

# Explosive Weapons, Contamination, and Risk Education in Yemen

Explosive weapons have been used indiscriminately throughout the conflict in Yemen. The ordnance from explosive weapons may detonate on impact or lay dormant until initiated. As a result, Yemen is heavily contaminated by remnants of explosive weapons. Contamination by **explosive ordnance** represents not only an immediate physical threat to civilians but also prevents safe access to services or humanitarian aid; endangers civilian movements and their ability to safely return; and poses long-term dangers as explosive remnants of war.

Many of the explosive weapons used in Yemen are already prohibited by international law, including landmines and victim-activated Improvised Explosive Device (IEDs) prohibited by the Antipersonnel Mine Ban Treaty and cluster munitions prohibited by the Convention on Cluster Munitions. The Convention on the Use of Certain Conventional Weapons Amended Protocol II also regulates, but does not ban, the use of certain indiscriminate weapons such as landmines, booby-traps and other explosive devices.

Despite such laws, almost every type of explosive weapons has been used indiscriminately in Yemen. With over 40,000 conflict events recorded<sup>(1)</sup> since 2015 including extensive use of airstrikes, the presence of unexploded ordnance across Yemen is rampant.

## Contamination in Yemen

Despite no clear assessment of contamination across Yemen, **strong indicators of contamination** from multiple forms of explosive weapons exist:

**Mines:** Antipersonnel, anti-vehicle mine, and sea mines have been used despite Yemen having ratified the Antipersonnel Mine Ban Treaty in 1999.

- Landmines and remnants of explosive ordnance are present in 19 out of 22 governorates in Yemen.<sup>(2)</sup>
- Areas with former frontlines and near borders are among the most contaminated. Internally Displaced Persons returning are among those most at risk.
- There remains massive historic contamination from conflicts dating to 1962–1969, 1970–1983, and the 1990s.<sup>(3)</sup>
- Sea mines laid along Yemen's Red sea coast pose substantive risk to fishermen and civilian boats.

**IEDs:** Improvised Explosive Devices (IEDs) are explosive devices made or deployed with non-conventional techniques. IEDs can be hidden in everyday items making them difficult to identify. IEDs vary significantly due to their improvised nature and can be deployed multiple ways including victim-activated or command-detonated. Only victim activated IEDs are banned under the Antipersonnel Mine Ban Treaty.

- In Yemen, 121 IED incidents reported to the Protection Cluster caused 320 civilian casualties.<sup>(4)</sup>

## Worsening Civilian Impact

Despite a decrease in conflict incidents throughout 2019, the rate of civilian casualties from explosive ordnance is increasing. Open source reporting to the Yemen Protection Cluster show that in the first six months of 2019:

- **Civilian casualties rates** from explosive ordnance **doubled during the first half of 2019** compared to the same period in 2018.
- The rate of **child casualties tripled** in 2019 from the previous average in the same period.
- There were **more child casualties** due to explosive ordnance **by May 2019** than in all of 2018.

## Facts and Figures

- Improvised Explosive Devices (IEDs) caused on average **6 civilian casualties**.
- Landmines caused on average **2 civilian casualties**.
- Unexploded explosive ordnance (UXO) caused on average **3 civilian casualties**.
- UXOs and IEDs are often found farther from the frontlines but cause greater civilian casualties because incidents occur in populated areas.
- Landmines caused fewer casualties per incident but overall were responsible for more than **two-thirds of the civilian casualties** due to explosive ordnance in Al-Hudaydah, Al-Dhale and Al-Bayda.
- In 2019, **the majority of explosive ordnance civilian casualties were victim triggered incidents** impacting civilians in open ground or while travelling in vehicles.

Source: Civilian Impact Monitoring Project by the Yemen Protection Cluster. Thematic Report Explosive Ordnance. August 2019.

**Abandoned Ordnance:**<sup>(5)</sup> This includes explosive ordnance not used during armed conflict and no longer under the control of the party that held it. This ordnance is dangerous not only because of the possibility of re-use but because degraded ammunition can become sensitive to temperature or friction making it more likely to detonate.

- For example, Yemen is not known to have produced or exported cluster munitions, but stockpiles of the weapon left on Yemeni territory from conflict dating back to 2009 are believed to be being used in the current conflict.<sup>(6)</sup>

**Cluster Munitions:** Contamination from cluster sub-munitions is suspected in at least 7 governorates.<sup>(7)</sup>

- Mine clearance specialists have found that weapons including cluster munitions can have an average error rate of up to 30%.<sup>(8)</sup> This

1. ACLED. "Press Release: Over 100,000 Reported Killed In Yemen War." 31 October 2019.

2. OCHA. Yemen Humanitarian Needs Overview. 2019. 45

3. International Campaign to Ban Landmines–Cluster Munition Coalition. "Landmine Monitor 2018." November 2018. 45

4. Civilian Impact Monitoring Project (CIMP), a service of the Protection Cluster in Yemen. "Key Statistics." Data from 1 December 2017 until 31 January 2020.

5. Explosive ordnance that is not used during armed conflict and is no longer under the control of the party that controlled it is known as abandoned explosive ordnance (AXO). This may include stockpiles from past conflicts or explosives discarded as control over territory changes. AXOs, therefore, may or may not have been primed, fuzed, armed, or otherwise prepared for use.

6 & 7. International Campaign to Ban Landmines–Cluster Munition Coalition. "Cluster Munition Monitor 2018." August 2018. 49-63

8. Congressional Research Service. "Cluster Munitions: Background and Issues for Congress." 22 February 2019.

means that 3 out of every 10 cluster munitions fired in Yemen may fail to explode on impact and pose long-term risk as unexploded ordnance (UXOs).

**Unexploded Ordnance:** Explosive weapons that fail to function as intended are known as unexploded ordnance (UXO). These remnants of explosive weapons can lay dormant until activated accidentally.

- In Yemen the rate of UXO incidents is increasing due to contamination. In 2018, 405 civilian casualties involving UXOs were reported to the Protection Cluster with almost half proving to be fatal. In the first half of 2019, UXOs incidents had already caused 332 civilians casualties with 129 deaths.<sup>(9)</sup>

## Population Most at Risk

The lack of comprehensive surveys and mapping of contamination in Yemen means that the population is without the necessary information to mitigate the risks related to contamination.

- This is particularly dangerous for **people on the move** such as **Internally Displaced People (IDPs), returnees and other at-risk groups** in transit across Yemen or seeking to return home.

- It also puts **frontline workers** such as those involved in rubble removal, scrap collectors, and construction as well as agricultural workers such as **farmers** and **fishermen** at high risk.

- **Children** are among the most at-risk population because they are naturally risk-takers and often will handle UXOs, AXOs, and even IEDs without recognizing the danger.

## Children

During the first six months of 2019, 1 in 3 civilians injured

9, 10 & 11. CIMP, *Thematic Report Explosive Ordnance*. August 2019.

by explosive ordnance were children according to open source reporting submitted to the Protection Cluster in Yemen.<sup>(10)</sup> In this same period, **1 in 4 fatalities** from explosive ordnance **were children**.

Among the casualties from explosive ordnance reported to the Protection Cluster during the first six months of 2019:

- Landmines were the top cause of children casualties;
- UXOs incidents killed 1 out of every 5 children injured;
- IEDs incidents, though causing the least number of child casualties, were lethal in 67% of cases involving children.<sup>(11)</sup>

## Urgent Concerns

- Extensive use of explosive weapons in Yemen has led to widespread contamination in both active conflict areas and non-active areas. Explosive ordnances that lay dormant can affect even calm areas for decades after an active conflict ends.

- Contamination has a significant impact on peoples' ability to meet their basic needs as services, critical infrastructure, and livelihoods are both destroyed in the near term and remain at risk in the long-term by contamination.

- The lack of Risk Education in Yemen, as well as the absence of consistent survey and mapping of contamination, means that populations do not have information to mitigate risks related to explosive ordnance.

- Populations trying to rebuild or return home are at high risk of activating remnant explosive ordnance. These populations include frontline workers involved in clearing debris or reconstruction, children, and IDPs on the move.

- IEDs, particularly those designed to be hidden, are unpredictable and difficult to detect or disarm. Clearance personnel require specialized training to detect and disarm IEDs.

## Immediate Recommendations

### States should:

- Recognize that the extensive use of explosive weapons in Yemen is the most important and severe factor that leads to widespread contamination in both active conflict areas and non-active areas.

- Support the development of a strong political declaration against the use of explosive weapons in populated area with wide area effects that will help to prevent extensive contamination.

- Use their leverage and influence to ensure that access to all areas is granted to humanitarian mine actors to enable land release activities including technical and **non-technical assessments** of contaminated areas and deliver Risk Education.

- Ensure that Victims Assistance be integrated into broader humanitarian and development efforts and ensure sustainable access to services.

### All stakeholders: donors, States, UN agencies and other involved parties should:

- Strongly support the authorization of land release activities including technical and non-technical surveys that are necessary to enable clearance and demining activities

as well deliver Risk Education.

- Support training programs and support to Mine Action, particularly on IEDs, to equip staff for demining and community awareness activities.

- Commit humanitarian funding to significantly scale up mine action activities including Risk Education, in line with international Mine Action Standards and humanitarian principles.

### With regard to risk education all stakeholders should:

- Increase cooperation among mine action actors and standardize Risk Education messages, monitoring, and evaluation.

- Ensure that resources are allocated to make Risk Education a priority for children including by integrating Risk Education into school curriculums and providing additional out-of-school Risk Education.

- Ensure frontline workers involved in rubble removal and reconstruction, scrap collectors; farmers and fishermen, as well as people on the move such as IDPs are prioritized as a target for Risk Education and other support.

- Prioritize Risk Education to high-risk governorates that have experienced active conflict.



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