, all medical centers in Tehran Province were placed on high alert. The Department of Environment and the Red Crescent Society of the Islamic Republic of Iran advised all citizens, particularly the elderly and individuals with cardiovascular or respiratory conditions, to refrain from outdoor activities and remain in their homes, citing the prevailing conditions and the infiltration of pollutants into the urban areas of Tehran and Karaj in the aftermath of the attacks.

Concurrently, Tehran residents experienced a pervasive, intense odor of burning, a darkening sky, and a thick pall of smoke in the entire city. Local reports documented instances of shortness of breath, as well as eye and throat irritation among citizens. According to domestic and international experts, including specialists from the Red Crescent and Iran's Crisis Management Organization: "Exposure to such severe levels of particulate matter has immediate and direct effects on the human lungs."

The uncontrolled combustion of fuel storage tanks releases a massive volume of pollutants into the atmosphere. The emission of volatile organic compounds, particularly benzene—a confirmed human carcinogen—significantly elevates the risk of developing blood cancers and systemic diseases. Furthermore, PM2.5 particulate matter resulting from the burning of structures, acting as carriers of chemical toxins, can penetrate deep into the lungs and potentially trigger epidemics of acute cardiovascular and respiratory illnesses among vulnerable groups, especially children and the elderly. The extremely fine soot particles (black carbon), responsible for the atmospheric darkening and reduced horizontal visibility, can contribute to the development of pulmonary diseases such as bronchitis, lung cancer, and asthma.

Dr. Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization (WHO), expressed his "deep concern" regarding this pollution, stating that damage to oil facilities carries the risk of contaminating food, water, and air, which could have severe health consequences, particularly for children, the elderly, and individuals with pre-existing conditions. Furthermore, experts warned of what they termed a long-term threat to water and soil resources. These threats stem from the two following principal issues:

1. **Persistence of Pollutants:** As pollutants settle on surfaces and infiltrate water pathways, these compounds can remain in the environment for extended periods long after the fires have been extinguished. Some experts have also outlined a more comprehensive list of long-term risks, including cancer, pregnancy complications, and neurological and cardiovascular disorders.
2. **Cycle of Pollution Resuspension:** Experts warn that even if pollutants settle on the ground, they can be re-entrained into the air as the soil dries and winds blow, perpetuating their catastrophic effects. The toxic particles resulting from this atrocity "can have very lasting effects for years to come, both on the respiratory system and on increasing the risk of cancer."

Preliminary Assessment of Adverse Impacts on Agricultural Products and Food Resources

The infiltration of petroleum compounds and heavy metals (such as lead, cadmium, and mercury) into soil layers, or the deposition of these compounds onto agricultural products, can facilitate the entry of pollutants into the food chain. This can lead to hormonal disruptions, fetal abnormalities, and a threat to food security, severely jeopardizing the foundations of the region's food supply.

The attack on the Tehran refinery reservoirs resulted in the extensive leakage of millions of liters of heavy hydrocarbons, aromatic compounds, and toxic petroleum derivatives into the soils of the southern suburbs of the capital, particularly the Rey Plain. This plain has long been recognized as a vital agricultural hub and the primary supplier of vegetables and food products for the Tehran metropolis. The infiltration of these toxic substances into plant roots has contaminated current agricultural output, rendering them unsafe for human consumption. Experts have warned that the remediation of these contaminated soils will require decades and cost billions of dollars.

The leaked petroleum materials have penetrated deep into the subsurface layers, directly impacting the underground aquifers of the Rey Plain. These water sources are the primary means of irrigating the region's farmlands. This contamination serves as an alarm bell for toxic agriculture, as using polluted groundwater for irrigation creates a cycle of pollutant accumulation in both soil and crops that will persist for years. Consequently, even if new irrigation sources are found, the contaminated soil itself will continue to act as a perpetual source of pollution release.

Petroleum pollutants and heavy metals resulting from the combustion of facilities and chemicals, such as fire retardants, are absorbed by plants once they enter the soil and water. These pollutants have the potential to accumulate in the food chain and, through the consumption of contaminated products by humans and livestock, transfer to higher trophic levels. Thus, livestock fed on contaminated fodder and water themselves become a source of contamination for humans.

Preliminary Assessment of Adverse Impacts on Tehran's Cultural Heritage

Tehran, as a metropolis with a centuries-old historical background, is home to invaluable structures from the Qajar era and subsequent periods, many of which are situated in the central and southern districts of the city. The black and acid rain resulting from the extensive conflagration of the oil reservoirs have inflicted irreversible damage upon the facades of these historical edifices. The limestone and marble employed in numerous Qajar-era palaces and mansions are highly susceptible to acid; through chemical reaction with acidic compounds, they undergo gradual corrosion and erosion. The traditional bricks utilized in structures such as the Tehran Grand Bazaar, historical mosques, and older residences may also lose their structural integrity and experience surface exfoliation due to exposure to acid rain.

The facades and ornamental features of over 400 cultural-historical monuments, more than 150 museums, and valuable artifacts located within the over 250-hectare historical fabric of Tehran have been affected by chemical substances carried by the black rain, which contains soot particles and heavy hydrocarbons. This deposited layer, beyond altering the aesthetic appearance of these valuable historical structures, can over time permeate the pores of building materials and accelerate the process of chemical degradation. Buildings adorned with delicate decorations—such as seven-color tilework, mirror work, and exquisite stucco ornamentation, abundantly found in structures like the Sepahsalar Mosque, the bazaar timches, and Qajar-era houses—are highly vulnerable to acidic pollutants. Glazed tiles may undergo discoloration and loss of luster, while stucco work is at risk of gradual dissolution.

Furthermore, the infiltration of these pollutants (both gaseous and particulate matter) into the indoor environments of museums—through pores, openings, and ventilation systems, particularly in museums that have also sustained damage and shattering of door and window glass—entails additional serious and irreversible harm. This includes fading and discoloration of paintings and textiles, corrosion of

metals, and reduced strength of fibers and paper-based artifacts, among other forms of deterioration.

Tehran's historical gardens are not exempt from this threat. Acid rain, by altering the pH of the soil, endangers the health of ancient trees and vegetation within these gardens. Gardens such as Ferdows Garden, Negarestan Garden, and the Qasr Garden Museum—considered integral components of Tehran's cultural and historical identity—may, over the long term, witness the gradual decline of their historic trees.

Conclusion

The deliberate targeting of civilian infrastructure and residential areas carries grave consequences under international humanitarian law. Many dimensions of the catastrophic and adverse impacts of such actions are currently unknown and necessitate further research in the future. However, based on a preliminary assessment, it can be stated with a level of certainty that such acts violate the fundamental rights of civilians and civilian property and, pursuant to the Geneva Conventions and customary international law, **constitute crimes against humanity and war crimes.**

Furthermore, the criminal attack on Tehran's fuel reservoirs meets, by all criteria of international law, the definition of "**ecocide**" or an environmental crime. Consequently, the terrorist Zionist regime, as the perpetrator, and the terrorist regime of the United States, as its supporter and facilitator, must be held accountable in international organizations and forums.

In light of the foregoing, and considering that the actions of the Israeli terrorist forces constitute a flagrant violation of international obligations under multilateral environmental and humanitarian instruments, as well as laws pertaining to the protection of human settlements, the international community is duty-bound to respond appropriately and immediately. It must explicitly condemn these unlawful attacks to not only hold the perpetrators of this crime accountable but also to prevent the recurrence of such acts in the future. The Zionist regime of Israel must also compensate for all material and moral damages inflicted upon people and the environment of the Islamic Republic of Iran.