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Explosive ordnance contamination in Syria

Extensive contamination by explosive remnants of war (ERW) and unexploded ordnance (UXO) poses a significant threat to the safety of civilians and seriously undermines Syria's recovery efforts. In areas where families are starting to return to their homes and land, this contamination is a real and omnipresent danger. It must be cleared before hospitals, schools and other vital infrastructure can be reused or rebuilt. The presence of explosive ordnance is also impeding the delivery of crucial humanitarian assistance and services, and will significantly hinder reconstruction and early recovery efforts in the coming months and years. This briefing paper gives an overview of the gravity of the problem and updates the previous brief published by HI in 2024: [Explosive Weapons in Populated Areas \(EWIPA\), Contamination and Mine Action in Syria](#).



Photo: Market in Aleppo in front of a neighbourhood destroyed by bombing. © HI

The context of contamination in Syria

The massive use of explosive weapons in Syria

Over the course of Syria's almost 14 years of war, an estimated 1 million explosive munitions were used. The minimum failure rate of munitions at any given time being between 10-30%, there are potentially between 100,000 and 300,000 explosive items littering the country's critical infrastructure, including roads, bridges, hospitals, schools and residential property as well as agricultural land, irrigation systems and aquifers.

According to latest estimates, 15.4 million Syrians - two thirds of the population – are at risk of death and injury due to explosive ordnance.¹

Main sources of contamination

Campaign of bombing and shelling

Between 2015 and 2019, with the support of Russian and Iranian forces, the former Syrian government led by Bashar al-Assad conducted a vast and systematic bombing and shelling campaign targeting opposition-held towns and cities.

In September and October 2016, for example, the Russian-Syrian coalition bombed Aleppo non-stop for a whole month, killing more than 440 civilians. Satellite imagery analysis revealed more than 950 new impact sites in Aleppo's opposition-held neighbourhoods during this period, consistent with the detonation of large high-explosive bombs.²

Over the course of the first 10 years of the conflict, major cities like Raqqa (2017), East Aleppo (2016), Deraa (2018), Homs (2017), Eastern Ghouta (2018) were devastated by bombing.

Bombing and shelling of major cities

Major cities that have been heavily bombed or where intense combat had taken place are now massively contaminated. Explosive hazards are lying dormant in rubble, streets, houses, public infrastructures, networks of tunnels and many other civilian infrastructures.

¹ Syrian Arab Republic: Humanitarian Response Priorities – January to March 2025 (Issued January 2025) – Syrian Arab Republic | ReliefWeb

² <https://www.hrw.org/news/2016/12/01/russia/syria-war-crimes-month-bombing-aleppo>

In some areas, entire neighbourhoods are uninhabitable, as the sheer density of explosive hazards poses too great a threat. People who have returned to their homes after the fighting often live in the shadow of danger, unable to begin rebuilding their lives. Many returnees voice their fear of explosive ordnance contamination.

Everyday activities, such as walking down the street, clearing debris or entering damaged structures, put people's lives in danger. Public services like schools, hospitals, and water supply systems, all essential for recovery, are at risk of further damage due to explosive remnants.

The presence of these hazards disproportionately affects vulnerable groups, including children, who may unknowingly interact with these deadly objects, and people with disabilities, including those with limited mobility. Moreover, the economic toll of contamination is staggering, as businesses remain closed, farmlands are unsafe to cultivate, and reconstruction is delayed, further compounding the challenges faced by war-affected populations.

The diversity of explosive hazards contaminating Syria

Syria is contaminated by the full spectrum of explosive weapons: manufactured explosives, improvised and homemade bombs, abandoned munitions, landmines and other explosive remnants of war. Even with the conflict at an end, the extent of contamination has left a deadly legacy of post-conflict hazards for Syrians. It will take decades to clear the country.

Since November 2024 and the return to a relative calm, a total of 136 landmine fields and points of presence of mines have been newly identified across Idlib, Aleppo, Hama, Deir-ez-Zor, and Latakia³.

The emblematic example of barrel bombs

Barrel bombs are a type of improvised explosive device made with oil drums, fuel tanks, gas cylinders or large containers packed with explosives, fuel, shrapnel, glass, metal fragments, and other lethal material. They were used extensively by the former Syrian armed forces in urban areas, typically dropped from helicopters. They are unguided bombs, and their sole purpose is to maim, kill and terrorise as many people as possible. They are totally indiscriminating.

Over a nine-year period (between July 2012 and March 2020), the former Syrian government reportedly dropped nearly 82,000 barrel bombs, killing 11,087 civilians, including 1,821 children. These weapons were used in at least 728 attacks on vital civilian facilities, including 104 attacks on medical facilities.⁴

³ <https://www.unocha.org/publications/report/syrian-arab-republic/syrian-arab-republic-flash-update-no-13-recent-developments-syria-29-january-2025-enar>

⁴ <https://snhr.org/blog/2024/09/12/the-syrian-regime-dropped-about-11000-barrel-bombs-on-daraa-governorate-killing-1177-civilians-forty-percent-of-whom-were-women-and-children/>

Populations at risk



Photo: HI raises awareness of children on the risk posed by explosive remnants – session in Northeast Syria © HI

Since December 2024, Syria has experienced a significant rise in incidents related to unexploded ordnance and explosive remnants of war. Civilian casualties due to explosive ordnance incidents are reported almost daily. Since December, 141 people, including 24 children and 13 women, have been killed in 198 explosive ordnance incidents, according to protection partners. At least 265 others were injured.⁵

Between January and February 2025, a total of 136 explosive ordnance incidents were recorded, with 90 occurring as farmers attempted to cultivate land or graze livestock to sustain their families. These incidents resulted in the killing of 61 farmers and shepherds and left 93 others injured⁶.

The most at-risk areas include those that saw intense fighting and former front lines, while ongoing conflict in parts of northeast Syria has introduced new layers of contamination.

More than 80% of all victims are men, indicating an interconnection between the deteriorating economic situation, the increased need to pursue alternative livelihood possibilities and incidents involving explosive ordnance contamination.

Prior to the most recent escalation, an estimated 15.4 million civilians were at risk from explosive ordnance, with contamination heavily impeding access to basic services, humanitarian aid and livelihood opportunities.⁷

Displaced population particularly at risk

The International Organization for Migration (IOM) reports that, as of December 2024, there were some 3.5 million displaced people in northwest Syria, with 2 million living in camps⁸.

⁵ <https://reliefweb.int/report/syrian-arab-republic/syrian-arab-republic-humanitarian-situation-report-no-1-12-february-2025-enar>

⁶ Mine Action Area of responsibility Syria Response

⁷ [An estimated 14.41 million civilians were at risk from explosive ordnance](#)

⁸ <https://turkiye.iom.int/sites/g/files/tmzbd11061/files/documents/2024-12/nws-flash-appeal-dec-mar2025.pdf>

In **northeast** Syria, more than **24,400** people are currently living in some 200 emergency centres. Many of these centres have been set up in closed schools.⁹ The lack of basic services, such as water and electricity, combined with the dangers from unexploded ordnance, makes everyday life extremely difficult for many people.

This contamination is also a major danger for the people currently returning home. HI is hearing from people who have suffered life-changing injuries, including limb amputations, while attempting to assess the damage to their former homes. Tragically, many return to find nothing but rubble.

Some 26% of all direct explosive ordnance victims are displaced families.

“I couldn’t return to my village after the change of the Syria government because of the landmines and explosive remnants of war.” - HI Staff member in Idlib

Over 522,000 people across Syria have returned to their area of origin after a month of displacement.¹⁰

Children particularly exposed to danger

In December last year, 116 children were killed or injured by unexploded ordnance, an average of nearly four per day.¹¹ **In the last nine years, at least 422,000 incidents involving unexploded ordnance were reported in 14 governorates** across Syria, “with half estimated to have ended in tragic child casualties. Children represent almost 25% of direct victims, 61 % of whom were killed or maimed while playing in a housing yard, building, school or in the vicinity of residential areas. According to Mine Action partners, on average, out of 10 child victims, 4 are killed and 6 are injured.”¹²

Severe injuries and lack of medical services

Explosive ordnance accidents cause severe physical injuries, including traumatic amputations; soft tissue injuries; fractures; eye injuries; burns, etc. These injuries can result in long-term disabilities, amputations, or even death, bringing yet further devastation to the lives of affected families and communities. Over 28% of the Syrian population over the age of two now has some kind of disability.¹³

Compounding this crisis, hospitals in Syria are already struggling with chronic shortages of fuel and electricity, making it extremely difficult to provide adequate treatment for victims of

⁹ Syrian Arab Republic: Flash Update No. 13 on the Recent Developments in Syria (as of 29 January 2025) - Syrian Arab Republic | ReliefWeb

¹⁰ <https://www.unocha.org/publications/report/syrian-arab-republic/syrian-arab-republic-flash-update-no-10-recent-developments-syria-7-january-2025-enar>

¹¹ https://news.un.org/en/story/2025/01/1158971?utm_source=UN+News+-+Newsletter&utm_campaign=59e80642e0-MAIL_CAMPAIGN_2025_01_14_04_&utm_medium=email&utm_term=0_fdbf1af606-59e80642e0-436797313

¹² <https://www.unognewsroom.org/story/en/2478/syria-uxo-risk-unicef/>

¹³ <https://www.ictj.org/latest-news/disabilities-syria-hidden-crisis>

explosive ordnance accidents. Consequently, minor injuries can lead to permanent disabilities due to limited healthcare services.

62% of Syria's hospitals are fully functional, while 38% are either partially or non-functional. 53% of Syria's primary healthcare centers are fully functional, while 47% are either partially or non-functional.¹⁴ According to the Health Sector, 102 health facilities in northwest Syria had already run out of funds by the start of 2025¹⁵.

In light of the massive needs, aid workers are sounding the alarm on the underfunding of the response in Syria, which is significantly affecting healthcare.

The most contaminated areas in Syria

The situation in Syria's most contaminated cities, including **Aleppo, Dar'a, Deir-ez-Zor, Hama, and Idleb**, remains critical. These areas have experienced high casualty rates due to widespread explosive ordnance contamination, exacerbated by recent fighting, bombing, and attacks on ammunition depots.

One particularly alarming statistic is that **8 in 10 agricultural fields in Syria are contaminated with explosive ordnance**, directly impacting livelihoods in a country where much of the population depends on agriculture for survival.

¹⁴ <https://reliefweb.int/report/syrian-arab-republic/whole-syria-monthly-situation-report-march-2024>

¹⁵ <https://www.unocha.org/publications/report/syrian-arab-republic/syrian-arab-republic-flash-update-no-13-recent-developments-syria-29-january-2025-enar>

Clearance efforts and risk education

Clearance efforts in Syria



Humanitarian mine action organisations, supported by international partners and national organisations, play a critical role in addressing the challenges. These entities include the United Nations Mine Action Service (UNMAS) and experienced Non-Governmental Organisations (NGOs) specialising in explosive ordnance risk education (EORE), clearance, and victim assistance (VA).

Local organisations and services also play a crucial role. Training and equipping Syrian communities to engage in clearance efforts, risk education, and victim support is essential for sustainable and effective demining operations. Meanwhile, it is essential that donor countries and international agencies provide the necessary financial and technical resources to scale up operations.

Photo: Risk education session conducted by a HI staff at the border with Turkey for Syrians returning to in Syria. Before 8 December, daily returns were between 200 – 300 individuals, while over the last five days, daily figures increased to 1,300 – 1,850, reaching a total of over 7,600 from 9-13 December. © HI