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The impact of war on food, the environment and the climate

An increasingly violent world

In its "The Armed Conflict Survey 2025" [read], the International Institute for Strategic Studies (IISS) reviews the political, military and humanitarian dimensions of all active conflicts.

Over the period July 2024–June 2025, the IISS reports that

- Around 240,000 people were killed in violent events. This is 23% more than for the preceding year. Ukraine and Palestine were the most violent conflict theatres, with 82,298 and 20,990 fatalities, respectively. Civilian deaths rose by 40%, reaching almost 50,000 in 2024, with Gaza alone accounting for 80% of global child casualties and 70% of female victims.
- The number of violent events increased by 27% worldwide to reach the staggering number of 180,000, more than three times what it was in 2018.
- Forced displacement reached a historic 122 million people by April 2025, including 73.5 million internally displaced people. Sudan alone has seen 14.3 million people displaced, making it the world's largest current displacement crisis.

It is likely that these record figures will be beaten in the next IISS report.

The impact of war on climate and the environment

War can impact the environment in different ways. At this point in time, the data available are quite partial and, at best, illustrative.

Modern wars can cause colossal fires of settlements, industrial facilities, oil depots, forests, croplands, wetlands, and other areas. In the case of the Russo-Ukrainian war, researchers estimated the additional greenhouse gas (GHG) emissions resulting from fires during the years 2022–23, using remotely sensed data. Their result is that the war-related fires in this period generated immediately the emission of 9.08 Mt carbon dioxide equivalent (CO_2e), and future additional emissions linked to the current fires of 16.86 Mt CO_2e. They also

estimated that burned forests will lose carbon sequestration capacity equivalent to 2.9 Mt CO_2 during the first five years following the fires [read].

Another study, also on Ukraine, conducted for the 2022–2025 period, found similar results and estimated additional immediate emissions at 14.18 Mt CO_2e and future (long-term) biomass losses due to current forest fires at 32.37 Mt CO_2e.

All these figures should be compared to the total GHG emissions of Ukraine, in 2021, of 225 Mt CO_2e [read].

There is also evidence that the marine ecosystems of the Black Sea have suffered from the ongoing conflict. Lack of coordination among riparian countries, pollution and coral systems degradation due to airstrikes have caused a decline in the number of marine species [read].

The ongoing illegal aggression by the US and Israel on Iran has also begun to have a serious impact on the environment, and many experts believe that it may have lasting negative consequences, including for human health. By 26 March 2026, more than 400 environmentally concerning events had been recorded [read]. They involved the burning of oil and gas fields, sinking of oil tankers, and the bombing of oil reserves near the capital, Teheran, which spilled incompletely burned oil and toxic chemicals over part of the city, creating a form of toxic black rain [read]. The events have disseminated in the air, the soil and water, large quantities of toxic chemicals, heavy metals and other pollutants that will poison future agricultural produce and drinking water.

The impact of war on food and agriculture

The damage of war on food has been long documented.

A report published in 2025 by Insecurity Insights [read], based on the analysis of 1,034 reported incidents across 29 countries during the 2018–2024 period,[1] shows the impact of explosive weapons on food and agriculture.

When explosive weapons hit farmland,

- They destroy infrastructure:
  - Water-related infrastructure for extraction (e.g. capture of water at sources, or from rivers, wells and boreholes), storage (e.g. dams and tanks), transport (pipes and pipelines) and water treatment for drinking water and sanitation (desalination plants, filtration stations, purification stations and other processing systems). This destruction has a direct and lasting impact on human hygiene, psychology and health [read].
  - Irrigation infrastructure (tanks, channels and pumps).
  - Aquaculture ponds for fish production.
  - Greenhouses for vegetables and fruit production.
  - Animal housing structures.
  - Storage infrastructure (granaries, silos, including seed storage).
  - Transport infrastructure (roads, bridges, parking sheds for means of transport).
  - Market places, with consequences on food supply systems and availability of food, as well as in terms of civilian casualties and disruption of social life that, in many places, is particularly important in market places [read].
  - Food processing facilities.

[1] Five countries – Syria, the occupied Palestinian territory (oPt), Lebanon, Myanmar and Ukraine – accounted for over 80% of all the reported incidents.

- They pollute soil and water by releasing heavy metals and toxic chemicals that can leach into groundwater, creating lasting environmental and health hazards. Soil can also be infested with unexploded explosive weapons and mines that can generate long-lasting security problems.[2]

- They have an economic impact by disrupting the food system:
  - They cause loss of income arising from production, trading and processing activities of agricultural products.
  - They push prices up because of reduced food availability, thus limiting access to food by the more vulnerable groups.
  - By the destruction and disruption they inflict, they diminish food autonomy and sovereignty and make impacted population groups unable to keep control over the production of their food and to sustain themselves, more dependent on food assistance and less resilient to future shocks.

- They kill or injure
  - people,
  - animals,
  - and destroy crops and tree plantations.

The damage caused by war can lead to the displacement of entire farm communities and the abandonment of fertile agricultural land. This affects production in the immediate, medium and long term.[3] With displacement, the existing food system is destroyed, local knowledge and important assets resulting from efforts made by people for decades (e.g. selected plants and animal breeds well adapted to local conditions) are lost.

These negative effects hinder post-conflict recovery and undermine the resilience of populations involved.

In addition, wars also impact food and food security on a much broader scale by disrupting the global economy and particularly when trade of food and agricultural inputs is hampered, as can be seen from the current situation in the Strait of Hormuz [read].

[2] It is estimated that it may take 15 years to clear eastern Ukraine of contamination by explosive weapons (including mines) and at least 30 years in Syria. This will require the use of specialised equipment to prevent further health risks and the release of more toxic chemicals.

[3] For example, 7% of Ukraine's cropland was abandoned after the 2022 illegal invasion by Russia, while the internal conflict in South Sudan resulted in a 16% drop in cultivated land between 2016 and 2018, which could have supported at least a quarter of the population in the country's southern states.

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To know more:

- UNCTAD, From gas to grain: Fertilizer disruptions raise risks for food security and trade, UN trade & development, 2026.
- Webber, T., Iran war's environmental toll could leave damage and health risks for decades, experts say, AP, 2026.
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- Zibtsev, S. et al., Spatial quantification of the impact of the Russo-Ukrainian War on landscape fires and greenhouse gas emissions (2022–2025), No.GU26-11674, Copernicus Meetings, 2026.
- Mokodompit, A.G.F., Maryanto, A.O. and N. Arkavista, Long-term Impacts of the Russia-Ukraine Conflict on the Black Sea in 2022–2024 on Maritime Environmental Change: An Ecological Analysis, PROIROFONIC 1.1 (2026): 367-374, 2026.
- IISS, The Armed Conflict Survey 2025, International Institute for Strategic Studies, 2025.
- Insecurity Insights, Broken Harvests: How Explosive Weapons Devastate Farmland and Livelihoods – The Use of Explosive Weapons in Populated Areas and Their Impact on Food Security, 2025.
- Insecurity Insights, Fractured Flow: The Cascading Impacts of War on Access to Water – The Use of Explosive Weapons in Populated Areas and Their Impact on Access to Water, 2025.
- Insecurity Insights, Shattered Stalls, Shattered Lives: The Human Cost of Bombing Marketplaces – The Use of Explosive Weapons in Populated Areas and Their Impact on Food Security, 2025.
- Vasylyshyn, R. et al., Landscape fires and decreasing carbon sequestration capacity: Quantifying greenhouse gas emissions due to the Russo-Ukrainian war, Ecological Indicators, Volume 181, 2025.

Selection of earlier articles published on hungerexplained related to this topic:

- The food weapon: a never-ending and horrendous story… 2025.
- Ukraine war and food crisis: facts and debates, 2022.