



Findings on Violations of Yemeni Children's Rights to Life and Education During the Conflict

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About DT Institute

DT Institute is a U.S.-based non-profit international development organization acting as both an implementer and funder. As an implementing partner, DT Institute focuses on strengthening communities and leaders, working with local organizations, and developing new and innovative approaches. In its role as funder, DT Institute supports research activities and program implementation globally in the areas of stabilization, transition, and peacebuilding.

About the Yemen Human Rights Forensics Lab

The goal of DT Institute's Yemen Human Rights Forensics Lab (YHRFL) program is to increase recognition and protection of human rights in Yemen by providing one-stop access to a comprehensive repository of digital evidence of human rights violations committed by all sides involved in the Yemeni conflict. The YHRFL program is working to collect, verify and preserve open-source digital evidence of human rights violations in cooperation with Mnemonic's Yemeni Archive project and a coalition of local civil society organizations (CSOs) in Yemen. Results of the YHRFL's analysis of this evidence in light of international human rights frameworks are summarized and presented in a series of analytical reports on themes such as the rights of journalists, the right to personal liberty and integrity, and the rights of children, as well as attacks against infrastructure objects and facilities critical to the survival of civilian population. The program also supports efforts of local CSO partners to carry out international awareness and advocacy activities aimed at promoting the use of documented evidence of human rights abuses for use in legal, reconciliation, and transitional justice and accountability processes.

Acknowledgements

DT Institute would like to recognize and thank its Yemeni partner organizations SAM Organization for Rights and Liberties, YCMHRV, Musaala, and partner organization Yemeni Archive, for their valuable work documenting violations against children in Yemen, which was incorporated into this report.

List of Acronyms

CRC	Convention on the Rights of the Child
CSO	Civil Society Organization
GEE	UN Group of Eminent Experts
ICC	International Criminal Court
ICESCR	International Covenant on Economic, Social and Cultural Rights
IDP	Internally displaced persons
IED	Improvised Explosive Devices
JIAT	Coalition's Joint Incident Assessment Team
MSF	Médecins Sans Frontières (Doctors Without Borders)
NGO	Nongovernmental Organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
UN	United Nations
UNMHA	UN Mission to Support the Hudaydah Agreement
UXO	Unexploded Ordnance
YCMHRV	Yemeni Coalition to Monitor Human Rights Violations
YEMAC	Yemen Executive Mine Action Center
YHRFL	Yemen Human Rights Forensics Lab

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Executive Summary

Children have been paying the highest toll since the start of the Yemeni war, with all major conflict parties responsible for violating the most fundamental rights associated with safe childhood and wellbeing of the country's most vulnerable population. Children continue to be exposed to daily acts of violence and brutality in what would normally be considered the safest surroundings for them – their homes, their schools, and their community gathering places. Indeed, all the main actors involved in the conflict in Yemen are listed as regular culprits on the “name and shame” blacklist for engaging in one or more of the six grave human rights violations against children during the conflict, which is produced annually by the UN Secretary-General. This report focuses on only two of these violation types – attacks against schools, and the killing and maiming of children, through sniper attacks, as well as landmines, unexploded ordnance (UXO), and improvised explosive devices (IEDs) – whose indiscriminate nature is heightened by the fact that they affect all children in Yemen equally, without regard to their gender.

Yemeni schools, both those in normal use and those repurposed for military use, have been a recurring target of attacks by the major conflict parties since the early days of the war. According to data verified by the UN, a majority of school attacks in Yemen from 2013-2018 were attributed to the Saudi-led Coalition, while a majority of school attacks from 2019-2020 were attributed to the Houthis.ⁱ In addition to killing and maiming children, these attacks have damaged school buildings, with 2,783 schools across Yemen damaged, destroyed, or used for non-educational purposes as of December 2022. Widespread destruction to school buildings has exacerbated problems in Yemen's already-strained education sector: in 2022, 2.4 million Yemeni children were out of school and 8.5 million in need of education assistance. Military occupation of schools has similarly been a regular feature of the conflict in Yemen. When a school is repurposed for military use, this may remove the legal protection afforded to civilian objects under the principle of distinction, as specified under international humanitarian law. In any event, attacks on school buildings render these facilities inoperable or partially operable long after fighting has ceased, preventing children from returning to school.

Sniper attacks targeting children are another recurring feature of Yemen's conflict, with the vast majority of incidents attributed to the Houthis and their former allies, the forces of former president Ali Abdullah Saleh. In particular, YHRFL local partner SAM Organization for Rights and Liberties documented 725 civilians killed and 512 wounded by sniper attacks across Yemen from March 2015 to December 2020. A significant minority of victims were children (19% of the dead, or 141 children; and 31% of the wounded, or 157 children). SAM attributed responsibility for 98% of all fatal sniper attacks and 96% of all non-fatal sniper attacks against civilians to the Houthis and the Saleh forces. Another YHRFL partner, Yemeni Coalition to Monitor Human Rights Violations (YCMHRV), documented 130 children killed and 246 injured by sniper attacks in Taiz from March 2015 to August 2020, attributing all the attacks to Houthi and Saleh forces. Lending additional weight to these findings, a September 2019 report by the UN's Group of Eminent Experts documented Houthi-Saleh forces' widespread use of snipers targeting civilians, including children, in Aden in Lahij governorates in 2015.

The sniper attacks against children reported by these organizations may represent war crimes depending on the circumstances of the case. Even if a child is not deliberately targeted, these attacks violate international humanitarian law principles of proportion and precaution and deprive children of their right to life, which is firmly enshrined in international human rights law, international humanitarian law, and international criminal law.

In addition, the Houthis and their former allies, the forces of Ali Abdullah Saleh, conducted widespread mine-laying operations during Yemen's current war, exacerbating the country's landmine problems that have been ongoing for the past 70 years. They used anti-vehicle as well as anti-personnel mines, in contravention of the 1997 Convention on the Prohibition of the Use, Stockpiling, Production, and Transfer of Anti-Personnel Mines and on their

ⁱ The UN Secretary-General has published data on school attacks in Yemen, broken down by perpetrator, in three reports, the second of which covers the period 2013-2018 and the third 2019-2020. As such, the data listed in this report adheres to the UN's own report format. The UN has not published verified data for school attacks, disaggregated by perpetrator, for 2021 and 2022.

Destruction, to which Yemen is a state party. In August 2019, the GEE noted it had “reasonable grounds to believe that the Houthis used anti-personnel and anti-vehicle landmines, in violation of international humanitarian law.” The Saudi-led coalition also admitted “limited use” of cluster munitions in Yemen in 2016, stating that neither Saudi Arabia nor its partners were state parties to the 2008 Convention on Cluster Munitions and that cluster munitions were used against legitimate military targets.

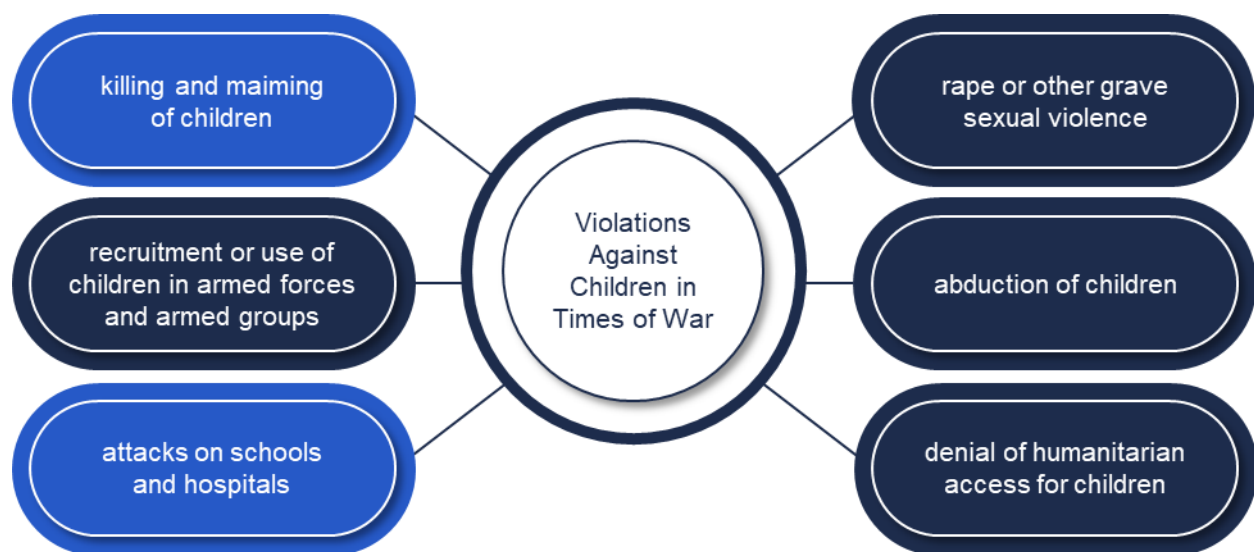
Landmines and other unexploded ordnance (UXO) and improvised explosive devices (IEDs) represent a particular threat to children’s health and safety, especially as Yemen’s conflict drags on. In addition to children’s high inquisitiveness and low risk awareness, children in Yemen also participate in farming and herding which, given the mobile nature of the work, puts them at heightened risk from landmines, UXO, and IEDs. The Houthis’ reported laying of landmines in and around areas frequented by children, including schools and playgrounds, has compounded the danger these weapons pose to children.

In addition, the best-case scenario for the Yemen conflict—a cessation or permanent end to fighting—will likely mean an increase in children wounded and killed by landmines, UXO, and IEDs in the short term. As documented in 2022 reports by the UN and Save the Children, civilian casualties from these weapons increased by 20% in Yemen after a nationwide truce went into effect in April 2022. This is likely due to the increased civilian movement that accompanied a decrease in hostilities. Children were particularly hard hit, with landmines and UXO accounting for 75% of all war-related casualties among children from April to June 2022.

Introduction

All major parties to Yemen’s war have regularly appeared on the annual “name and shame” blacklist by the Special Representative of the UN Secretary-General for Children and Armed Conflict for engaging in one or more of the six grave violations against children during the conflict, with disastrous results for the country’s most vulnerable population. Over 11,000 children had been killed or maimed in the conflict as of December 2022, according to UNICEF—albeit the true casualty count is likely far higher, as this number only reflects incidents verified by the UN.¹ “Children did not start the war in Yemen, but they are paying the highest price,” noted the UN Secretary-General in the introduction to a June 2019 report on Children and armed Conflict in Yemen.² “Children were exposed [during the reporting period] to brutal violence in their homes, in schools, in hospitals, at community events and in playgrounds – all of which are places where they should be afforded protection.”

The UN formally identifies six grave violations against children in times of war – killing and maiming of children, recruitment or use of children in armed forces and armed groups, attacks on schools and hospitals, rape or other grave sexual violence, abduction of children, and denial of humanitarian access for children.³ These violations interfere with the most fundamental rights associated with safe childhood and wellbeing children in countries entangled in an armed conflict. This YHRFL thematic report examines only two of these grave violation types – the killing and maiming of children through sniper attacks, landmines, unexploded ordnance (UXO), and improved explosive devices (IEDs) and attacks on schools; an in-depth analysis of attacks on hospitals can be found in YHRFL partner organization Mnemonic’s Medical Facilities Under Fire database.⁴ DT Institute selected these grave human rights violations against children due to their heightened indiscriminate nature that results from their severe and equal impact on all children in Yemen without regard to gender, in addition to the availability of robust data on these violations that has been documented by DT Institute’s Yemeni civil society organization (CSO) partners. Violations relating to abduction and sexual violence, including against children, were explored in DT Institute’s previous thematic report on arbitrary detention, enforced disappearance, and torture.



This report offers a general summary of themes, patterns, and trends related to violations of the rights to life and education that Yemeni children have been exposed in the course of the nearly decade-long conflict. It begins with an overview brief analysis, in Section 1, of the legal provisions contained in international human rights, humanitarian, and criminal laws, as well as in Yemen’s domestic legislation relevant to these two types of violations. Section 2 presents key data, based on official verified UN sources, on the children impacted by violations related to killings, maimings, and school attacks, as well as on the perpetrators of these violations. Section 3 then details

the attacks on schools and the military repurposing of schools during the war, highlighting trends in perpetrators, types of school attacks, and the impact of these attacks, and concluding by looking at school attacks in two especially hard-hit governorates, Taiz and Marib. The following two sections address two types of attacks that result in the frequent maiming and killing of children in Yemen – sniper attacks and landmines, UXO, and IED attacks. Section 4 focuses on Taiz, an active conflict theater that has witnessed numerous sniper attacks against children; while Section 5 zooms in on Hudaydah, Marib, and Hajjah. The former two governorates account for a disproportionate share of civilian casualties from landmines, UXO, and IEDs, while the latter experiences a lower-volume but consistent pattern of incidents of civilians, including children, maimed and killed by these weapons.

As with other YHRFL analytical reports, this report is not intended to be a thorough accounting of relevant human rights violations against children in Yemen, given the significant share of unreported incidents. The ultimate aim is to provide a foundation for the country's civil society and the international human rights actors seeking to engage in evidence-driven, impact-oriented advocacy efforts to activate a broad range of human rights enforcement, accountability, and redress mechanisms to take a step towards ending impunity and bringing justice to children.

Methodology

The analysis and findings contained in this report are based on information provided directly to DT Institute by its Yemeni CSO partners and Mnemonic's Yemeni Archive project, as well as on open-source reporting published by international and local organizations. This includes the following sources:

- 1) **Information from two databases of school attacks provided to DT Institute by its partners**, SAM Organization for Rights and Liberties and Yemeni Coalition to Monitor Human Rights Violations (YCMHRV). The SAM database covers 170 attacks that occurred in Taiz in 2015 and 2016, while the YCMHRV database covers 72 attacks that took place across Yemen during 2016-2021.
- 2) **Evidence contained in 11 case files on school attacks that were documented and provided to DT Institute by partner organizations YCMHRV and Musaala.**
- 3) **Two in-depth open-source investigative reports provided to DT Institute by the Yemeni Archive.** The first of these reports investigates the Saudi-led coalition's airstrike on the Dahyan school bus bombing in Saada in August 2018, which is included in full as an Appendix to this report; and the second investigation looks at the bombing of the al-Kifah school in Hudaydah in September 2020.
- 4) **Open-source reports documenting human rights violations against children in Yemen published by a number of Yemeni and international human rights organizations.** Among others, these include an April 2022 report, *Mines: A Nightmare that Chases Yemenis*, produced by nine Yemeni NGOs on civilian casualties from landmines, UXO, and IEDs across Yemen (hereinafter, *Mines NGO Report*);⁵ a November 2021 report, *Sniper Horror*, by DT Institute partner SAM on sniper attacks targeting civilians across Yemen;⁶ and reporting from the UN, consisting primarily of the reports of the Special Representatives of the UN Secretary-General on Children and Armed Conflict. DT Institute also consulted various other open-source reports from international and Yemeni media outlets and NGOs.

Each section in this thematic report presents the most important findings from DT Institute's review of relevant partner organization and open-source data, including findings taken directly from individual data sources and findings generated by comparing data sources to one another. In general, this report prioritizes findings on attack patterns (by time, victim type, weapon type, etc.), reported perpetrator responsibility, and likely future threats to children's health, welfare, and safety in Yemen. It is important to emphasize that DT Institute in no event assigns responsibility to perpetrators for violations discussed in this report. Rather, throughout this report, DT Institute summarizes findings on perpetrator responsibility as reported by various organizations, including the UN, Yemeni and international NGOs, and media outlets.

Section One:

Legal Analysis

Protecting children from the effects of armed conflict is a moral imperative, but it is also a legal responsibility for States. Non-state actors can also be subject to this responsibility where they establish control over territory and exercise either government-like functions or de facto control over that territory, regardless of official recognition.⁷ The Houthis are a non-state actor who meet these criteria in Yemen's context, given their de facto control over territory encompassing an estimated 70-80 percent of the country's population.⁸

The legal basis for protecting children from the effects of armed conflict is constructed from relevant international law, including human rights law, international humanitarian law, international criminal law, and customary international law. As parties to the international treaties that help compose this framework, States assume positive obligations, which require authorities to take the necessary measures to safeguard individuals' rights, and negative obligations, which refer to States' duty to refrain from action and would hinder human rights.

Attacks on Schools

In addition to facilitating the continuation of educational services, schools often provide shelter and protection and tend to the physical, mental, and emotional needs of children during conflict. Attacks on these locations are contraventions of well-established international humanitarian law, impediments to the fulfillment of human rights, and may constitute war crimes and crimes against humanity.

International Human Rights Law: While not explicitly prohibiting attacks on schools, international human rights law does enshrine the right to education. The right to education is protected by numerous international human rights instruments to which Yemen is subject. As a state party to the following conventions, Yemen has both a negative responsibility not to interfere with the education of children and a positive responsibility to protect all children's access to services. Notably, both the International Covenant on Economic, Social and Cultural Rights and the Convention on the Rights of the Child recognize the paramount importance of the right to education:

- **ICESCR, Article 13:** "The States Parties to the present Covenant recognize the right of everyone to education."⁹
- **CRC, Article 28(1):** "States Parties recognize the right of the child to education."¹⁰

Additionally, regional instruments such as the Arab Convention on Human Rights contain a similar provision regarding education:¹¹

- **Article 34:** "The eradication of illiteracy is a binding obligation and every citizen has a right to education. Primary education, at the very least, shall be compulsory and free and both secondary and university education shall be made easily accessible to all."

International Humanitarian Law: Deliberately targeting schools not otherwise repurposed to for military use is prohibited under the general legal principle of distinction, meaning that civilian objects must be distinguished from military objectives and protected against the consequences of military operations. This is a customary norm of international law applicable to all parties to conflict in all conflict situations.¹²

- **Rule 7:** "The parties to the conflict must at all times distinguish between civilian objects and military objectives. Attack may only be directed against military objectives. Attacks must not be directed against civilian objects."

The Geneva Conventions Additional Protocols further codify this general protection. Thus, Additional Protocol I, which imposes a general prohibition on targeting civilian objects as the object of attacks or reprisals, instructs conflict parties to apply a presumption that a school is not being used for military purposes in the event of any doubts as to such use.¹³ Additional Protocol II further imposes an obligation on all parties to reduce the effects of military operations which could affect protected persons, such as direct attacks which have a devastating impact on civilians.¹⁴

- **Geneva Conventions Additional Protocol I, Article 52:** “Civilian objects shall not be the object of attack or of reprisals. Civilian objects are all objects which are not military objectives as defined in paragraph 2. ... In case of doubt whether an object which is normally dedicated to civilian purposes, such as a place of worship, a house or other dwelling or a school, is being used to make an effective contribution to military action, it shall be presumed not to be so used.”
- **Geneva Conventions Additional Protocol II, Article 13:** “The civilian population and individual civilians shall enjoy general protection against the dangers arising from military operations. To give effect to this protection, the following rules shall be observed in all circumstances.”

International Criminal Law: The Rome Statute is the international treaty responsible for establishing the structure and function of the only permanent international criminal court, the International Criminal Court (ICC).¹⁵ The document gives the court jurisdiction to hear the most serious international crimes such as genocide, war crimes, and crimes against humanity. As a signatory to the Rome Statute, Yemen has expressed its intention to become a State Party to the ICC and to cooperate with the Court. Until Yemen ratifies the Rome Statute, it does not have the same legal obligations as State Parties to cooperate with the ICC, although it is still bound by the provisions of the treaty to refrain from acts that would defeat its object and purpose. As a non-member of the ICC, Yemen could still grant the ICC specific jurisdiction over individual incidents.

The Rome Statute extends criminal accountability for the intentional targeting schools, by providing the ICC with jurisdiction to prosecute perpetrators of such acts.¹⁶ Such acts amount to war crimes regardless of whether they occurred in an international or non-international conflict:

- **Article 8.2(e)(iv):** “For the purpose of this Statute, ‘war crimes’ means: (e) Other serious violations of the laws and customs applicable in armed conflicts not of an international character, within the established framework of international law, namely, any of the following acts: (iv) Intentionally directing attacks against buildings dedicated to religion, education, art, science or charitable purposes, historic monuments, hospitals and places where the sick and wounded are collected, provided they are not military objectives.”

Yemeni Law: Yemen’s Constitution also provides the fundamental guarantees to adequate education:¹⁷

- **Article 54:** “Education is a right for all citizens. The state shall guarantee education in accordance with the law through building various schools and cultural and educational institutions. Basic education is obligatory. The state shall do its best to obliterate illiteracy and give special care to expanding technical and vocational education. The state shall give special attention to young people and protect them against perversions, provide them with religious, mental and physical education, and the appropriate environment to develop their aptitude in all fields.”

Killing and Maiming of Children

The killing and maiming of children can result from direct targeting, including murder and torture, or occur through indirect actions such as crossfire, landmines, cluster munitions, military operations, or other indiscriminate attacks. Prohibitions of the arbitrary deprivation of life and the killing or maiming of all civilians are firmly enshrined in international humanitarian law, international human rights law, and international criminal law.

Of the following instruments, the Universal Declaration of Human Rights, International Covenant on Civil and Political Rights, and the Rome Statute cover the killing and maiming of civilians in general, including children; while the UN Convention on the Rights of the Child covers the killing and maiming of children directly. The Geneva Conventions and its Additional Protocols, as well as international customary law cover the killing and maiming of both civilians generally and children specifically.

International Human Rights Law: International human rights law underlines the paramount importance of the “right to life, liberty and security of person” inherent to all people, including children. States, including Yemen, are obligated to ensure these rights are respected, protected, and fulfilled. Several international human rights instruments that are binding on Yemen include a provision safeguarding this right, including:

- **Universal Declaration of Human Rights, Article 3:** “Everyone has the right to life, liberty and security of person.”¹⁸
- **International Covenant on Civil and Political Rights, Article 6.1:** “Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life.”¹⁹

The UN Convention on the Rights of the Child, to which Yemen is a state party, also acknowledges this right regarding children and provides children with additional protection.²⁰ The Convention not only provides children the right not to be killed and protection against torture and capital punishment, but it expands States’ duty to safeguard children, enshrining their right to survival and development:

- **Article 6.1:** “State Parties recognize that every child has the inherent right to life.”
- **Article 6.2:** “State Parties shall ensure to the maximum extent possible the survival and development of the child.”
- **Article 37(a):** “Neither capital punishment ... shall be imposed for offense committed by persons below eighteen years of age.”
- **Article 38:** “States Parties shall take all feasible measures to ensure protection and care of children who are affected by an armed conflict.”

International Humanitarian Law: The prohibition of violence against civilians, including children, in particular murder, mutilation, cruel treatment, and torture, is a fundamental principle of international humanitarian law. Common Article 3 of the Geneva Conventions and several articles from the Geneva Conventions Additional Protocol II offer a minimum protection to all persons not actively involved in hostilities:²¹

- **Geneva Convention Common Article 3:** “The following acts are and shall remain prohibited at any time and in any place whatsoever with respect to the above-mentioned persons (persons taking no active part in the hostilities): violence to life and person, in particular murder of all kinds, mutilation, cruel treatment and torture.”
- **Geneva Conventions Additional Protocol II, Article 4.1:** “The following acts against the persons referred to in paragraph I [“All persons who do not take a direct part or who have ceased to take part in hostilities”] are and shall remain prohibited at any time and in any place whatsoever: (a) violence to the life, health and physical or mental well-being of persons, in particular murder as well as cruel treatment such as torture, mutilation or any form of corporal punishment.”

The Geneva Conventions Additional Protocol II also contains additional protection from death and maiming to children:²²

- **Geneva Conventions Additional Protocol II, Article 4.3:** “Children shall be provided with the care and aid they require”.

The distinction between civilians and combatants is part of international customary law, meaning it applies to all conflict parties regardless of their signatory status to international legal instruments.²³ Customary law also acknowledges the “special” protection to which children are entitled as members of a vulnerable group:

- **Rule 1:** “The parties to the conflict must at all times distinguish between civilians and combatants. Attacks may only be directed against combatants. Attacks must not be directed against civilians.”
- **Rule 135:** Children affected by armed conflict are entitled to special respect and protection.”

International Criminal Law: Under the Rome Statute, killing or causing serious bodily harm to civilians may, in certain circumstances, amount to war crimes:

- **Article 8.2(e)(i):** “For the purpose of this Statute, “war crimes” means: (e) Other serious violations of the laws and customs applicable in armed conflicts not of an international character, within the established framework of international law, namely, any of the following acts: (i) Intentionally directing attacks against the civilian population as such or against individual civilians not taking direct part in hostilities.”

If committed as part of widespread or systematic attack directed against a civilian population, with knowledge of the attack, murder can also be categorized as a crime against humanity under the Statute:

- **Article 7.1(a):** “‘crime against humanity’ means any of the follow actions when committed as part of a widespread or systematic attack directed against any civilian population, with knowledge of the attack: (a) murder.”

Yemeni Law: The Yemeni Constitution does not explicitly protect against indiscriminate attacks against civilians during conflict, however, it does provide some basic protections from killing and mutilation:²⁴

- **Article 48(b):** “... Physical and psychological torture is prohibited....”
- **Article 30:** “The state shall protect mothers and children, and shall sponsor the youth and the young.”

Section Two:

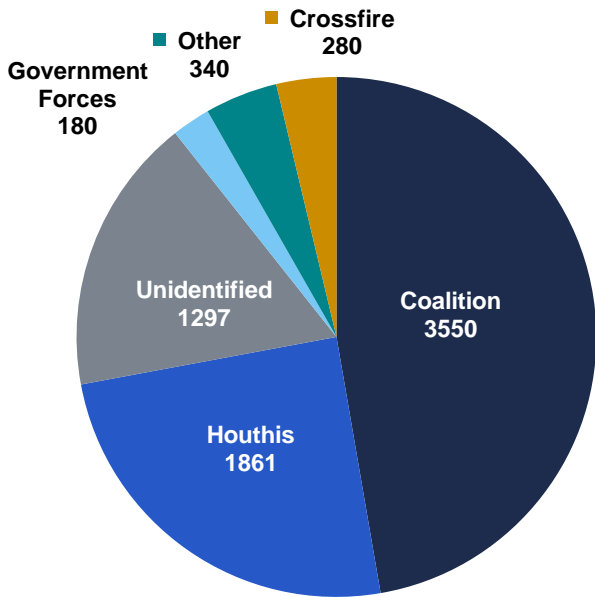
Overview of Human Rights Violations of the Yemeni Children’s Right to Life and Right to Education During the Conflict

As noted above, over 11,000 children have been killed or maimed during Yemen’s war as of December 2022, according to verified UN figures, with the true casualty count likely far higher.²⁵ The Special Representative of the UN Secretary-General’s reports on Children and Armed Conflict in Yemen document how all major actors – the Saudi-led coalition, the Houthis, the internationally recognized government forces, pro-government militias, and forces affiliated with the southern Security Belt – have engaged in killing and maiming of children.²⁶ Attacks against children have been targeted as well as indiscriminate.

Early in the conflict, aerial attacks were primarily responsible for children killed and maimed in Yemen, with the highest share of child casualties attributed to the Saudi-led Coalition, according to UN verified data. As the war dragged on, ground fighting, mines, unexploded ordnance (UXO), and improvised explosive devices (IEDs) came to account for the majority of child casualties in 2019 and 2020. In addition, UN verified data attributed the highest

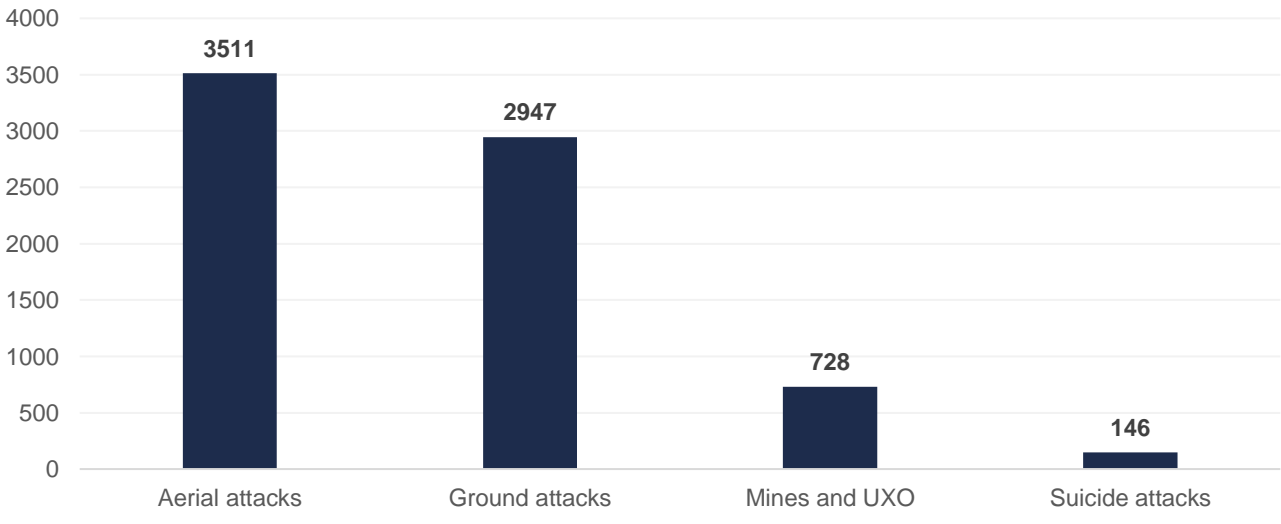
share of children killed and maimed during this period to the Houthis.²⁷ The following graphs show UN verified data on child casualties from 2013-2018ⁱⁱ, and 2019-2020,ⁱⁱⁱ broken down by perpetrator and type:

UN-Verified Child Casualties by Reported Perpetrator, 2013-2018
[7,508 Total]



Source: Report of the Secretary General on Children and Armed Conflict in Yemen, covering 2013-2018

UN-Verified Child Casualties by Attack Type, 2013-2018 [7,508 Total]

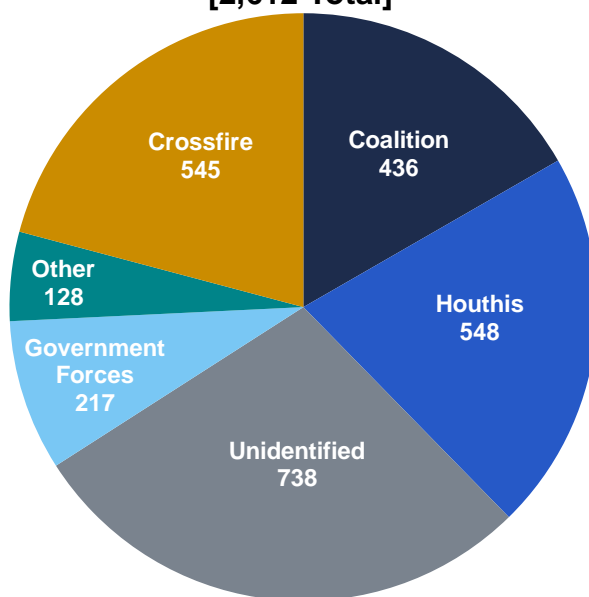


Source: Report of the Secretary General on Children and Armed Conflict in Yemen, covering 2013-2018

ⁱⁱ The UN Secretary-General has published data on child casualties in Yemen, broken down by perpetrator, in three reports, the second of which covers the period of 2013-2018 and the third 2019-2020. As such, the data listed in this report adheres to the UN's own report format.

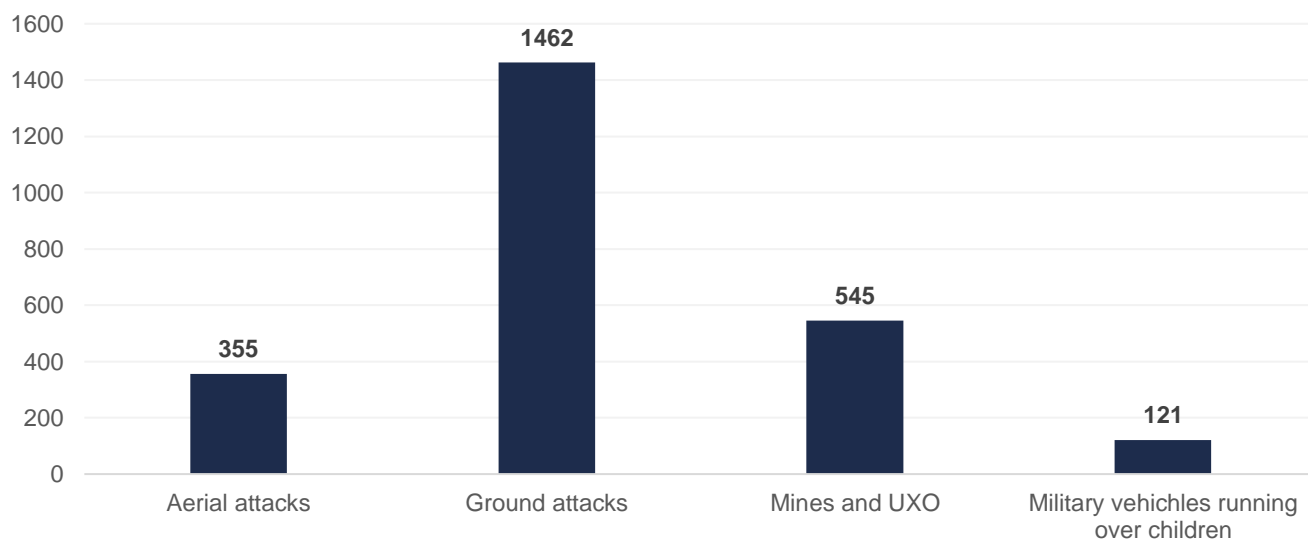
ⁱⁱⁱ The UN has not published verified data for child casualties, disaggregated by perpetrator, for years 2021 and 2022.

UN-Verified Child Casualties by Reported Perpetrator, 2019-2020 [2,612 Total]



Source: Report of the Secretary General on Children and Armed Conflict in Yemen, covering 2019-2020

UN-Verified Child Casualties by Attack Type, 2019-2020 [2,612 Total]



Source: Report of the Secretary General on Children and Armed Conflict in Yemen, covering 2019-2020

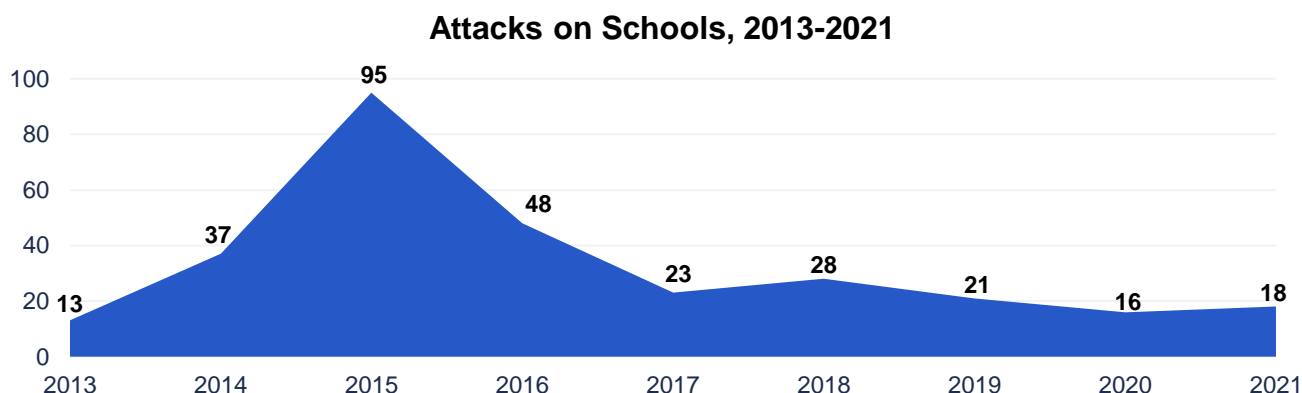
Similar with trends in overall child casualties, UN-verified data attributes the highest share of school attacks until 2018 to the Saudi-led coalition, and the highest share of school attacks in 2019, 2020, and 2021 to the Houthis (see Section 2). In addition to killing and maiming children, these attacks have done substantial damage to school facilities: a December 2022 OCHA humanitarian needs overview reported that 2,783 schools across Yemen are destroyed, damaged, or used for non-educational purposes.²⁸

Section Three:

School Attacks and Military Repurposing of Schools

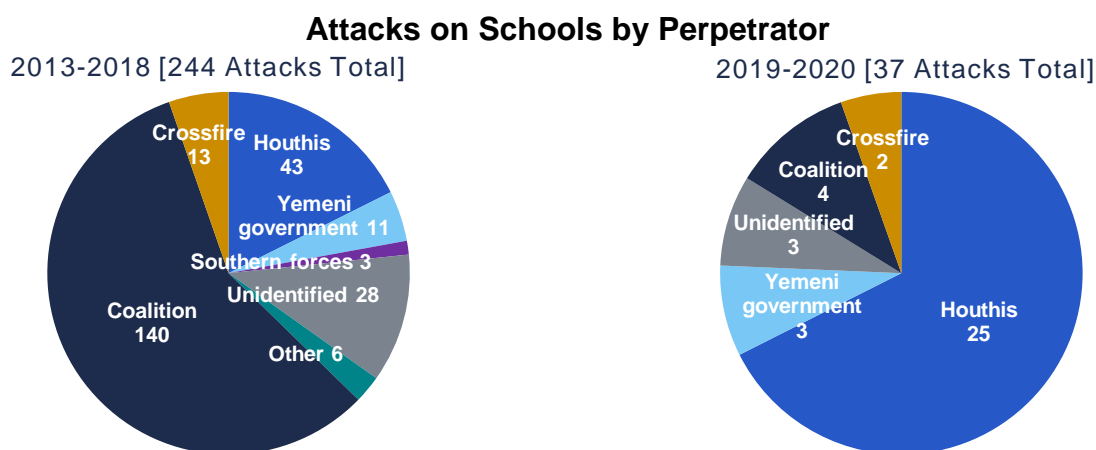
Attacks on schools, both those in normal use and those repurposed for military use, have been a recurring feature of the Yemen conflict. Attacks on schools in normal use contravene well-established international humanitarian law and may constitute war crimes. Even when school buildings have been repurposed for military use, attacks on these facilities can render school buildings inoperable years after fighting ceases, thereby inhibiting the right to education guaranteed under international human rights law and further stressing Yemen's already devastated education sector. Furthermore, taking over schools for military purposes likely violates parties' responsibility under international humanitarian law to keep military and civilian objects separate.

An analysis of UN verified data indicates that attacks on schools peaked in 2015, as the graph below makes clear:



Source: Reports of the Secretary General on Children and Armed Conflict in Yemen, covering 2013-2018, 2019-2020, and the annual Report of the Secretary General for Children and Armed Conflict covering 2021²⁹

According to UN-verified data, a majority of school attacks from 2013 to 2018 were attributed to the Saudi-led Coalition,^{iv} while a majority of school attacks in 2019 and 2020 were attributed to the Houthis,^v as the following graphs illustrate:



Source: Report of the Secretary General on Children and Armed Conflict in Yemen, covering 2013-2018³⁰

Source: Report of the Secretary General on Children and Armed Conflict in Yemen, covering 2019-2020³¹

^{iv} The UN Secretary-General has published data on school attacks in Yemen, broken down by perpetrator, in three reports, the second of which covers the period 2013-2018 and the third 2019-2020. As such, the data listed in this report adheres to the UN's own report format.

^v The UN has not published verified data for school attacks, disaggregated by perpetrator, for years 2021 and 2022.

The Saudi-led coalition's repeated targeting of schools was one of the factors resulting in its inclusion on a "name and shame" UN blacklist for years 2015-2018, contained in the annexes to the Secretary General's annual reports on Children and Armed Conflict.³² The coalition was removed from this list starting in the 2019 annual report, "following a sustained significant decrease in killing and maiming due to airstrikes" and due implementing protocols aimed at protecting children, noted UN Secretary General Antonio Guterres at the time.³³

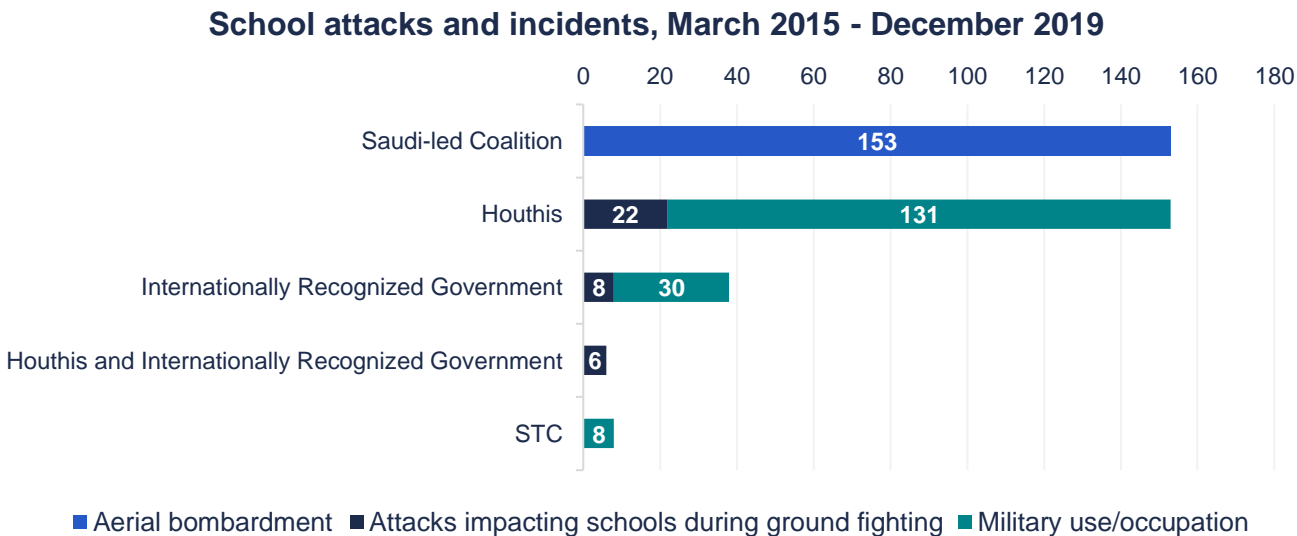
Although not an attack targeting a school per se, the Saudi-led coalition's most infamous incident involving school children occurred in August 2018 when it struck a bus carrying children in Dahyan, reportedly killing at least 29 children and wounding dozens more (for an open-source investigation of this attack by YHRFL partner organization Mnemonic, see Appendix).³⁴

YHRFL partner organization YCMHRV documented another school bus attack in Radaa city, Baydah governorate, on December 12, 2014.³⁵ As a bus carrying children with the all-girls al-Khansa school was stopped at the Houthis-run Idrees checkpoint, two nearby cars exploded, killing 9 children and injuring 11. The Houthis and al-Qaida traded accusations of responsibility for the attack. YCMHRV reported conflicting eyewitness narratives about this event, but noted the most likely narrative was that the car bombs were planted by al-Qaida, and intended to injure and kill Houthis fighters present at the checkpoint.

For their part, the Houthis have been featured every year on the UN's name and shame blacklist, including for their targeting of schools and hospitals, since 2015, until the last available report covering 2021.

Categorization of Attacks

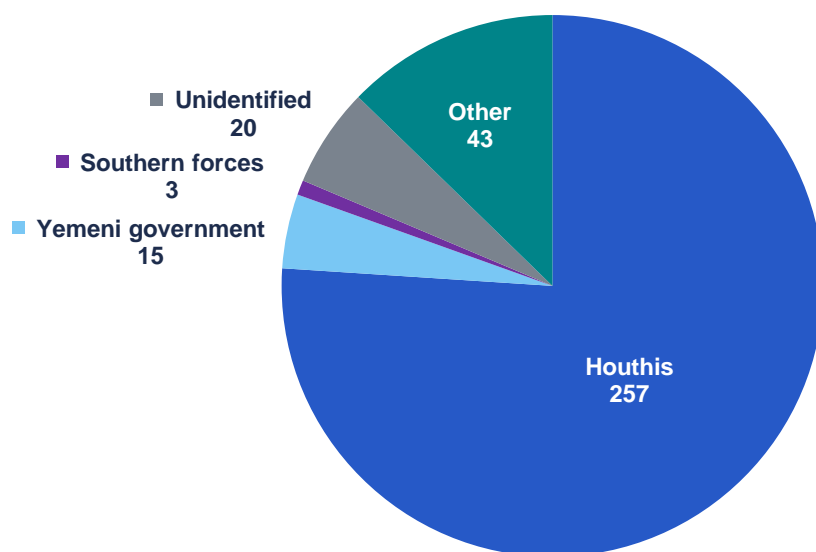
A 2020 report by Yemeni NGO Mwatana analyzed more than 380 attacks on, or impacting schools between March 2015 and December 2019. This report provides a useful classification of the main types of school attacks that have occurred during Yemen's war: 1) schools damaged during aerial bombardment, 2) schools damaged during ground fighting, and 3) schools occupied by military actors.³⁶ The following graph displays the report's results, showing that the Saudi-led coalition was responsible for all aerial attacks on schools, while the Houthis were responsible for most ground attacks and occupation incidents.



Source: Mwatana Report "Undermining the Future: Attacks on Yemen's Schools"³⁷

UN-verified data dovetails with Mwatana's findings that the Houthis were responsible for the majority of incidents in which conflict actors used schools for military purposes, as the graph below makes clear:

Use of Schools for Military Purposes [338 Incidents Total]



Source: Reports of the Secretary General on Children and Armed Conflict in Yemen, covering 2013-2018, 2019-2020³⁸

The following sections explore school attacks in two of Yemen's hardest-hit governorates, Taiz and Marib.

Taiz

As one of Yemen's main conflict theaters, Taiz has witnessed frequent attacks on school buildings. Over the course of the war, 229 schools in Taiz governorate have been damaged or destroyed, the government's Ministry of Education was quoted by al-Masdar Online as saying in February 2023.³⁹ This includes 61 schools that have been totally destroyed, and 168 schools partially destroyed.⁴⁰

Many of these school buildings were hit during heavy fighting between Houthis and the anti-Houthi alliance in Taiz city in 2015 and 2016. YHRFL partner organization SAM documented 170 attacks on school buildings during these two years alone, relying on a mix of open-source reporting and eyewitness testimony. 130 were carried out by the Houthis or pro-Saleh forces, 35 by Saudi-led coalition warplanes, and 5 by other actors, according to SAM's database.

The destruction wrought on school facilities during this period has continued to interrupt schooling for Taiz children today. Yemen Monitor reported in August 2022 that 5 school buildings in the al-Wazia'ia district of Taiz were still out of commission five years after fighting had ceased in the area, due to damage they suffered earlier in the war.⁴¹ These include Al-Wifaq school, which used to house 600 students from 1st to 9th grade. The school was used as a military barracks by all local conflict parties in 2015 and 2016, leading to its repeated targeting and near-total destruction. Today, the building's walls and ceilings are liable to collapse, school director Abd Rabbo Qaz Qaz told Yemen Monitor. This has prompted many families to avoid sending their children to al-Wifaq, which, as of August 2022, was teaching 250 students from 1st to 5th grade only.

Damage to al-Mudhafer School from Houthi Attacks

YHRFL partner organization YCMHRV documented how al-Mudhafer school in the Damgha neighborhood of Taiz was struck on two separate occasions in March 2016. First, a rocket hit the building's second floor in early March, causing a meter-long opening in the ceiling and damaging water tanks inside. In mid-March, an artillery shell struck the building's second floor, destroying the contents of an adjacent office within the school.

These attacks were part of a wider pattern of indiscriminate attacks on the surrounding area by Houthi forces, noted YCMHRV. "During our field visit to the Damgha neighborhood we witnessed considerable and varied damage to houses, mosques, and schools because of the bombardment the area was exposed to from artillery, machine guns, and anti-aircraft weapons, originating from their [the Houthis'] positions in the Sauftil and al-Salal hills, and also from the al-Jahmliyya neighborhood," noted YCMHRV.

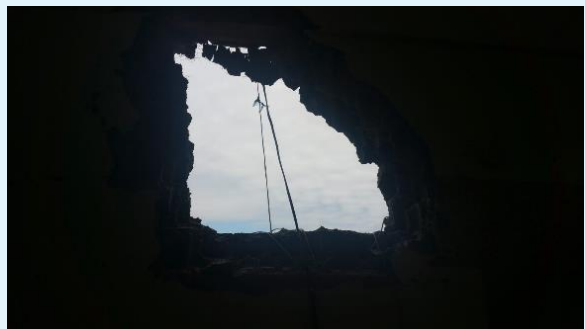
The al-Mudhafer school building was empty at the time of the attacks and no civilians were injured or killed. However, in the aftermath of the first rocket attack, the school administration transferred al-Mudhafer school students to other neighborhood schools for a year. Students subsequently returned to class at the compromised al-Mudhafer building, reported YCMHRV, and charitable societies are currently working to repair damage to the facility.



Damage to the building's roof caused by the Katyusha rocket.



Remnants of a Katyusha rocket that struck the al-Mudhafer school.



Damage to the building's northern wall caused by a mortar attack.

All images photographed by YCMHRV

Despite a decrease in the pace of fighting in Taiz in recent years, sporadic clashes continue to result in damage to school buildings and interruptions to schooling, as well as the maiming and killing of school children. In March 2021 alone, four schools in Taiz were reportedly hit by shelling attacks, resulting in 11 civilian casualties that included four children.⁴² Finally, nine schools in the middle of Taiz were closed in October 2022 amidst ongoing clashes between security forces and an armed group led by Ghazwan al-Mikhlafi.⁴³

As is the case across Yemen, school buildings in Taiz have often been commandeered for military purposes before being targeted in attacks. Out of 171 school occupations documented by NGO Mwatana across Yemen from March 2015 to December 2020, 53 occurred in Taiz, and were carried out by both the Houthis and government-aligned forces. In one notable case, government-aligned forces transformed the al-Nahda school into a notorious informal detention facility to arbitrarily detain, forcibly disappear, and torture perceived political opponents.

Marib

Marib, the government’s last major northern stronghold, has witnessed 70 schools damaged or destroyed across the governorate since the conflict began, according to statistics from the local education office, as reported by Belqees in August 2022.⁴⁴ Events over the past three years include:

September 25, 2020:

Rocket reportedly fired by the Houthis struck the largest school in Marib, the Mithaq Boys’ School, as documented by YHRFL partner organization Musala, based on eyewitness testimony. Local authorities had planned a children’s celebration at the school, which was moved hours earlier to a different location. When the rocket fell in the school’s courtyard, it injured three adults present—a guard, a food seller, and a teacher—and damaged the school building, but did not kill or injure any children.

November 1, 2021:

The Yemeni government reported at least 29 civilians were killed when a Houthi rocket hit a religious school and mosque sheltering internally-displaced people.⁴⁵

February 19, 2022:

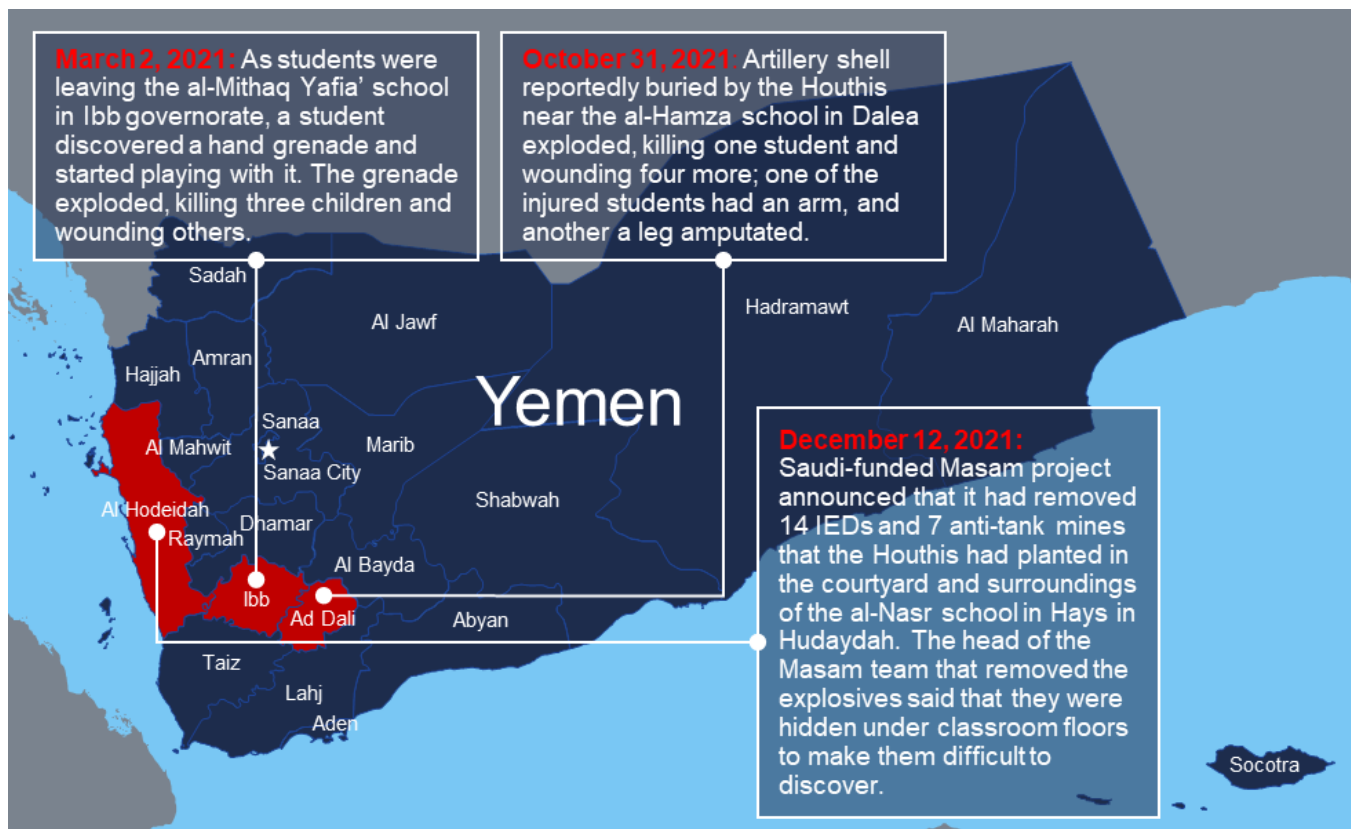
Local authorities announced that the Houthis used an explosive drone to attack schoolchildren as they left the al-Wahda school, critically injuring three children.⁴⁶



School attacks have stressed Mareb’s already-strained education sector, which has absorbed thousands of internally displaced students fleeing other governorates. As of April 2018, Mareb had welcomed 30,000 IDP students over the previous three years, representing nearly one third of all students, the head of the Mareb Education Office, Dr. Ali al-Abab, was quoted by al-Sahwa.net as saying in April 2018.⁴⁷ The Houthi offensive on Mareb in late 2021 resulted in a new, internal wave of displacement within Mareb, in which thousands of civilians left home for safer environs and were forced to relocate their children to new schools, putting further pressure on the governorate’s education sector.⁴⁸

Landmines and UXO – Another Form of School Attack

YHRFL partner organization YCMHRV has compiled a database of 72 school attacks from 2016-2021. In addition to aerial bombardment, ground fighting, and military occupation, a review of the YCMHRV database revealed another type of attack that regularly damages school buildings and harms children: landmines and UXO. Several illustrative examples from 2021 included in the database are as follows:



Impact of School Attacks

Attacks targeting schools, or objectives near schools, have resulted in the killing and maiming of children across Yemen. In addition, even when no children are killed or wounded in a given school attack, these incidents render school buildings dangerous and unsuitable for children long after fighting has stopped. For example, the al-Wehdah school in Taiz was hit by an airstrike in 2016. When the school was profiled by al-Jazeera in October 2020, students were attending class in a shattered building with no doors or windows, and under crumbling ceilings.⁴⁹ The school itself is located in the center of a minefield, which was partially cleared to allow the students to return to school.

The repeated targeting of school buildings during the Yemen war has worsened an education sector that was already in a severe state of decline. A December 2022 OCHA humanitarian needs overview reported that 2,783 schools across Yemen are destroyed, damaged, or used for non-educational purposes.⁵⁰ 2.42 million children are out of school in Yemen, according to Education Cluster data for 2022, and 8.5 million children, both in and out of school, need education assistance.⁵¹ 1.4 million children are IDPs, whose schooling has been disrupted, often multiple times, by displacements.⁵²

In a 2020 survey of 400 Yemeni children by Yemeni NGO Mwatana, 81% of children reported they stopped studying at different points since the conflict began due to conflict-related factors; 54% reported dropping out of school for at least two semesters.⁵³ Nearly a quarter of children reported facing danger on the way to school, while 38% of families reported temporarily keeping their children home during the 2019-2020 school year for security concerns.⁵⁴

Even when children are in school, instruction is often subpar, with classrooms overcrowded and under-resourced and teachers overburdened and ill-equipped. Over 171,000 teachers across Yemen are receiving irregular or no salaries,⁵⁵ as the internationally recognized government stopped paying public sector salaries to employees in Houthi-held areas starting in 2016, resulting in teacher dropout and poor quality instruction.⁵⁶

The following case study illustrates the long-term deprivation of the right to an education as a result of a school repurposed for military use.

Destruction of al-Rashad School Following Military Occupation

YHRFL partner organization YCMHRV documented the destruction of the al-Rashad school in Taiz in 2015 by a Saudi-led coalition airstrike after its military occupation by Houthi and Saleh forces. This attack does not appear to be illegal under international humanitarian law, given the school had been entirely repurposed for military use and there were no civilian casualties reported. However, this incident demonstrates that even attacks on schools repurposed for military use, which may appear legal on their face, have long-term reverberating effects, as these attacks inhibit the right to education guaranteed under international human rights law by rendering education facilities inoperable long after the initial attack.

In September 2015, Houthi and Saleh forces stormed the al-Rashad school, forcing the school building's guard to hand over the keys under threat. They brought prisoners into the school and housed them in one of the facilities' buildings, while military leadership occupied another building, according to two eyewitnesses interviewed by YCMHRV.

Five days later, on September 24, 2015, a missile fired by a Saudi-led Coalition warplane struck the school, damaging the building and destroying furniture inside, as well as cars that were parked in the school's courtyard, according to the two eyewitnesses. Since that date, the al-Rashad school has yet to be rehabilitated and remains out of service, with neighborhood children attending school in a nearby building.



Destruction from the al-Rashad school.

All images photographed by YCMHRV

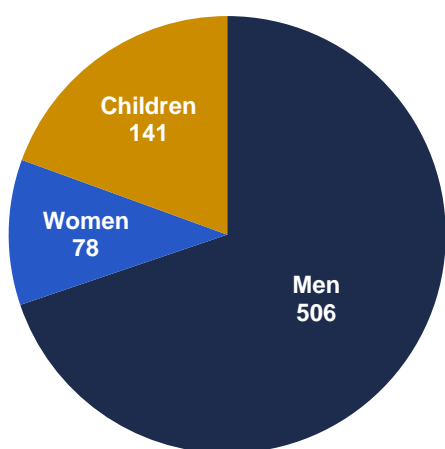
Section Four:

Sniper Attacks

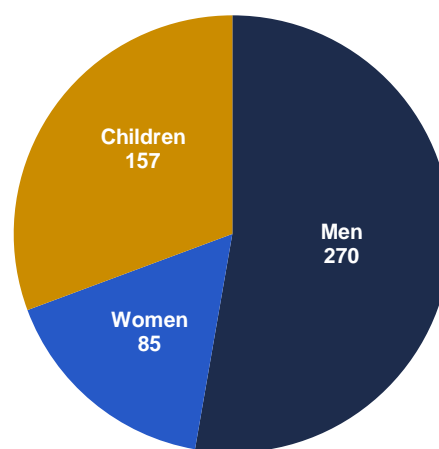
Sniper attacks targeting children are a recurring feature of Yemen's conflict. In particular, the Houthis and their former allies, the forces of former president Ali Abdullah Saleh, have been implicated in the use of snipers against children. Sniper attacks against children may represent war crimes depending on the circumstances of the case. Even if a child is not deliberately targeted, these attacks violate international humanitarian law principles of proportion and precaution and deprive children of their right to life, which is firmly enshrined in international humanitarian law, international human rights law, and international criminal law.

YHRFL partner organization SAM documented sniper attacks against civilians, 24% of whom were children, in eight Yemeni governorates from March 2015 to December 2020, in its November 2021 report titled "Sniper Horror."⁵⁷ The report is based on interviews with victims, eyewitnesses, and medical personnel conducted during field visits, as well as over the phone and Internet, in addition to open-source reporting. 725 civilians were killed in these attacks and 512 were wounded. The following graphs break down the victims of sniper attacks as documented by SAM:

Civilians killed in sniper attacks, March 2015-December 2020 [725 Total]



Civilians wounded in sniper attacks, March 2015-December 2020 [512 Total]



Source: SAM November 2021 Report "Sniper Horror"⁵⁸

SAM attributed responsibility for 98% of sniper attacks that killed civilians, and 96% of attacks that wounded civilians, to the Houthis and their former allies, the forces of Ali Abdullah Saleh.

For its part, YHRFL partner organization YCMHRV documented 152 children killed, and 254 children injured by sniper fire across Yemen from September 2014 to December 2018, in a 2019 report, attributing 99% of these attacks to Houthi forces.⁵⁹

A September 2019 report from the UN Group of Eminent Experts (GEE) provides supporting evidence that the Houthi-Saleh alliance regularly engaged in sniper attacks targeting civilians, including children, during the Yemen conflict.⁶⁰ The GEE reported on multiple instances in which Houthi-Saleh snipers targeted civilians during their offensive on Aden and Lahij in 2015, including:

- On April 2, 2015, Houthi-Saleh snipers took up positions facing the al-Qatiya'a health compound, firing on people who arrived or attempted to leave the compound, killing 12 civilians and injuring over 40, among them children.
- In April and May 2015, Houthi-Saleh forces established sniper positions on the al-Ma'sheeq mountain in Aden and fired into the area around the central bank and al-Qatiya'a health compound. "Dozens of civilians were killed and injured, including many women and children, most shot by snipers," notes the GEE.
- Houthi-Saleh forces established bases in high buildings and hotels on the outskirts of Aden's Dar Sa'ad district, and conducted artillery and sniper attacks in the area. In one incident, a sniper in the al-Ghoweizi building shot a father carrying a one-year-old child in his arms, injuring both and causing severe damage to the child's leg. "The Group considered that this attack deliberately targeted the civilian victims knowing them to be civilians," wrote the GEE, which did not publish the date of the attack for security concerns.
- Houthi-Saleh snipers took up positions in the town of al-Hawtah in Lahij, and proceeded to target opposing military forces and civilians. About 50 people, mostly civilians including women and children, were killed and injured in subsequent sniping and shelling attacks, a medical volunteer who assisted the injured told the GEE.

Physical and Psychological Impact

The destructive capability of sniper attacks is evident by the fact that the majority of casualties recorded by SAM in its 2021 report were fatalities (725), rather than injuries (512), compared to usual patterns for violent attacks where injuries outnumber fatalities.⁶¹ When civilians survive sniper attacks, they often do so with long term disabilities, notes SAM.⁶² For example, on September 24, 2016, Ibtisama was gathering firewood for her family in the al-Muraba district of Taiz, when a Houthi sniper shot her, hitting her right and left legs, her father told SAM.⁶³ Despite undergoing multiple surgeries at different hospitals, as of SAM's interview with Ibtisama's father in January 2020, the 17-year-old was still unable to walk on her own.

SAM's report describes the psychological anguish that results from chronic fear of sniper attacks. "Sniper attacks against civilians represent a source of terror for residents, given the danger they represent to their lives and lifestyles—sniper fire surprises them when they thought they were safe, whether at home, walking down the street, or at work...in many cases the fear of sniping is many times greater than that of indiscriminate bombardment," writes SAM.⁶⁴

Taiz as Emblematic of Sniper Horror

Out of 725 fatal sniper attacks documented by SAM, 365 occurred in Taiz; while out of 512 attacks resulting in injury, 345 occurred in Taiz.⁶⁵ SAM reports that nearly half of sniper fatalities (157 out of 365), and a third of injuries (110 out of 345) in Taiz involved children. SAM does not provide a breakdown of actor responsibility for sniper attacks in Taiz. However, across the eight governorates included in its report, SAM attributes responsibility for 98% of sniper attacks that killed civilians, and 96% of sniper attacks that wounded civilians, to the Houthis and their former allies, the forces of Ali Abdullah Saleh.⁶⁶

For its part, YHRFL partner YCMHRV documented 130 children killed and 236 wounded by snipers in Taiz from March 2015 to August 2020, in a 2021 report, attributing all these attacks to Houthi-Saleh forces.⁶⁷

During the war, sniper attacks became such a routine feature of life in Taiz city that civilians in certain neighborhoods built concrete embankments, and hung cloth coverings to restrict snipers' views, as well as put up signs warning others against sniper danger in hotspots.⁶⁸

SAM reporting highlights notable or emblematic cases of children wounded and killed by sniper fire in Taiz, including:⁶⁹

Lulua, 5 years old – On October 22, 2019, Lulua was shot by a sniper as she was standing next to her house in the rural Tibisha area west of Taiz city. She died on the way to the hospital. Lulua’s father told SAM that a Houthi sniper located on the Aqeel hill 300 meters near their house was the source of the attack.

Basma, 12 years old – On June 2, 2019, Basma was eating the suhoor Ramadan meal with her family in the courtyard of their home, when a sniper’s bullet came through a window and struck her in the neck. Basma’s family rushed her to the hospital but she died five days later. Basma’s grandmother, present during the attack, told SAM that the bullet came from the Houthi-held al-Qarea hill that overlooks their home in the old airport neighborhood.

Mahdi, 16 years old – On March 3, 2019, Mahdi was shot dead by a Houthi sniper as he was on his way to school, his father told SAM. Mahdi’s body remained in the road for 48 hours—his family was unable to retrieve it until Houthi forces were driven from the area.

Ruwaida Saleh Bin Saleh Muhammad, 7 years old – On August 17, 2020, Ruwayda was shot, reportedly by a Houthi-Saleh sniper, after leaving home to fetch water for her family. Ruwaida’s brother Omri, three years older than she, dragged Ruwaida to safety as he himself was reportedly being targeted by the sniper. Local activists launched a media campaign in the wake of Ruwaida’s shooting, and the case received press coverage in regional outlets such as Saudi-funded al-Arabiya.



Ruwaida’s brother drags her to safety.

Source: Al-Arabiya⁷⁰

During infighting between members of the anti-Houthi coalition within Taiz city, from 2016-2019, these forces utilized snipers against each other and sometimes against civilians, including children.⁷¹ For example, 11-year-old Dua’ was shot and killed on April 26, 2019, as she played in the courtyard of her house with her brother, which was located in an area in the middle of clashes among these anti-Houthi groups.⁷² Dua’s father told SAM the bullet that killed her originated from an area controlled by the UAE-backed Abu Abbas forces, although SAM notes it was unable to independently verify this account.⁷³

Section Five:

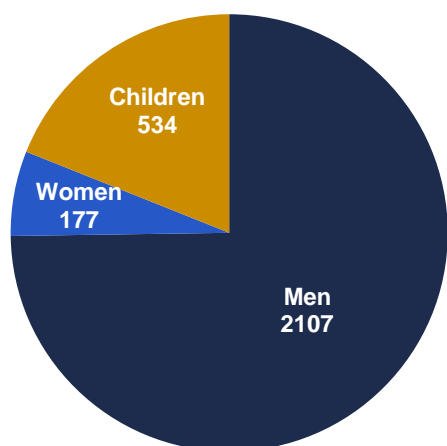
Landmine and UXO Attacks

Over the past seventy years, parties to Yemen's various internal conflicts have planted mines across the country. There were at least five different distinct periods of mine-laying activity in Yemen from 1948, until the outbreak of the current war, as documented in an April 2022 report on landmines by nine Yemeni NGOs titled "Mines: A Nightmare that Chases Yemenis" (hereinafter, Mines NGO Report).⁷⁴ This situation was exacerbated by Yemen's current war. The Houthis, in particular, have become infamous for their widespread laying of mines, both anti-vehicle and anti-personnel, although Yemen is a state party to the UN's Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction. Human Rights Watch has reported extensively on how the Houthis' use of landmines kills and maims civilians long after hostilities have ceased, and hinders humanitarian access and IDP return.⁷⁵ In its August 2019 report, the GEE reported it "has reasonable grounds to believe that the Houthis used anti-personnel and anti-vehicle landmines, in violation of international humanitarian law, notably in the way the mines were emplaced in unmarked locations frequented by civilians, with little or no warning sign, which rendered their use indiscriminate."⁷⁶

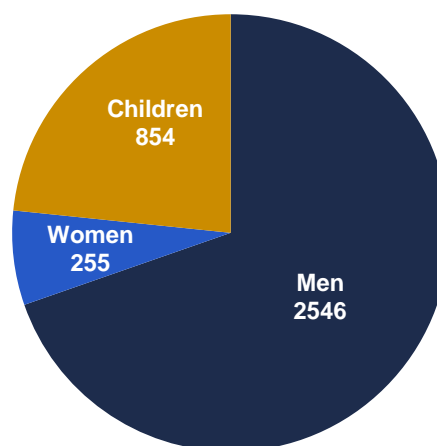
In addition, the Saudi-led coalition admitted to "limited use" of cluster munitions in Yemen in 2016.⁷⁷ In its official statement, the coalition noted that neither Saudi Arabia nor its coalition partners were state parties to the 2008 Convention on Cluster Munitions, and stated the munitions were used against legitimate military targets.⁷⁸

The Mines NGO Report documented 6,473 civilians injured and killed by mines, UXO, and IEDs from April 2014 to March 2022.⁷⁹ A significant minority of victims were children (19% of deaths and 23% of injuries), as displayed by the following graphs:^{vi}

Civilian deaths from landmines, UXO, IEDs, April 2014-March 2022 [2,818 Total]



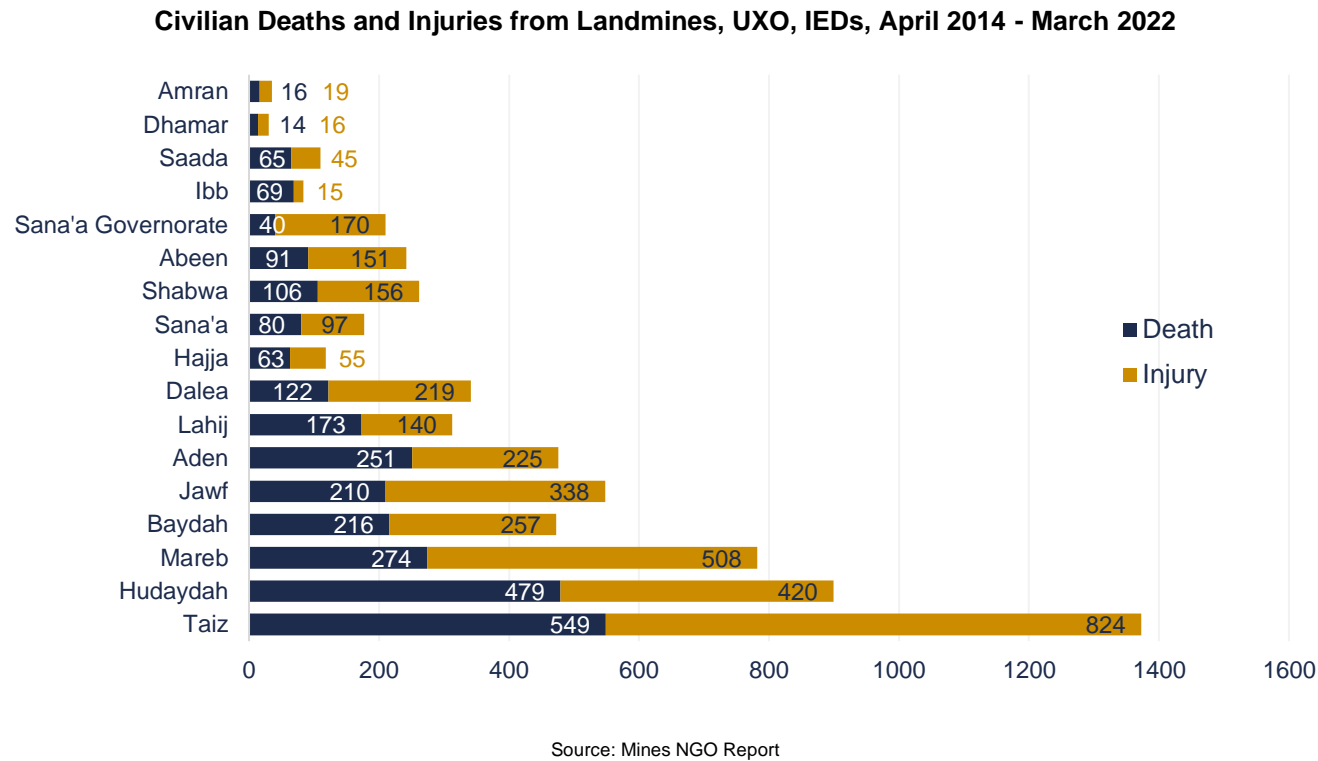
Civilian injuries from landmines, UXO, IEDs, April 2014-March 2022 [3,655 Total]



Source: Mines NGO Report.

^{vi} The Mines NGO Report attributes all of these landmine, UXO, and IED attacks to the Houthis. However, given the difficulty of determining actor responsibility for these types of incidents, this thematic report provides these statistics but does not assign responsibility to a particular conflict party.

The following graph breaks down casualties by governorate, showing Taiz, Hudaydah, and Mareb as the most dangerous governorates, respectively:



The increased freedom of movement that accompanies a lull or cessation in fighting can lead to more, rather than fewer, deaths and injuries from these weapons. A November 2022 UN report noted that since the country-wide truce went into effect in early April that year, the number of civilians injured and killed by landmines and UXO increased by 20% over the previous six-month period.⁸⁰ Children were particularly susceptible to this increase, with landmines and UXO accounting for 75% of all war-related casualties among children from April to June, reported Save the Children in June 2022.⁸¹

Recipe for Disaster

Children’s high inquisitiveness, and low-risk awareness make them particularly susceptible to landmines, IEDs, and UXO. As Save the Children’s country director for Yemen, Rama Hansraj, said in June 2020: “Children are curious by nature—they want to explore their world and learn about it. And when they see something shiny or interesting, they can’t help themselves from touching it. That’s why so many children have been killed or injured in unexploded ordnance incidents; they pick up the unfamiliar object thinking it’s a toy, only to find out that it’s an unexploded cluster bomb.”⁸² In one recent, illustrative incident, three children and one woman were critically injured in an explosion in February 2023 in Taiz.⁸³ The explosion occurred after a child began playing with an unknown object that turned out to be a landmine, reported MSF’s Project Coordinator in the Houban area of Taiz.⁸⁴

Two factors compound the danger that landmines, UXO, and IEDs pose to children in Yemen:

“Children are curious by nature—they want to explore their world and learn about it. And when they see something shiny or interesting, they can’t help themselves from touching it. That’s why so many children have been killed or injured in unexploded ordnance incidents; they pick up the unfamiliar object thinking it’s a toy, only to find out that it’s an unexploded cluster bomb.”

— Rama Hansraj ,Save the Children’s country director for Yemen, June 2020

1. **Weather conditions.** Heavy rains displace mines, UXO, and IEDs and cause them to drift into previously safe areas, including populated areas and well-trafficked roads. For example, in July 2022, Yemeni Landmine Records reported that flooding had transported “large quantities of mines to populated areas, and farmland in Mareb and other provinces.”⁸⁵ This dynamic renders mines, UXO, and IEDs difficult for adults to identify and avoid, to say nothing of children.

2. **Child Labor.** The Mines NGO Report indicates two occupations at heightened risk of danger from landmines, UXO, and IEDs, in large part because of the mobile nature of the work: farmers and shepherds.⁸⁷ A significant percentage of Yemen’s children work, many in these two occupations. The nomadic, mobile nature of these jobs contributes to frequent incidents of children’s maiming and killing by landmines, UXO, and IEDs. Two illustrative examples provided in the report include:⁸⁸



Landmines displaced by flooding in July 2022.

Source: Yemeni Landmine Records⁸⁶

a. **Abdul Wahed, 11 years old.** Abdul Wahed left his home in Nihm governorate on the morning of September 8, 2016, to help his grandmother tend to the family’s sheep. As he was running to bring stray sheep back, he stepped on a landmine, which sent him airborne. When Abdul Wahed landed, he stretched out his hands to prop him up, detonating another landmine. He lost both legs and one arm in the incident. “What hurts more than the injury is that I can’t write or play, and I can’t run like other kids. I rely on my mom for most things, even eating,” Abdul Wahed told the report’s authors.

b. **Hussein and Ahmed, 9 and 6 years old.** Brothers Hussein and Ahmed left their home in Bayda governorate to tend to their family’s flocks. They discovered an unusual object which they brought back to their village; two other children joined them in inspecting the object. It exploded, killing one child and injuring the other three (the date of this incident is not specified).



A Houthi minefield discovered on a farm in the Hays area of Hudaydah in October 2022.

Source: Yemeni Landmine Records⁸⁹

The following sections explore patterns in landmine, UXO, and IED-related child casualties in three Yemeni governorates: Hudaydah, Marib, and Hajjah.

Hudaydah

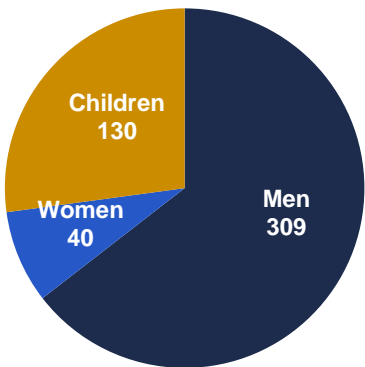
The Houthis planted landmines heavily along Yemen’s western coast, including most of Hudaydah governorate, since mid-2017.⁹⁰ These landmines continue to kill and injure civilians today, with Hudaydah ranked the second deadliest governorate for civilians as it relates to casualties from landmines, UXO, and IEDs, according to the Mines NGO Report. The UN Mission to Support the Hudaydah Agreement (UNMHA) also describes Hudaydah as “the most landmine and ERW-impacted governorate in Yemen.”⁹¹

Houthi authorities have reportedly prevented the Yemen Executive Mine Action Center (YEMAC) from clearing mines in areas of their control in Hudaydah, and have otherwise obstructed mine clearing efforts, for example refusing to provide a mapping of known mine locations.⁹² This dynamic has likely contributed to high numbers of casualties from landmines in the governorate.

The following graphs display casualties in Hudaydah from landmines, UXO, and IEDs, taken from the from the Mines NGO Report and from UNMHA’s website:

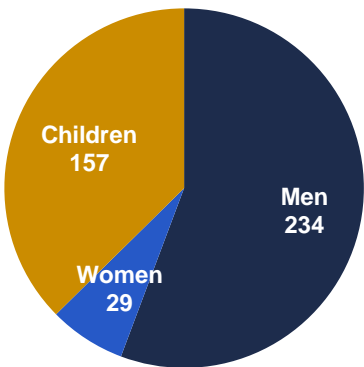
Civilian Deaths, Injuries, and Casualties from Landmines in Hudaydah

Civilian deaths from landmines, UXO, and IEDs in Hudaydah, April 2014-March 2022 [479 Total]



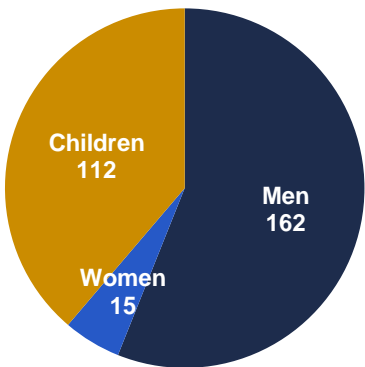
Source: Mines NGO Report

Civilian injuries from landmines, UXO, and IEDs in Hudaydah, April 2014-March 2022 [420 Total]



Source: UNMHA⁹³ (Note: Data was collected from multiple, unnamed sources and not verified by UNMHA)

Civilian casualties from landmines and ERW in Hudaydah, 2022 [289 Total]



As illustrated by the above graphs, a significant minority of Hudaydah casualties from landmines, UXO, and IEDs are children. A review of recent incidents reported by the NGO Yemeni Landmine Records demonstrate that children in Hudaydah are killed by these weapon types in much the same manner as across Yemen—while traveling, playing, and working. Notable recent incidents include:

October 6, 2022:

A 13-year-old is killed by a landmine as he is tending to a flock of sheep in al-Duraihimi directorate.

December 16, 2022:⁹⁴

An 11-year-old and a 17-year-old are killed alongside a 35-year-old man when a mine explodes as they are working on a farm in Hays directorate.

Mid-February 2023:⁹⁵

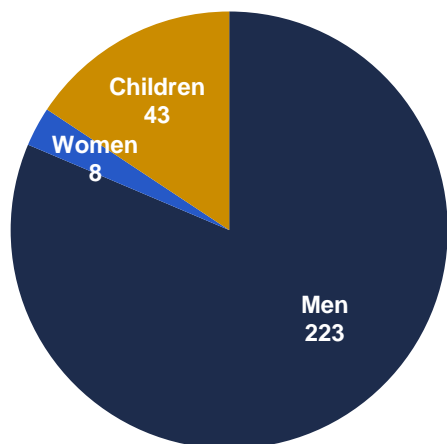
An 8-year-old and a 12-year-old are killed, and a 13-year-old injured, when a mine explodes in a soccer pitch in Hays city in southern Hudaydah. In a separate incident, a 16-year-old is killed and two other children injured when UXO explodes in the al-Duraihimi directorate of Hudaydah. One of the injured children's fathers died from a landmine explosion in December 2022.



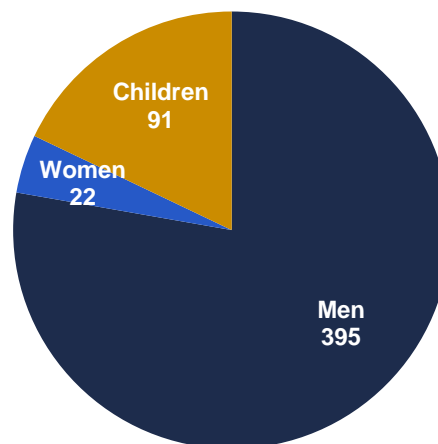
Marib

The government's last northern stronghold and the site of ongoing fighting with the Houthis, Marib is Yemen's third deadliest province for civilians falling victim to landmines, UXO, and IEDs, according to the Mines NGO Report. The following graphs break down casualties from landmines, UXO, and IEDs in Marib governorate:

Civilian deaths from landmines, UXO and IEDs in Marib, April 2014-March 2022 [274 Total]



Civilian injuries from landmines, UXO, and IEDs in Marib, April 2014-March 2022 [508 Total]



Source: Mines NGO Report.

In February 2022, Oxfam reported that landmines in Marib are often placed along roads that lead to Marib city, which are frequented by civilians for commerce and travel.⁹⁸ In one notable incident in January 2022, four civilians were killed and three injured as they traveled along a side road in the Wadi Harayb district of Marib.⁹⁹ A month earlier three civilians were killed and five injured when an anti-armor mine struck their car as they were traveling along the main road leading from al-Tima to Marib.

In January 2022, Yemeni Landmine Records reported that mine removal teams cleared one such Houthi minefield along the Ramla road in Hareib directorate, following several explosions leading to civilian casualties.¹⁰⁰ The photo below shows a portion of the mines removed from the Ramla road:¹⁰¹

As in other Yemeni governorates, children have represented a significant proportion of casualties from landmines, UXO, and IEDs in Marib, as demonstrated by the graphs at the beginning of this section. They are injured as they work, travel, and play. For example, on December 15, 2022, Yemeni Landmine Records documented a child killed by UXO as he tended to a flock of sheep in the Rahabah directorate in southern Marib.¹⁰²



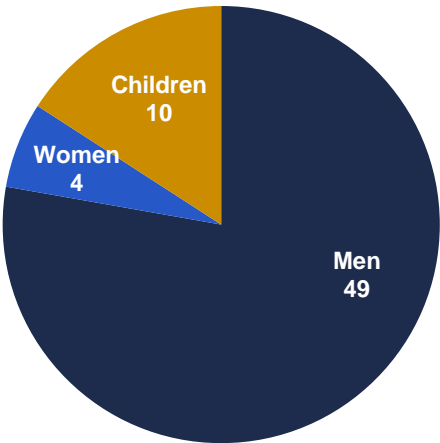
Mines removed from the Ramla road.

Source: Yemeni Landmine Records

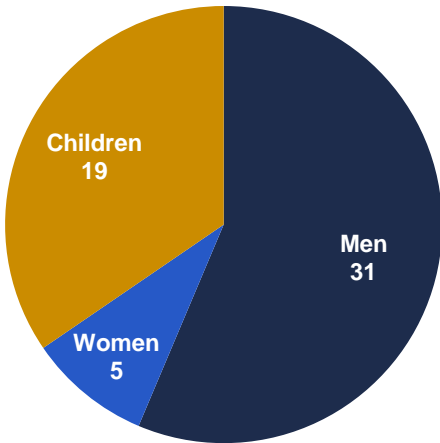
Hajjah

The northwest, coastal governorate of Hajjah is the ninth deadliest province for civilians as concerns landmines, UXO, and IEDs, according to Mines NGO Report. The following graphs break down civilian casualties from landmines, UXO, and IEDs in Hajjah governorate:

Civilian deaths from landmines, UXO and IEDs in Hajjah, April 2014-March 2022 [63 Total]



Civilian injuries from landmines, UXO, and IEDs in Hajjah, April 2014-March 2022 [55 Total]



Source: Mines NGO Report.

Hajjah governorate is predominantly controlled by the Houthis. However, the internationally recognized government captured the port of Midi in April 2018. Since that time, government-affiliated forces have conducted numerous mine-clearing operations in areas of their control.¹⁰³ One operation that took place in January 2021 provides a sense of the extent of mine laying activity in the governorate. During that January 2021 operation, military engineering teams reportedly cleared 5,000 mines the Houthis had planted in the Hayran, Midi, Abs, and Haradh directorates, as the following pictures show:¹⁰⁴



Mine clearing operations in January 2021.

Source: Yemeni Landmine Records¹⁰⁵

Conclusion and Recommendations

The attacks against children detailed in this report account for only two of the six grave violations faced by Yemeni children during the ongoing conflict, who have also been regularly exposed to military recruitment, sexual violence, abduction, and the denial of humanitarian aid.

Even in the best-case scenario—a permanent cessation of hostilities in Yemen—the significant impact of the violations detailed in this report will be felt for years to come. Repeated attacks on school buildings have contributed to a comprehensive collapse of Yemen's education sector, with 2,783 schools partially or totally destroyed as of December 2022 and 8.5 million children in need of education assistance. Sniper attacks have shattered families, left survivors permanently disabled, and traumatized civilian populations in heavily impacted areas, particularly Taiz. Landmines, UXO, and IEDs have become more lethal for Yemeni civilians, especially children, after the April 2022 nationwide truce went into effect, likely because of increased civilian mobility that accompanied the truce. Peace, if it comes, will likely translate into more children killed and injured by these explosives in the short term.

The following recommendations are intended to address the lack of accountability that characterizes grave violations against children in Yemen, as well as alleviate some of the suffering caused by these violations:

- **Compile detailed case files of violations against children to be presented to relevant international prosecutorial authorities.** YHRFL partner organizations, as well other Yemeni NGOs, have been documenting violations against children since the conflict began. This includes collecting testimony from victims, eyewitnesses, and family members, as well as archiving supporting documentation such as medical records and court documents. In addition, there is a wealth of open-source information regarding the individuals and groups responsible for violations against children across Yemen. Compiling detailed case files for presentation to relevant international prosecutorial authorities is within the realm of the possible and could provide much-needed momentum towards holding perpetrators to account and securing redress for child victims and their families.
- **Support awareness-raising efforts by Yemeni NGOs on the danger posed to children from landmines, UXO, IEDs.** The maiming and killing of children from these weapons are major child protection issues in Yemen, and only liable to become more severe during peacetime. Supporting the already-existing efforts of Yemeni organizations like YEMAC to raise awareness among children about the dangers posed by landmines, UXO, and IEDs is one potential avenue to reduce child casualties from these weapons.
- **Conduct a study on the impact of damaged and destroyed school buildings.** As shown in this report, damaged or destroyed school buildings can hinder Yemeni children's return to the classroom years after fighting has stopped. Mapping out destroyed and damaged school buildings across Yemen and evaluating the impact of the destruction of these facilities on children's education could provide a useful and actionable resource for humanitarian and non-governmental organizations working in Yemen's education sector.

Appendix – Dahyan Bus Bombing

YHRFL partner Mnemonic produced an open-source investigation into the Dahyan bus bombing, which [reportedly](#) killed at least 29 children and wounded dozens more on August 9, 2018. The airstrike hit a school bus [filled with boys](#) on a field trip organized by a local mosque to visit soldiers' graves. The Saudi-led coalition [admitted](#) carrying out the attack through the Coalition's Joint Incident Assessment Team (JIAT), noting it was based on intelligence that the bus was carrying Houthi leaders.

Following is Mnemonic's open-source investigation:

Key Findings

A Saudi-led coalition air-delivered munition struck a bus carrying children on August 9, 2018. The strike took place in the morning hours at approximately 8:25 AM GMT+3 and hit a crowded marketplace.	Imagery of a guidance fin displayed by media outlets and Human Rights Watch point to a GBU-12 Paveway II as the munition used in the strike and images published by the Saudi-led coalition show the apparent targeting of the bus and its aftermath on the day of the strike.	The strike killed and wounded children who were traveling on the bus for a field trip as well as a number of children nearby in the marketplace.
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Where

The incident took place in Dahyan, Yemen, on the north side of the N1 road which runs through the town, in the approximate vicinity of 17.064206° 43.601578. Overhead drone [footage](#) of the scene of the incident published by the Houthi Al-Masirah news channel on August 10, 2018 shows a damaged building.



Screenshot of the August 10, 2018 Al-Masirah [video](#) showing overhead footage of the scene of the Dahyan incident with highlights of the affected complex in white, and blue highlights of a roof structure across the street.



Screenshot of Google Earth satellite imagery with corresponding highlights of the affected building complex in white.

Courtesy of Google/DigitalGlobe

In the below [scene](#) from al-Masirah, two trees are visible behind the man's head. This is consistent with two trees on the north side of the N1 road that runs northwest along the scene of the incident in satellite imagery.



Two trees are visible over the shoulder of a man loading human remains into a flatbed truck at an intersection in this [video](#).

Courtesy of Google/DigitalGlobe



Google Earth screenshot, June 25, 2016, showing the position of the trees highlighted in a white rectangle and the approximate position of the man in the vicinity of the blue circle.

Courtesy of Google/DigitalGlobe

More specifically, the scene of the wreckage appears to be located at 17.064206° 43.601578° . That location is consistent with the structural damage scene in the August 10, 2018 [video](#). The approximate coordinates of the bus wreckage based on its appearance in the three videos is 17.064206° 43.601578° . In its January 25, 2019 [report](#), the UN Panel of Experts concluded that the bus was struck “in the vicinity of the Dahyan market, in Sa’dah” and specifically at the coordinates of 17.0642222° , 043.6016111° . Human Rights Watch also [concluded](#) that the incident took place in Dahyan.



Screenshot of Google Earth imagery from June 25, 2018 showing the relative positions of locations for the incident assessed by the UN Panel of Experts on Yemen (“UN Panel of Experts Coordinates”) and this Researcher.

Courtesy of Google/DigitalGlobe

When

Witness accounts, third party investigations, and statements by both the Saudi-led coalition and Houthi movement concur that the incident took place on August 9, 2018. Security camera footage, witness accounts, third party investigations, and open-source analysis all point to a conclusion that the strike took place in the morning at around 0825 AST.

On August 9, 2018, Twitter accounts affiliated with news outlets and the Houthi movement began to tweet news of a strike in Dahyan around 0930 AST.

- [@almayadeenlive](#) 0928 AM AST
- [@ansarollah2](#) 0938 AM AST
- [@MasirahTV](#) 0944 AM AST

The earliest apparent mention of the strike that came on social media was published on Twitter at approximately 0900 AST from an alleged witness to the incident. At 0901 AST time August 9, 2018, the account @alraoood tweeted a [statement](#) that “dozens” of children had been “martyred” in a strike in the market of Dahyan. At 1449 AST on August 9, 2018, the @alraoood account [claimed](#) to be present in Dahyan that day.



A screengrab from CCTV footage published on YouTube by the Yemen Press Agency showing an explosion, highlighted in white, at the scene of the incident at 8:24 on the camera's clock.

The 0900-0930 AST stream of statements and posts about the incident accommodates the time frame offered by CCTV [footage](#) from two cameras purporting to show the moment of the strike. The timestamps on the two videos show date the strike to approximately 8:24:26 on August 9, 2018 and 8:21:37 on August 9, 2018.



A CCTV camera shows an explosion at 8:21 on the camera's clock.

It is unclear what accounts for the approximately three minute discrepancy in the timestamps or whether the clocks set in those CCTVs necessarily correspond to the correct time.

Nevertheless, that time is consistent with witness statements from independent investigations conducted into the incident. Human Rights Watch [said](#) it spoke to “14 witnesses, including 9 children” who estimated that the strike took place “shortly before 8:30 a.m.” A [documentary](#) on the incident produced and distributed by Al-Masirah TV features an interview with a man named Ali Hassan who claimed to work in the market area near the strike. Hassan estimated that the strike took place “At almost 8:25 AM.”

The UN Panel of Experts [concluded](#) that the strike took place at approximately “0825 hrs” and said that the Saudi-led coalition’s Joint Incidents Assessment Team “confirmed to the Panel during a meeting in Riyadh [sic] in December 2018 that a vehicle was targeted at 0825 hrs.”

What Damage Was Done?

Casualties

Independent investigations, Houthi media outlets, and witness statements all concur that the explosion in the Dahyan market struck a bus used to transport children traveling on a field trip.

Independent investigations

A report on the Dahyan incident, prepared by the Houthi Ministry of Human Rights and provided to the UN Panel of Experts on Yemen, contained an itinerary for the bus trip, which allegedly began in Dahyan, included a stop at a Houthi cemetery in Ja'milah, further northwest up the N1 road from Dahyan, and a return southeast along the N1 with the intended ultimate destination of Saada. The report [provided](#) to the UN Panel of Experts states that the bus stopped in Dahyan at approximately 0900 AST for the children to buy water and food when the strike later took place.

Human Rights Watch spoke to children who said they were on the bus and [affirmed](#) that they were "part of a summer program, which began in June, to study at the Grand Mosque from 7:30 a.m. to 10 a.m. daily, except Thursdays and Fridays."

Houthi authorities and media outlets

A [documentary](#) on the incident produced by Al-Masirah featured the claim of Ali Hassan, an alleged witness, that the children on the bus were on a "summer trip and between spiritual sport in which they performed their last prayer." Al-Masirah TV published [footage](#) purportedly recorded by one of the children on the bus showing a number of children playing inside the vehicle and in a Houthi martyrs cemetery shortly before the strike.

The Houthi Ministry of Education published a [list](#) on August 18, 2018 with what it claimed were the names of 38 people killed in the strike and 55 wounded, four of whom were allegedly adult teachers and 34 of whom were children. The ages of the children on the list range from nine to 15 years old. The UN Panel of Experts report cited and consulted a forensic pathologist who noted "clear and straightforward evidence of injuries from an explosion involving both living and dead children." The panel said it was neither able to independently verify the "media and humanitarian organizations" reports which assessed "[a]pproximately 43 killed and 63 wounded, the majority of whom were children," in the incident nor the list of dead and wounded [published](#) by the Houthi Ministry of Education.

Witness statements

Zaid Hamran appeared in an Al Jazeera [documentary](#) and identified his son, Usama, as the child who recorded the video on the bus and in the cemetery. "My son Usama took pictures on his mobile phone. He filmed their trip on the bus" he told interviewers. "One afternoon, my son Usama said they'd go on a school trip. He asked me to charge the mobile phone so he could take pictures. Zaid's son's name appears on a both the lists of alleged dead and wounded in the Dahyan incident published by the [Houthi Ministry of Education](#) and [ansarollah.com](#).

Zaid Tayyib also appeared in the Al Jazeera [documentary](#) and claimed to have put his children on the bus in the early morning. "I was 150 meters away from the bus. I'd dropped my children, given them some stuff, put them on the bus and left. They waved goodbye." Tayyib noticed the presence of military aircraft overhead when he put his children on the bus in the morning. "I saw reconnaissance aircraft, backed by war planes, hovering over the area." When the strike took place later, Tayyib said he discovered the bodies of two of his sons Ahmed and Yousef at the scene, but was unable to find his son, Ali, and assumed "[h]is body was probably torn to pieces." Their names appear in on both the [Houthi Ministry of Education](#) and [Ansarollah.com](#) list of the dead and wounded.

CNN [interviewed](#) Yahya Hussein, who identified himself as a teacher at the school where the children went. Hussein said he was late and missed the field trip but that it had been planned at a rebel cemetery because "The nicest areas are the martyr's shrines and mosques" since the war had destroyed many parks and greenspaces.

Property

The area affected by the Dahyan incident was a crowded market as documented by witnesses, open-source imagery, and imagery from the Saudi-led coalition.

Witnesses

Ali Hassan, a purported witness to the incident, appeared in a [documentary](#) produced by Al-Masirah. “At almost 8:25 AM, we were busy with our daily work as usual inside the market. It was too crowded with a lot of people. Suddenly we heard a sound of a huge explosion inside the market between the Qat market and the grape shops (fruit market). Exactly at the most crowded place.”

Human Rights Watch also [spoke](#) to witnesses who described the location as a market, including Ahmed Muhammad Ali Swayed, who told the group that “The market was busy and the bus was full of boys.”

Open-source imagery

The CCTV [footage](#) of the strike shows the area around the incident was relatively crowded with vehicles both before and after the incident.



CCTV footage shows a busy thoroughfare before the strike.



CCTV footage shows vehicles fleeing the area after the strike.

Saudi-led coalition imagery

On September 1, 2018, Saudi news outlets published what appears to be an image taken by an aircraft above the location of the strike with a crosshair on top of a bus-like vehicle. Arab News [published](#) the photo accompanying an article about a JIAT statement on the incident. The image, and a second one showing the apparent aftermath of the Dahyan strike, were presented by JIAT spokesman Al-Mansour at a [press briefing](#).



Arab News screenshot of a press conference by JIAT spokesman Mansour Al-Mansour. The red dot is a laser pointer used by Al-Mansour to highlight the image.



A second image displayed during the JIAT [briefing](#) showing the apparent aftermath of the [strike](#)

The structures around the first image and the vehicle in the reticule are consistent with the location of the incident and the bus wreckage found at the scene.

The parked vehicles near the bus's location, visible in the second image, are consistent with the evidence provided by historical satellite imagery and witness statements attesting to the fact that the explosion took place in a known, crowded marketplace.

What bomb was used?

Witness accounts and imagery of a guidance fin allegedly found at the scene suggest that a GBU-12 Paveway II laser guided bomb caused the explosion.

Crater

An impact crater is apparent in multiple sources of imagery of the scene of the incident. The crater sits approximately a meter or two off of the curb on the northern side of the N1 road in Dahyanm and slightly to the southeast of the stalls where the bus wreckage was located in footage recorded and published shortly after the attack. The crater is not visible in Google Earth satellite imagery.



Crater visible in [footage](#) published by Al-Masirah in the aftermath of the incident.



Impact crater visible in [footage](#) broadcast by RT Arabic on YouTube.



Impact crater visible in [footage](#) published by the Houthi Ansar Allah Media Center on Twitter.

➤ صورة الحفرة التي خلفتها الغارة وبجانبتها بقايا لحافلة الطلاب.



Screenshot of a [photo](#) published by Yemen's Center for Human Rights and Development

A [photograph](#) of a man standing in the bottom of the crater with approximately half of his body below ground level suggests a crater depth of about 2.5 to 3 feet or .76 to .9 meters. The photograph is time-stamped at August 10, 2018 or a day after the incident. The UN Panel of Experts on Yemen [assessed](#) the crater depth to be .8 meters.

Remnants

Houthi and local sources presented reporters and Human Rights Watch with an apparent guidance fin for a GBU-12 Paveway II munition. The munition is a plausible culprit for the strike, given the markings, independent reporting on its acquisition shortly after the strike, its documented exclusive availability to the Saudi-led coalition, and its prior use by the coalition in the Yemen conflict. News organizations established a partial chain of custody for the munitions remnants but the chain of custody cannot be recreated or verified through other open source evidence.

Both Human Rights Watch and CNN reported that they had obtained access to an apparent Paveway fragment with a 94271 Lockheed Martin cage code and a separate cage code, 3LCX2, associated with General Dynamics.

CNN's [account](#) that the munition remnant was “filmed in the immediate aftermath of the attack” and was “sent to CNN by a contact in Saada” places its possession of the imagery closest to the time of the incident. It reported that it was subsequently able to confirm the existence of the fin depicted in the imagery “when a cameraman working for CNN filmed footage of the shrapnel after the cleanup operation had begun.”

Human Rights Watch did not obtain access to imagery of the same munitions fragment until August 11, 2018, when it reported that “a lawyer based in Sanaa, about 235 kilometers south of Saada” provided it.

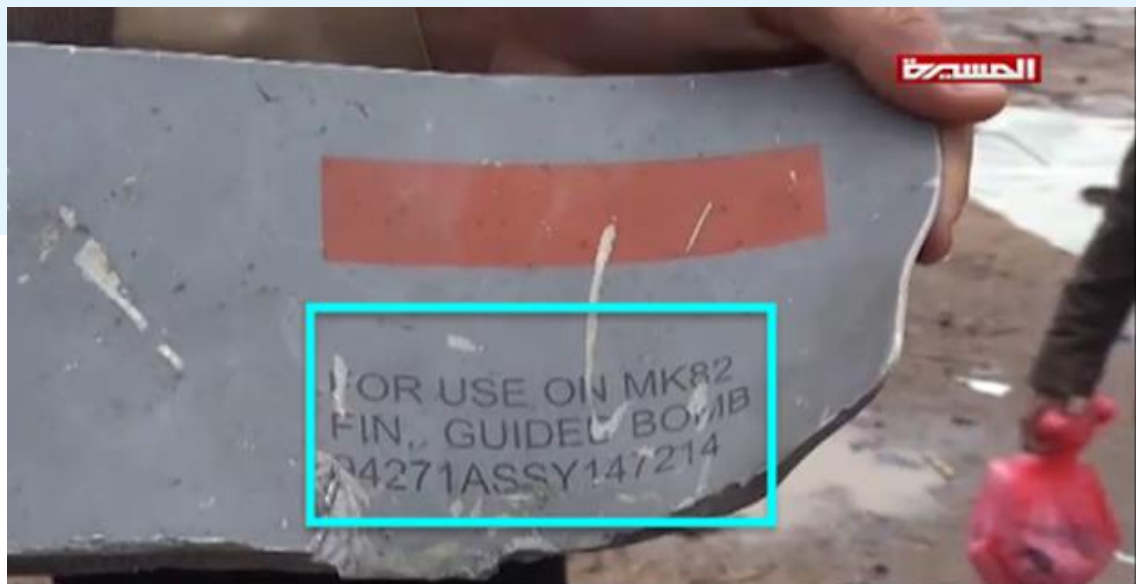
CNN did not publish the imagery it obtained of the munition remnant until August 17, 2018. The earliest apparent publication of the munitions remnant imagery was on August 11, 2018, when a Twitter account [posted](#) similar footage of the fin seen in the CNN photo and a [press conference](#) broadcast by Al Masirah TV which displayed the remnant and other purported munitions wreckage. The pattern of scuff marks on the remnant in both sets of imagery, in addition to the dual cage codes, establish that the two sets of imagery depict the same object.



Munitions remnant published by CNN on August 17.



Screengrab from the [video](#) tweeted by the @A_mtrz account showing a Lockheed cage code (94271) and a General Dynamics cage code (3LCX2).



Screenshots from a [press conference](#) recorded and published by Al Masirah news on August 11, 2018 show identical scuff marks and cage codes in the munition remnant presented there as the remnant seen in imagery published by CNN and on Twitter.

At a [press conference](#) on August 11, 2018 held at the scene of the incident and broadcast by al-Maseerah, the wreckage of a munition purportedly found at the scene of the incident was displayed. That remnant bears identical scuff marks and cage codes as the imagery published by CNN on August 17, 2018 and the @A_mtrz account published on Twitter on August 11, 2018.



Screenshots from a [press conference](#) recorded and published by Al Masirah news on August 11, 2018 show identical scuff marks and cage codes in the munition remnant presented there as the remnant seen in imagery published by CNN and on Twitter.

The researcher consulted with a munitions expert and shared the imagery of the remnant posted on Twitter. The munitions expert concluded that the remnant was a guidance fin which belonged to a GBU-12 Paveway II. The GBU-12 Paveway II munition [includes](#) a Paveway laser guidance kit attached to a 500 lb MK82 bomb.



Location of guidance fins on a GBU-12 Paveway II in a [reference image](#) of the munition being loaded onto an F-35B by US. Marine Fighter Attack Squadron 121, 31st Marine Expeditionary Unit.

The munitions expert said he could not reliably determine the purpose of the two separate manufacturer's cage codes on the fragment but hypothesized that the dual cage codes could refer to both the manufacturer of the fin and the manufacturer of the larger guidance kit to which it was attached.

The Saudi-led coalition is the only party to the conflict in Yemen documented in possession of functional GBU-12 Paveway II munitions and the means to deliver them. In 2015, the U.S. State Department [approved](#) the sale of 4,020 GBU-12 Paveway II munitions to Saudi Arabia as part of a larger package of precision-guided munitions sales. The State Department also [approved](#) the sale of 5,940 GBU-12 Paveway guidance kits to the United Arab Emirates along with the same number of MK82 500 lb bombs in November 2016.

The documented use of GBU-12 Paveway II munitions by the Saudi-led coalition in strikes throughout the Yemen conflict adds credence to the munitions fragments allegedly recovered from the Dahyan incident scene.

Human Rights Watch [discovered](#) marked fragments of two GBU-12 Paveway II munitions at the scene of a strike on a water well drilling site in Arhab, Yemen on September 10, 2016. JIAT and the Saudi-led coalition did not dispute that their forces conducted an airstrike in Arhab on that date but instead [said](#) that the bombing was an “unintended mistake.”

The [GBU-12 Paveway II](#) is a laser guided munition which requires an operator to illuminate an intended target with a laser, which the Paveway guidance kit uses to identify and orient towards.

End Notes

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⁶ "Sniper Horror," SAM Organization for Rights and Liberties, November 30, 2021, <https://samrl.org/l.html?l=a/10/A/c/1/70/72/4336/%D8%B1%D8%B9%D8%A8-%D8%A7%D9%84%D9%82%D9%86%D8%A7%D8%B5>

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¹⁰ "Convention on the Rights of the Child," UN Office of the High Commissioner for Human Rights, adopted November 20, 1989, <https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-child>

¹¹ "Arab Charter on Human Rights," UN Office of the High Commissioner for Human Rights, League of Arab States, 2004, <https://digitallibrary.un.org/record/551368?ln=en>

¹² "Rules - Customary IHL," ICRC, Accessed March 28, 2023, <https://ihl-databases.icrc.org/en/customary-ihl/rules>

¹³

¹⁴ "Convention (IV) relative to the Protection of Civilian Persons in Time of War. Geneva, 12 August 1949," ICRC, adopted August 12, 1949, <https://ihl-databases.icrc.org/en/ihl-treaties/gciv-1949>

¹⁵ "Rome Statute of the International Criminal Court," International Criminal Court, July 17, 1998, <https://www.icc-cpi.int/sites/default/files/RS-Eng.pdf>

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¹⁸ "Universal Declaration of Human Rights," UN General Assembly, December 10, 1948, <https://www.un.org/en/about-us/universal-declaration-of-human-rights>

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